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Joint Report – NRCP Evaluation 2019

of the EURLs for Pharmacologically Active Substances in
Berlin, Fougères, Kgs. Lyngby and Wageningen

EU Reference Laboratory, WFSR, Wageningen, The Netherlands



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General remarks

This Joint Report contains the NRCP evaluations of the EURLs in Berlin, Fougères, Kgs Lyngby and Wageningen. The EURLs sent their respective evaluation reports to the EURL Berlin, where they were structured uniformly and assembled in the present Joint Report. No changes were made to the contents of the individual reports. In the beginning of each chapter, the respective author(s) are mentioned.

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1 Part A: Introductions by Substance Group(s)

Authors: EURL WFSR Wageningen, the Netherlands

Directive 96/23/EC obligates member states to draw up annually a monitoring plan for certain substances and residues of substances legally or illegally used in the chain of production of foods derived from animals. The Directive gives rules for number of samples to be taken as well of groups of substances to look for. Decision 2002/657/EC specifies the requirements for analytical methods that are used to analyse official samples. The groups of substances to monitor are included in Annex I of Directive 96/23/EC. As subgroups listed in the Directive do not include individual substances to look for, the EURL issued a Guidance Paper in 2007. This paper intended to guide member states and harmonize the annual monitoring plans. The CRL Guidance Paper (7 December 2007) was used as reference. In this paper the CRL (now EURL) WFSR Wageningen recommends to test for 21 important substances of groups A1, A2, A3, A4, B2d and B3d in specified matrices of choices. In the Guidance the corticosteroid dexamethasone is included in group A3, most ANPs include this substance in B2f.

Table 1: List of abbreviations for Member States (MS).

	Member State
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

1.1 Substance Groups A1 - Stilbenes

Authors: EURL WFSR Wageningen, the Netherlands

The comments in the evaluation are based on the following criteria:

Analytes

Minimum requirement	3 substances according the CRL Guidance Paper 2007
Recommended other compounds	Benzestrol
Optional	-

Methods

Screening	For screening all techniques are possible.
Confirmatory	Gas chromatography or Liquid Chromatography coupled to mass spectrometry (MS/MS). Either low resolution or high resolution

Limits and levels of action

CC β , CC α and levels of action should be at or below the concentrations mentioned in the CRL Guidance Paper 2007, noted in concentration or clear text.

Species/matrices

Minimum requirement	Bovine, Pigs, Sheep/Goats, Horses, Poultry	According CRL Guidance Paper 2007 ¹⁾
Optional	Aquaculture, Wild/farmed game	According to CRL Guidance paper 2007

¹⁾ For the purpose of this evaluation, feces is considered to be equivalent to urine.

Table 2: A1 Stilbenes (CRL Guidance Paper 2007)

1. A1 Stilbenes (CRL responsible RIVM-NL)

For the purpose of control the matrices of choice are urine followed by liver.

Muscle has been included for the control of imports and for aquaculture products but it is not the matrix of choice for routine plans as the concentrations of residues are very low in muscle.

Substances	Matrix	Recommended concentration*
Diethylstilbestrol (DES) Dienestrol (DE) Hexestrol (HEX)	Urine	1 ppb for DES 2 ppb for DE 2 ppb for HEX
	Liver	2ppb (for all substances)
	Meat (including fish)	1 ppb (for all substances)

* CC β for screening methods or CC α for confirmatory methods should be lower than the value expressed in this column

1.2 Substance Groups A2 - Thyrostats

Authors: EURL WFSR Wageningen, the Netherlands

The comments are based on the following criteria:

Analytes

Minimum requirement	4 substances according the CRL Guidance Paper 2007
Recommended other compounds	Phenylthiouracil, Benzylthiouracil, Mercaptobenzimidazol
Optional	

Methods

Screening	All methods are possible
Confirmatory	Gas chromatography or Liquid Chromatography coupled to mass spectrometry (MS/MS). Either low resolution or high resolution

Limits and levels of action

CC β , CC α and levels of action should be at or below the concentrations mentioned in the CRL Guidance Paper 2007, noted in concentration or clear text.

Species/matrices

Minimum requirement	Bovine, Pigs, Sheep/Goats,	According CRL Guidance Paper 2007 ¹⁾
Optional	Aquaculture	Muscle including skin
	Horses, Poultry, Wild/farmed game	Urine

²⁾ For the purpose of this evaluation, feces is considered to be equivalent to urine.

Table 3: A2 Thyrostats (CRL Guidance Paper 2007). For Thiouracil a new threshold is proposed of 30 ppb in the EURL reflection paper of 2014.

2. A2 Thyrostats (CRL responsible RIVM-NL)

For the purpose of control the matrices of choice are urine and thyroid gland.

It should be noted that low concentrations of thiouracil (maximum 10 ppb) have been detected in animals fed with diet containing cruciferous plants.

Substances	Matrix	Recommended concentration*
Thiouracil Methylthiouracil Propylthiouracil Tapazole	Urine Thyroid	10 ppb for all ^{&}

* CC β for screening methods or CC α for confirmatory methods should be lower than the value expressed in this column

[&] Low concentrations of thiouracil have been detected in bovine animals fed with cruciferous plants, however there is scientific evidence showing that levels above 10 ppb in urine cannot be linked to natural origin due to this contamination.

1.3 Substance Group A3 – Steroids, including B2f – Corticosteroids

Authors: EURL WFSR Wageningen, the Netherlands

For group A3 the EURL Reflection paper of 2014 describes for the semi-endogenous substances approaches what to control in what matrices. In the table below this will be used as a reference.

The comments are based on the following criteria:

- For boldenone (beta-boldenone) the matrix of choice is urine followed by liver. Muscle has been included for control of imports. 17 β -boldenone conjugate is the recommended marker residue metabolite in case of positive screening results.
- For nandrolone (17 β -19-nortestosterone) the marker residue metabolite is epi-nandrolone (17 α -19-nortestosterone). Matrices of choice are the same as for boldenone. Epi-nandrolone is a major metabolite in bovines.
- Matrices of choice for 17 β -oestradiol are serum/plasma or muscle (for import control), and for 17 β -testosterone serum/plasma. With GC-c-IRMS it is nowadays possible to detect administration of 17 β -oestradiol and 17 β -testosterone in urine. Furthermore if tests in serum/plasma have been replaced by adequate tests for steroid esters in an adequate matrix like hair or serum, the missing tests in serum/plasma for non-ester steroids were also not considered to be a deficiency.
- For 17 β -trenbolone and marker metabolite 17 α -trenbolone the matrices of choice are the same as for boldenone. In bovines both substances are present after administration so only aiming at one is not considered to be a deficiency.
- For stanozolol and its marker 16 β -hydroxystanozolol the matrices of choice are the same as for boldenone. However if tests for stanozolol in appropriate matrices were included eg. hair, non-inclusion of the marker in urine was not considered to be a deficiency.
- Matrices of choice for the gestagens (megestrol, melengestrol, chlormadinone and medroxyprogesterone) are kidney fat en muscle. The Guidance Paper (2007) suggests to test for the acetate metabolites of the gestagens in kidney fat or muscle (for import control). However if 'fat' was one of the matrices investigated it was assumed that this was 'kidney fat'.
- A few member states investigate feces instead of urine (or other recommended matrices) for some substances in groups A1 – A4, and B2f. For the purpose of this evaluation, feces is considered to be equivalent to urine.
- Furthermore the analytical methods, and their CC α and CC β in relation to recommended concentrations in the Guidance Paper, or MRPL (medroxyprogesterone acetate) or MRLs were evaluated.

Analytes

Minimum requirement	13 substances and/or their metabolites according the CRL Guidance Paper 2007
Recommended other compounds	Methylboldenone, normethandrolone, norethandrolone, chlortestosterone, ADD, DHEA, Betamethasone, flumethasone, clobetasol, triamcinolone acetate, Delmadinone acetate, fluorogestone acetate
Optional	Selective androgen Receptor Modulators, Selected Oestrogen Receptor Modulators, Aromatase inhibitors, protein growth promoters. All other compounds with hormonal effects on androgen and oestrogen receptor Prednisolone, prednisone, methylprednisolone

Methods

Screening	All techniques which can analyse these compounds at relevant levels
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Confirmatory	Gas chromatography or Liquid Chromatography coupled to mass spectrometry (MS/MS). Either low resolution or high resolution
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Limits and levels of action

CC β , CC α and levels of action should be at or below the concentrations mentioned in the CRL Guidance Paper 2007, noted in concentration or clear text. Or as low as reasonably achievable.

Species/matrices

Minimum requirement	Bovine, Pigs, Sheep/Goats, Horses, Poultry Aquaculture	According CRL Guidance Paper 2007 Urine, liver, muscle Kidney fat for gestagens Serum for 17 β -oestradiol Muscle including skin
Replacement	Steroid-esters instead of steroids	Hair or blood
Optional	Farmed game	Liver

³⁾ For the purpose of this evaluation, feces is considered to be equivalent to urine and plasma equivalent to serum. If fat was one of the matrices investigated for the gestagens, it was assumed that this was kidney fat.

Table 4: A3 Steroids (CRL Guidance Paper 2007).

3. A3 steroids (CRL responsible RIVM-NL)

For control purposes matrices of choice are urine followed by liver.

For 17 β -oestradiol serum and for progestagens kidney fat is the matrix of choice, as indicated in the table. Muscle has been included for control purposes of imports and for aquaculture products.

Substances	Marker residue-metabolite	Matrix	Recommended concentration*
Boldenone	17 β -boldenone conjugate	Urine	1 ppb
		Liver	2 ppb
		Muscle	1 ppb
17 β -19-nortestosterone ¹ (nandrolone)	17 α -19-nortestosterone ² (epi-nandrolone)	Urine	1 ppb
		Liver	2 ppb
		Muscle	1ppb
Ethinylestradiol		Urine	1 ppb
		Liver	2 ppb
		Muscle	1 ppb
17 β -Oestradiol	17 β -Oestradiol	Serum	0.1 ppb
		Muscle	1 ppb
17 β -Testosterone	17 β -Testosterone	Serum	Male < 6 months: 10 ppb Male 6 - 18months: 30 ppb Female < 18 months: 0.5 ppb
Methyltestosterone		Urine	2 ppb
		Liver	2 ppb
		Muscle	1ppb
17 β -Trenbolone	17 α -Trenbolone	Urine	2 ppb
		Liver	2 ppb
		Muscle	1 ppb
Stanozolol	16 β -Hydroxystanozolol	Urine	2 ppb
		Liver	2 ppb
		Muscle	1 ppb
Dexamethasone		Urine	2 ppb
		Liver, Muscle	MRL when there has been authorised treatment
Megestrol	Megestrol (acetate)	Kidney fat	5 ppb
		Muscle	1.0 ppb
Melengestrol	Melengestrol (acetate)	Kidney fat	5 ppb
		Muscle	1.0 ppb
Chlormadinone	Chlormadinone (acetate)	Kidney fat	5 ppb
		Muscle	0.5 ppb
Medroxy-progesterone	Medroxy-progesterone (acetate)	Kidney fat	1 ppb MRPL
		Muscle	1.0 ppb

*CCbeta for screening methods or CCalpha for confirmatory methods should be lower than the value expressed in this column.

¹17 β -19-Nortestosterone occurs naturally in non-castrated pigs and horses.

²17 α -19-Nortestosterone occurs naturally in pregnant cows and newborn calves.

1.4 Substance Group A4 – Resorcylic acid lactones and derivatives

Including Group A4 – zeranol and group B3d – Zearalenone

Authors: EURL WFSR Wageningen, the Netherlands

Fusarium SSP fungi produces the toxin zearalenone, this compound can be converted into alfa- and beta zearalenol which can be converted into Zeranol and taleranol. So the origin of positive zeranol and its metabolite taleranol can be of natural origin. Therefore it is difficult to discriminate naturally present zeranol from residues of an illegal treatment with the growth promoters Zeranol. Illegal treatment can only be established when only Zeranol and taleranol is and no other structurally related analytes are present in the sample apart from zearalanone. If there are findings of the mycotoxin zearalenone and its metabolites α - and β -zearalenol - apart from zeranol and its metabolites taleranol and zearalanone – the findings are very likely originating from mycotoxin contamination, or at least mycotoxin contamination cannot be excluded as the source of findings. Samples which are tested for zeranol (A4) or zearalenone (B3d) with a positive result in the screening must definitely be tested for all the six analytes (Zeranol, zearalenone, taleranol, zearalanone, α -zearalenol, and β -zearalenol) in the confirmatory tests.

Non-compliant: Finding of Zeranol and perhaps, taleranol and zearalanone over the Recommended concentration of the CRL Guidance paper 2007.

Compliant: Finding of the mycotoxins zearalenone and α - and β -zearalenol in addition to a finding of Zeranol / taleranol / zearalanone.

The comments are based on the following criteria:

Analytes

Minimum requirement	3 substances and/or their metabolites according the CRL Guidance Paper 2007
Recommended other compounds	Zearalanone, zearalenone, alfa- and beta-zearalenol when Zeranol is found to be present, to be able to distinguish between illegal use and a mycotoxin contamination.
Optional	Not applicable

Methods

Screening	Every method available who can detect these compounds at the requested level
Confirmatory	Gas chromatography or Liquid Chromatography coupled to mass spectrometry (MS/MS). Either low resolution or high resolution

Limits and levels of action

CC β , CC α and levels of action should be at or below the concentrations mentioned in the CRL Guidance Paper 2007, noted in concentration or clear text.

Species/matrices

Minimum requirement	Bovine, Pigs, Sheep/Goats, Horses Wild/farmed game urine Poultry serum	According CRL Guidance Paper 2007 ¹⁾
Replacement	Matrix hair, liver, muscle Or egg	
Optional	Aquaculture	Muscle including skin

⁴⁾ For the purpose of this evaluation, feces is considered to be equivalent to urine.

Table 5: A4 – Resorcylic acid lactones and derivatives (CRL Guidance Paper 2007).

4. A4 Resorcylic acid lactones and derivatives (CRL responsible RIVM-NL)

For the purpose of control matrices of choice are urine followed by liver. Muscle has been included for control purposes of imports and for aquaculture products.

Substances	Marker residue-metabolite	Matrix	Recommended concentration*
Zeranol ¹	Taleranol	Urine	2 ppb
		Liver	2 ppb
		Muscle	1 ppb
Zearalanone		Urine	2 ppb
		Liver	2 ppb

*CCbeta for screening methods or CCalpha for confirmatory methods should be lower than the value expressed in this column

¹ In case both zeranol and zearalenone are present, the presence of zeranol is considered as the result of mycotoxin contamination.

1.5 Substance Group A5 – Beta-agonists

Author: Ferial Tadjine of the EU Reference Laboratory, BVL – Berlin, Germany

The comments are based on the following criteria:

Analytes

<u>Absolute minimum requirements:</u>	clenbuterol, brombuterol, isoxsuprine, ractopamine, salbutamol, zilpaterol
Recommended:	chlorbrombuterol, cimaterol, cimbuterol, mabuterol, mapenterol, tulobuterol, terbutaline, salmeterol, ritodrine, clenproperol, clenpenterol, clenproclohexerol
Optional:	fenoterol, clenhexerol

Screening method

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. $CC\beta$ should be below the recommended concentrations.

Confirmatory method

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. $CC\alpha$ should be below the recommended concentrations.

LC-MS/MS, GC-MS/MS for all matrices

GC-MS and LC-MS suitable only with restrictions (sensitivity not sufficient)

Limits

- Recommended concentrations (CRL guidance paper: CRLs' view on state of the art analytical methods for national residue control plans (SANCO/2006/3228))

The $CC\beta$ for screening methods as well as the $CC\alpha$ for confirmatory methods should be below the recommended concentrations.

Species/Matrices

Recommended matrices according to production figures:

Bovine and pig:	urine or faeces, hair (for screening on farm) liver, lung, retina (slaughterhouse)
Poultry (chicken for fattening, turkey):	liver, plasma, faeces
Sheep/goat:	liver, urine faeces
All species:	Drinking water, feeding stuff

Optional:

Horse, farmed and wild game, aquaculture: muscle

Summary of the evaluation

In general, there are very few changes compared to the situation in earlier years. Almost all countries analyse the minimally required analytes. A general problem are the $CC\beta$ values for screening and/or $CC\alpha$ values for confirmatory analysis, as these values are often above the recommended concentration.

1.6 Substance Group A6 – Nitroimidazoles

Author: Dominique Lörchner of the EU Reference Laboratory, BVL – Berlin, Germany

Preliminary remark to the “substance list”:

Since the plan 2015 there has been a clear classification of A6 and B2b nitroimidazoles in the residues database. Hence, the B2b nitroimidazoles are discussed under “coccidiostats”.

The comments are based on the following criteria:

Analytes

Minimum requirements: dimetridazole, metronidazole, ronidazole and the hydroxy-metabolites HMMNI and MNZOH

Remark:

Due to the rapid metabolisation of dimetridazole and partly metronidazole, the hydroxy-metabolites are important indicators for the misuse of the respective drugs (i. e. a misuse of dimetridazole can hardly be discovered if the hydroxy-metabolite HMMNI is not analysed for).

Screening Method

Free choice as long as it is suitable to detect all mentioned analytes at a level of at least 3 ppb (special attention has to be paid to cross-reactivities of immunoassays).

Confirmatory method

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be below the recommended concentrations

LC/MS/MS, (GC/MS), also HRMS

Limits

Minimum of 3 ng/g for all analytes (in feed: 50 ng/g)

Remark: the reduction of the recommended concentration to 1.0 ng/g is presently discussed

Species, Matrices

Minimum requirements: porcine
Poultry: plasma, serum, or retina
egg

Optional: bovine, rabbit, sheep/goat, aquaculture, farmed/ wild game, horses
milk, honey

Proficiency tests

The last proficiency test for nitroimidazoles took place in 2016 (nitroimidazoles in egg). The overall results confirmed a good performance of the laboratories for the control of nitroimidazole residues at levels around 1 ng/g and below.

In 2019 a proficiency test on nitroimidazoles and avermectines in aquaculture is running.

The following tables provide a summary of the evaluation of the NRCPs of the Member States based on the data from the residue database and gives an overview of the species and matrices monitored for A6 nitroimidazoles.

Nitroimidazoles 2018 without B2b												
MS (sum = 28)	Aqua-culture	Bovine	Egg	Farmed / wild game	Horse	Honey	Milk	Pig	Poultry	Rabbit	Sheep/goat	Remarks/ changes in comparison to 2017
Austria	Muscle – rainbow trout, carps, other	Plasma	Hens, quails	Muscle	plasma	x	-	Plasma	Plasma – broiler, turkey	-	Plasma	horse was added
Belgium	-	Plasma	Hens	Muscle	-	x	Cow, goat, sheep	plasma	Plasma - broiler, hen, turkey, other; Feed / Drinking water	muscle	-	
Bulgaria	-	Muscle	Hens, quails	Muscle	muscle	x	Cow, goat, sheep	Muscle	Muscle – broiler, duck	muscle	Muscle	Farmed game, honey, milk were added
Croatia	Muscle+skin - finfish	Plasma	Hens, quails	Plasma, drinking water	plasma	x	Cow, goat, sheep	Plasma	Plasma /Drinking water - broiler, duck, turkey, other	Plasma / Drinking water	Plasma	
Cyprus	Muscle+skin; Feed (group)	Serum; Feed; Drinking water	Hens	Serum; Drinking water	-	-	Cow, Goat, sheep	Serum; Feed; Drinking water	Serum / Feed – broiler, turkey, other; Drinking water	Serum; Feed (group)	Serum	
Czech Republic	Muscle; Feed	Plasma, Muscle	Hens, quails	Muscle	Plasma, muscle	x	cow	Feed plasma, muscle	Feed/Drinking water, hair, muscle, plasma – turkey, hen, chicken, other	Muscle	Muscle	
Denmark	Muscle - salmon	Plasma	Hens	-	Plasma	x	-	Plasma	Plasma - Chicken	-	-	honey was added
Estonia	Muscle – Rainbow trout	Plasma	Hens	-	-	-	-	Plasma	Plasma - broiler	-	-	
Finland	-	Plasma	Hens	-	Plasma; Muscle	-	-	Plasma	Plasma – broiler, turkey	-	Plasma	
France	-	-	Hens	muscle	-	-	-	muscle	Muscle, feed / broilers, hens, other	muscle	Muscle	Sheep/ Goat were added
Germany	Muscle – rainbow trout, carp, others	Plasma, Retina	Hens	Plasma, Retina	Plasma, Retina	-	Cow	Plasma, Retina	Plasma/drinking water – hen, broiler, turkey, other	Plasma, Retina	Plasma, Retina	Aquaculture was added
Greece	Whole animal	-	Hens	Muscle	-	-	-	Plasma	Plasma	Muscle	-	

MS (sum = 28)	Aqua-culture	Bovine	Egg	Farmed / wild game	Horse	Honey	Milk	Pig	Poultry	Rabbit	Sheep/goat	Remarks/ changes in comparison to 2017
Hungary	Muscle	Serum	x	Muscle	Serum	x	Cow, goat, sheep	Serum	Serum – broiler, duck, turkey, hens, other	Muscle	Serum	
Ireland	Muscle + skin	Plasma	Hens, quail, other	-	Plasma	x	Cow	Plasma	Plasma – broiler, duck, turkey, hens	-	Plasma	
Italy	-	Plasma	Hens	-	Plasma	x	Cow	Plasma	Plasma – chicken, turkey	Plasma	Plasma	
Latvia	-	Serum	Hens	-	Serum	-	-	Serum	Serum – broiler	Serum	-	
Lithuania	Muscle – carps, other	Muscle	Hens	Muscle	Muscle	x	Cow, goat	Muscle	Muscle – broiler, turkey	Muscle	Muscle	
Luxembourg	-	Muscle Plasma	x	-	-	x	Cow	Muscle	-	-	Muscle	
Malta												
The Netherlands	Muscle	-	x	-	Urine	-	Cow, goat	Muscle	Plasma, muscle – broiler, hens, other	-	-	Milk was added
Poland	Muscle	Plasma, muscle; Drinking water	Hens	Muscle	Muscle	x	Cow	Plasma, muscle; Drinking water	Plasma – chicken, turkey, duck, other; Drinking water	Muscle	Muscle	
Portugal	Muscle + skin	Plasma	Hens	-	Muscle	-	-	Plasma	Plasma – broiler, chicken, duck, turkey, other	Plasma	Plasma	
Romania	Muscle – brown trout, carp, other	Muscle	Hens, quails	Muscle	Muscle, milk	x	Buffalo, cow, sheep, goat	Muscle	Serum – broiler, hens, turkey	Muscle	Muscle	
Slovakia	Muscle	Muscle, Serum	Hens	-	Muscle	x	Cow, sheep	Muscle	Serum – broiler, duck, hens; Feed	Muscle	Serum, muscle	
Slovenia	-	Plasma	Hens, other	-	Plasma	-	Cow, sheep	Plasma	Plasma – broiler, hens, turkey	Plasma	Plasma	
Spain	Muscle ; feed	Muscle; Feed /Drinking water	x	-	-	-	-	Muscle ; Feed/ Drinking water	Muscle ; Feed/ Drinking water	Muscle	Muscle ; Feed/ Drinking water	Horse was removed
Sweden	Muscle – rainbow trout	-	x	Plasma	Plasma	-	-	Plasma – fattening pigs	Plasma – broiler, turkey	-	-	

United Kingdom	Muscle + skin – salmon, finfish	Kidney	Hens, quails	Muscle	Kidney	-	-	Kidney; Feed	Feed – broiler, ducks, hens, turkey; Serum – broiler, ducks, hens, turkey	-	Kidney	
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Summary of the evaluation

In general there were only minor changes compared to the situation in earlier years, hence the statements of the previous years are still valid.

Species

The highest misuse potential can be expected for poultry and pigs, hence special attention should be paid to these species (including eggs).

- Pigs are analysed in all MS, poultry as well (except LU which has no production)
- Eggs are analysed in all MS

In comparison, the misuse potential for bovine and sheep/goats (and their milk) can be assumed to be lower. Nevertheless, there should at least be some control. The majority of MS (23) have meanwhile established control for nitroimidazoles in bovines with the exception of a few MS which also have high production numbers, e.g. NL. Milk is controlled by 16 MS. A few MS with high production numbers for milk do not analyse for nitroimidazoles, e.g. ES, UK, FR.

Sheep/goats are controlled in 20 MS, including the MS with high production numbers (except GR). Farmed game is analysed in 15 MS.

Aquaculture is controlled in 19 countries, among them countries with high production numbers, e.g. CZ, DE, DK, ES, UK, GR, UK and PL.

The misuse potential for horses is uncertain. Still, due to the horse meat event some years ago several MS included horses in their controls for nitroimidazoles (20 MS).

Honey is being analysed for nitroimidazoles in 14 MS. There are some hints that nitroimidazoles could be used for the treatment of bees. So far, single positive results in control samples has been reported.

Conclusions

The basic control of nitroimidazoles in the most relevant species (pigs, poultry/eggs) has been established in all MS (except poultry in LU).

The analysis of nitroimidazoles in bovine, sheep, goat, and rabbit is carried out by the majority of MS (19 - 23 MS) and is expected to provide sufficient control. The same is true for the analysis of aquaculture, which is practiced by 19 MS including the countries with the highest production numbers (except for FR and IT).

For the matrices milk (analysed in 16 MS) and farmed game (analysed in 15 MS) the situation could be improved.

The analysis of honey for nitroimidazoles has been done in 14 MS so far. Since positive samples has been reported, more MS should consider analysis of honey samples, since a misuse potential in this matrix cannot be excluded.

Analytes and Analytical methods

Due to the rapid metabolisation of dimetridazole and partly metronidazole, the hydroxy-metabolites are important indicators for the misuse of the respective drugs (i. e. a misuse of e.g. dimetridazole can hardly be discovered if the hydroxy-metabolite HMMNI is not analysed for). In 2019 all required analytes and important hydroxy-metabolites were included in the list of analytes in all countries.

Limits

The recommended concentrations of 3 ng/g for nitroimidazoles which the respective methods should be able to achieve are reached by the wide majority of laboratories; even limits of 1 ng/g and below are reported by a remarkably high number of laboratories and can routinely be put into practice as proven in the last proficiency tests (PT NIIM 11/07 in plasma and PT NIIM_0716 in egg).

Matrices

The recommended matrix for poultry (plasma or retina) is analysed by the majority of the MS (16 out of 27 poultry-controlling MS). Six MS exclusively use serum as matrix (CY, HU, LV, RO, SK, UK). However,

2 MS still use muscle alongside plasma/serum as matrix (CZ, NL) and four additional MS (BG, FR, LT, ES) exclusively use muscle as matrix. This makes it near impossible to detect a misuse of nitroimidazoles. Hence, it is not possible to judge whether there really is no misuse of nitroimidazoles in this species or whether the analytes are not detected due to the choice of a matrix unsuitable for residue control.

1.7 Substance Groups A6, B1, B2f and B3e – Antimicrobial compounds

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This report provides an evaluation of the data extracted from the NRMP reports of the Member States (MS) to the DG SANCO for the period 2019. It contains one single part providing the information sorted per Member State. The evaluation is carried out in line with Regulations 2017/625, 2009/470, 2010/37, with CRL Guidance Paper of 7 Dec 2007 and with Decision 2002/657.

Concerning the antimicrobial substances from **group A6**, only chloramphenicol, the nitrofurans and dapsone, respectively, have been considered in this report according to EU-RL Anses-Fougères's duties.

Concerning the antimicrobial substances from **group B1**, the data are displayed per family of compounds for the 6 major families, i.e. aminoglycosides, beta-lactams (penicillins and cephalosporins), macrolides (and lincosamides), quinolones, sulphonamides, tetracyclines, respectively. The rest of antimicrobial compounds (amphenicols, polypeptides, diaminopyrimidins, pleuromutilins ...) are collected under the title "other antibacterials B1". Sometimes, there is not enough data in the plan displayed per family but rather presented as a total antibacterial group B1 thus leading to poorer information released in the report.

Concerning the antimicrobial substances from **group B2f**, the quinoxaline group of compounds (carbadox and olaquinox) are of concern in this report according to the EU-RL Anses-Fougères duties.

Concerning the antimicrobial substances from **group B3e**, malachite green is the major regulated dye but information has been taken into consideration for some other dyes: crystal violet (equivalent name is gentian violet) and brilliant green and some other possible dyes when data is available from the MS.

In this report, the interest was focused on the substances, the species/ matrices and the analytical methods (and their limits) claimed by the MS Competent Authorities. No assessment of the number of samples monitored is reported in this document.

Attention has also been paid to the **claimed levels of detection** ($CC\beta$ of screening) **and of confirmation** ($CC\alpha$ of confirmation) for the proposed sets of methods in the various MS strategies. In this regard, it is also important to highlight that the calculation of $CC\beta_{\text{screening}}$ is still not always handled consistently. Not all MS are aware of the fact that the $CC\beta$ of the screening method should be at or (even better) below the MRL or the RPA to avoid too high false negative rates (i.e. the calculation of the $CC\beta$ cannot start at the MRL or at the RPA) but slightly below at least.

Regarding the methods for SCREENING, they have been divided in 3 categories in line with their degree of specificity in regard to the identification of the analytes: 1 – **non-specific methods** (inhibitory techniques, receptor tests); 2 – **semi-specific methods** (ELISA, Charm II Test, some other Biosensor tests ...); and 3 – **specific methods** (chemical methods like HPLC-DAD; HPLC-FLD; LC-MS; GC-MS; LC-MS/MS and LC-HRMS).

Regarding the SPECIES/ MATRICES, there are 11 SPECIES/ MATRICES considered in this report: i.e. **Aquaculture, Bovine, Eggs, Farmed Game, Honey, Horses, Milk, Pigs, Poultry, Rabbits, Sheep/goats**

Moreover, the 7 Food-Producing Animal Species, i.e. Bovine, Farmed Game, Horses, Pigs, Poultry, Rabbits, Sheep/goats can also be overall covered by the single term: *MUSCLES or MEAT*, and even where relevant is included the Aquaculture Products.

Specific recommendations taken into account throughout the evaluation for each groups of substances:

Substances Group A6 – Chloramphenicol – Nitrofurans - Dapsone

The comments are based on the following criteria:

Analytes

<u>Absolute minimum requirements:</u>	Chloramphenicol; Furazolidone (AOZ); Furaltadone (AMOZ); Nitrofurazone (SEM); Nitrofurantoin (AHD); Nifursol (DNSAH); Dapsone
<u>Recommended:</u>	Nifursol (DNSAH) Will become an absolute minimum requirement in 2020
<u>Optional:</u>	Other possible nitrofurans : Nitrovin (AMG); Nifuroxazid (PSH); & Nifurpirinol, ...

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be below the recommended concentrations

LC-MS/MS, also HRMS

GC-MS and LC-MS suitable only with restrictions (sensitivity often not sufficient)

Limits

- Recommended concentrations :

Chloramphenicol:	minimum of 0.3 $\mu\text{g}/\text{kg}$ (according to Decision No 2003/181/EC)
Nitrofurans:	minimum of 1.0 $\mu\text{g}/\text{kg}$ (according to Decision No 2003/181/EC)
Dapsone:	minimum of 5.0 $\mu\text{g}/\text{kg}$ (in meat and milk) (according to <i>CRLs Guidance paper 2007</i>)

Remark: the reduction of the recommended concentration to 0.15 ppb for CAP and to 0.5 ppb for Nitrofurans is currently under discussion for 2020 (Doc SANTE/10413/2015/CIS)

Species/ matrices

For Chloramphenicol (CAP)

Minimum requirements:	Bovine, Porcine, Poultry, Equine, Eggs; Rabbit, Milk, Honey, Sheep/goat, Aquaculture, Farmed/wild game
Optional:	Species/product of concern in case its production is null in the country

For Nitrofurans (metabolites)

Minimum requirements:	Bovine, Porcine, Poultry, Equine, Eggs; Rabbit, Milk, Honey, Sheep/goat, Aquaculture, Farmed/wild game
Optional:	Species/product of concern in case its production is null in the country

For Dapsone

Minimum requirements:	Bovine, Porcine, Poultry, Equine, Rabbit, Milk, Sheep/goat, Aquaculture, Farmed/wild game
Optional:	Honey, Eggs, and Species/product of concern in case its production is null in the country

Substances Group B2f – Quinoxalines and Group B3e – Dyes

The comments are based on the following criteria:

Analytes

Absolute minimum requirements:	Carbadox (QCA metabolite); Olaquinox (MQCA metabolite); Malachite Green (MG and its Metabolite LMG)
Recommended:	Carbadox (DCBX additional metabolite); Crystal Violet (CV and its metabolite LCV); Brilliant Green (BG and its metabolite LBG)
Optional:	Other Dyes similar to Triarylmethanes: ca. Methylene Blue; Victoria Blue; ... Other Quinoxalines: Cyadox; Mequinox; Quinocetone; ...

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be below the recommended concentrations
LC-MS/MS, also HRMS

Limits

- Recommended concentrations :

Carbadox (CBX-DCBX):	minimum of 10.0 $\mu\text{g}/\text{kg}$ (according to Reg (EC) 2788/1998 and to <i>CRLs Guidance Paper 2007</i>)
Olaquinox (MQCA):	minimum of 10.0 $\mu\text{g}/\text{kg}$ (according to Reg (EC) 2788/1998 and to <i>CRLs Guidance Paper 2007</i>)
Malachite green (MG+LMG):	minimum of 2.0 $\mu\text{g}/\text{kg}$ (according to Decision No 2004/25/EC)
Crystal Violet (CV+LCV):	minimum of 2.0 $\mu\text{g}/\text{kg}$ (according to <i>CRL recommendation</i>)
Brilliant Green (BG+LBG):	minimum of 2.0 $\mu\text{g}/\text{kg}$ (according to <i>CRL recommendation</i>)

Remark: the reduction of the recommended concentration to 0.5 ppb for sum of MG+LMG is presently discussed for NRMP 2020 (Doc SANTE/10413/2015/CIS) and including similar recommendation from EU-RL for CV/LCV and BG/LBG

Species/ matrices

⇒ **For Quinoxalines**

Minimum requirements: Porcine (Liver and/or Muscle)
Optional: Other species (Liver and/or Muscle)

⇒ **For Dyes**

Minimum requirements: Aquaculture products;
Optional: /

Substances Group B1 – MRL-Authorised Antibiotics and including Sulfonamides and Quinolones

Case of Aminoglycosides

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: Apramycin (in Porcine), Dihydrostreptomycin & Streptomycin (in Bovine; Porcine; Sheep/goats; Farmed Game; Rabbit), Gentamicin (in Bovine; Porcine; Sheep/goats; Farmed Game; Horses; Rabbit), Kanamycin (in the 7 meat species except in Aquaculture), Neomycin (in all 8 meat species), Paromomycin (in all 8 meat species)

Recommended: All 7 compounds in meat products not cited above for specific species (*because of possible use with cascade regulation*)

Optional: /

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (*non-specific methods*); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (*semi-specific methods*); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (*specific methods with full options for identification*)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

- Recommended concentrations: in accordance to MRL regulation (EU) No 2010/37

Species/ matrices

Minimum requirements: Bovine, Porcine, Horses, Farmed game, Poultry, Sheep/goats, Rabbit, Aquaculture, Milk, Eggs, Honey (*for Streptomycin & Dihydrostreptomycin*)

Recommended: /

Optional: Honey (*for all other aminosides in addition to Streptomycin & Dihydrostreptomycin*)
Species/product of concern in case its production is null in the country

Case of Beta-lactams: Penicillins

The comments are based on the following criteria:

Analytes:

Absolute minimum requirements: Penicillin-G (Benzylpenicillin); Amoxicillin; Ampicillin; Oxacillin; Cloxacillin; Dicloxacillin; Nafcillin and Penicillin-V (Phenoxymethylpenicillin) in Porcine, Farmed Game, Poultry, and Eggs

Recommended: Penicillin-V (Phenoxymethylpenicillin) in all 11 species/ matrices;

Optional: /

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (*non-specific methods*); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (*semi-specific methods*); Physico-chemical Methods

like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations
Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and LC-HRMS techniques

Limits

- Recommended concentrations : in accordance to MRL regulation (EU) No 2010/37

Species/ matrices

Minimum requirements: Bovine, Porcine, Equine, Sheep/goat, Poultry Meat, Farmed game, Rabbit, Aquaculture, Milk, Eggs (*for all 7 penicillins*) and Porcine, Farmed Game, Poultry, and Eggs (*for Pen-V*)

Recommended: All species for meat products (*because of possible use with cascade regulation*)

Optional: Honey; and any species/ matrices of concern in case its production is null in the country

Case of Beta-lactams: Cephalosporins

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: in Muscle tissues of Bovine: Cefalexin; Cefquinome; Cephapirin & Desacetylcephapirin; Ceftiofur & Desfuroylceftiofur;
In Milk : Cefacetrile; Cefalexin; Cefalonium; Cefazolin;
Cefoperazone; Cefquinome; Cephapirin & Desacetylcephapirin;
Ceftiofur & Desfuroylceftiofur;

Recommended: In Muscle tissues of Porcine, Sheep/goat; Farmed Game;
Equine; Rabbit: Cefalexin; Cephapirin & Desacetylcephapirin;
in Muscle tissues of Sheep/goat; Farmed Game; Poultry; Rabbit:
Cefquinome

Optional: In Muscle tissues of all 7 Species : Cefuroxime;
In Milk and Eggs: Cefuroxime;
In Honey, in Eggs, in Aquaculture: all 10 cephalosporins;

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations
Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods:

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations
Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

- Recommended concentrations : in accordance to MRL regulation (EU) No 2010/37

Species/ matrices

Minimum requirements: Milk (all 10 cephalosporins except cefuroxime);
Bovine meat (*Ceftiofur & Desfuroylceftiofur; Cephapirin & Desacetylcephapirin; Cefquinome; Cefalexin*)
Porcine; Equine (*Ceftiofur & Desfuroylceftiofur; Cefquinome*)
Sheep/goats; Farmed game (*Ceftiofur & Desfuroylceftiofur*)

Recommended: Eggs (*all 8 cephalosporins and 2 metabolites : Desfuroylceftiofur & Desacetylcephapirin*);

Porcine; Equine; Poultry Meat; Farmed Game; Rabbit (*Cefalexin & Cephapirin*);
Sheep/goats; Farmed Game; Poultry; Rabbit (*Cefquinome*)
All species for meat products (*because of possible use with cascade regulation*)

Optional: Honey; Aquaculture; and Species/product of concern in case its production is null in the country

Case of Macrolides and Lincosamides

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: 3-0-Acetytylosin, Erythromycin A, Gamithromycin, Neospiramycin, Pirlimycin, Spiramycin, Tildipirosin, Tilmicosin, Tulathromycin, Tylosin A, Tylvalosin, Lincomycin

Recommended: /

Optional: Clindamycin, Josamycin, Oleandomycin, Roxithromycin

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

Recommended concentrations: in accordance to MRL regulation (EU) No 2010/37 and CRL Guidance Paper (7 December 2007) was used as reference

Species/ matrices

Minimum requirements: Bovine, Equine, Farmed game, Porcine, Poultry, Sheep/goat, Rabbit, Aquaculture, Milk, Eggs, Honey

Recommended: /

Optional: Species/product of concern in case its production is null in the country

Case of Quinolones

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: Ciprofloxacin, Danofloxacin, Difloxacin, Enrofloxacin, Flumequine, Marbofloxacin, Nalidixic acid, Norfloxacin, Oxolinic acid, Sarafloxacin

Recommended: /

Optional: /

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations
Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

- Recommended concentrations : in accordance to MRL regulation (EU) No 2010/37

Species/ matrices

⇒ For quinolones:

Minimum requirements: Aquaculture, Bovine, Horses, Farmed Game, Milk, Porcine, Poultry Meat, Rabbit, Sheep/goat

Recommended: /

Optional: Eggs, Honey, Species/product of concern in case its production is null in the country

Case of Sulfonamides

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: Sulfamethazine; Sulfapyridine; Sulfamerazine; Sulfadiazine; Sulfachloropyrazine; Sulfaquinoxaline; Sulfadimethoxine; Sulfamonomethoxine; Sulfathiazole; Sulfamethoxy-pyridazine; Sulfamethoxazole; Sulfadoxine; Sulfisoxazole; Sulfamethizole; Sulfaguanidine;

Recommended: Sulfacetamide; Sulfameter; Sulfachloropyridazine; Sulfanilamide; Sulfamoxole;

Optional: Sulfasalazine; Sulfisomidine; Sulfaclozine; Sulfabenzamide; Sulfatroxazole; Sulfaethoxy-pyridazine; Sulfaphenazole; Sulfanitran;

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations
Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations
Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

- Recommended concentrations : in accordance to MRL regulation (EU) No 2010/37

Species/ matrices

Minimum requirements: Bovine; Porcine; Sheep/goats; Equine; Poultry; Farmed Game; Rabbit; Milk; Honey

Recommended: Aquaculture; Eggs (*sulphonamides non-authorized in laying hens*)
All species for meat products (*because of possible use with cascade regulation*)

Optional: Species/product of concern in case its production is null in the country

Case of Tetracyclines

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: **Chlortetracycline and its 4-epimer, Oxytetracycline and its 4-epimer, Tetracycline and its 4-epimer, Doxycycline**
Recommended: /
Optional: Demeclocycline

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

Recommended concentrations: in accordance to MRL regulation (EU) No 2010/37 and CRL Guidance Paper (7 December 2007) was used as reference

Species/ matrices

Minimum requirements: All species/ matrices : Bovine, Porcine, Sheep/goat, Farmed Game, Equidae, Poultry meat, Rabbit, Aquaculture, Milk, Eggs, Honey
Recommended: /
Optional: Species/product of concern in case its production is null in the country

Case of Other Antibacterials: Amphenicols

The comments are based on the following criteria:

Analytes

Absolute minimum requirements: Flofenicol & Florfenicol amine, Thiamphenicol
Recommended: /
Optional: /

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits

Recommended concentrations: in accordance with MRL regulation (EU) No 2010/37

Species/ matrices

⇒ For amphenicols:

<u>Absolute minimum requirements:</u>	Bovine, Equine, Farmed Game, Milk (<i>Thiamphenicol only</i>), Porcine, Poultry Meat, Rabbit, Sheep/goat
<u>Recommended:</u>	All species cited above in other meat products (<i>possible use with cascade regulation</i>)
<u>Optional:</u>	Species/product of concern in case its production is null in the country

Case of Other Antibacterials: all other antibacterials considered in the NRCPs out of here-above cited families

The comments are based on the following criteria:

Analytes

Absolute minimum requirements according to MRL regulation (EU) No 2010/37:

Trimethoprim (Meat & Milk), Colistins A & B (Meat and Milk), Rifaximine (Milk), Novobiocin (Milk), Baquiloprim (Pig, Bovine Meat and Milk), Bacitracin A (Milk and Rabbit), Tiamulin (Pig, Poultry and Rabbit), 8-alpha-OH-mutiline (Pig, Poultry and Rabbit), Valnemulin (Pig and Rabbit), Virginiamycin M & S (Poultry)

Recommended: All substances cited above but in other meat products (*possible use with cascade regulation*)

Optional: Ormetoprim, Species/product of concern in case its production is null in the country

Screening methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC β should be below the recommended concentrations Microbiological Inhibitory Methods or Receptor Tests (non-specific methods); Immunological Methods like ELISA, Charm II test, other Biosensor Tests (semi-specific methods); Physico-chemical Methods like HPTLC; HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, also LC-HRMS techniques (specific methods with full options for identification)

Confirmatory methods

Free choice as long as the method is suitable to detect all analytes mentioned at least at the level of the recommended concentrations, i.e. CC α should be above the recommended MRL concentrations Only Physicochemical methods like HPLC-DAD; HPLC-FLD; LC-MS; LC-MS/MS, and also LC-HRMS techniques

Limits:

Recommended concentrations: in accordance to MRL regulation (EU) No 2010/37

Species/ matrices

Minimum requirements: Species/ matrices according to MRL regulation (EU) No 2010/37 Bovine (*Baquiloprim, Colistin A, Colistin B, Trimethoprim*), Porcine (*Baquiloprim, Colistin A, Colistin B, Trimethoprim, Tiamulin, 8 alpha-OH-mutiline*), Sheep/goat (*Colistin A, Colistin B, Trimethoprim*), Horses (*Colistin A, Colistin B, Trimethoprim*), Farmed Game (*Colistin A, Colistin B, Trimethoprim*), Poultry Meat (*Colistin A, Colistin B, Trimethoprim, Tiamulin, 8 alpha-OH-mutiline, Virginiamycin M, Virginiamycin S*), Rabbit (*Colistin A, Colistin B, Bacitracin, Trimethoprim, Tiamulin, 8 alpha-OH-mutiline*), Aquaculture (*Colistin A, Colistin B, Trimethoprim*), Milk (*Bacitracin, Colistin A, Colistin B, Trimethoprim, Novobiocin, Rifaximin*), Eggs (*Colistin A, Colistin B, Trimethoprim, VirginiamycinM, VirginiamycinS*)

Recommended: All species cited above in other meat products (*possible use with cascade regulation*)

Optional: Honey, and Species/product of concern in case its production is null in the country

1.8 Substance Group B2a – Anthelmintics

Author: Wolfgang Radeck of the EU Reference Laboratory, BVL – Berlin, Germany

Analytes

Absolute minimum requirements: ivermectin, doramectin, abamectin, moxidectin, closantel, rafoxanide, and nitroxinil for milk, sheep/goats and bovine as from 2017

fenbendazole and marker compounds, marker compounds of albendazole, triclabendazole and marker compounds, levamisole, thiabendazole and marker compound

Recommended: eprinomectin, emamectin, clorsulon
oxibendazole, flubendazole, mebendazole, oxclozanide

Optional: cambendazole, parbendazole, praziquantel

Please note:

For the evaluation of the NRCPs the substances with sum-MRLs are summarised under the parent substance, e.g. febantel, fenbendazole, oxfendazole and oxfendazole sulphone count as one analyte.

Screening method

Free choice as long as the method is suitable to detect all mentioned analytes at least at the MRL level.

Confirmatory method

LC-MS/MS, LC-MS, LC-HRMS, GC-MS, LC-DAD, LC-FLU for all matrices

Limits

- MRL (CC α (confirmation) > MRL, CC β (screening) \leq MRL)
- For non-authorized analyte/matrix combinations (e.g. a compound that is declared as being not for use in animals from which milk or eggs are produced for human consumption): as low as possible
- For authorised substances which do not have an MRL in specific matrices or species: according to the risk assessment of the competent authority following Article 6 of Regulation (EC) No 470/2009

The highest allowed value for substances with MRL can be calculated by applying the following equation:

$$CC\alpha = MRL + 1.89 \cdot \text{Horwitz SD} \quad (1)$$

Although in the plan the columns entitled “LOD” and “LOQ” were substituted by “CC α ” and “CC β ”, there are still some MS which indicate the old values. In cases where the limits were given as LOD, the limits were counted as non-compliant.

The table below gives some examples for CC α_{max} :

Table 6: Examples for combinations of MRL and the maximum acceptable CC_α according to equation (1).

MRL (µg/kg)	MRL + 1,89*HorwitzSD (µg/kg)
0,05	0,12
0,1	0,23
1	1,86
2	3,55
3	5,32
4	6,78
5	8,36
8	11,60
10	16,10
20	30,90
30	45,40
35	52,50
40	59,70
45	66,80
50	73,80
60	87,80
80	116,00
90	130,00
100	143,00
150	211,00
170	238,00
200	278,00
225	311,00
250	344,00
300	409,00
400	539,00
500	668,00

Species/matrices

Recommended matrices according to production figures:

bovine, pig, sheep/goat, poultry, farmed game (liver or muscle)

milk (cow, sheep, goat) and egg

aquaculture (muscle/skin) for avermectins

Recommended analytes in the matrix egg are, in particular, febendazole (MRL=1300 µg/kg), flubendazole (MRL=400 µg/kg), mebendazole, levamisole (not licensed for laying hens), abamectin and ivermectin. The reason for this recommendation is the frequent application of anthelmintics to poultry (especially free-range poultry). Since in the case of anthelmintics an increased resistance is observed and therefore the use of non-licensed drugs like levamisole becomes more probable.

Optional: equine, wild game (muscle or liver)

In general, an increased analyte scope is evident. A general problem are the CC_β for screening, as these values are often above the corresponding MRLs.

The following tables give an overview of the species and matrices monitored for anthelmintics.

Avermectins 2019											
MS (sum = 28)	Aquaculture / species	Bovine	Egg	Farmed / wild game	Horse	Milk / species	Pig	Poultry / species	Rabbit	Sheep / goat	Remarks/ changes in comparison to 2018
Austria	muscle / carp, rainbow trout	Muscle (veal calves, young bovine)		Muscle (deer, wild boar)	muscle	cow, sheep	muscle	muscle / broiler, turkey		muscle / lamb, other sheep	no changes
Belgium	liver	liver	x	x (wild game)	liver	cow, goat, sheep	liver	liver		liver	no changes
Bulgaria*	muscle* / carp, rainbow trout, silver carp, catfish	liver*			liver	cow, sheep, goat	liver*	muscle* / broiler, duck	muscle*	liver	new: silver carp and catfish, goat milk; farmed/wild game not covered
Croatia	muscle / finfish	liver	x	liver	liver	cow, goat, sheep	liver	liver broiler, turkey, duck, other	liver	liver / mutton, goat	no changes
Cyprus	muscle	liver	x	muscle		cow, goat, sheep	liver	muscle / broiler, turkey	muscle	liver	no changes
Czech Republic	muscle	liver	x	liver	muscle	cow, goat, sheep	liver	liver / chicken, hen	liver	liver / goat, lamb	eggs included
Denmark	muscle / finfish, salmon	liver				not examined	liver			liver	no changes
Estonia	muscle / rainbow trout	muscle				cow	muscle	muscle / broiler		muscle	no changes
Finland	muscle, skin / finfish	liver		liver	liver	cow, goat	liver				no changes
France	muscle finfish	liver		liver	liver	cow, goat	liver			liver	aquaculture, farmed game included
Germany	liver, muscle/ carp, rainbow trout, others	kidney, liver, muscle		kidney, liver, muscle	kidney, liver, muscle	cow	kidney, liver, muscle	kidney, liver, muscle	kidney, liver, muscle	kidney, liver, muscle	poultry included
Greece	whole animal	muscle		muscle		cow, goat, sheep	muscle	muscle	muscle	muscle	no changes

MS (sum = 28)	Aquaculture / species	Bovine	Egg	Farmed / wild game	Horse	Milk / species	Pig	Poultry / species	Rabbit	Sheep / goat	Remarks/ changes in comparison to 2018
Hungary	muscle	muscle		muscle	muscle	cow, goat, sheep	muscle			muscle / lamb	no changes
Ireland	muscle, skin	liver		liver	liver	cow, goat, sheep	liver	liver / broiler, duck, hen, turkey		liver	no changes
Italy	muscle / rainbow trout	liver		liver		cow, buffalo, sheep, goat	liver	liver / chicken, hen, turkey	liver	liver	no changes
Latvia	muscle	liver			muscle	cow	liver		liver	liver	no changes
Lithuania	muscle / carp	kidney, liver, muscle	x	liver, muscle	muscle	cow, goat	kidney, liver, muscle	liver, muscle	muscle	muscle	rabbit included
Luxemburg	not examined	muscle				cow	muscle		muscle	muscle	no changes
Malta	No data										
The Netherlands	muscle	liver		liver	liver	cow, goat	liver		muscle	liver	no changes
Poland	muscle	liver		liver	liver	cow	liver	liver	liver	liver	no changes
Portugal	muscle, skin	liver			liver	cow, goat, sheep	liver	liver	liver	liver	no changes
Romania	muscle, skin	liver, muscle, kidney		liver	liver, muscle, kidney	cow, goat, sheep, horse	liver, kidney, muscle	liver	liver	liver, muscle, kidney	no changes
Slovakia	muscle	liver		muscle		cow, sheep	liver	liver	liver	liver	no changes
Slovenia	muscle / rainbow trout	fat		fat	fat	cow, goat, sheep	fat	fat / hen, turkey, broiler	fat	fat	no changes
Spain	muscle	fat, liver		muscle	liver, muscle	cow	liver,	liver, muscle	liver	liver	no changes
Sweden	muscle	liver		liver	liver	cow	liver	liver		liver	poultry included
United Kingdom	muscle/skin / rainbow trout, salmon	liver			liver	cow, goat, sheep	liver	liver		liver	no changes

1.9 Substance Group B2b – Coccidiostats

Author: Ferial Tadjine of the EU Reference Laboratory, BVL – Berlin, Germany

Remarks: Carnidazole, ipronidazole, ipronidazole-OH, ternidazole, tinidazole and secnidazole are evaluated in this chapter.

Analytes

<u>Absolute minimum requirements:</u>	in egg: diclazuril, nicarbazin in poultry and egg: lasalocid, maduramycin, monensin, narasin, robenidine, salinomycin
Recommended:	amprolium, decoquinate, clopidol, halofuginone, nequinatate (methylbenzoquate), semduramycin, toltrazuril, ipronidazole
Optional:	arprinocid, clazuril, diaveridine, dinitolimide, nitromide, carnidazole, ornidazole, secnidazole, ternidazole, tinidazole

Screening method

Free choice as long as the method is suitable to detect all mentioned analytes.

Confirmatory method

LC-MS/MS, HRMS/MS, GC-MS, LC-DAD for all matrices

Limits

- MRL ($CC\alpha$ (confirmation) > MRL and ML, $CC\beta$ (screening) \leq MRL and ML); for non-authorised analyte/matrix combinations: as low as possible
- From the analytical point of view the ML has to be treated like the MRL, i.e. $CC\alpha > ML$, and $CC\beta$ for screening $\leq ML$.
- The highest allowed value for substances with an MRL or ML can be calculated by applying the formula:

$$CC\alpha = MRL \text{ (or ML)} + 1.89 \cdot \text{Horwitz SD} \quad (1)$$

Species/matrices

Absolute minimum requirements: egg and poultry

Recommended matrices according to production figures:

bovine, pig, sheep/goat, rabbit - muscle or liver; feed

Optional: equine, farmed game

Summary of the evaluation

In general, there are very few changes compared to the situation in earlier years. An increased analyte scope could be observed. On average, a slight increase in the analysed number of compounds can be observed. Almost all countries analyse the minimally required analytes, except:

- Austria, which does not consider maduramycin
- Bulgaria, which does not consider lasdalocid and halofuginone
- Croatia, which does not consider lasalocid
- Germany, which does not consider diclazuril

A general problem are the CC β for screening, as these values are often above the corresponding MRLs or MLs. Additionally CC α values for confirmatory analysis are often below the corresponding MRLs or MLs.

The minimum requirement matrices (egg and poultry) are analysed by the majority of the MS except for LU, which has not included poultry.

1.10 Substance Group B2d – Tranquilisers

Authors: EURL WFSR Wageningen, the Netherlands

The comments are based on the following criteria:

Analytes

Minimum requirement	3 substances according the CRL Guidance Paper 2007 and chlorpromazine
Recommended	Xylazine, azaperon and azaperol (metabolite), carazolol
Optional	Not applicable

Methods

Screening	Every method available who can detect these compounds at the requested level
Confirmatory	Gas chromatography or Liquid Chromatography coupled to mass spectrometry (MS/MS). Either low resolution or high resolution

Limits and levels of action

CC β , CC α and levels of action should be at or below the concentrations mentioned in the CRL Guidance Paper 2007, noted in concentration or clear text.

Species/matrices

Minimum requirement	Bovine, Pigs, Sheep/Goats, Horses	According CRL Guidance Paper 2007 ¹⁾
Replacement	Not applicable	
Optional	Not applicable	

⁵⁾ For the purpose of this evaluation, feces is considered to be equivalent to urine.

Table 7: B2d - Tranquilisers (CRL Guidance Paper 2007).

7. B2d Sedatives (CRL responsible RIVM-NL)

Matrix of choice is kidney.

Substances	Matrix	Recommended concentration*
Acepromazine Propiopromazine Haloperidol	Kidney	50 ppb

* CC β for screening methods or CC α for confirmatory methods should be lower than the value expressed in this column

1.11 Substance Group B2e – NSAIDs

Author: Dominique Lörchner of the EU Reference Laboratory, BVL – Berlin, Germany

The comments are based on the following criteria:

Analytes

<u>Absolute minimum requirements:</u>	at least 9 NSAIDs (non-authorised veterinary drugs for food-producing animals and MRL substances) phenylbutazone (PBZ), flunixin (FLU) (flunixin hydroxide (FLU-OH) - milk), diclofenac (DC), metamizole (4-methylaminoantipyrine (MAA)), tolfenamic acid (TFA), carprofen (CPF), ibuprofen (IP), naproxen (NP), meloxicam (MLX)
Recommended:	oxyphenbutazone (OPB), ketoprofen (KTP), vedaprofen (VDP), mefenamic acid (MFA), niflumic acid (NFA), flufenamic acid (FFA), 4-formylamino-antipyrine (FAA)
Optional:	salicylic acid (SA), firocoxib (FCX), isopyrine (IPAA), antipyrine (A)

Method

LC-MS/MS for all matrices and all recommended concentrations according to CRL Guidance Paper (7th December 2007). GC-MS/MS and HPLC-DAD for MRL substances with higher limits, in tissue, milk and plasma with restrictions.

Limits

MRL value or recommended concentrations according to CRL Guidance Paper (7th December 2007).

For MRL compounds the $CC\beta$ for screening methods must be less than or equal to the regulatory limit; the $CC\alpha$ for confirmatory methods is higher than the regulatory limit and less than or equal to the $CC\alpha$ max (1). For compounds with recommended concentrations, $CC\beta$ and $CC\alpha$ should be below those concentrations.

$$CC\alpha \text{ max} = \text{MRL} + 1.89 * \text{Horwitz SD} \quad (1)$$

Species (matrix)

Recommended matrices according to production figures:

bovine (milk), horse, sheep/goat, pig and poultry

Optional:

farmed game and rabbit

The following table gives an overview of the species and matrices analysed for NSAIDs.

NSAIDs 2018									
MS	Bovine	Farmed game	Horses	Milk (species)	Pig	Poultry / species	Rabbit	Sheep/goat	Remarks
Austria	muscle, plasma	muscle	muscle	cow, sheep	muscle	muscle - broiler, turkey	-	Muscle – lambs, goats, other	
Belgium	muscle	muscle	muscle	cow, goat, sheep	muscle	muscle - broiler, turkey, hen, other	muscle	muscle	other instead of duck for poultry/species
Bulgaria	muscle	-	muscle	cow, sheep, goat	muscle	muscle - broiler, duck	muscle	Muscle – lambs, kids, ewes, goats	goat milk was added
Croatia	muscle	muscle	muscle	cow, goat, sheep	muscle	muscle - broiler, turkey	muscle	Muscle – mutton, goats	
Cyprus	muscle	muscle	-	cow, goat, sheep	muscle	muscle - broiler, turkey	muscle	muscle	for poultry/species: duck was removed
Czech Republic	muscle	muscle	muscle	cow, goat, sheep	muscle	muscle - turkey, hen, chicken, other	muscle	muscle	
Denmark	plasma only	plasma only – wild boar	plasma only	cow, goat	plasma only	plasma only - chicken	-	plasma only	
Estonia	muscle	-	-	cow	muscle	muscle - broiler	-	muscle	
Finland	muscle, urine	muscle	muscle	cow	muscle	muscle - hen	-	muscle	
France	muscle	muscle	muscle	Cow, sheep, goat	muscle	muscle / broiler	muscle	muscle	Milk (cow, sheep and goat) was added
Germany	muscle, liver, kidney, plasma	muscle, liver, kidney, plasma	muscle, liver, kidney, plasma	cow	muscle, liver, kidney, plasma	muscle, liver, kidney, plasma - broiler, turkey, hen, other	muscle, liver, kidney, plasma	muscle, liver, kidney, plasma	
Greece	muscle	muscle	-	cow, goat, sheep	muscle	Muscle – no data	muscle	muscle	
Hungary	Muscle – cows, other	muscle	muscle	cow, goat, sheep	muscle	muscle - turkey, duck, broiler, hen, other	muscle	Muscle - lambs	
Ireland	kidney, plasma	kidney	kidney	cow, goat	kidney, plasma	plasma only - broiler, turkey, hen	-	kidney	
Italy	muscle, plasma	plasma only - birds	muscle, plasma	cow	muscle, plasma	plasma only - chicken	muscle, plasma	muscle, plasma	
Latvia	muscle	muscle	muscle	cow	muscle	muscle - broiler	muscle	muscle	
Lithuania	muscle	muscle	muscle	cow	muscle	muscle - broiler, turkey	muscle	muscle	
Luxemburg	muscle	-	-	cow	muscle	-	muscle	Muscle - lambs	
Malta									
The Netherlands	muscle	muscle	muscle	cow	muscle	muscle	muscle	muscle	

NSAIDs 2018									
MS	Bovine	Farmed game	Horses	Milk (species)	Pig	Poultry / species	Rabbit	Sheep/goat	Remarks
Poland	muscle	muscle	muscle	cow	muscle	muscle - turkey, chicken, duck, other	muscle	muscle	
Portugal	muscle	-	muscle	cow, goat, sheep	muscle	muscle - broiler, turkey, chicken, duck, other	muscle	muscle	
Romania	muscle	muscle	muscle, milk	cow, goat, sheep, buffalo	muscle	muscle - broiler, turkey	muscle	muscle	
Slovakia	muscle	muscle	muscle	cow	muscle	muscle - broiler	muscle	muscle	
Slovenia	plasma only	muscle	muscle, plasma	cow, goat, sheep	plasma only	plasma only - broiler, turkey	plasma only	plasma only	
Spain	muscle	-	muscle	cow	muscle	muscle - no data	muscle	muscle	
Sweden	kidney	kidney	kidney	cow	kidney	muscle - turkey, broiler	-	kidney - lambs	
United Kingdom	liver, kidney	liver, kidney	kidney	cow, goat, sheep	liver, kidney	liver - broiler, duck, turkey, hen	-	liver, kidney	

The additional consideration of milk is due to the great nutritional importance of milk for humans and because NSAIDs are often applied to bovines (especially dairy cattle). MRLs have been established for DC, FLU (FLU-OH), TFA, meloxicam (MLX), metamizole (→ MAA) and salicylic acid (SA).

Analytes

Twenty-two MS considered the basic NSAIDs, including metamizole (or the marker residue MAA), which is suspected to be used frequently (milk: 19 MS).

Regarding flunixin and its metabolite FLU-OH it must be pointed out that all MS analyse FLU (28 MS). To control the MRLs or to detect FLU in all matrices, both the native substance and the hydroxy metabolite should be taken into account, since the ratio two substances can vary a lot depending on the point of drug application.

In order to get the best possible overview of the use of NSAIDs in food-producing animals and of their residues in food of animal origin, a broad control of as many substances of this group as possible should be aspired. At present it is possible to detect approx. 25 substances in muscle, liver, kidney, plasma and milk in a concentration range of approx. 0.1 - 10 µg/kg by means of LC-MS/MS multi-methods. Alternative methods (GC-MS, HPLC-FLD, HPLC-DAD and ELISA), which are still in use in some laboratories for the analysis of NSAIDs, limit the number of substances or concentration ranges that can be detected.

All pharmacologically active substances of the B2e group are of interest for consumer protection (with different toxicological relevance). For this reason as many substances from this group as possible (including non-authorised/banned compounds like KTP, as well as the MRL substances – CPF, FLU or FLU-OH, TFA, MLX, metamizole (including the metabolite MAA), FCX, DC) should be included in residue control. In particular, substances which are not authorised for the treatment of food-producing animals but are widely used in human medicine (e.g. IP and NP), and substances which are of a certain importance in veterinary medicine, but are not authorised for food-producing animals (e.g. PBZ and its main metabolite OPB), should be monitored. The high relevance for consumer protection of substances frequently used in human medicine (e.g. DC, IP, MLX and NP) is also underlined by the fact that these substances were included - and were also detected - in the monitoring of drinking water in some federal states

Species / matrix

The selection of analytes for residue control should be made in a differentiated manner according to the conditions in the respective MS. In this context the following points are to be taken into consideration:

1. The frequency of NC results in all MS for individual analytes and certain species/matrices (positive findings of PBZ, FLU, IP, metamizole, DC and MLX especially in bovine (including milk), equine, poultry and porcine)
2. The probability of the use of authorised veterinary drugs in the production of food of animal origin (MRL substances - metamizole/MAA, FLU/FLU-OH, VDP, CPF, TFA, MLX, DC and firocoxib (FCX))
3. The probability of a misuse of veterinary drugs not authorised for use in food-producing animals (e.g. PBZ, IP and NP)

Species and matrices should be selected with regard to the respective aims:

1. Targeted sensitive detection of banned substances in liver or kidney
2. Detection of banned substances in the live animal by examining plasma, serum, blood or milk
3. Importance of the respective matrix (muscle, milk) for human nutrition (e.g. frequency of consumption, baby food)

Methods

In most cases LC-MS/MS is applied for the confirmation of NSAIDs. Only in very few MS the GC-MS/MS and HPLC-DAD/FLD techniques are still used for confirmation.

Regarding the sensitivity that can be achieved, LC-MS/MS should be sufficient to allow the control of the MRL values and to meet the "recommended concentrations" (CRL Guidance Paper – 7 December 2007) for NSAIDs.

Summary of evaluation

- Basic NSAIDs (e.g. metamizole) are included in 22 MS (21 in 2017).
- Milk is included in the analysis by all MS except FR and NL
- Pharmaceuticals frequently used in human medicine (like IP, NP, DC and MLX) are included
- The analytes DC, CPF, PBZ, FLU, MLX, TFA and NP seem to be the most important.
- Some MS exclusively examine plasma for important species (e.g. DK, SL). However, the matrices plasma and urine do not allow conclusions with regard to the compliance with MRL values; these matrices can only be used for screening purposes.
- The average number of at least 9 different analytes per MS (including basic and acidic NSAIDs as well as MRL substances and non-authorised substances in all matrices) should be the minimum to be reached by all laboratories in the analysis of NSAIDs.

1.12 Substance Group B3c - Chemical Elements

Authors: Jens J. Sloth and Heidi Amlund of the EURL-MN (EURL for metals and nitrogenous compounds in feed and food)

Subgroup B3c comprises the chemical elements. The maximum levels (MLs) of lead (Pb) and cadmium (Cd) in food of animal origin is regulated in CR 1881/2006 and amendments as well as mercury (Hg) in fish, whereas CR 396/2005 and amendments regulates the maximum residue levels (MRLs) of mercury (Hg) and copper (Cu) in food of animal origin other than fish. Furthermore several member states have established national action levels in matrices and for elements not covered in the legislation. The performance criteria for methods of analysis are described in CR 333/2007 and amendments. The commission recommendations 1111/2016 and 1381/2015 recommends the MS to perform monitoring on nickel (Ni) and arsenic (As) in food during the period of 2016-18.

The evaluation of subgroup B3c Chemical Elements focuses on the following:

- Consistency with the MLs and MRLs levels in the legislation
- Compliance with the analytical requirements in the legislation (LOQ)

With regard to the evaluation of subgroup B3c the following general issues were observed for several MS:

- Lack of inclusion of copper (Cu) in the monitoring program (CR 396/2005 and amendments).
- Lack of mercury data for other matrices than fish (CR 396/2005 and amendments).
- MS who stated levels of action (MLs and MRLs) were, in general, consistent with regulation (CR 1881/2006 and amendments, CR 396/2005 and amendments).
- MS who stated LOQs were, in general, in compliance with regulation (CR 333/2007 and amendments).
- For some MS incomplete information on limits and/or levels of action was provided.
- Several MS report data for other relevant elements (e.g. nickel (Ni), arsenic (As)) than the regulated elements (lead (Pb), cadmium (Cd), mercury (Hg), copper (Cu)).

1.13 Substance Group B3d - Mycotoxins

Authors: EURL WFSR Wageningen, the Netherlands

The comments are based on the following criteria:

Analytes

Minimum requirement	Aflatoxin M1, Ochratoxin, zearalenone (or combined with A4)
Recommended	Not applicable
Optional	Not applicable

Methods

Screening	Aflatoxin M1 LC-FLD Ochratoxin Zearalenone all methods suitable
Confirmatory	Aflatoxin M1 LC-FLD or LC-MS/MS Ochratoxin LC-FLD or LC-MS/MS Zearalenone LC-MS/MS

Limits and levels of action

CC β , CC α and levels of action should be at or below the concentrations mentioned in Commission Regulation (EC) 1881/2006, noted in concentration or clear text.

Species/matrices

Minimum requirement	Bovine, Pigs, Sheep/Goats, Horses, Poultry, Milk	Aflatoxin M1: Milk, milk powder Ochratoxin: Kidney, blood, edible offal
Replacement	Not applicable	
Optional	Aquaculture	Muscle including skin

2 Part B: Overview by Member State

2.1 Member State: Austria (AT)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Additionally include benzenestrol	LoA clearly stated in concentrations
A2	Analytes	Additionally include benzylthiouracil	
A3	Species / matrices	Include estradiol and testosterone for sheep/goats and horses, chlormadinone for poultry and aquaculture and stanozolol for aquaculture.	
A4		-	
A5	Limits	CC β for screening methods or CC α for confirmatory methods should be lower than the RC	
A6 – nitroimidazoles	Analytes		
A6 - other	Analytes		
	Limits	CC β screening and CC α confirmation are not reported lower than RPA for all products/species of concern	
B1 – aminoglycosides	Analytes	No control for apramycin, kanamycin, paromomycin and spectinomycin : non-compliant	
	Species/matrices	No control for Eggs, Milk, Rabbits: non-compliant	
	Limits	CC α values are too low for gentamicin in Aquaculture products, Horses and Sheep/goats: non-compliant	
B1 – beta-lactams	Analytes	compliant	Cephalexin not fully considered for screening (immunoanalysis)
	Species/matrices	Non-compliant	Eggs and rabbit to be considered
B1 – Macrolides, lincosamides	Analytes	Need to include other macrolides and lincosamides : 3-O-acetyltylosin, gamithromycin, pirlimycin, tildipirosin and tylvalosin	
	Species/matrices		No control for milk and eggs

	Limits		CC α for spiramycin in poultry not in accordance with the MRL
B1- Quinolone s	Analytes	The 8 recommended substances and nalixidic acid: compliant	
	Species/ matrices		No control in Milk and Rabbit
B1 – Sulfonami des	Analytes	Compliant: 24 analytes and also including optional substances: phtalyl sulfathiazole and sulfaphenazole	No control for sulfaclozine
	Species/ matrices	compliant	No control for rabbit
	Limits	Revise CC α of sulfamoxol in Muscle (Bovines and Pigs) too high (169 μ g/kg).	
B1 – Tetracycli nes	Analytes	Compliant	
	Species/ matrices		No control in rabbit
B1- Other antibacter ials	Analytes	Florfenicol, florfenicol amine, thiamphenicol, tiamulin, trimethoprim	<ul style="list-style-type: none"> • No control for phenicols in Farmed game, Horses and Poultry • No control for tiamulin in Eggs, Pigs and Rabbits • For trimethoprim, control only in Bovines, Milk, Pigs
	Species/ matrices		No control for Eggs and Rabbits
	Limits	compliant	
B2a	Analytes	Inclusion of closantel, nitroxinil and rafoxanide for milk	
	Limits	Adoption CC α for eprinomectin in fish	
B2b	Analytes	maduramycin should be included to meet the minimum requirements	
	Limits		
B2d		-	
B2e	Analytes	IP and NP only analysed in milk	
	Limits	Mostly compliant	
B2f - Corticoste roids	Analytes	Additional more compounds in liver	

B2f antimicrobials	- Analytes		
B3c	Analytes	Good to see that As and Ni are included Cu should be included (396/2005 and amendments)	
	Methods		
	Limits		
	Levels of action	MRLs for Hg in meat and offal not correct (73/2018)	
	Species /matrices	Not all analytes are included	
B3d		-	
B3e	Analytes	Compliant	
	Limits		CC β and CC α unexpectedly the same value

2.1.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Compliant 	
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/liver/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/poultry subspecies are specified For aquaculture : rainbow trout For farmed game: deer/wild boar	

2.1.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil 	Include benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Thiouracil action level 30 ppb Others 10 ppb 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: farmed game, horses, poultry Matrices: urine Additional: drinking water (poultry) 	
Other remarks		<ul style="list-style-type: none"> Thiouracil action level 30 ppb Mercaptobenzimidazol in group B2a in horses, pigs and lamb in urine and for broiler and turkeys in drinking water 	

2.1.3 Group A3 – Steroids

A3 - AT		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs. Non-compliant: sheep/goats, horses (estradiol, testosterone), poultry (chlormadinone), aquaculture, Farmed game (stanozolol, chlormadinone) (farmed game is optional). Additional (most in bovine and pigs): 1-testosterone, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Boldenone-Alpha, CLAD (Cholortestosterone metabolite), Clostebol, Clostebol acetate, Delmadinone acetate, Flugestone-17-Acetate, Norclostebol,, medroxyprogesterone, Stanozolol-16-Beta-Hydroxy, Stanozolol-4-Beta-Hydroxy. 	Include: estradiol and testosterone for sheep/goats and horses. chlormadinone for poultry. stanozolol and chlormadinone for aquaculture.
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MSMS, ELISA). 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MSMS). 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> Compliant except there is no sub specification for testosterone noted. Notation: in concentration or as 'presence'. 	Make a clear notation for the level of action for testosterone.
Species/matrices		<ul style="list-style-type: none"> Compliant: bovines, pigs. Non-compliant: sheep/goats, horses (gestagens only urine), poultry (only liver tested for all tested analytes). Used matrices: kidney fat, liver, muscle, plasma, urine. 	Include more recommended matrices.
Other remarks		<ul style="list-style-type: none"> A nice list of additional analytes and specified subspecies. 	

2.1.4 Group A4 – Resorcylic acid lactones

A4 - AT		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: Zearalanone 	
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/Ms 	
Limits	CC β (screening)	<ul style="list-style-type: none"> compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	
Levels of action		<ul style="list-style-type: none"> CCalpha 	
Species/matrices		<ul style="list-style-type: none"> Compliant 	
Other remarks		α/β -zearalenol and zearalenone in group B3d	

2.1.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> 13 analytes in all analyte/matrix combinations All minimum requirements (clenbuterol, brombuterol, isoxsuprine, ractopamine, salbutamol and zilpaterol) covered Some recommended analytes (cimaterol, cimbuterol, mabuterol mapenterol and terbutaline) covered Fenoterol as optional analyte is covered 	

Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> • criteria fulfilled for matrix liver • CCβ above recommended concentrations in bovine and porcine urine as well as in poultry plasma: • CCβ for brombuterol in bovine urine is 0.38 $\mu\text{g}/\text{kg}$ and RC = 0.2$\mu\text{g}/\text{kg}$ • CCβ for cimaterol in bovine urine is 0.77 $\mu\text{g}/\text{kg}$ and RC = 0.5 $\mu\text{g}/\text{kg}$ • CCβ for cimbuterol in poultry plasma is 0.56 $\mu\text{g}/\text{kg}$ and RC = 0.5 kg 	CC β for screening methods should be lower than the RC
	CC α (confirmatory)	<ul style="list-style-type: none"> • criteria fulfilled for matrix liver • CCα above recommended concentrations in some cases e.g. cimbuterol, mabuterol, mapenterol in bovine and porcine urine as well as mabuterol in poultry plasma: • In bovine and porcine urine, CCα for cimbuterol is 0.56 $\mu\text{g}/\text{kg}$ and RC = 0.5 $\mu\text{g}/\text{kg}$ • In bovine and porcine urine, CCα for mabuterol is 0.37 $\mu\text{g}/\text{kg}$ and RC = 0.2 $\mu\text{g}/\text{kg}$ 	CC α for confirmatory methods should be lower than the RC
Levels of action		presence	
Species/matrices		Fulfilled	
Other remarks			

2.1.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.1.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 9 Nitrofurans: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA & IA, LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: HPLC-DAD, IA, LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCβ at 0.3 $\mu\text{g}/\text{kg}$ for CAP in eggs, honey, milk, muscle and plasma is suspicious. CCβ must be < MRPL/RPA CCβ for feed at 20 $\mu\text{g}/\text{kg}$ for Nitrofurans CCβ at 5.8 $\mu\text{g}/\text{kg}$ for Dapsone in Honey is suspicious. CCβ must be < Recom Limit/MRPL
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant (except rabbit, drinking water and urine) Nitrofurans: compliant, except Farmed game, Horses and Rabbit Dapsone: compliant, except Farmed game, Horses and Rabbit 	<ul style="list-style-type: none"> No Porcine
Other remarks		/	/

2.1.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)	Compliant Evaluation	Recommendations
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Analytes	Dihydrostreptomycin, gentamycin, neomycin and streptomycin : compliant		No control for apramycin, kanamycin, paromomycin and spectinomycin : non-compliant
Methods	Screening	<ul style="list-style-type: none"> • ELISA for Honey: compliant • IA for other Species/ matrices : compliant 	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	CC α values are too low for <i>gentamicin</i> in Aquaculture products, Horses and Sheep/goats: non-compliant
Levels of action	Presence or MRL		/
Species/ matrices	<ul style="list-style-type: none"> • Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Sheep/goats: muscle • Honey 		No control for Eggs, Milk, Rabbits: non-compliant
Other remarks	/		/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes	Betalactams: 8 penicillins and 9 cephalosporins in milk – compliant 8 penicillins and 8 cephalosporins in muscle - compliant		Remark : cephalexin is only controlled in 10 % of milk samples however apparently its control is missing in 90% of milk and in muscle tissues when screened by immunoanalysis
Methods	Screening	Compliant with a semi-specific immunoanalysis carried out for 100 % of muscle of 7 species and for 90 % of milk samples and with a LC-MSMS screening for 10% of milk samples	/
	Confirmatory	Compliant (LC-MSMS)	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action	Compliant : presence or MRL		
Species/ matrices	Compliant except for eggs, honey products and rabbit species which are excluded from the control of beta-lactams		<ul style="list-style-type: none"> • Controls in Eggs should be considered • Controls in Rabbit should be considered unless the production is null

Other remarks	/	Control of beta-lactams for honey is optional according to EU-RL recommendations
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B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Erythromycin, josamycin, lincomycin, neospiramycin, oleandomycin, roxithromycin, spiramycin, tilmicosin, troleandomycin, tulathromycin, tylosin	No control for 3-O-acetyltylosin, gamithromycin, pirlimycin, tildipirosin and tylvalosin
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS for poultry muscle, kidney and honey • IA for other species muscle 	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant for most of the analytes	Be careful with CCalpha of spiramycin in poultry muscle of 1 μ g/kg (there is a MRL)
Levels of action		MRL or "presence"	
Species/matrices		Honey and muscle : compliant	No control for milk and eggs
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendation
Analytes		8 recommended substances and nalixidic acid: compliant	/
Methods	Screening	<ul style="list-style-type: none"> • Immunoanalysis for Muscle: compliant • HPLC-Fluo for Muscle and Eggs: compliant • LC-MS/MS for Honey: compliant 	/
	Confirmatory	HPLC-Fluo or LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Maximum MRL plus 15%: compliant	/
Levels of action		Presence or MRL: compliant	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovine, Farmed Game, Horses, Pigs, Poultry, Sheep/goats: muscle • Eggs (hen, quail), Honey 	Except Milk and Rabbit
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		Compliant: 24 analytes out of 25 recommended and also including optional substances: phtalyl sulfathiazole et sulfaphenazole	No control for <i>sulfaclozine</i>
Methods	Screening	Compliant: immunoanalysis, HPLC-DAD, HPLC-Fluo, LC-MS/MS	/
	Confirmatory	Compliant: HPLC-DAD, HPLC-Fluo, LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant	CC α of sulfamoxol in Muscle (Bovines and Pigs) too high (169 μ g/kg).
Levels of action		Compliant	/
Species/matrices		Compliant	No control for rabbit
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		4 substances: Chlortetracycline, Doxycycline, Oxytetracycline, and Tetracycline and including the 3 kind of 4-epimers : compliant	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MSMS for Honey: compliant • ELISA for Eggs: compliant • IA for Muscle and Milk : compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS for Honey: compliant • HPLC-DAD for Muscle, Eggs and Milk: compliant 	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant : MRL or Risk assessment	/
Species/ matrices		Muscle, Milk, Eggs, Honey : compliant	Except rabbit
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		Florfenicol, florfenicol amine, thiamphenicol, tiamulin, trimethoprim	<ul style="list-style-type: none"> • No control for phenicols in Farmed game, Horses and Poultry

			<ul style="list-style-type: none"> No control for tiamulin in Eggs, Pigs and Rabbits For trimethoprim, control only in Bovines, Milk, Pigs
Methods	Screening	LC-MS/MS, Immunoanalysis and LC-MS/MS (tiamulin), HPLC-DAD for trimethoprim (except for Honey, LC-MS/MS): compliant	/
	Confirmatory	LC-MS/MS or HPLC-DAD (tiamulin): compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL : compliant	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Farmed games, Horses, Pigs, Sheep/goat: muscle and kidney Aquaculture products, Poultry: muscle Milk 	<ul style="list-style-type: none"> No control for Eggs and Rabbits
Other remarks		/	/

2.1.9 Group B2a – Antihelminthics

B2a	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> 6 avermectins, 16 benzimidazoles and others in most analyte/matrix combinations; almost all minimum requirements and almost all recommended analytes (eprinomectin, emamectin, oxibendazole, flubendazole, mebendazole) <p>Aquaculture: 6 avermectins, 10 benzimidazoles Bovine: 6 avermectins, 11 benzimidazoles Eggs: not included Farmed game: 6 avermectins, 11 benzimidazoles, clorsulon, closantel, nitroxinil, oxclozanide, rafoxanide Horse: 5 avermectins, 11 benzimidazoles Milk: 6 avermectins, 11 benzimidazoles Pig: 6 avermectins, 11 benzimidazoles Poultry: 6 avermectins, 11 benzimidazoles Rabbit : not in the plan for group B2a Sheep/goat: 6 avermectins, 11 benzimidazoles</p>	<ul style="list-style-type: none"> Closantel, nitroxinil and rafoxanide in farmed game and wild game only, requested at least sheep/goat and milk Same as in 2018

		Wild game: no avermectins, 11 benzimidazoles, closantel, clorsulon, nitroxinil, rafoxanide	
Methods	Screening	Compliant: LC-MS/MS (benzimidazoles), HPLC-FLU (avermectins), immunoanalysis for avermectins in milk	
	Confirmatory	Compliant: LC-MS/MS (benzimidazoles), HPLC-FLU (avermectins)	
Limits	CC β (screening)	Compliant. Meet requirements for MRL and non-authorised compounds	
	CC α (confirmatory)	Not compliant for eprinomectin in fish, new MRL: 20 μ g/kg	
Levels of action		MRL, presence if no MRL	
Species/matrices		Relevant matrices are investigated	
Other remarks		Very clearly arranged plan	

2.1.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 19 anticoccidials (6 ionophores, 6 chemical anticoccidials and 7 nitroimidazoles) in egg, poultry, bovine, ovine, horse, honey, farmed game, goats, aquaculture and pig included. All minimum requirements are covered except maduramycin in pig. Limited number of recommended analytes are considered 	<ul style="list-style-type: none"> Complete the scope of testing by adding maduramycin, a minimum requirement analyte in all species/matrices Complete the scope of testing by adding toltrazuril and decoquinate especially for egg due to the NC results found during the last years.
Methods	Screening	<ul style="list-style-type: none"> Egg: LC-MS/MS and Immunoanalysis (IA) All other matrices: LC-MS/MS 	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant for the majority of the analytes <ul style="list-style-type: none"> In poultry liver, CCα for lasalocid is lower than MRL In poultry liver CCα for robenidine is higher than CCα max 	Poultry: <ul style="list-style-type: none"> Review CCα for lasalocid in liver as it should be higher than MRL or ML Review CCα (1080 μg/kg) for robenidine in liver as it should be lower than CCα max (1051 μg/kg)

Levels of action	<ul style="list-style-type: none"> • MRL, ML, or presence (if no MRL or ML) • MRL for lasalocid in poultry liver is 300 µg/kg and not 100 µg/kg • MRL for decoquinatone in poultry liver is 1000 µg/kg and not 20 µg/kg 	<ul style="list-style-type: none"> • Review MRL value for lasalocid and decoquinatone in poultry liver
Species/matrices	<ul style="list-style-type: none"> • Relevant matrices are investigated with the exception of rabbit and feed 	
Other remarks		

2.1.11 Group B2d – Tranquilisers

B2d - AT		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant minimum required and recommended 	
Methods	Screening	<ul style="list-style-type: none"> • HPLC-DAD 	
	Confirmatory	<ul style="list-style-type: none"> • HPLC-DAD; chlorpromazine LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Presence 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horses, farmed game • Matrices: kidney 	
Other remarks		Chlorpromazine in group A6	

2.1.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 18 analytes (milk: 16): Minimum requirements almost fulfilled • MAA and IPAA are not analysed in milk • IP and NP analysis is not effected for other matrices than milk • Some recommended analytes are covered • Basic NSAIDs are covered in muscle only 	
Methods	Screening	LC-MS/MS, LC-DAD (compliant)	
	Confirmatory	LC-MS/MS, LC-DAD (compliant)	
Limits	CC β (screening)	Compliant, except for DC in milk - CC β should be lower the MRL	

	CC α (confirmatory)	compliant, except for: <ul style="list-style-type: none"> • CPF in bovine/horse muscle - CCα above CCα max • MLX in sheep/goat muscle - CCα should be above the MRL • TFA, MLX, FLU-OH in milk - CCα should be above the MRL 	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (muscle: bovine, pig, sheep/goat, poultry, horse, farmed game; plasma: bovine; milk)	
Other remarks		Minor changes compared to 2017	

2.1.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Pigs only : compliant	/
Other remarks		/	/

2.1.14 Group B2f – Corticosteroids

B2f - AT		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, sheep/goats, horses. Also cow and sheep milk. • Non-compliant: poultry, aquaculture, farmed game/rabbit (optional). • Additional: Betamethasone, Flumethasone. For milk also: Beclometasone, Clobetasol, Isoflupredone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone, Triamcinolone acetonide. 	Add more compounds in liver.
Methods	Screening	• ELISA. LC-MSMS for milk.	
	Confirmatory	• LC-MSMS.	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for sheep/goats because the MRL is not known. Also compliant for milk. 	Also note the MRL for sheep/goats.
	CC α (confirmatory)	<ul style="list-style-type: none"> Almost compliant (sheep milk compliant). 	
Levels of action		<ul style="list-style-type: none"> Compliant. MRL, noted in concentration (except for sheep/goats). 	
Species/matrices		<ul style="list-style-type: none"> Species included: bovines, pigs, sheep/goats, horses and milk (bovine, sheep). Matrices included: liver, milk. 	
Other remarks			

2.1.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg; As and Ni	Good to see that As and Ni are included Cu should be included (396/2005 and amendments)
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	
Limits	LOQ	In compliance with legislation	
Levels of action		Mainly consistent with legislation	MRLs for Hg in meat and offal not correct (73/2018)
Species/matrices		Relevant species/matrices included	
Other remarks			

2.1.16 Group B3d – Mycotoxins

B3d - AT		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLD (ochratoxine and aflatoxine M1) LC-MS/MS (zearalenone) 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD (ochratoxine and aflatoxine M1) LC-MS/MS (zearalenone) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	

Levels of action	<ul style="list-style-type: none"> • Presence 	
Species/matrices	<ul style="list-style-type: none"> • Compliant minimum required species • Additional: aquaculture • Matrices: milk, muscle, kidney, urine, liver 	
Other remarks		

2.1.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Brilliant Green Leuco: compliant • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	CC β and CC α are unexpectedly the same
	CC α (confirmatory)	compliant	CC β and CC α are unexpectedly the same
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.2 Member State: Belgium (BE)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzenestrol	
A2	Analytes	<ul style="list-style-type: none"> • Include mercaptobenzimidazole, benzylthiouracil • Extend phenylthiouracil to other species than horses • State level of action for thiouracil 	
A3	Analytes	Include estradiol and testosterone for most species and for some most gestagens	A nice list of extra analytes
A4	Analytes	Include Zearalanone	
A5	Limits	<ul style="list-style-type: none"> • No clear assignment of CCα and CCβ to the particular compounds • Confusing plan • CCβ values should be < RC • Always indicate the CCα and CCβ value 	Same remarks as last years
A6 – Nitroimidazoles	Analytes	HMMNI in eggs is not listed in the present plan, but was included in earlier years	
A6 - other	Limits	CC β screening and CC α confirmation are not reported lower than RPA for Cap and Nitrofurans for all products/species of concern	Delvotest for Dapsone in Milk: likely not suitable at recommended limit of 5 $\mu\text{g}/\text{kg}$
	Species /matrices	Missing control for dapsone in some Species/ matrices	
B1 – Aminoglycosides	Analytes	No control for paromomycin (except in Aquaculture products and in Eggs)	
	Species /matrices	No control in Milk except for gentamicin and neomycin: non-compliant	
	Limits	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the claimed non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level • No CCα value for gentamicin and for neomycin in Milk 	
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> • Ampicillin control is missing in pig meat • Cefquinome control is missing in at least the bovine, porcine and equine meat • Cefalexin control is recommended in porcine, ovine-caprine, farmed game, equine, poultry and rabbit meat 	It is not detailed in the files whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in eggs
	Limits	Some CC α are missing for all beta-lactams by LC-MS in eggs and for cephalosporins by LC-MSMS in aquaculture and also for cefacetrile and penicillin-V by LC-MSMS in milk	The long list of CC β values written down within one single cell does not allow to evaluate the exact match against

			regulatory limits for Aquaculture products (7 penicillins MRL-authorized cpds) and for Eggs (penicillins non-authorized) and this for all the concerned substances in the case of the control with Premi-test Reminder : Penicillins are non-authorized in laying hens
B1 – Macrolides and Lincosamides	Analytes	Extension of the number of analytes recommended in milk and in eggs	
	Limits	<ul style="list-style-type: none"> No CCα for some analytes in muscle and eggs Tulathromycin CCα not suitable for some species muscles CCβ not compliant for Premitest or not interpretable 	
B1 - Quinolones	Analytes	No control for ciprofloxacin for Farmed game, Horses, Rabbit, Sheep/goat	
	Limits	<ul style="list-style-type: none"> To the EU-RL knowledge, the performances of the non-specific screening method (i.e. Escherichia coli test) do not allow to detect most of the quinolones at their MRL level CCβ for species only controlled by Escherichia coli test: compliant 	<ul style="list-style-type: none"> CCβ (screening) for Aquaculture products and for Eggs: there is no validated data: non-compliant CCα (confirmatory) for Aquaculture products: there is no validated data: non-compliant CCα (confirmatory) for oxolinic acid in Aquaculture products: non-compliant CCα (confirmatory) too high (> 40% of precision) for danofloxacin in Horses, Porcine, Rabbit: non-compliant CCα (confirmatory) too high for difloxacin in Farmed game, Horses, Poultry, Rabbit: non-compliant CCα (confirmatory) too low (< or = to MRL) for enrofloxacin in Bovines, Farmed game, Horses, Pigs, Poultry, Porcins, Rabbits, Sheep/goat: non-compliant

			<ul style="list-style-type: none"> • CCα (confirmatory) too low for flumequine in Poultry: non-compliant
B1 – sulfonamides	Analytes	<ul style="list-style-type: none"> • 17 analytes considered : compliant • But from 5 (Aquaculture products) to 15 analytes per Species/ matrices • No control for sulfabenzamide, sulfacetamide, sulfaclozine, sulfameter, sulphaniamide, sulfasalazine, sulfatroxazol, sulfisomidine • Control for sulfachloropyrazine only in Pigs 	
	Limits	<ul style="list-style-type: none"> • Choice of methods compliant • Non-compliant: CCβ of the analytes controlled with Charm II® Test (Eggs) (ie. reported as “30;10;10;10;10;10;10;10;10;25 μg/kg”) and PremiTest (Aquaculture) (ie. reported as “100;50;400;200;100;50 ppb”). • Non-compliant: All the CCβ of analytes in Milk controlled by LC-MS/MS are too high (> MRL) • Non-compliant: CCα reported as “Same as limit for screening method” for Milk and Honey • No CCα value for sulfamoxole • No CCα value for analytes controlled in Aquaculture products 	Level of action in Eggs reported as MRL but no MRL in Eggs.
B1 – Tetracyclines	Analytes	compliant	
	Species /matrices		No control for horses
B1 – other antibacterials	Analytes	6 relevant substances controlled: Bacitracin, colistin, florfenicol, thiamphenicol, tiamulin, trimethoprim	<ul style="list-style-type: none"> • Aquaculture products: trimethoprim control only • No control for bacitracin in Milk
	Species /matrices		No control for Eggs and Milk
	Limits		<ul style="list-style-type: none"> • No data for bacitracin • Colistin: data for Horses muscle only • Florfenicol: eligible data only for Bovines, Sheep/goats (other data are either too high or too low)
B2a	Analytes		
	Limits		
B2b	Analytes		

	Limits	<ul style="list-style-type: none"> No possible evaluation of CCβ and CCα Review CCα values Indicate each value individually otherwise evaluation of the results not possible 	This was already a recommendation in previous evaluations.
B2d	Species / matrices	Preferred matrix is kidney	
B2e	Analytes	Consider NP in horse muscle and CPF/ FLU in milk	
	Limits	Data evaluation only possible to a limited extent	Same as last years
	Matrices		
B2f corticosteroids		-	
B2f – antimicrobials	Analytes		The metabolites of carbadox (QCA-DCBX) and olaquinox (MQCA) are not mentioned explicitly
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits		
	Levels of action		
	Species /matrices	Offal should be included	
B3d	Analytes	Include zearalenone to B3d or in A4	
B3e	Analytes	compliant	
	Other remarks	Many additional compounds in B2f Level of action noted in concentrations is more clear	

2.2.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Present 	Level of action noted in concentrations is more clear.
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine (feces)/muscle Extra for bovines/pigs: fat 	Include urine for farmed game
Other remarks		Subspecies specified for bovines, poultry, farmed game	

2.2.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: 2-mercaptoimidazole, ethyl 2-thiouracil-5-carboxylate, dimethyl thiouracil, phenylthiouracil (horses) 	Include mercaptobenzimidazole, benzylthiouracil Extend phenylthiouracil to other species then horses
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Present 	State level of action for thiouracil
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: urine, thyroid 	
Other remarks			

2.2.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines (estradiol^h, testosterone^h). 	Include: Oestradiol and testosterone for all species except for bovine

		<ul style="list-style-type: none"> • Non-compliant: pigs, aquaculture (estradiol, testosterone), sheep/goats, horses, poultry (estradiol, testosterone, megestrol, melengestrol, chlormadinone), • Optional farmed game, incl. rabbit (estradiol, testosterone, trenbolone, megestrol, melengestrol, chlormadinone) • Additional: Androsten-4-Chloro-4-Ene-3,17-Dione, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Boldenone undecylenate, Boldenone-Alpha, CLAD (Cholortestosterone metabolite), Clostebol acetate, Delmadinone acetate, Estradiol benzoate, Estradiol cypionate, Estradiol dipropionate, Estradiol propionate, Ethylestraandiol (EED) - 17a-Ethyl-5b-estrane-3a,17b-diol, Flugestone-17-Acetate, MEAD (methyltestosterone metabolite), Methandriol, Methenolone, Norethandrolon, Norgestrel, Nortestosterone acetate - (17b)-17-Hydroxyestr-4-en-3-one acetate, Nortestosterone phenylpropionate, Progesterone, Progesterone-Acetoxy, Progesterone-Caproxy, Testosterone acetate, Testosterone benzoate, Testosterone cypionate, Testosterone decanoate (Testosteronocaprinat), Testosterone phenylpropionate, Testosterone propionate, Trenbolone acetate. <i>According to details also: nortestosterone propionate and estradiol diacetate in hair.</i> 	Megestrol, melengestrol and chlormadinone for sheep/goats, horses and poultry.
Methods	Screening	<ul style="list-style-type: none"> • LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> • Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • For all tested substances at least for one recommended matrix it is compliant. Only for gestagens in aquaculture it is not stated clear. 	Make a clear notation for the gestagens in aquaculture
	CC α (confirmatory)	<ul style="list-style-type: none"> • Same as screening. 	
Levels of action		<ul style="list-style-type: none"> • Present 	Level of action noted in concentrations is more clear.
Species/matrices		<ul style="list-style-type: none"> • Compliant except: for medroxyprogesterone acetate in sheep/goats only urine is tested. • Used matrices: feces, fat, hair, muscle, urine. 	
Other remarks		^h For bovines esters from estradiol and testosterone are tested in hair as a good substitute for the recommended analyte – matrix combinations.	

2.2.4 Group A4 – Resorcylic acid lactones

A4	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • Compliant 	Include Zearalanone

Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Present 	Not stated, not clear strategy with regard to non-compliant sample
Species/matrices		<ul style="list-style-type: none"> • Compliant • Additional specie: aquaculture • Additional matrix: fat (bovine, pig) 	
Other remarks			

2.2.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 25 β-Agonist in all relevant analyte/matrix combination • Minimum requirements (clenbuterol, brombuterol, isoxsuprine, ractopamine, salbutamol and zilpaterol) and recommended analytes are covered. • Bambuterol, pirbuterol and sotolol are analysed additionally 	
Methods	Screening	LC-MS/MS, ELISA, RIA	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> • CCβ value compliant only for ritodrin in sheep and goat liver and brombuterol, cimbuterol, clenbuterol, mabuteriol, mapenterol and salbutamol in horses retina • CCβ value for screening above recommended concentrations for brombuterol, clenbuterol-hydroxymethyl, mabuterol, mapenterol and others (faeces, hair, retina, urine) • Other matrices: mixed values, no clear assignment, evaluation not possible 	<ul style="list-style-type: none"> • Please indicate the individual values • CCβ values should be < RC
	CC α (confirmatory)	No values given, evaluation not possible	<ul style="list-style-type: none"> • Please indicate the individual values
Levels of action		Presence	
Species/matrices		Relevant matrices are investigated	
Other remarks			

2.2.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled for all matrices but not for eggs	HMMNI in eggs is not listed in the present plan, but was included in earlier years
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence / MRPL	
Species/matrices		recommendations fulfilled	
Other remarks			

2.2.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA & IA compliant Nitrofurans: LC-MS/MS compliant Dapsone: Delvotest, Charm II, LC-MS/MS compliant 	Delvotest for Dapsone in Milk: likely not suitable at recommended limit of 5 $\mu\text{g}/\text{kg}$
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCβ (screening) at 0.3 $\mu\text{g}/\text{kg}$ for CAP in Urine, Honey, Eggs and Milk is suspicious. CCβ must be < MRPL/RPA CCβ (screening) at 1.0 $\mu\text{g}/\text{kg}$ for Nitrofurans in all species/ matrices except in Honey is suspicious. CCβ must be < MRPL/RPA

			<ul style="list-style-type: none"> • CCβ (screening) at 10 $\mu\text{g}/\text{kg}$ for Dapsone in Honey is suspicious. CCβ must be < Recom Limit/MRPL
	CC α (confirmatory)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: non-compliant 	<ul style="list-style-type: none"> • CCα (confirmatory) at 20 $\mu\text{g}/\text{kg}$ is higher than CCβ (screening) at 10 $\mu\text{g}/\text{kg}$ for dapsone control in Honey leading to possible false-negatives
Levels of action		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Chloramphenicol: compliant (drinking water, urine and all 11 species/ matrices) • Nitrofurans: compliant (drinking water and all 11 species/ matrices) • Dapsone: non-compliant (only milk, honey, eggs) 	Missing for dapsone control in other Species/ matrices
Other remarks		/	/

2.2.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		Compliant	No control for paromomycin (except in Aquaculture products and Eggs), and no control in Milk except for gentamicin and neomycin: non-compliant
Methods	Screening	Delvotest for Milk, ELISA method for Honey, Premitest for Aquaculture products and Eggs, HRMS for the other matrices (muscle): compliant	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	LC-MS for Eggs, LC-MS/MS for the other matrices: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	No CC α value for gentamicin or neomycin in Milk
Levels of action		MRL or " Risk assessment"	/

Species/ matrices	<ul style="list-style-type: none"> • Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle • Eggs, Honey, Milk (cows, sheep, goats) 	/
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		8 penicillins and 10 cephalosporins in milk (cow, sheep, goat) – compliant 8 penicillins and up to 9 cephalosporins in Aq,B,O,P,C,E,FG,R flesh/muscle tissues: compliant 7 penicillins and 2 cephalosporins in Eggs: compliant	<ul style="list-style-type: none"> • Ampicillin control is missing in pig meat • Cefquinome control is missing in at least the bovine, porcine and equine meat • Cefalexin control is recommended in porcine, ovine-caprine, farmed game, equine, poultry and rabbit meat • Remark : It is not detailed whether desfuoylceftiofur is also controlled together with the ceftiofur in all meat tissues and in eggs
Methods	Screening	<ul style="list-style-type: none"> • Beta-star and Delvotest for Milk - compliant • LC-HRMS for Meat tissues - compliant • Premi-test for Eggs and for Aquaculture - compliant 	/
	Confirmatory	LC-MSMS in Meat tissues and Aquaculture and Milk, LC-MS in Eggs – compliant	/
Limits	CC β (screening)	Compliant for a large majority of substances and species/ matrices	<ul style="list-style-type: none"> • Reminder : Penicillins are non- authorised in laying hens • The long list of CCβ values written down in one single cell does not allow to evaluate the exact match against regulatory limits in aquaculture (7 penicillins MRL-authorized) and in eggs (penicillins non-authorized) for all the concerned substances in the case of the control with Premi-test
	CC α (confirmatory)	Compliant for a large majority of substances and species/ matrices	Some CC α are missing (not calculated / not validated method?) for all beta-lactams by LC-MS in eggs and for cephalosporins by LC-MSMS in

			aquaculture and also for cefacetrile and penicillin-V by LC-MSMS in milk
Levels of action		MRL if no then Risk analysis - compliant	/
Species/ matrices		10 species/ matrices – compliant	/
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Compliant for most of the analytes	<ul style="list-style-type: none"> No control for gamithromycin Only erythromycin, spiramycin and tylosin in eggs Only lincosamides and tylosin in milk
Methods	Screening	<ul style="list-style-type: none"> HRMS for muscle Premi test for aquaculture and eggs CHARM II for honey Delvo test for milk 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all macrolides at their MRL level
	Confirmatory	LC-MS/MS and LC/MS	/
Limits	CC β (screening)	Compliant	<ul style="list-style-type: none"> Non-compliant for eggs Not clear for Premitest in general
	CC α (confirmatory)	/	<ul style="list-style-type: none"> No CCα for several analytes in muscle and eggs CCα not suitable for tulathromycin in some species muscles
Levels of action		MRL or “risk assessment” for honey	/
Species/ matrices		Compliant	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		the 8 recommended substances and nalixidic acid, norfloxacin: compliant	No control for <i>ciprofloxacin</i> for Farmed game, horses, Rabbit, Sheep/goat
Methods	Screening	<ul style="list-style-type: none"> ELISA for Eggs: compliant Escherichia coli test for Aquaculture products, Milk: compliant HRMS only for Farmed game, Horses, Rabbits, Sheep/goat: compliant 	To the EU-RL knowledge, the performances of the non-specific screening method (Escherichia coli

		<ul style="list-style-type: none"> Escherichia coli test and HRMS for Bovines and Pigs: compliant 	test)do not allow to detect most of quinolones at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	CC β for species controlled only by Escherichia coli test: compliant	CC β for Aquaculture products and Eggs: no validated data: no compliant
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα for Aquaculture products: no validated data: no compliant CCα for <i>oxolinic acid</i> in Aquaculture product: no compliant CCα too high for <i>danofloxacin</i> in Horses, Porcin, Rabbit, for difloxacin in Farmed game, Horses, Poultry, Rabbit: no compliant CCα too low for <i>enrofloxacin</i> in Bovines, Farmed game, Horses, Pigs, Poultry, Porcins, Rabbits, Sheep/goat: no compliant CCα too low for <i>flumequine</i> in Poultry: no compliant
		MRL if not risk analysis: compliant?	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed Game, Pigs, Poultry, Sheep/goats: muscle Eggs, Honey, Milk 	<ul style="list-style-type: none"> Except Horses Milk : cow only
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 17 analytes out of 25 analytes From 5 (Aquaculture products) to 15 analytes per Species/ matrices 	<ul style="list-style-type: none"> No control for <i>sulfabenzamide</i>, <i>sulfacetamide</i>, <i>sulfaclozine</i>, <i>sulfameter</i>, <i>sulphanilamide</i>, <i>sulfasalazine</i>, <i>sulfatroxazol</i>, <i>sulfisomidine</i> Control for <i>sulfachloropyrazine</i> only in Pigs
Methods	Screening	<ul style="list-style-type: none"> CHARM II® Test for Eggs, Delvotest® or LC-MS/MS for Milk, LC-MS/MS for Honey, Premitest for Aquaculture products, HRMS for the other matrices (muscle): compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ of the analytes controlled with Charm II® Test (Eggs) (ie. reported as “30;10;10;10;10;10;10;10;10;25 μg/kg”) and PremiTest (Aquaculture) (ie. reported as “100;50;400;200;100;50 ppb”). All the CCβ of analytes in Milk controlled by LC-MS/MS are too high (> MRL)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα reported as “Same as limit for screening method” for Milk and Honey No CCα value for <i>sulfamoxol</i> No CCα value for analytes controlled in Aquaculture products
Levels of action		<ul style="list-style-type: none"> MRL or Presence 	<ul style="list-style-type: none"> Level of action in Eggs reported as MRL but no MRL in Eggs.
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs, Honey, Milk (cows, sheep, goats) 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		4 substances: Chlortetracycline, Doxycycline, Oxytetracycline, and Tetracycline and including the 3 kind of 4-epimers : compliant	/
Methods	Screening	<ul style="list-style-type: none"> HRMS for Muscle : compliant Premitest for Aquaculture : compliant Delvotest for milk : compliant Tetrasensor for Honey and Eggs : compliant 	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant : MRL or Risk assessment	/
Species/ matrices		Muscle, Milk, Eggs, Honey : compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Bacitracin, colistin, florfenicol, thiamphenicol, tiamulin, trimethoprim	<ul style="list-style-type: none"> • Aquaculture products: <i>trimethoprim</i> control only • No control for <i>bacitracin</i> in Milk
Methods	Screening	<ul style="list-style-type: none"> • Premitest for Aquaculture products: compliant • HRMS for other species/ matrices: compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	CC α for <i>thiamphenicol</i> , <i>tiamulin</i> and <i>trimethoprim</i> : compliant	<ul style="list-style-type: none"> • No data for <i>bacitracin</i> • <i>Colistin</i>: data for Horses muscle only • <i>Florfenicol</i>: eligible data only for Bovines, Sheep/goats (other data are either too high or too low)
Levels of action		MRL or "MRL if not Risk analysis"	/
Species/ matrices		Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle	No control for Eggs, Honey and Milk
Other remarks		/	/

2.2.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • 9 avermectins, 12 benzimidazoles and others (clorsulon, closantel and nitroxinil in milk as recommended), clorsulon, closantel and nitroxinil not in sheep/goat <p>Aquaculture: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil</p> <p>Bovine: 5 avermectins, 7 benzimidazoles, levamisole</p> <p>Eggs: 6 new avermectins, 6 benzimidazoles, levamisole, closantel</p> <p>Farmed game: no avermectins, 7 benzimidazoles, levamisole</p> <p>Horse : 5 avermectins, 7 benzimidazoles, levamisole</p>	<ul style="list-style-type: none"> • Please indicate the individual values of the corresponding substances, otherwise the table is not readable in html format and "sorting" in Excel is not possible because of merged cells. No improvement compared to previous years with regard to the readability of the plan

		<p>Milk: 6 avermectins, 7 benzimidazoles, levamisole, clorsulon, closantel, morantel, niclosamid, nitroxinil, oxyclozanide, praziquantel, pyrantel, rafoxanide</p> <p>Pig: 5 avermectins, 7 benzimidazoles, levamisole</p> <p>Poultry: 5 avermectins, 7 benzimidazoles, levamisole</p> <p>Rabbit: no avermectins, 7 benzimidazoles, levamisole</p> <p>Sheep/goat: 5 avermectins, 7 benzimidazoles, levamisole</p> <p>Wild game : 5 avermectins, 7 benzimidazoles, levamisole</p>	<ul style="list-style-type: none"> critical concentrations could not be analysed Very comprehensive analysis of milk
Methods	Screening	Compliant: LC-MS and LC-MS/MS (avermectins, benzimidazoles and other)	
	Confirmatory	Compliant: LC-MS and LC-MS/MS (avermectins, benzimidazoles and other)	
Limits	CC β (screening)	Evaluation not possible as there is no clear assignment between compound and value	
	CC α (confirmatory)	Evaluation not possible as there is no clear assignment between compound and value	
Levels of action		MRL, if no presence	
Species/matrices		All relevant analyte/matrix combinations are investigated	
Other remarks			

2.2.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 5 chemical anticoccidials and 6 ionophores in all relevant analyte/matrix combination All minimum requirements covered. 	<ul style="list-style-type: none"> Complete the scope of testing by adding other chemical anticoccidials, especially for egg
Methods	Screening	LC-MS/MS and LC/MS	
	Confirmatory	LC-MS/MS and LC/MS	
Limits	CC β (screening)	Evaluation of the data not possible (no clear values)	<ul style="list-style-type: none"> Please indicate the individual values of CCβ
	CC α (confirmatory)	Evaluation of the data not possible (no clear values)	<ul style="list-style-type: none"> Please indicate the individual values of the corresponding CCα for each substance, otherwise the table is not readable in html format and "sorting" in Excel is not possible because of merged cells. No improvement compared to last years (2014, 2015,

		2016 and 2017) with regard to the readability of the plan.
Levels of action	<ul style="list-style-type: none"> • MRL or ML • In egg : presence 	
Species/matrices	<ul style="list-style-type: none"> • Relevant matrices are investigated with the exception of feed 	
Other remarks		

2.2.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant for minimum required and recommended • Additional chlorprothixene, promethazine 	
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • MRL or present 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horses • Matrices: kidney, muscle 	For sheep/goat: kidney is the preferred matrix of choice
Other remarks		Chlorpromazine in A6	For chlorpromazine in horses: kidney is the preferred matrix of choice

2.2.12 Group B2e – NSAIDs

B2e	Description	Comments
Analytes	<ul style="list-style-type: none"> • 19 analytes (milk: 14): Minimum requirements almost fulfilled • Basic NSAIDs are covered in all analysed matrices • ibuprofen is missing in all matrices • NP is missing in horse muscle • CPF and FLU are missing in milk 	

		<ul style="list-style-type: none"> Some recommended analytes are covered 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Data evaluation only possible to a limited extent. <ul style="list-style-type: none"> Seems compliant for compounds without MRL Not compliant for compounds with MRL - CCβ should be equal to or below the MRL 	
	CC α (confirmatory)	Data evaluation only possible to a limited extent. <ul style="list-style-type: none"> CCα seems compliant 	
Levels of action		MRL, if no MRL: presence	
Species/matrices		recommendations fulfilled (muscle: farmed game, horse, pig, poultry, rabbit, sheep/goat; milk)	
Other remarks		In general, the number of values given for CC α and CC β is not in line with the number of substances. A clear assignment of CC α and CC β to the particular compounds would prevent such ambiguities. Same as in 2017/18	

2.2.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox: compliant Olaquinox : compliant 	The metabolites of carbadox (QCA-DCBX) and olaquinox (MQCA) are not mentioned explicitly
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : (all species/ matrices) compliant	/
Limits	CC β (screening)	No data	Remark : No CC β calculated meaning there is no screening control carried out but a direct confirmatory LC-MS/MS control
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Pigs and Poultry : compliant	/
Other remarks		/	/

2.2.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses, poultry. Non-compliant: aquaculture, farmed game/rabbit (optional). Additional: Beclomethasone dipropionate, Betamethasone, Clobetasol, Cortisol (Hydrocortisone), Flumethasone, Fluocinolone, Fluorometholone, Isoflupredone, Methylprednisolone, Prednisolone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for urine, MRL for liver not known and notation not clear. 	Note MRL for liver.
	CC α (confirmatory)	<ul style="list-style-type: none"> Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	Note LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> All species included except aquaculture and farmed game/rabbit (optional). Matrices included: faeces, liver, urine. 	
Other remarks			

2.2.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	<p>Cu should be included (396/2005 and amendments)</p> <p>Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)</p>
Methods	Screening	ICPMS, AAS	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Not stated, hence not evaluated	
Species/matrices		Most of the relevant species/matrices included	Offal should be included
Other remarks			

2.2.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Ochratoxine and aflatoxine M1 	Include zearalenone to B3d or in A4
Methods	Screening	<ul style="list-style-type: none"> ELISA for aflatoxin M1 HPLC-FLD 	Change screening method for aflatoxin M1 to LC-FLD
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD for ochratoxin A 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence or based on risk analysis 	
Species/matrices		<ul style="list-style-type: none"> Additional: aquaculture Matrices: milk, kidney, muscle 	
Other remarks			

2.2.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet and Cristal Violet-Leuco : compliant Victoria Blue R : compliant Malachite Green and Malachite Green-Leuco: compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.3 Member State: Bulgaria (BG)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
	Limits	Lower CC α (confirmatory method) and CC β (screening method) for thiouracil and propylthiouracil	
A3		-	
A4		-	
A5	Analytes	Consider CC β values as being lower than RC in all matrices for screening methods Review CC α values in liver. CC α should be < recommended concentrations	
	Limits		
A6 - nitroimidazoles	Analytes		
	Limits	HMMNI in milk: CC β should be lower the RC	
	Matrices	Unsuitable matrix muscle for poultry	
A6 - other	Analytes	Dapsone must be included in the control plan	
	Limits	CC β screening and CC α confirmation are not reported lower than RPA for all products/species of concern	AAS (atomic absorption spectroscopy?) is incorrectly cited as a screening method for control of nitrofurans (AOZ) in poultry (probably an input error?)
B1 – Aminoglycosides	Analytes	<ul style="list-style-type: none"> Control only for apramycin, gentamicin, neomycin, paramomycin, streptomycin No control for dihydrostreptomycin, kanamycin, spectinomycin: non-compliant Control for apramycin, gentamicin and paromomycin only in Milk: non-compliant 	
	Species/matrices	No control for Farmed game	
	Methods	"There is no Confirmatory Method": non-compliant	
	Limits	One CC α value for streptomycin in Honey, it is insufficient: non-compliant	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect

			most of aminoglycosides at their MRL level
B1 – beta-lactams	Analytes	A too reduced number of penicillins and cephalosporins are controlled in meat, eggs and in milk (see details here-below)	Beta-lactam family has to be seriously reconsidered and dramatically increased for the control of B,O,P,C,E,FG,R,Py meat, for Eggs and for Milk
	Species/ matrices	Farmed game is totally absent	
	Methods	There is no quantitative method for confirmation	
B1 – Tetracyclines	Methods	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level	No control for Farmed game
B1 – Macrolides and lincosamides	Analytes	Need to include other macrolides and lincosamides : tylvalosin and o-acetytylosin, gamithromycin, neospiramycin, tildipirosin, tulathromycin, pirlimycin	
	Species/ matrices	No control for honey, farmed game	
	Limits	CC α confirmation and CC β screening not suitable for tilimicosin	
B1 – Quinolones	Analytes	7 of the 8 substances recommended and nalixidic acid, norfloxacin: compliant	No control for marbofloxacin
	Species/ matrices		No control for Farmed game
	Limits		Screening: to the EU-RL knowledge, the performances of the non-specific method do not allow to detect most of quinolones at their MRL level. In addition, it is unlikely that the predicted limit of detection (CC β = 1/2 MRL) of the STAR method allows the detection at this level of all substances in all species/ matrices.
B1 – Sulfonamides	Analytes	18 analytes overall considered: compliant However, the 18 analytes are only controlled in Aquaculture products, Bovines, Pigs, Poultry, Rabbits and Sheep/goats: compliant Extension of the scope at least to sulfachloropyrazine (Minimum required), sulfacetamide (recommended), sulfamoxole (recommended)	Optional extension of the scope sulfaclozine, sulfasalazine, sulfatroxazole, sulfisomidine

	Species/ matrices	Increase the number of analytes controlled in Honey, and in Milk	No control for Farmed game
	Methods	There is no confirmatory method for sulphonamides in Muscle (Aquaculture, Bovines, Horses, Pigs, Poultry, Rabbits and Sheep/Goats), Kidney + Muscle (Horses) and Liver (Poultry) or for sulfathiazole in Eggs	
	Limits	All CC α for Sulfachloropyridazine in Milk, Muscle, Kidney are set at the MRL (= 100 μ g/kg).	To the EU-RL knowledge the performances of the claimed non-specific screening method do not allow to detect most of sulfonamides at their MRL level
B1 – other antibacterials	Analytes	Tiamulin	A single controlled substance
	Species/ matrices		No control for Eggs, Poultry, Rabbits
B2a	Analytes	Inclusion of doramectin, emamectin, eprinomectin in aquaculture	
	Limits	CC β do not meet requirements	
B2b	Analytes	Consider testing of lasalocid and halofuginone to meet the minimum requirement and recommended	
	Limits	Three-plate test is completely inadequate as screening and especially not as confirmatory method. This test is only used in very limited number of cases and exclusively for the screening of antibiotics.	
B2d	Analytes	Include acepromazine, chlorpromazine, propiopromazine, haloperidol, xylazine	
	Species /matrices	For bovines and pigs: kidney is the preferred matrix	
B2e	Analytes	Consider IP, NP, MAA and FLU-OH for fulfilling the minimum requirement	
	Limits	CC β : Not compliant for compounds with MRL or RC	
	Matrices		
B2f antimicrobials	- Analytes	Carbadox/olaquinox must be included in the control plan	
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits		

	Levels of action		ML for silver carp for Pb and Cd are wrong
	Species /matrices		
B3d	Analytes	Include ochratoxin and zearalenone	
B3e	Analytes	Brilliant green should be added to the method	
	Limits		<ul style="list-style-type: none"> • CCβ at 2.78 $\mu\text{g}/\text{kg}$ for crystal violet is suspicious. CCβ must be <MRPL/RPA • CCα at 2.21 $\mu\text{g}/\text{kg}$ for leuco-crystal violet is suspicious. CCα must be <MRPL/RPA
	Other remarks	Level of action noted in concentrations is more clear	

2.3.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant for both minimal required and optional species 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> • Compliant (GC-MS) 	
	Confirmatory	<ul style="list-style-type: none"> • Compliant (GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Present 	
Species/matrices		<ul style="list-style-type: none"> • Compliant for both minimal required and optional species/matrices • Matrices: urine/liver/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/poultry/sheep subspecies are specified For aquaculture : carps/rainbow trout/silver carp/catfish/others For farmed game: rabbit	

2.3.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional 2-mercaptoimidazole, dimethylthiouracil, phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for tapazole, methylthiouracil for minimum required species Non-compliant for thiouracil, propylthiouracil for minimum required species 	Lower CC β for thiouracil, propylthiouracil
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for tapazole, methylthiouracil for minimum required species Non-compliant for thiouracil, propylthiouracil for minimum required species 	Lower CC α for thiouracil, propylthiouracil
Levels of action		<ul style="list-style-type: none"> Present 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional horses, poultry, rabbits Matrices: urine and thyroid 	
Other remarks			

2.3.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant: bovines, pigs, sheep/goat, poultry, aquaculture (boldenone), horses (boldenone and trenbolone) and for optional species rabbit (boldenone, gestagens). For the missing boldenone and trenbolone other analytes in different matrices are tested. 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC, GC-MS, LC-MSMS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS, GC-MSD, GF-AAS, LC-MSMS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Almost all compliant. The ones which are not compliant are just a bit above the recommended concentration (nandrolone, ethinylestradiol and chlormadinone in muscle). 	Lower the CC β
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	

Species/matrices	<ul style="list-style-type: none"> Not compliant: estradiol, testosterone (urine - bovine, pigs, sheep/goats and horses), testosterone (liver – poultry and rabbits, muscle – aquaculture). If urine is tested with GC-c-IRMS, this will be also compliant, but this is not clear. 	Optimise the combination species/matrices and note if GC-c-IRMS is used or not.
Other remarks		

2.3.4 Group A4 – Resorcylic acid lactones

A4 - BG		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include zearalanone
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Present 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Replacement matrices used Matrices: urine/liver/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For aquaculture : carps/rainbow trout/silver carp/catfish/others For farmed game: rabbit	

2.3.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 15 analytes included in the plan. All minimum requirements covered 7 recommended analytes are covered, too. 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	

Limits	CC β (screening)	CC β above recommended concentrations for several analytes in different matrices e.g. cimaterol in liver (sheep/goats, poultry, rabbit and poultry); mapenterol in bovine, porcine, poultry, horses and rabbits urine and/or liver; ractopamine in bovine, pigs, rabbits, gorses and shhep/goats liver.	CC β should be < recommended concentrations
	CC α (confirmatory)	<ul style="list-style-type: none"> • CCα above recommended concentrations for several analytes in different matrices e.g cimaterol, mapenterol, mabuterol, clenbuterol etc. in liver. • CCα for cimaterol in liver = 0.8 $\mu\text{g}/\text{kg}$ and RC = 0.5 $\mu\text{g}/\text{kg}$ 	Review CC α for confirmatory methods
Levels of action		Presence	
Species/matrices		Only liver and urine considered in all relevant species / matrices	Broaden the scope of matrix by adding retina or lung for example
Other remarks			

2.3.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant, except one analyte • HMMNI in milk: CCβ should be lower the RC 	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled except for poultry	
Other remarks		Unsuitable matrix muscle for poultry	

2.3.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • Chloramphenicol: compliant • 4 Nitrofurans metabolites: compliant • Dapsone: NO CONTROL 	/

Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA compliant Nitrofurans: ELISA, LC-MS/MS compliant Dapsone: non-compliant 	AAS (atomic absorption spectroscopy) is incorrectly cited as a screening method for control of nitrofurans (AOZ) in poultry (probably an input error?)
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: non-compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCβ at 0.3 $\mu\text{g}/\text{kg}$ for CAP for eggs and honey is suspicious. CCβ must be < MRPL/RPA CCβ at 1.0 $\mu\text{g}/\text{kg}$ or above for Nitrofurans is suspicious. CCβ must be < MRPL/RPA
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCα at 0.36 and 0.37 $\mu\text{g}/\text{kg}$ in Milk and Honey for CAP is suspicious. CCα must be < MRPL/RPA CCα at 1.11 $\mu\text{g}/\text{kg}$ for SEM in muscle is suspicious. CCα must be < MRPL/RPA
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : non-compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No control of CAP in farmed game Only AOZ for milk, only AOZ and AMOZ in eggs Dapsone is not analysed
Other remarks		/	/

2.3.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		Control for apramycin, gentamicin, neomycin, paramomycin, streptomycin: compliant	<ul style="list-style-type: none"> No control for dihydrostreptomycin, kanamycin, spectinomycin: non-compliant Control for apramycin, gentamicin and paromomycin only in Milk: non-compliant
Methods	Screening	<ul style="list-style-type: none"> DELFI A (IA) for neomycin in Milk: compliant ELISA for Honey: compliant Five plate Test for other species/ matrices: compliant 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	"There is no Confirmatory Method": non-compliant	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	One CC α value for streptomycin in Honey, it is insufficient: non-compliant	/
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Sheep/goats: muscle and kidney • Poultry: muscle and liver • Aquaculture products, Rabbits: muscle • Eggs (hens, quails), Honey, Milk (cows, sheep, goats) 	No control for Farmed game
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		Betalactams: <ul style="list-style-type: none"> • 6 out of 8 required penicillins are considered in milk • 2 out of 8 required penicillins are considered in Aq,B,O,P,C, E,FG,R meat and in Eggs • 1 out of 8 required penicillins are considered in Poultry meat • 5 out of 8 required cephalosporins are considered in milk • No cephalosporins out of 4 required or recommended are considered in Aq,B,O,P,C,E,FG,R meat and in Eggs 	<ul style="list-style-type: none"> • Dicloxacillin and Penicillin-V are totally missing penicillins in the control of all species/ matrices • Ampicillin; Oxacillin; Cloxacillin; Dicloxacillin; Nafcillin; Phenoxyethylpenicillin (pen-V) are missing in control of B,O,P,C,E,FG,R meat • Cefquinome, Ceftiofur, Cefalexin, Cephapirin are missing in control of B,O,P,C,E,FG,R meat • Cefacetile; Cefquinome; Cephapirin & Desacetylcephapirin; Desfuroylceftiofur are missing in the control of milk
Methods	Screening	<ul style="list-style-type: none"> • Five plate test in meat – compliant for Amoxicillin and Penicillin-G • Five Plate test and DELFIA in milk 	Screening in meat is too reduced with only 2 beta-lactam substances considered
	Confirmatory	Non-compliant	No confirmatory methods in place
Limits	CC β (screening)	Compliant for the tested beta-lactam substances	/
	CC α (confirmatory)	Non-compliant	Non-compliant (because no confirmatory method)
Levels of action		MRL level claimed	But there is no quantitative confirmatory method
Species/ matrices		Milk : almost compliant	B,O,P,C,E,FG,R,Py meat and Eggs : non-compliant (too few beta-lactams are monitored)

Other remarks		<ul style="list-style-type: none"> • Control of betalactams for honey is optional according to EU-RL recommendations • Remark : It is not detailed whether desfuoylceftiofur and desacetylcephapirin are also controlled together with the ceftiofur and the cephapirin • Remark: There is a very limited number of samples (from 1 to 10 only) for many minor species (farmed fish; sheep; goat; rabbit; goat milk; sheep milk; young bovines; ...)
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B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Erythromycin, lincomycin, spiramycin, tilmicosin, tylosin A	Tylvalosin and o-acetyltylosin, gamithromycin, neospiramycin, tildipirosin, tulathromycin, pirlimycin
Methods	Screening	Five plate Test (STAR) in muscle, kidney, liver and milk	/
	Confirmatory	LC-MS/MS for muscle and milk only	No confirmation in kidney, liver, eggs, aquaculture
Limits	CC β (screening)	/	CC β for tilmicosin \geq MRL
	CC α (confirmatory)	/	CC α for tilmicosin in poultry \leq MRL
Levels of action		MRL or "no limit"	
Species/ matrices		Muscle, eggs, milk	No control for farmed game and honey
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		7 of the 8 substances recommended and nalixidic acid, norfloxacin: compliant	No control for <i>marbofloxacin</i>
Methods	Screening	<ul style="list-style-type: none"> • HPLC-FLD for Honey: compliant • Five plate Test (STAR) for the others matrices : compliant 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level
	Confirmatory	HPLC-fluo: compliant	/
Limits	CC β (screening)	compliant?	It is unlikely that the predicted limit of detection (CC β = 1/2 MRL) of the STAR method allows the detection at this level of all quinolones in all species/ matrices.

	CC α (confirmatory)	Compliant	/
Levels of action		No limit (presence ??) or MRL: compliant	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovines, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle • Bovines, Horses, Pigs, Sheep/Goats : liver and kidney • Eggs, Honey, Milk (cow, goat, sheep) 	No control for Farmed game
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 18 analytes out of 25 • The 18 analytes are controlled on all Aquaculture products, Bovines, Pigs, Poultry, Rabbits and Sheep/goats: compliant 	<ul style="list-style-type: none"> • No control for sulfachloropyrazine (Minimum required), sulfacetamide (recommended), sulfamoxole (recommended), and optional analytes (sulfacetamide, sulfachloropyrazine, sulfaclozine, sulfamoxole, sulfasalazine, sulfatroxazole, sulfisomidine): non-compliant • Only 10 analytes are controlled in Honey, 11 in Milk
Methods	Screening	<ul style="list-style-type: none"> • DELFIA (IA) for Milk: compliant • HPLC-Fluo for Honey: compliant • Five plate Test (STAR) or ELISA for other matrices: compliant 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of sulfonamides at their MRL level
	Confirmatory	HPLC-FLD: compliant	<ul style="list-style-type: none"> • No confirmatory method for sulphonamides in Muscle (Aquaculture, Bovines, Horses, Pigs, Poultry, Rabbits and Sheep/Goats), Kidney + Muscle (Horses) and Liver (Poultry) • No confirmatory method for sulfathiazole in Eggs
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)		Non-compliant: All CC α for Sulfachloropyridazine in Milk, Muscle, Kidney are set at the MRL (= 100 μ g/kg).
Levels of action		MRL or presence	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Sheep/goats: muscle and kidney • Poultry: muscle and liver • Aquaculture products, Rabbits: muscle • Eggs (hens, quails), Honey, Milk (cows, sheep, goats) 	No control for Farmed game
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances: Chlortetracycline, Doxycycline, Oxytetracycline, and Tetracycline : compliant	No including the 3 kind of 4-epimers
Methods	Screening	Five plate test: compliant	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level
	Confirmatory	LC-MS, LC-MS/MS compliant or no confirmatory	No confirmatory method for Eggs, Honey and aquaculture
Limits	CC β (screening)	Compliant	CC β better at < MRL
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Non- compliant	No control for Farmed games
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		Tiamulin	a single controlled substance
Methods	Screening	LC-MS/MS for Pigs muscle and liver: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	CC β level for Pigs is too high (CC β \leq MRL): non-compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		MRL or "no limit"	/
Species/ matrices		<ul style="list-style-type: none"> • Pigs: muscle and liver • Milk 	No control for Eggs, Poultry, Rabbits
Other remarks		/	/

2.3.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	10 out 12 minimum requirements fulfilled, nitroxinil and rafoxanide missing Aquaculture: ivermectin Bovine: 4 avermectines, 3 benzimidazoles, levamisole, closantel Eggs: B2a not analysed	Doramectin, emamectin, eprinomectin should be included for aquaculture

		Farmed game: B2a not analysed Horse: 4 avermectines, 2 benzimidazoles Milk: 4 avermectines, 4 benzimidazoles, levamisole, closantel Pig: 4 avermectines, 2 benzimidazoles, levamisole Poultry: ivermectin, levamisole, flubendazole Rabbit: ivermectine, levamisole, no benzimidazoles Sheep/goat: 4 avermectines, closantel, 4 benzimidazoles, levamisole, closantel	
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLU (avermectines) LC-MS/MS (benzimidazoles) 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLU (avermectines) LC-MS/MS (benzimidazoles) 	
Limits	CC β (screening)	Not compliant: CC β as CC β > MRL	
	CC α (confirmatory)	Compliant for most analytes	
Levels of action		MRL and presence	
Species/matrices		Egg and farmed/wild game not included	
Other remarks			

2.3.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 9 chemical anticoccidials, 4 ionophores and 2 nitroimidazoles Lasalocid as minimum requirement not covered in any species/matrices All minimum requirements failed for bovine, horses, pigs and sheep/goats. only limited number of recommended analytes for the different species/matrices are analysed 	<ul style="list-style-type: none"> Complete the scope of testing by adding all minimum requirements in all species/matrices, especially lasalocid Include lasalocid and halofuginone in all methods for all matrices
Methods	Screening	LC-MS/MS and HPLC-DAD	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS, Three plate test Three plate test is not adequate as a confirmatory method 	<ul style="list-style-type: none"> Avoid the use of the three plate test as a confirmatory method The three plate test is also not suitable for screening
Limits	CC β (screening)	In poultry muscle, CC β for diclazuril is higher than MRL	Review CC β for screening analysis as it should be lower than MRL or ML

	CC α (confirmatory)	<ul style="list-style-type: none"> In poultry muscle, the CCα for narasin is 15 $\mu\text{g}/\text{kg}$ and the MRL for chicken for fattening is set to 50 $\mu\text{g}/\text{kg}$ while the ML for all species other than chicken for fattening is set to 5 mg/kg CCα for salinomycin is 2 $\mu\text{g}/\text{kg}$ but the MRL is 5 $\mu\text{g}/\text{kg}$ (and ML is 2 $\mu\text{g}/\text{kg}$) 	Review CC α for narasin, robenidine, monensin, salinomycin and decoquinate in poultry muscle as it should be higher than MRL or ML for the respective species
Levels of action		<ul style="list-style-type: none"> MRL No limit 	Broaden the scope of levels of action as for coccidiostats maximum levels (ML) due to carry over (Reg. 124/2009 or Reg. 610/2012) must be taken into account.
Species/matrices		<ul style="list-style-type: none"> All relevant species / matrices considered Liver not analysed for any species 	Broaden the scope of matrix by adding liver and kidney for example
Other remarks		Three-plate test is completely inadequate as a confirmatory or screening method. This test is used only in a limited number of case for the screening of antibiotics	

2.3.11 Group B2d – Tranquilisers

B2d - BG		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant minimum required: missing all analytes Additional: carazolol, azaperol, azaperone 	Include acepromazine, chlorpromazine, propiopromazine, haloperidol, xylazine
Methods	Screening	<ul style="list-style-type: none"> ELISA 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD for azaperol, azaperone No confirmatory method for carazolol 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for azaperol, azaperone 	
Levels of action		<ul style="list-style-type: none"> 100 $\mu\text{g}/\text{kg}$ (sum of azaperol, azaperone) 	
Species/matrices		<ul style="list-style-type: none"> Non-compliant minimum required species: sheep/goats are missing Matrices: kidney Additional: muscle 	For bovines and pigs: kidney is the preferred matrix
Other remarks			

2.3.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 9 analytes (milk: 8): Minimum requirements are partly fulfilled poultry muscle: only 3 (carprofen, diclofenac, flunixin) out of 9 minimum required analytes other matrices: Only 5 (carprofen, diclofenac, flunixin, phenylbutazon and tolfenamic acid) out of 9 minimum required analytes are analysed in all matrices basic NSAIDs (MAA, IPAA), IP and NP are not included Few recommended analytes are covered (ketoprofen, vedaprofen) 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for compounds without MRL Not compliant for compounds with MRL: CCβ should be equal to or below the MRL Not compliant for compounds with recommended concentrations (RC): CCβ should be below and not equal to RC. 	
	CC α (confirmatory)	In some cases not compliant, e.g.: <ul style="list-style-type: none"> DC in milk (CCα DC: 6.27 μg/kg \leftrightarrow CCα max DC: 0.22 μg/kg) FLU in horse muscle (CCα above CCα max), FLU in pig muscle (below MRL) PBZ in muscle and milk (above recommended concentration) 	
Levels of action		MRL, no limit	
Species/matrices		recommendations fulfilled (muscle: bovine, pig, sheep/goat, poultry, horse, rabbit; milk)	
Other remarks		Please check and correct the CC α / CC β ; Minor changes compared to 2017	

2.3.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox: non-compliant Olaquinox : non-compliant 	<ul style="list-style-type: none"> Carbadox (QCA-DCBX) and olaquinox (MQCA) must be included in the control plan
Methods	Screening	/	/

	Confirmatory	/	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/
Levels of action		/	/
Species/ matrices		/	/
Other remarks		/	/

2.3.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses, poultry, aquaculture, rabbit. Additional: none. 	Include additional analytes.
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Urine: compliant. Liver and muscle: no MRL. 	Note MRL for liver and muscle.
	CC α (confirmatory)	<ul style="list-style-type: none"> Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> 'No limit'. 	Note LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> All species are included. Matrices included: liver, muscle, urine. 	
Other remarks			

2.3.15 Group B3c – Chemical elements

B3c	Evaluation	Recommendations/comments
Analytes	Cd, Pb and Hg	<p>Cu should be included (396/2005 and amendments)</p> <p>Hg is only analysed in fish (1881/2006 and amendments), should be analysed in</p>

			other species/matrices as well (396/2005 and amendments)
Methods	Screening	No screening	
	Confirmatory	AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Overall consistent with regulation	MLs for silver carp for Pb and Cd are wrong
Species/matrices		Relevant species/matrices covered	
Other remarks			

2.3.16 Group B3d – Mycotoxins

B3d - BG		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1 	Include ochratoxin and zearalenone
Methods	Screening	<ul style="list-style-type: none"> ELISA 	Change screening method in LC-FLD
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> N/A 	
Species/matrices		<ul style="list-style-type: none"> Matrices: milk (raw) 	
Other remarks			

2.3.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	<ul style="list-style-type: none"> Brilliant green should be added to the method
Methods	Screening	HPLC-DAD : compliant	/

	Confirmatory	LC-MS/MS : compliant	CC β and CC α are the same
Limits	CC β (screening)	Non-compliant	CC β at 2.78 $\mu\text{g}/\text{kg}$ for cristal violet is suspicious. CC β must be < MRPL/RPA
	CC α (confirmatory)	Non-compliant	CC α at 2.21 $\mu\text{g}/\text{kg}$ for leuco cristal violet is suspicious. CC α must be < MRPL/RPA
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.4 Member State: Cyprus (CY)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzyl thiouracil	
A3		-	
A4	Limits	CC α / CC β for poultry should be brought down to meet regulatory limits	
A5	Analytes	Indicate the value of CC β and CC α for each analyte in each matrix	
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Analytes	HPLC-FLD is used for honey and is not suitable	No control for horses
B1 – aminoglycosides	Analytes	<ul style="list-style-type: none"> Control only of "Aminoglycosides" in Farmed game => to be detailed per substances actually controlled No control for neomycin in Aquaculture products, Eggs, Poultry (products in which only neomycin C is controlled): non-compliant 	
	Species/matrices	<ul style="list-style-type: none"> No control for paromomycin, spectinomycin, in Farmed game No control in horses 	
	Limits	<ul style="list-style-type: none"> CCβ too high for gentamicin in Rabbits and Sheep/goats (CCβ must be \leq MRL) CCα too low for neomycin in Milk (CCα must be $>$ MRL) 	
B1 - betalactams	Analytes	Compliant except for 2 cephalosporin compounds	<ul style="list-style-type: none"> Monitoring of cefacetile and ceftiofur is missing in all species/matrices Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cephapirin at least in milk
	Methods	Confirmatory method is compliant; however only this confirmatory method is validated and in use for screening as well.	
	Limits	<ul style="list-style-type: none"> Realistic claimed CCβ for screening shall be estimated instead of the LOD proposed CCβ of screening and CCα of confirmation are not correctly calculated and even sometimes given at 0 which is not possible 	

	Species/ matrices		Horse meat should be monitored unless the production is null in the MS
B1 – macrolides and lincosamides	Analytes	Extension of the scope: 3-O-acetyltylosin, gamithromycin, pirlimycin, tildipirosin, tulathromycin and tylvalosin in the different matrices	
	Species/ matrices		No control in Horses
	Limits	Pay attention to the reporting of CC β and sometimes of CC α	
B1 – quinolones	Species/ matrices		No control for honey and horses
	Limits	compliant	
B1 – sulfonamides	Analytes	<ul style="list-style-type: none"> • 14 analytes are controlled "sulphonamides": compliant • Extension of the scope: Minimum required (sulfachloropyrazine, sulfamethizole, sulfapyridine, sulfisoxazole), Recommended (sulfacetamide, sulfameter, sulfamoxole), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfatroxazole, sulfisomidine) 	
	Species/ matrices		Control for Horses is missing
	Limits	CC α to be updated as low as possible for Sulfachloropyridazine in Eggs (no MRL): non-compliant	
B1 – tetracyclines	Analytes	Compliant	
	Methods	Compliant	
	Species/ matrices		No control for horses
B1 – other	Analytes	Tiamulin, trimethoprim, valnemulin	
	Species/ matrices		<ul style="list-style-type: none"> • No control for Honey and Horses • Except no control for trimethoprim in Farmed Game
	Methods	Compliant	
	Limits	Compliant	
B2a	Analytes		
	Limits	Uniform data for CC β are requested	
B2b	Analytes		
	Limits	Review the levels of action as depending on the MRL, ML, RC etc.	
B2d	Analytes	Include chlorpromazine	
B2e	Analytes	Consider CPF and MAA in the analysis	
	Limits		

	Matrices		
B2f antimicrobials	-	compliant in all aspects	
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As and Ni are included
	Methods		
	Limits		
	Levels of action		
	Species /matrices		
B3d	Species /matrices	Include horses	
B3e		Compliant in all aspects	
	Other remarks		

2.4.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS , GC-MSD, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS , GC-MSD, LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	State a value instead of « same as »
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	State a value instead of « same as »
Levels of action		<ul style="list-style-type: none"> CCα of method is stated instead of regulatory value 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for minimal required species/matrices tested Also tested: farmed game Not tested: horses Matrices: urine/muscle Extra matrix: drinking water 	Include liver (or feces) for poultry instead of muscle
Other remarks		Subspecies tested:	

	For bovines/pigs/poultry/sheep/goats subspecies are specified For farmed game: quail/rabbit	
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2.4.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: 2-mercaptoimidazole, phenyl thiouracil 	Include mercaptobenzimidazole, benzyl thiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> CCα 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: urine 	
Other remarks			

2.4.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goat Non-compliant: poultry (ethinylestradiol, gestagens), aquaculture (ethinylestradiol, stanozolol, gestagens). Horses are not tested for A3 at all. Optional species farmed game (boldenone, ethinylsestradiol, gestagens), rabbit (boldenone, gestagens). For the missing boldenone other analytes in different matrices are tested. Additional: Allyltrenbolone (Altrenogest), Nortestosterone phenylpropionate, Trenbolone acetate. 	
Methods	Screening	<ul style="list-style-type: none"> Same as confirmatory 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS, LC-MSMS 	

Limits	CC β (screening)	<ul style="list-style-type: none"> It is difficult to check the CCβ because often is used 'same as ...' or 'various ...' The ones which are clear are mostly according the recommendations or just slightly above. 	Please note all CC β in clear concentrations.
	CC α (confirmatory)	<ul style="list-style-type: none"> Same as stated for CCβ 	Please note all CC α in clear concentrations.
Levels of action		<ul style="list-style-type: none"> Same as stated for CCβ 	Please note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> Compliant: bovines, pigs, aquaculture, rabbits Non-compliant: sheep/goats (methyltestosterone – serum), poultry, farmed game (testosterone – drinking water and muscle) 	
Other remarks			

2.4.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for poultry (muscle) 	State a value instead of « same as »
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for poultry (muscle) 	State a value instead of « same as »
Levels of action		<ul style="list-style-type: none"> CCα of method is stated instead of regulatory value 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for species tested; replacement matrices used Not tested: horses Matrices: urine/muscle Extra matrices: feed/drinking water 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: rabbit/quail	

2.4.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 14 analytes included All minimum requirement considered 7 recommended considered 	
Methods	Screening	LC-MS/MS, LC/MS	
	Confirmatory	LC-MS, LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> Evaluation not possible in several cases as no values are given. In liver rabbits not compliant for brombuterol, clenbuterol and isoxuprine 	Indicate the value of CC β for each analyte in each matrix
	CC α (confirmatory)	No values assigned for the majority of the analyte/matrix combinations - evaluation not possible	<ul style="list-style-type: none"> Indicate the value of CCα in all matrices Same remarks as last years
Levels of action		Presence	
Species/matrices		Relevant analytes/species/matrices are covered	
Other remarks			

2.4.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence / < CC α	
Species/matrices		recommendations fulfilled	
Other remarks			

2.4.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 10 Nitrofurans: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: same as confirmation compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant but HPLC-fluo non-compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	HPLC-FLD is only used for honey
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant including feed Dapsone: non-compliant 	<ul style="list-style-type: none"> Chloramphenicol and nitrofurans not controlled in horses Dapsone not compliant for honey
Other remarks		/	/

2.4.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		8 analytes (+ <i>neomycin C</i> and "Aminoglycosides"): compliant	<ul style="list-style-type: none"> Control only of "Aminoglycosides" in Farmed game Control only of dihydrostreptomycin and streptomycin in Honey No control for neomycin in Aquaculture products, Eggs, Poultry (products in

			which only neomycin C is controlled): non-compliant • No control for paromomycin, spectinomycin, in Farmed game
Methods	Screening	HPLC-FLD (Honey) or LC-MS/MS: compliant	/
	Confirmatory	HPLC-FLD (Honey) or LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	CC β too high for gentamicin in Rabbits and Sheep/goats (CC β must be \leq MRL)
	CC α (confirmatory)	Compliant	CC α too low for neomycin in Milk (CC α must be $>$ MRL)
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs, Honey, Milk (cows, goats) 	No control in Horses
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		Beta-lactams: <ul style="list-style-type: none"> 8 out of 8 required penicillins are considered in meat, eggs and milk – compliant 6 out of 8 required cephalosporins are considered in meat, in eggs, and in milk - compliant 	<ul style="list-style-type: none"> Monitoring of cefacetile and ceftiofur is missing in all species/ matrices Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cephapirin at least in milk
Methods	Screening	Screening method is seemingly the same as confirmatory method - compliant	Only a confirmatory method is validated and in use for screening. Realistic claimed CC β for screening shall be estimated instead of LOD proposed
	Confirmatory	LC-MSMS: compliant	/
Limits	CC β (screening)	Non-compliant	<ul style="list-style-type: none"> CCβ of screening are not correctly calculated above CCα of confirmation Some CCβ calculated at 0 is not possible
	CC α (confirmatory)	Non-compliant	<ul style="list-style-type: none"> CCα for MRL substances are not correctly calculated and claimed below the MRL

			<ul style="list-style-type: none"> Some CCα calculated at 0 is not possible
Levels of action			To be clarified with a lot of different levels claimed
Species/ matrices	9 species/ matrices out of 11 are monitored - compliant		Horse meat control is possibly missing
Other remarks			Control of betalactams for honey is optional according to EU-RL recommendation

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Erythromycin, josamycin, lincomycin neospiramycin, spiramycin, tilmicosin, tylosin	<ul style="list-style-type: none"> No control for 3-O-acetyltylosin, gamithromycin, pirlimycin, tildipirosin, tulathromycin and tylvalosin Problem in the list of substance: generic name “macrolides” for “erythromycin” ? Only erythromycin, spiramycin and tylosin in honey
Methods	Screening	LC-MS/MS	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	/	<ul style="list-style-type: none"> Be careful with the reporting of CCβ (same as broiler, same as poultry...) CCbeta > MRL for erythromycin in milk No CCbeta for neospiramycin in muscle
	CC α (confirmatory)	Compliant	Be careful with the reporting of CCalpha (same as broiler, same as poultry...)
Levels of action	MRL, “presence” or CC α when non authorised		/
Species/ matrices	Compliant		No control in Horses
Other remarks	/		/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		The 8 recommended substances and nalixidic acid, norfloxacin: compliant	/

Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	CC β = LOD or LOQ for substances with a defined MRL: compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		MRL, or CC α for substances without MRL determined: compliant	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed Game, Pigs, Poultry, Sheep/goats: muscle Eggs, Milk (cow, goat, sheep) 	Except Honey and Horses
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		13 recommended analytes + sulfaethoxypyridazine + "sulphonamides": compliant	No control for sulfabenzamide, sulfacetamide, sulfachloropyrazine, sulfaclozine, sulfameter, sulfamethizol, sulfamoxol, sulfapyridine, sulfasalazine, sulfatroxazol, sulfisomidine, sulfisoxazole
Methods	Screening	HPLC-FLD for Honey, LC-MS/MS for other Species/ matrices: compliant	/
	Confirmatory	HPLC-FLD for Honey, LC-MS/MS for other Species/ matrices: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	Sulfachloropyridazine in Eggs for which the CC α is higher than the MRL for muscle (no MRL in eggs): non-compliant
Levels of action		CC α	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs, Honey, Milk (cows, goats) 	No control for Horses
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		4 substances: Chlortetracycline, Doxycycline, Oxytetracycline, and Tetracycline and including the 3 kind of 4-epimers : compliant	/
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Compliant	Except Horses
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		Other B1: <i>tiamulin, trimethoprim, valnemulin</i>	No control for trimethoprim in Farmed Game
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Pigs, Poultry, Rabbits, Sheep/goat: muscle Eggs, Milk (cows, goats) 	No control for Honey and Horses
Other remarks		/	/

2.4.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> 6 avermectines, 12 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled <p>Aquaculture: 6 avermectines, 7 benzimidazoles, levamisole, nitroxinil, rafoxanide</p> <p>Bovine: 6 avermectines, 8 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Eggs: 6 avermectines, 7 benzimidazoles, levamisole</p> <p>Farmed game: 6 avermectines, 7 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Horse: not included in NRCP</p>	

		<p>Milk: 6 avermectines, 8 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Pig: 6 avermectines, 8 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Poultry: 5 avermectines, 8 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Rabbit: 6 avermectines, 6 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Sheep/goat: 5 avermectines, 7 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p>	
Methods	Screening	Compliant, LC-MS/MS for benzimidazoles and others, HPLC-FLU for avermectines	
	Confirmatory	Compliant, LC-MS/MS for benzimidazoles and others, HPLC-FLU for avermectines	
Limits	CC β (screening)	Non uniform data: some values given as LOQ, some values as CC β	
	CC α (confirmatory)	compliant	
Levels of action		Compliant, presence or MRLs	
Species/matrices		The relevant analytes/species/matrices are covered	
Other remarks			

2.4.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		20 anticoccidials: 12 chemical anticoccidials, 6 ionophores and 2 nitroimidazoles	
Methods	Screening	LC-MS/MS, LC/MS	
	Confirmatory	LC-MS, LC-MS/MS	
Limits	CC β (screening)	Compliant for the majority of the analytes. For some analytes data are given as follow: same as broilers. This data cannot be evaluated.	Indicate the value of CC β for each analyte in each matrix
	CC α (confirmatory)	Compliant except for : <ul style="list-style-type: none"> Lasalocid in poultry liver: CCα = 110 μg/kg. The MRL in poultry liver is set to 300 μg/kg and CCα should be > MRL (or ML) Monensin in bovine liver: CCα = 36.66 μg/kg. The MRL in bovine liver is set to 50 μg/kg and CCα should be > MRL (or ML) 	Review CC α for lasalocid and monensin in poultry and bovine liver as it should be higher than MRL or ML according to the species

Levels of action	Same as poultry, same as lamb, presence, different CC α values	Review the levels of action as depending on the MRL, ML, RC etc.
Species/matrices	Relevant analytes/species/matrices are covered	
Other remarks		

2.4.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Almost compliant minimum required: missing chlorpromazine • Compliant recommended 	Include chlorpromazine
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • CCα 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> • 	

2.4.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 13 analytes (milk: 12) • Carprofen is missing in poultry muscle • Marker residue for metamizole is MAA, which should be included in the analysis • Some recommended analytes are covered (Vedaprofen, mefenamic acid, niflumic acid) 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	

Limits	CC β (screening)	Compliant, except for few cases: <ul style="list-style-type: none"> • DC and FLUOH in milk - CCβ should be below the MRL (same as last year); • in some cases LOD and LOQ given (same as last year) 	
	CC α (confirmatory)	compliant, except for some cases: <ul style="list-style-type: none"> • DC in milk above CCα max (CCα 1.59 $\mu\text{g}/\text{kg}$ \leftrightarrow CCα max: 0.22 $\mu\text{g}/\text{kg}$) • in few cases MRL is not considered for specification of CCα, e.g. TFA in milk 	
Levels of action		CC α / MRL / National level	
Species/matrices		recommendations fulfilled (bovine, farmed game, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		No further remarks	

2.4.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Pigs only : compliant	/
Other remarks		/	/

2.4.14 Group B2f – Corticosteroids

B2f - CY		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, sheep/goats. • Non-compliant: horses, poultry, aquaculture, farmed game/rabbit (optional). 	

		<ul style="list-style-type: none"> Additional: Betamethasone, Flumethasone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone acetonide, Triamcinolone diacetate. 	
Methods	Screening	<ul style="list-style-type: none"> Same as confirmatory. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Noted in concentration or as 'same as ...', but no MRL noted. 	Do not use reference to other samples. Note MRL in clear concentrations.
	CC α (confirmatory)	<ul style="list-style-type: none"> Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> 'CCα with concentration' or reference to other samples. 	Do not use reference to other samples.
Species/matrices		<ul style="list-style-type: none"> Only bovines, pigs and sheep/goats are included. Milk from cow, sheep and goats is included. Matrices included: muscle, raw milk. For muscle just a few samples are included. 	Include more samples for each test.
Other remarks			

2.4.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg; As and Ni	Good to see that As and Ni are included Cu should be included (396/2005 and amendments)
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	
Limits	LOQ	Complies with regulation	
Levels of action		Seems to be consistent with regulation. MLs and MRLs not stated, but reference to 1881/2006 and 396/2005 are made.	
Species/matrices		Relevant species/matrices covered	
Other remarks			

2.4.16 Group B3d – Mycotoxins

B3d	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> ELISA (aflatoxin M1) HPCL-FLD, LC-MS/MS 	Change screening method to LC-FLD
	Confirmatory	<ul style="list-style-type: none"> HPCL-FLD, LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Aflatoxin M1: 0.05 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Additional: farmed game, rabbit, honey, aquaculture Matrices: milk, muscle, feed, drinking water, urine 	
Other remarks		<ul style="list-style-type: none"> Zearalenone in A4 	

2.4.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	CC β and CC α are the same
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.5 Member State: Czech Republic (CZ)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	-	One of few that include benzestrol, although we cannot judge the results by lack of official limits
A2	Analytes	Include phenylthiouracil, mercaptobenzimidazole, benzylthiouracil	
A3	Analytes	-	A nice list of alternative analytes in hair is noted in the list
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
	Matrices	Matrix for poultry: partly plasma, partly unsuitable matrix muscle	
A6 - other	Methods	LC-MS/MS should be more suitable for confirmation of chloramphenicol	
	Limits		No CC β screening for Nitrofuranes and for dapsone
B1 – aminoglycosides	Analytes	5 out of 8 analytes, meaning 3 substances are missing	No control for apramycin, kanamycin, paromomycin: non-compliant
	Limits		To the EU-RL knowledge, the performances of the claimed non-specific screening method do not allow to detect most of aminoglycosides at their MRL level.
B1 – beta-lactams	Analytes	<ul style="list-style-type: none"> • 2 penicillins, Nafcillin and Phenoxyethylpenicillin (Pen-V) are missing in all species/ matrices of concern • The relevant MRL-cephalosporins for meat control (cefacetrile, ceftiofur/desfuroyoceftiofur, cefquinome, cephalixin) should be monitored in muscle as well 	
	Methods		The strategy of screening is not clear in samples from many species/ matrices applied together with additional LC-MSMS method either after positiveness

			with or in parallel to bioscreening methods
	Limits	Some CC β (screening) set at MRL are non-compliant – They should be lower than the MRL for efficient control at the MRL	
	Species/ matrices	For several of the 11 species/ matrices the number of beta-lactams monitored should be slightly improved to cover the absolute minimum requirement	
B1 – macrolides and lincosamides	Analytes		
	Species/ matrices		
	Limits		
B1 - quinolones	Analytes	No control of sarafloxacin in Aquaculture products	
	Methods		To the EU-RL knowledge, the performances of the claimed non-specific screening method do not allow to detect most of quinolones at their MRL level
	Limits		CC β = 1,3 MRL for marbofloxacin: no compliant
B1 – sulfonamides	Analytes	<ul style="list-style-type: none"> • 10 analytes controlled • To include other sulfonamides: at least Minimum Required (sulfachloropyrazine, sulfaguandine, sulfamethizol, sulfamethoxypridazine, sulfamonomethoxine, sulfapyridine, sulfisoxazole), Recommended (sulfacetamide, sulfamoxol, sulphaniamide), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfatroxazol, sulfisomidine) 	
	Limits	<ul style="list-style-type: none"> • Compliant for Eggs, Honey and Poultry Muscle. • CCβ could be lowered in Milk and Muscle (Aquaculture, Bovine, Horses, Pigs, Poultry, Rabbit, Sheep/goats) by HPLC-DAD or LC-MS/MS (CCβ = MRL for all detected sulphonamides too high). • Pay attention to the CCβ and CCα set at 2 values one < and one > MRL (100 μg/kg) (ie. “100/30 μg/kg” or “123/30 μg/kg”) for some matrices • Pay attention to the CCα in Milk and Muscle (Aquaculture, Bovine, Horses, Pigs, Poultry, Rabbit, Sheep/goats) set at 123 μg/kg for all sulphonamides by HPLC-DAD or LC-MS/MS. • Revise CCα for poultry Muscle (CCα set at 30 μg/kg for all confirmed sulfonamides, CCα should be >MRL (100 μg/kg). 	Pay attention to the level of action in Poultry Muscle and in Feed (Poultry and Rabbit).

B1 Tetracyclines	- Methods		To the EU-RL knowledge the performances of the claimed non-specific screening method do not allow to detect most of tetracyclines at their MRL level
B1 - other	Analytes		<ul style="list-style-type: none"> No control for florfenicol in Rabbits Control of tiamulin in Rabbits is carried out in the muscle and feed
	Species/ matrices		No control in Farmed game, Horses, Milk and Sheep/goats
	Limits	CC β for valnemulin in Rabbits muscle is too high (CC β to be must \leq MRL): non-compliant	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
B2a	Analytes		
	Limits	Adoption of CC α Eprinomectin in aquaculture	
B2b	Analytes		
	Limits	Review the levels of action as depending on the MRL or ML	
B2d	-		
B2e	Analytes	MAA and FLU-OH should be included to complete the minimum requirement	
	Limits		
	Matrices		
B2f antimicrobials	- Analytes	Compliant	
	Species/ Matrices	Compliant	
	Methods	Compliant	
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As, Ni, Sn, and speciation analyses (inorganic arsenic and methylmercury are included
	Methods		
	Limits		
	Levels of action		Note: MRLs for Cu and Hg in food of animal origin is set in 396/2005 and amendments

	Species /matrices		
B3d	Methods	Change confirmatory method to HPLC-FLD for zearalenone	
B3e	Analytes	Leuco Brilliant green should be added to the method	
	Other remarks		

2.5.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested Also tested for benzestrol 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Stated as >CCα of method instead of regulatory value 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/liver/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/poultry/sheep/goat subspecies are specified For aquaculture : no subspecies specified For farmed game: rabbit(/other)	

2.5.2 Groups A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	Include phenylthiouracil, mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> > CCα Thiouracil: 30 μg/l 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, poultry, rabbits, farmed game, milk (raw) Matrices: urine (bovine, pigs, sheep/goats) Additional: muscle (poultry, farmed game, rabbit) 	
Other remarks			

2.5.3 Group A3 – Steroids

A3	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> Compliant: bovines, pigs (estradiol^h, testosterone^h), Non-compliant: sheep/goats (boldenone, nandrolone^h, estradiol^h, testosterone^h, methyltestosterone, trenbolone, stanozolol), horses (estradiol, testosterone, methyltestosterone, trenbolone^h, stanozolol), poultry (ethinylestradiol, estradiol, testosterone, stanozolol, gestagens), aquaculture (estradiol, testosterone, stanozolol, gestagens), Optional farmed game only tested for boldenone and nandrolone, rabbits only tested for ethinylestradiol. Additional: Allyltrenbolone (Altrenogest), Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Clostebol, Estradiol acetate (17β-estradiol-17-acetate), Estradiol benzoate, Estradiol cypionate, Estradiol enanthate, Estradiol valerate, Nandrolone propionate, Norclostebol, Nortestosterone benzoate, Nortestosterone cypionate, Nortestosterone decanoate, Nortestosterone phenylpropionate, Progesterone-Acetoxy, Testosterone benzoate, Testosterone cypionate, Testosterone decanoate (Testosteronecaprinate), Testosterone isocaproate, Testosterone nanthate, Testosterone phenylpropionate, Testosterone propionate. 	Several analytes have to be added to the list.
Methods	Screening	<ul style="list-style-type: none"> Same as confirmatory, when different: GC-MS, LC-MSMS.
	Confirmatory	<ul style="list-style-type: none"> GC-MS, GC-MS/MS, LC-MSMS.

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> Compliant, mostly noted as '>CCα'. The LoA for testosterone is stated clear. 	
Species/matrices		<ul style="list-style-type: none"> Compliant. Tested matrices are: hair, kidney fat, liver, muscle, plasma, urine. Hair is tested for several metabolites of for example estradiol and testosterone. This way non-compliant analytes noted with ^h are considered as compliant. 	
Other remarks		A nice list of alternative analytes in hair is noted in the list.	

2.5.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Stated as >CCα of method instead of regulatory value 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/liver/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: rabbit(/other)	

2.5.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
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Analytes		28 analytes in all monitored species; minimum requirements, recommendations and optional analytes are covered	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No value given	CC β should be < RC
	CC α (confirmatory)	CC α equal or above recommended concentrations for the majority of the analytes	
Levels of action		Presence	
Species/matrices		<ul style="list-style-type: none"> Relevant analytes/species/matrices are covered Consider adding lung in addition to or instead of liver 	
Other remarks			

2.5.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	Compliant	
Levels of action		presence	
Species/matrices		Recommendations fulfilled except for poultry	
Other remarks		Matrix for poultry: partly plasma, partly unsuitable matrix muscle	

2.5.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> Chloramphenicol: compliant 5 Nitrofurans including nifursol: compliant Dapsone: compliant 	/

Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol LC-MS/MS for feed and GC-MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	LC-MS/MS should be more suitable for confirmation
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: no data non-compliant Dapsone: no data non-compliant 	No CC β for nitrofurans and dapsone
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	CC α at 1.0 $\mu\text{g}/\text{kg}$ for Nifursol is not comprehensible. CC α must be < MRPL/RPA
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Other remarks		/	/

2.5.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		5 out of 8 analytes	No control for apramycin, kanamycin, paromomycin: non-compliant
Methods	Screening	Six-plate test, CHARM II, ELISA, LC MS/MS: compliant	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/

Levels of action	Presence or MRL	/
Species/ matrices	<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Sheep/goats: muscle, kidney, liver • Poultry: muscle, liver • Rabbits: muscle, feed • Aquaculture products, Farmed game: muscle • Eggs, Honey, Milk (cows, goats, sheep) 	/
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		Beta-lactams: A total set of 13 substances (6 penicillins and 7 cephalosporins) are of concern in the plan but only the 6 penicillins are fully monitored in all species/matrices.	<ul style="list-style-type: none"> • 2 additional penicillins, Nafcillin and Penicillin V, are missing in all species/matrices of concern • The relevant MRL-cephalosporins for meat control (cefacertrile, ceftiofur/desfuroycefiofur, cefquinome, cephapirin) should be monitored in muscle as well
Methods	Screening	<ul style="list-style-type: none"> • Analytes are screened by non-specific method (Six Plate Test) alone for kidney and liver, Six Plate Test and Eclipse 50® for eggs and milk, Six Plate Test and Premi®Test for muscle) or by a semi-specific screening method for honey only (Charm II™)(for amoxicillin, ampicillin, penicillin G) – compliant • LC-MSMS method is now completing the strategy of screening in Eggs, Milk, and in Meat - compliant • Also 6 Cephalosporins are screened in Eggs and Rabbit directly by LC-MSMS - compliant 	There is no information on which strategy the LC-MSMS for screening is used in terms of samples screened (see also in poultry for instance where some CCβ values for screening are set at the MRL)
	Confirmatory	specific confirmatory method (LC-MS/MS) - compliant	
Limits	CCβ (screening)	All CCβ (screening) set at ½ MRL or lower are Compliant	Some CCβ (screening) set at MRL are non-compliant – They should be lower than the MRL for efficient control at the MRL
	CCα (confirmatory)	Compliant	/
Levels of action		Presence or MRL level	/
Species/matrices		All 11 species/ matrices are of concern - compliant	For many species/ matrices number of betalactams monitored should be improved to cover the absolute minimum requirement

Other remarks		Control of betalactams for honey is optional according to EU-RL recommendation
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B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Erythromycin, lincomycin, spiramycin, tilmicosin, tulathromycin, tylosin and tylvalosin (no information for neospiramycin and 3-O-acetyltylosin)	<ul style="list-style-type: none"> No control for gamithromycin, pirlimycin and tildipirosin Control for three macrolides in eggs only: erythromycin, lincomycin and tylosin Control for 5 macrolides in milk
Methods	Screening	<ul style="list-style-type: none"> Six-plate test, PremiTest, LC MS/MS for muscle Six-plate test, Charm II, Eclipse 50 and LC-MS/MS for milk Charm II and LC-MS/MS for eggs Charm II for honey 	To the EU-RL knowledge the performances of non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		"Presence" or MRL	Level of action not suitable for several analytes in muscle : there is a MRL for spiramycin in poultry muscle, for tulathromycin in sheep/goats bovine, for tilmicosin in poultry muscle and lincomycin in eggs
Species/matrices		Compliant	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		Quinolones: the 8 recommended substances and nalixidic acid, norfloxacin, ofloxacin, orbifloxacin, pefloxacin: compliant	No control of <i>sarafloxacin</i> in Aquaculture products

Methods	Screening	<ul style="list-style-type: none"> • Six-plate Test, Eclipse 50, LC-MS/MS for Milk: compliant • Six-plate Test for Feed • LC-MS/MS for Eggs, Honey: compliant • Six-plate Test, HPLC-FLD, LC-MS/MS for muscle : compliant 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • CCβ = 5 μg/kg for Eggs and Honey: compliant • CCβ = 10 μg/kg for Poultry (if LC-MS/MS is the only method implemented): compliant 	CC β = 1,3 MRL for <i>marbofloxacin</i> : no compliant
	CC α (confirmatory)	Compliant	/
Levels of action		Action limit > CC α , or presence, or MRL: compliant	/
Species/matrices		<ul style="list-style-type: none"> • Aquaculture, Bovine, Farmed Game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle • Eggs, Honey, Milk (cow, goat, sheep), Feed (flumequine for Rabbits) 	/
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		Compliant: 10 analytes	No control for <i>sulfabenzamide</i> , <i>sulfacetamide</i> , <i>sulfachloropyrazine</i> , <i>sulfaclozine</i> , <i>sulfaguanidine</i> , <i>sulfamethizol</i> , <i>sulfamethoxypyridazine</i> , <i>sulfamonomethoxine</i> , <i>sulfamoxol</i> , <i>sulphanilamide</i> , <i>sulfapyridine</i> , <i>sulfasalazine</i> , <i>sulfatroxazol</i> , <i>sulfisomidine</i> , <i>sulfisoxazole</i>
Methods	Screening	Compliant: Charm II, HPLC-DAD, LC-MS/MS	/
	Confirmatory	Compliant: LC-MS/MS	/
Limits	CC β (screening)	Compliant for Eggs, Honey and Poultry Muscle	<ul style="list-style-type: none"> • Remark: CCβ in Milk and Muscle (Aquaculture, Bovine, Horses, Pigs, Poultry, Rabbit, Sheep/goats) at 100 μg/kg for all detected sulphonamides by HPLC-DAD or LC-MS/MS: could be lowered

			<ul style="list-style-type: none"> For farmed game muscle, CCβ set at “100/30 $\mu\text{g}/\text{kg}$” for all detected sulfonamides. Not clear.
	CC α (confirmatory)	Compliant for Eggs and Honey	<ul style="list-style-type: none"> Non-compliant: for poultry muscle, CCα set at 30 $\mu\text{g}/\text{kg}$ for all confirmed sulfonamides, < MRL (100 $\mu\text{g}/\text{kg}$). For farmed game muscle, CCα set at “123/30 $\mu\text{g}/\text{kg}$” for all confirmed sulfonamides, 2 values one < and one > MRL (100 $\mu\text{g}/\text{kg}$). Remark: CCα in Milk and Muscle (Aquaculture, Bovine, Horses, Pigs, Poultry, Rabbit, Sheep/goats) set at 123 $\mu\text{g}/\text{kg}$ for all sulphonamides by HPLC-DAD or LC-MS/MS: CCα should be different
Levels of action		Compliant	/
Species/matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed Game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle Eggs (hens, quails), Honey, Milk (cow, goat, sheep), Feed (Poultry and Rabbits) 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances and the 3 kind of epimers compliant	/
Methods	Screening	<ul style="list-style-type: none"> Six-plate test; ECLIPSE 50, LC MS/MS for milk: compliant Six-plate test, PremiTest, LC MS/MS for muscle: compliant Charm II (Receptor assay) for Honey: compliant Six-plate test for Feed, Kidney and Liver: compliant 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level
	Confirmatory	LC-MS/MS compliant	
Limits	CC β (screening)	Compliant	CC β must be < MRL

	CC α (confirmatory)	Compliant	For liver CC β and CC α are the same
Levels of action		Compliant	/
Species/matrices		Compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Other B1: <i>florfenicol, tiamulin, valnemulin</i>	<ul style="list-style-type: none"> No control for <i>florfenicol</i> in Rabbits Control of <i>tiamulin</i> in Rabbits is carried out in the muscle and feed
Methods	Screening	<ul style="list-style-type: none"> Six-plate test for tiamulin and valnemulin in Feed for Rabbits: compliant HPLC-FLD or LC-MS/MS for other Species/ matrices: compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	CC β for valnemulin in Rabbits muscle is too high (CC β to be must \leq MRL): non-compliant
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL	/
Species/matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Pigs, Poultry: muscle Rabbits: muscle and feed Eggs 	No control in Farmed game, Horses, Milk and Sheep/goats
Other remarks		/	/

2.5.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> 6 avermectines, 16 benzimidazoles and other anthelmintics, others; 12 out of 12 minimum requirements fulfilled 	

		<p>Aquaculture: 6 avermectins, niclosamide Bovine: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Eggs: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Farmed game: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Horse: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Milk: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Pig: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Poultry: 5 avermectins, 5 benzimidazoles, levamisole, rafoxanide Rabbit: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Sheep/goat: 6 avermectins, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide, praziquantel Wild game: 1 avermectin (ivermectin), mebendazole, rafoxanide</p>	
Methods	Screening	HPLC-MS in general for all, HPLC-DAD for niclosamide	
	Confirmatory	HPLC-MS in general for all, HPLC-DAD for niclosamide	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant for almost all compounds: <ul style="list-style-type: none"> • CCα of Eprinomectin (5 μg/kg) in aquaculture below MRL 	MRL eprinomectin in aquaculture: 50 μ g/kg
Levels of action		Compliant: presence or MRL	
Species/matrices		Compliant, meet requirements for analyte/matrix combinations	
Other remarks			

2.5.10 Group B2b – Coccidiostats

B2b	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • 18 anticoccidials: 5 chemical coccidiostats, 6 ionophores and 7 nitroimidazoles • All minimum requirements included except maduramycin • Recommended analytes only partially considered. 	More recommended chemical anticoccidials should be included, especially toltrazuril and decoquinatone due to the NC results of the last years

Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Non-compliant : N/A or equals to MRL or ML	CC β should be < MRL or ML values for screening
	CC α (confirmatory)	Compliant for the majority of the analytes except for : <ul style="list-style-type: none"> Lasalocid in bovine liver: CCα = 2 μg/kg and MRL = 100 μg/kg Salinomycin in poultry liver: The MRL and/or ML are set to 5 μg/kg, the value of CCα is 183 μg/kg and CCα max is 8.36 μg/kg 	<ul style="list-style-type: none"> Review the levels of action as depending on the MRL or ML CCα is should be < CCα max
Levels of action		MLR, ML, presence	
Species/matrices		Relevant analytes/species/matrices are covered	
Other remarks			

2.5.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Compliant recommended Additional: hydroxyhaloperidol 	
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> > CCα Carazolol: MRL (15 μg/kg) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.5.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 17 analytes (milk: 16) Minimum required and recommended analytes are almost covered to completely fulfil minimum requirements, the analysis of MAA (instead of metamizole) and flunixin-5-hydroxy is to be included 	
Methods	Screening	LC-MS/MS, LC-FLD for VDP in milk (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant, except one case: <ul style="list-style-type: none"> Meloxicam in sheep/goat muscle (CCα should be above the MRL) 	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		No further remarks	

2.5.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox (QCA-DCBX): compliant Olaquinox(MQCA): compliant 	/
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	No data	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/matrices		compliant	/
Other remarks		/	/

2.5.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats, horses, Additional: Beclometasone, Betamethasone, Flumethasone, Fluocinolone, Fluorometholone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone. 	
Methods	Screening	<ul style="list-style-type: none"> Same as confirmatory. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> 'Action limit > CCα', compliant. 	
Species/matrices		<ul style="list-style-type: none"> Only bovines, pigs, sheep/goats, horses included. Matrices included: urine. 	
Other remarks			

2.5.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg; As, Ni, Sn, inorganic As and methylmercury	Good to see that As, Ni, Sn, and speciation analyses (inorganic arsenic and methylmercury are included Cu should be included (396/2005 and amendments)
Methods	Screening	ICPMS, AAS	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	Note: MRLs for Cu and Hg in food of animal origin is set in 396/2005 and amendments
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.5.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLD, GC-MS 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD, GC-MS (for zearalenone) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Aflatoxin M1: 0.05 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: farmed game, rabbit Matrices: kidney, muscle, feed, urine, milk 	
Other remarks			

2.5.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant green: compliant Cristal Violet and Cristal Violet-Leuco: compliant Malachite Green and Malachite Green-Leuco: compliant Methylene Blue: compliant 	Leuco Brilliant green should be added to the method
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/matrices		Aquaculture : compliant	/
Other remarks		/	/

2.6 Member State: Germany (DE)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	CC α / CC β for diethylstilbestrol in feces should be brought down to meet regulatory limits	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Limits	Indicate single values for the corresponding substances, otherwise the table is not readable	
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Limits	Analytical methods' CC β screening and CC α confirmation should be estimated different from and lower than RPA.	CC β screening and CC α confirmation are systematically reported strictly equal to the RPA for all products/species of concern.
B1 – Aminoglycosides	Species/matrices	No control in Eggs: non-compliant (for neomycin)	
	Limits	<ul style="list-style-type: none"> • CCβ (screening) are too high "=max CCα", CCβ screening must be \leq MRL • CCα confirmation is the same as CCβ screening which is not possible 	
B1 – beta-lactams	Analytes	<ul style="list-style-type: none"> • Amoxicillin and Nafcillin are missing in Eggs • Nafcillin is missing in Aquaculture • Cefapirin is missing in Meat and in Milk even though the Desacetylcefapirin is mentioned at least in Bovine meat and in milk. • Cephalosprins control in P,OC,E,FG,R,Py meat is reduced to Cefquinome and to Ceftiofur. It has to be extended to at least all the recommended Bovine MRL-cephalosporins (i.e. cefalexine and cefapirin) due to possible cascade use. 	Remark : It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk
	Limits	<ul style="list-style-type: none"> • CCβ screening are always calculated above the CCα of confirmation. Seemingly this is the CCβ of confirmation of the confirmatory method as used for screening that is taken into consideration • A realistic CCβ of screening has to be estimated for the strategy of screening estimated below the MRL 	

	Methods		<ul style="list-style-type: none"> It is not possible to strictly evaluate the relevance of the screening methods claimed thanks to the long list proposed within one single cell. Probably due to possible different strategies from one Land to the other. It is not possible to strictly evaluate the relevance of the confirmatory methods claimed thanks to the list proposed within one single cell. Probably due to possible different strategies from one Land to the other
B1 – macrolides and lincosamides	Analytes	Extension of the number of monitored macrolides in milk, eggs and honey	It is not clear if the 2 metabolites: neospiramycin and 3-O-acetyltylosin, are included
	Limits	<ul style="list-style-type: none"> CCβ of screening should be provided (CCα of confirmation is of low interest for screening purpose) CCα should be provided as a numeric value 	
B1 - quinolones	Limits	<ul style="list-style-type: none"> CCβ (screening) are too high "=max CCα", CCβ screening must be \leq MRL CCα confirmation is the same as CCβ screening which it is not possible 	
	Species/matrices	No control for Milk and for Honey	
B1 sulfonamides	Analytes	<ul style="list-style-type: none"> Compliant : 11 analytes controlled Extension of the number of monitored sulphonamides: at least Minimum Required (sulfachloropyrazine, sulfaguanidine, sulfamethizol, sulfamonomethoxine, sulfapyridine, sulfisoxazole), Recommended (sulfacetamide, sulfameter, sulfamoxol, sulphanilamide), Optional (sulfabenzamide, sulfasalazine, sulfatroxazol, sulfisomidine) 	
	Species/matrices	Compliant, except no control for Milk.	
	Methods	Choice of methods: compliant	
	Limits	<ul style="list-style-type: none"> Many CCβ non-compliant: CCβ compliant only for Eggs, Honey and Poultry Kidney, Liver, and Muscle CCβ are too high ("=max CCα"), CCβ must be \leq MRL CCα should be provided as a numeric value ("Same as limit for screening method": Non-compliant). 	

		<ul style="list-style-type: none"> • CCα for Poultry Kidney, Liver, and Muscle should be revised because they are set < MRL (100 μg/kg) ("same as screening method"). 	
B1 Tetracyclines	- Limits	<ul style="list-style-type: none"> • CCβ are too high for liver, eggs and kidney "(max CCα)". CCβ screening must be \leq MRL • CCα is the same as CCβ which is not possible 	
	Species/ matrices	No control for milk	
B1 – other antibacterials	Analytes	Avilamycin, bacitracin, baquiloprim, colistin, florfenicol, polymyxin B, rifaximin, thiamphenicol, tiamulin, trimethoprim, valnemulin, "inhibitors"	No control for baquiloprim in Milk
	Limits	<ul style="list-style-type: none"> • All CCβ (screening) values ("=max CCα") are higher than the MRL: non-compliant • CCα for all analytes: "Substances are free choice" or "Same as limit for screening method": non-compliant 	
B2a	Analytes	Levamisole (all matrices), closantel and rafoxanide in milk	
	Limits	Adoption of CC β for screening methods	
B2b	Analytes	Consider testing diclazuril to meet the minimum requirement	
	Limits	Review CC α and CC β values. Include specific values for CC α and CC β otherwise no possible evaluation.	
B2d	Analytes	Include chlorpromazine and azaperol	
B2e	Analytes	Consider analytes for minimum requirements in relevant matrices	
	Limits	Compliance cannot be evaluate. Consider the limits of CC α / CC β .	
	Matrices		
B2f antimicrobials	- Analytes		The metabolites of carbadox (QCA & DCBX) and olaquinox (MQCA) are not mentioned explicitly
	Methods		It is not possible to strictly evaluate the relevance of the confirmatory methods claimed thanks to the list proposed within one single cell. Probably due to possible different strategies from one Land to the other
B2f Corticosteroids	-	-	
B3c	Analytes		
	Methods		
	Limits		

	Levels of action		
	Species /matrices		
	Other remarks		
B3d	-		
B3e	Limitis		CCalpha for confirmation and CCbeta for screening are strangely estimated at the very same value

2.6.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (ELISA, GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for diethylstilbestrol in feces 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for diethylstilbestrol in feces 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: faeces/liver/muscle Extra matrices: bile/drinking water (poultry) 	Urine could be added as a matrix
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For aquaculture : rainbow trout/carps/others For farmed game: rabbit(/other)	

2.6.2 Groups A2 – Thyrostats

A2	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenyl thiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS, LC-UV 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS, LC-UV 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: rabbits, horses, poultry, farmed game Matrices: urine Additional: plasma, tissue juice 	
Other remarks			

2.6.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant: bovines (ethinylestradiol), pigs, sheep/goats (ethinylestradiol, estradiol, testosterone), horses, poultry, aquaculture, farmed game (optional and for rabbits missing methyltestosterone) (ethinylestradiol, estradiol, testosterone, gestagens). 	Add the missing the different analytes for the different species.
Methods	Screening	<ul style="list-style-type: none"> ELISA, GC-MS, LC-HRMS, LC-MS/MS. 	Make clear which methods are used for which analyte-matrix combination. Now for all combinations all the methods are mentioned.
	Confirmatory	<ul style="list-style-type: none"> GC-MS, LC-HRMS, LC-MS/MS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant and very clear mentioned in concentration (RC), except for testosterone. 	Specify for testosterone the subgroups of animals.
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Compliant except for bovine and pigs sometimes no LoA was noted. Mostly noted as 'presence' 	Note all LoA in concentrations.
Species/matrices		<ul style="list-style-type: none"> Compliant. Tested matrices: bile, drinking water, fat, liver, muscle, plasma, urine 	

Other remarks		
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2.6.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included for bovines/pigs/sheep/goats/horses 	Include zearalanone for farmed game/poultry also
Methods	Screening	Compliant (ELISA, GC-MS, LC-HRMS, LC-MS/MS)	
	Confirmatory	Compliant (GC-MS, LC-HRMS, LC-MS/MS)	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant	
Levels of action		‘Presence’.	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/faeces/liver/muscle Extra matrices: bile/drinking water 	
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For farmed game: rabbit(/other)	

2.6.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 20 analytes in the most relevant species (bovine, porcine and poultry) are monitored. Minimum requirements and almost all recommendations are covered. 	•
Methods	Screening	LC-HRMS, LC-MS/MS, ELISA	
	Confirmatory	LC-HRMS, LC-MS/MS	
Limits	CC β (screening)	No values are given	
	CC α (confirmatory)	Due to unclear assignment evaluation is not possible	

Levels of action	MRL, presence	
Species/matrices	Relevant analytes/species/matrices fulfilled	
Other remarks	<ul style="list-style-type: none"> Evaluation of the results is not possible no improvements compared to 2016, 2017 	

2.6.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	GC-MS, LC-HRMS, LC-MS/MS (compliant)	
	Confirmatory	GC-MS, LC-HRMS, LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.6.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 10 Nitrofurans (including nifursol and DSH): compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: CHARM II, ELISA, GC-HRMS, GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: HPLC-DAD, IA, LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: GC-HRMS, GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS compliant Nitrofurans: LC-MS/MS: compliant Dapsone: LC-MS/MS : compliant 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCβ (screening) at 0.3 $\mu\text{g}/\text{kg}$ for CAP is suspicious. CCβ must be < MRPL/RPA CCβ (screening) at 1.0 $\mu\text{g}/\text{kg}$ for Nitrofurans is suspicious. CCβ must be < MRPL/RPA CCβ (screening) at 5.8 $\mu\text{g}/\text{kg}$ for Dapsone in Honey is suspicious. CCβ must be < Recom Limit/MRPL
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCα (confirmation) at 0.3 $\mu\text{g}/\text{kg}$ for CAP is suspicious. CCα must be < MRPL/RPA CCα (confirmation) at 1.0 $\mu\text{g}/\text{kg}$ for CAP is suspicious. CCα must be < MRPL/RPA CCβ (screening) at 10 $\mu\text{g}/\text{kg}$ for Dapsone in milk is suspicious. CCβ must be < Recom Limit/MRPL
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: compliant 	<ul style="list-style-type: none"> Honey and milk are missing Dapsone is analysed only in milk
Other remarks		/	/

2.6.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		8 analytes: compliant	/
Methods	Screening	CHARM II, ELISA, LC-HRMS, LC-MSMS: compliant	/
	Confirmatory	LC-HRMS or LC-MS/MS: compliant	/
Limits	CC β (screening)	Non-compliant	CC β are too high ("=max CC α "), CC β must be \leq MRL

	CC α (confirmatory)	Non-compliant	CC α is the same as CC β ; it is not logic
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle, kidney, liver • Aquaculture products: muscle • Honey, Milk 	No control in Eggs: non-compliant (for <i>neomycin</i>)
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		<p>Beta-lactams: In Germany the substances under monitoring are free of choice and some of the following relevant 16 beta-lactam substances are of concern depending on the Species/ matrices to control:</p> <p>8 penicillins : Amoxicillin, Ampicillin, Benzylpenicillin (Penicillin G), Cloxacillin, Dicloxacillin, Nafcillin, Oxacillin, Penicillin V (Phenoxymethylpenicillin),</p> <p>8 cephalosporins: Cefalexin (Cefalexin Anhydrate), Cefalonium, Cefapirin, Cefazolin, Cefoperazon, Cefquinom, Ceftiofur, Cefacetrile</p>	<ul style="list-style-type: none"> • Amoxycillin and Nafcillin are missing in Eggs • Nafcillin is missing in Aquaculture • Cefapirin is missing in Meat and in Milk even though the Desacetylcefapirin is mentioned at least in Bovine meat and in milk. • Cephalosprins control in P,OC,E,FG,R,Py meat is reduced to Cefquinome and to Ceftiofur. It has to be extended to at least all the recommended Bovine MRL- cephalosporins (i.e. cefalexine and cefapirin) due to possible cascade use. • Remark : It is not detailed whether <i>desfuroylceftiofur</i> is also controlled together with the <i>ceftiofur</i> in all meat tissues and in milk
Methods	Screening	Screening with various specific (LC-DAD; LC-HRMS; LC-MS/MS) and /or semi-specific methods (CHARM II; ELISA)	It is not possible to strictly evaluate the relevance of the screening methods claimed thanks to the long list proposed within one single cell. Probably due to possible different strategies from one Land to the other.
	Confirmatory	LC-DAD; LC-HRMS; LC-MS/MS	It is not possible to strictly evaluate the relevance of the confirmatory methods claimed thanks to the list proposed within one single cell. Probably due to possible different strategies from one Land to the other.
Limits	CC β (screening)	Non-compliant	<ul style="list-style-type: none"> • CCbeta screening are all calculated above the CCα of confirmation. Seemingly this is the CCbeta of confirmation of the confirmatory method used for screening that is taken into consideration • A realistic CCbeta of screening has to be estimated for the strategy of screening

	CC α (confirmatory)	Compliant	/
Levels of action		MRL or presence	/
Species/matrices		11 species/ matrices are of concern for screening with various specific methods (LC-DAD; LC-HRMS; LC-MS/MS; LC-FLU; CHARM II; ELISA) and are confirmed with various specific methods as well (LC-DAD; LC-HRMS; LC-MS/MS)	/
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Compliant	<ul style="list-style-type: none"> No control for the 2 metabolites 3-O-acetyltylosin and neospiramycin Only 3 or 4 macrolides are monitored in milk, eggs, aquaculture and honey
Methods	Screening	CHARMII for all matrices	/
	Confirmatory	LC/HRMS or LC-MS/MS	/
Limits	CC β (screening)	/	The reported CC β correspond to CC β of confirmation and are not relevant
	CC α (confirmatory)	/	<ul style="list-style-type: none"> CCα expressed as “substances are free choice” or “same as limit for screening method” The CCα should be announced as a numeric value
Levels of action		MRL or “presence” when not authorised	/
Species/matrices		Compliant	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendation
Analytes		Quinolones: the 8 recommended substances: compliant	/
Methods	Screening	CHARM II, ELISA, LC-DAD, LC-FLU, LC-HRMS, LC-MS/MS: compliant	/
	Confirmatory	LC-DAD, LC-FLU, LC-HRMS, LC-MS/MS: compliant	/
Limits	CC β (screening)	Non-compliant	CC β are too high (“=max CC α ”), CC β must be \leq MRL

	CC α (confirmatory)	Non-compliant	CC α is the same as CC β ; it is not logic
Levels of action		Presence or MRL: compliant	/
Species/matrices		<ul style="list-style-type: none"> Bovine, Farmed game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle, liver and kidney Aquaculture, Eggs 	Except Milk and Honey
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		11 analytes out of 25 recommended	No control for sulfabenzamide, sulfacetamide, sulfachloropyrazine, sulfaguanidine, sulfameter, sulfamethizol, sulfamonomethoxine, sulfamoxol, sulphaniamide, sulfapyridine, sulfasalazine, sulfatroxazol, sulfisomidine, sulfisoxazole
Methods	Screening	Compliant: CHARM II, DC, LC-DAD, LC-FLU, LC-HRMS, LC-MS/MS	/
	Confirmatory	Compliant: LC-DAD, LC-FLU, LC-HRMS, LC-MS/MS	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Non-compliant CCβ are compliant only for Eggs, Honey and Poultry Kidney, Liver, and Muscle 	CC β are too high ("=max CC α "), CC β must be \leq MRL
	CC α (confirmatory)	Non-compliant	<ul style="list-style-type: none"> Non-compliant: CCα is the same value as CCβ (written "<i>Same as limit for screening method</i>") for all species/matrices and all sulfonamides. No CCα to be determined for a screening method. Non-compliant: CCα for Poultry Kidney, Liver, and Muscle set at 50 $\mu\text{g}/\text{kg}$ ("same as screening method"), < MRL (100 $\mu\text{g}/\text{kg}$).
Levels of action		Compliant: Presence or MRL	Non-compliant: it is set "Presence" for Poultry Kidney, Liver, and Muscle. There is an MRL for Poultry Muscle
Species/matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Horses, Poultry, Rabbits: muscle, liver, kidney Pigs, Sheep/goat: muscle, liver, kidney an injection site Aquaculture products: muscle Eggs, Honey 	No control for Milk
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances: Chlortetracycline, Doxycycline, Oxytetracycline, and Tetracycline : compliant	No including the 3 kind of 4-epimers
Methods	Screening	CHARM II, LC-DAD, LC-HRMS, LC-MS/MS LC-MSMS: compliant	/
	Confirmatory	LC-DAD, LC-HRMS, LC-MS/MS compliant	/
Limits	CC β (screening)	Non-compliant	CCb are too high ("=max CC α ") for liver, eggs and kidney. CCb must be \leq MRL
	CC α (confirmatory)	Compliant	CCa is the same as CCb it is not possible
Levels of action		Compliant : MRL or Risk assessment	/
Species/matrices		Non- compliant	No control for milk
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		Other B1: avilamycin, bacitracin, baquiloprim, colistin, florfenicol, polymyxin B, rifaximin, thiamphenicol, tiamulin, trimethoprim, valnemulin, "inhibitors"	No control for <i>baquiloprim</i> in Milk
Methods	Screening	<ul style="list-style-type: none"> LC-HRMS, GC-MS, GC-MS/MS, LC-MS/MS: compliant DPT method for "inhibitors" in kidneys: compliant 	/
	Confirmatory	GC-MS, GC-MS/MS, LC-DAD, LC-FLU, LC-HRMS, LC-MS/MS: compliant	/
Limits	CC β (screening)		All CC β values are higher than the MRL ("=max CC α "): non-compliant
	CC α (confirmatory)		CC α for all analytes: "Substances are free choice" or "Same as limit for screening method": non-compliant
Levels of action		MRL or presence	/
Species/matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Horses, Poultry, Rabbits: muscle, liver, kidney Pigs, Sheep/goat: muscle, liver, kidney and injection site Aquaculture products: muscle Eggs, Honey, Milk 	/
Other remarks		/	/

2.6.9 Group B2a – Anthelmintics

B2a		Evaluation	Recommendations
Analytes		<p>6 avermectines, 13 benzimidazoles and other recommended compounds; minimum requirements are not fulfilled</p> <p>Aquaculture: 6 avermectines, praziquantel Bovine: 5 avermectines, 7 benzimidazoles, carbendazim, closantel, nitroxinil, rafoxanide Eggs: no B2a compounds Farmed game: 5 avermectines, 5 benzimidazoles, clorsulon, carbendazim, Horse: 4 avermectines, 6 benzimidazoles, clorsulon, carbendazim, levamisole Milk: 5 avermectines, no benzimidazoles, no other Pig: 4 avermectines, 6 benzimidazoles, carbendazim, Poultry: 5 avermectines, 5 benzimidazoles, levamisole Rabbit: 5 avermectines, 6 benzimidazoles, carbendazim Sheep/goat: 5 avermectines, 6 benzimidazoles, closantel, carbendazim, levamisole, nitroxinil, rafoxanide</p>	<ul style="list-style-type: none"> Ivermectin is not included Milk is not tested for closantel, rafoxanide, benzimidazoles and other analytes Levamisole is not covered
Methods	Screening	LC-FLU, LC-DAD, LC-HRMS, LC-MS/MS	
	Confirmatory	LC-FLU, LC-DAD, LC-HRMS, LC-MS/MS	
Limits	CC β (screening)	Not compliant, CC β > MRL e.g. eprinomectin in aquaculture, moxidectin in milk, mebendazole in sheep/got muscle	
	CC α (confirmatory)	compliant	
Levels of action		MRL or presence	
Species/matrices		Not all relevant analyte/matrix combinations are analysed	
Other remarks			

2.6.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 15 anticoccidials: 6 chemical coccidiostats, 6 ionophores and 2 nitroimidazoles All minimum requirements included Diclazuril as minimum requirement not included in bovines, pigs and sheep/goats 	<ul style="list-style-type: none"> Include diclazuril, which is a minimum requirement in bovine, porcine and ovine / caprine Include toltrazuril in egg due to the positive findings in recent years

		<ul style="list-style-type: none"> Toltrazuril not included in Egg 	
Methods	Screening	LC-HRMS, LC-MS/MS	
	Confirmatory	LC-HRMS, LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> Only CCα max values are given for CCβ, no specific values Evaluation not possible 	<ul style="list-style-type: none"> Give specific values
	CC α (confirmatory)	<ul style="list-style-type: none"> No values given only: "same as limit for screening method" Evaluation not possible 	<ul style="list-style-type: none"> Give specific values
Levels of action		MRL, presence	
Species/matrices		Relevant analytes / species / matrices are covered	
Other remarks		<ul style="list-style-type: none"> Evaluation of the results not possible no improvements compared to 2017 	CC β and CC α values must be given for the evaluation

2.6.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Almost compliant minimum required: chlorpromazine is missing Almost compliant recommended: azaperol is missing Additional: ketamine 	Include chlorpromazine and azaperol
Methods	Screening	ELISA, GC-MS/MS, LC-HRMS, LC-MS/MS	
	Confirmatory	GC-MS/MS, LC-HRMS, LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant	
Levels of action		<ul style="list-style-type: none"> 50 μg/kg (RC) Carazolol in bovines: 5 μg/kg in muscle, 15 μg/kg in liver and kidney Carazolol in pigs: 5 μg/kg in muscle, 25 μg/kg in liver and kidney Azaperone in pigs: 100 μg/kg in muscle, liver and kidney 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney, liver, muscle 	
Other remarks			

2.6.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<p>16 analytes (milk: 3), minimum requirements are not fulfilled, following analytes are missing:</p> <ul style="list-style-type: none"> • Carprofen: milk, bovine/horse/pig/sheep/goat (muscle, plasma) • FLU-OH is missing for all matrices/species • Diclofenac: bovine/horse/pig/sheep/goat (muscle, plasma), milk • Flunixin: bovine/horse/pig/sheep/goat (muscle, plasma), milk • Ibuprofen: plasma, milk • Naproxen: plasma, milk • Phenylbutazone: milk, poultry • Tolfenamic acid: bovine (muscle, plasma), horse (plasma), pig (muscle, plasma), sheep/goat (plasma) • Some recommended analytes are covered • Isopyrine is covered as an optional analyte 	
Methods	Screening	ELISA, GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS (compliant)	
	Confirmatory	ELISA, GC-MS, GC-MS/MS, LC-HRMS, LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliance cannot be evaluated: either CC β same as RC, max. CC α or national level	
	CC α (confirmatory)	Compliance cannot be evaluated: either CC α same as RC, max. CC α or national level	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – liver, kidney, muscle and plasma; milk)	
Other remarks		<ul style="list-style-type: none"> • A clear assignment of CCα and CCβ to the respective compounds would prevent ambiguities • CCα and CCβ are the same as RC, max. CCα or national level • CCα should be above RC/MRL • CCβ should be lower than RC/MRL 	

2.6.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)	Compliant Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> Carbadox: compliant Olaquinox : compliant 	The metabolites of carbadox (QCA & DCBX) and olaquinox (MQCA) are not mentioned explicitly
Methods	Screening	LC-HRMS, LC-MS/MS: compliant	LC-DAD, LC-FLU: non-compliant
	Confirmatory	LC-HRMS, LC-MS/MS: compliant	<ul style="list-style-type: none"> LC-DAD, LC-FLU: non-compliant It is not possible to strictly evaluate the relevance of the confirmatory methods claimed thanks to the list proposed within one single cell. Probably due to possible different strategies from one Land to the other.
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/matrices		Pigs only and feed: compliant	/
Other remarks		/	/

2.6.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses. Non-compliant: poultry, aquaculture, farmed game/rabbit (optional). Additional: betamethasone, methylprednisolone, prednisolone. 	
Methods	Screening	<ul style="list-style-type: none"> ELISA, LC-HRMS, LC-MS/MS. 	
	Confirmatory	<ul style="list-style-type: none"> LC-HRMS, LC-MS/MS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Non-compliant. When a MRL is noted, CCβ is always above the MRL. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Same as CCβ. 	
Levels of action		<ul style="list-style-type: none"> 'MRL concentration' or 'Presence'. 	Note MRL and LoA in clear concentration for all methods.
Species/matrices		<ul style="list-style-type: none"> Included species: bovines, pigs, sheep/goats, horses. Matrices compliant. 	

	<ul style="list-style-type: none"> Included matrices: kidney, liver, muscle. 	
Other remarks		

2.6.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg and Cu	
Methods	Screening	ICPMS, ICPOES, AAS	
	Confirmatory	ICPMS, ICPOES, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	
Species/matrices		All relevant species/matrices included	
Other remarks			

2.6.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: α-zearalenol and β-zearalenol 	
Methods	Screening	<ul style="list-style-type: none"> ELISA, GC-HRMS, LC-FLU, LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> GC-HRMS, LC-FLU, LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> LOQ aflatoxin M1 > MRL 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Not clear 	
Levels of action		<ul style="list-style-type: none"> Aflatoxin M1: 0.05 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Matrices: kidney, muscle, liver, bile, urine, milk 	
Other remarks			

2.6.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Brilliant Green Leuco: compliant • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	CCbeta estimated at the same value as for CCalpha
	CC α (confirmatory)	compliant	CCalpha estimated at the same value as for CCbeta
Levels of action		compliant	/
Species/matrices		Aquaculture : compliant	/
Other remarks			/

2.7 Member State: Denmark (DK)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	CC α / CC β for dienestrol/diethylstilbestrol in aquaculture should be lowered to meet regulatory limits	
A2	Analytes	Include phenylthiouracil, mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	Very good programme
A5	Analytes	Review CC β values for metaproterenol (orciprenalin) in bovines, horses, pigs, poultry and sheep/goats liver Review CC α values for metaproterenol (orciprenalin) and salbutamol in bovines, horses, pigs, poultry and sheep/goats liver	
	Limits		
A6 – nitroimidazoles	Analytes		
A6 - other	Limits	<ul style="list-style-type: none"> For CAP CCβ screening and CCα confirmation cannot be the exact same value For nitrofuranes CCβ must be < MRPL/RPA 	
B1 - Aminoglycosides	Analytes	8 analytes: compliant	
	Species/matrices	Only 4 Species/ matrices controlled (Bovines, Honey, Milk, Pigs): non-compliant	Control in Milk, only for dihydrostreptomycin, spectinomycin and streptomycin: non-compliant
	Limits	compliant	CC α = CC β for analytes controlled in Milk, not acceptable. Moreover, CC α must be > MRL
B1 – beta-lactams	Analytes	<ul style="list-style-type: none"> Nafcillin is missing in milk and in rabbit Control for Cephalosporins with MRL set in meat should be extended in rabbit meat (cefapirin, cefalexin) No control of the 8 penicillins in Eggs 	Remark : It is not detailed whether desfuoylceftiofur is also controlled together with the ceftiofur in meat tissues like B,OC,E,P,R,Py,FG
B1 – macrolides and lincosamides	Analytes	compliant	
	Species/matrices	compliant	

	Limits	Pay attention to the CC α reported in milk	
B1 – quinolones	Analytes		No control for danofloxacin and difloxacin for Rabbits
	Limits	CC α too low for flumequine, marbofloxacin in Milk (CC α > MRL)	
B1 – sulfonamides	Analytes	<ul style="list-style-type: none"> Compliant : 16 analytes controlled Extension of the number of monitored sulphonamides: at least to Minimum required (sulfachloropyrazine, sulfaguanidine), Recommended (sulfacetamide, sulfameter, sulphanilamide), Optional (sulfabenzamide, sulfasalazine, sulfatroxazol, sulfisomidine) 	
	Species/ matrices	compliant	No control for eggs
	Limits	Pay attention to the CC α reported: CC α must not be reported as “Same as limit for screening method” (for some sulfonamides in Honey, Muscle and Milk reported); because no CC α determined for screening methods and CC β should be < MRL in Milk/Muscle while CC α must be > MRL.	
B1 - Tetracyclines		Compliant for all aspects	
B1 – other antibacterials	Analytes	Bacitracin, florfenicol, florfenicol amine, ormethoprim, thiamphenicol, tiamulin, trimethoprim, valnemulin, virginiamycin M1 and S1	<ul style="list-style-type: none"> No control for tiamulin in Pigs, Poultry, Rabbits No control for valnemulin in Rabbits
	Species/ matrices		No control for Eggs
	Limits		<ul style="list-style-type: none"> CCα = CCβ for bacitracin: non-compliant (MRL Rabbit: 150 μg/kg, MRL Milk: 100 μg/kg) CCα = CCβ = LMR for virginiamycin S1 and M1 (MRL Poultry: 10 μg/kg): non-compliant
B2a	Analytes	Triclabendazole, nitroxinil, rafoxanide, closantel and avermectines in milk should be included	
	Limits		
B2b	Analytes	Consider testing of more recommended analytes especially toltrazuril, decoquinatate and semduramycin in the main matrices (egg and poultry) due to the positive findings in recent years	
	Limits	Review the levels of action for the different species/matrices. Review the MRL and ML values in the different matrices	
B2d	Analytes	Include haloperidol and xylazine	
B2e	Analytes	Consider IP for the analysis of milk	

	Limits		
	Matrices	Only plasma was analysed. This matrix is unsuitable for confirmatory analysis	Same as last years
B2f antimicrobials	- Analytes		Controlling specifically in liver tissue, it should be mentioned which metabolites have to be monitored QCA & DCBX for carbadox and MQCA for olaquinox
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As and Ni is included
	Methods		
	Limits		
	Levels of action		Note: There is no ML for Cd in milk and honey (1881/2006 and amendments), assume the stated MLs are national MLs
	Species /matrices		
B3d		-	
B3e		Compliant in all aspects	
	Other remarks		

2.7.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS(/ELISA for plasma)) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for dienestrol/diethylstilbestrol in aquaculture (muscle) 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for dienestrol/diethylstilbestrol in aquaculture (muscle) 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/muscle 	For poultry and farmed game another matrix is to prefer

	<ul style="list-style-type: none"> • Extra matrix: plasma 	
Other remarks	Subspecies tested: For poultry subspecies are specified For aquaculture : finfish/salmon For farmed game: rabbit/wild boar	

2.7.2 Groups A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant minimum required 	Include phenylthiouracil, mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • 'Presence' 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horses • Matrices: urine 	
Other remarks			

2.7.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant: bovines • Non-compliant: pigs (estradiol), sheep/goats (boldenone, testosterone, gestagens), horses, aquaculture, poultry (boldenone, estradiol, testosterone, gestagens) • Farmed game (optional) (boldenone, estradiol, testosterone). • Additional: Androsten-4-Chloro-4-Ene-3,17-Dione, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone) 	Add the missing analytes.

		dihydromethyl), Delmadinone acetate, Flugestone-17-Acetate, Norethandrolon.	
Methods	Screening	• GC-MS, LC-MSMS.	
	Confirmatory	• GC-MS, LC-MSMS.	
Limits	CC β (screening)	• Almost all compliant, non-compliant: bovine urine - 17-Beta-Trenbolone, aquaculture muscle – ethinylestradiol.	
	CC α (confirmatory)	• Almost all compliant, non-compliant: same as CC β .	
Levels of action		• Compliant when CC β and CC α are compliant. LoA for testosterone is stated clearly.	
Species/matrices		• Compliant. • Tested matrices: fat, muscle, plasma, urine.	
Other remarks			

2.7.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant for both minimal required and optional species • Zearalanone included 	
Methods	Screening	• Compliant (LC-MS/MS)	
	Confirmatory	• Compliant (LC-MS/MS)	
Limits	CC β (screening)	• Compliant	
	CC α (confirmatory)	• Compliant	
Levels of action		• 'Presence'.	State regulatory value
Species/matrices		<ul style="list-style-type: none"> • Compliant for both minimal required and optional species/matrices • Replacement matrices used • Matrices: urine/muscle 	
Other remarks		Subspecies tested: For pigs/poultry subspecies are specified For aquaculture : finfish/salmon For farmed game: rabbit/wild boar	

2.7.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 21 analytes in all monitored species Minimum requirements and recommendations are covered 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant for all except Metaproterenol (Orciprenaline) in liver CC β = 10 or 20 μ g/kg and RC = 5 μ g/kg	Review CC β for metaproterenol in liver
	CC α (confirmatory)	Compliant for all except metaproterenol (orciprenaline) and salbutamol in bovines, horses, pigs, poultry and sheep/goats liver. CC α =2.5 μ g/kg and RC =5 μ g/kg. CC α should be \leq RC	Review CC α values as being < RC for metaproterenol (orciprenaline) and salbutamol in bovines, horses, pigs, poultry and sheep/goats liver
Levels of action		Presence	
Species/matrices		Completely fulfilled, consider adding lung in addition to or instead of liver and hair for screening	
Other remarks		No changes in comparison to 2016, 2017 and 2018	

2.7.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.7.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans metabolites: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant (same as screening) Nitrofurans: LC-MS/MS compliant (same as screening) Dapsone: LC-MS/MS compliant (same as screening) 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCβ and CCα could not be the same CCβ at 1.0 $\mu\text{g}/\text{kg}$ for Nitrofurans for AOZ is suspicious. CCβ must be < MRPL/RPA
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant (same as limit for screening method) Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCβ and CCα could not be the same
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: compliant 	<ul style="list-style-type: none"> No Sheep/goats No Horses, farmed games, milk No eggs
Other remarks		/	/

2.7.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 8 analytes: compliant 	Control in Milk, only for dihydrostreptomycin, spectinomycin and streptomycin: non-compliant
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/

Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	CC α = CC β for analytes controlled in Milk, not acceptable. Moreover, CC α must be > MRL
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Pigs: kidney • Honey, Milk (cows, goats) 	Only 4 Species/ matrices: non-compliant
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		Betalactams: 8 penicillins and 5 cephalosporins in Aq,B,E,OC,FR,Py meat 7 penicillins and 8 cephalosporins in milk 7 penicillins and 3 cephalosporins in rabbit meat	<ul style="list-style-type: none"> • Nafcillin is missing in milk and in rabbit • Control for Cephalosporins with MRL set in meat should be extended in rabbit meat (cefapirin, cefalexin) • No control of the 8 penicillins in Eggs • Remark : It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in meat tissues like B,OC,E,P,R,Py,FG
Methods	Screening	A specific LC-MS/MS method is implemented for all concerned species/ matrices for screening and for confirmation	/
	Confirmatory	A specific LC-MS/MS method is implemented for all concerned species/ matrices for screening and for confirmation	/
Limits	CC β (screening)	The CC β screening are all properly claimed in regard to the MRLs	/
	CC α (confirmatory)	The CC α confirmation are all properly claimed in regard to the MRLs	/
Levels of action		MRL or presence	/
Species/ matrices		9 out of 11 species/ matrices are of concern – compliant	No control for Honey and for Eggs
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Compliant with all macrolides and lincosamides	/
Methods	Screening	LC-MS/MS	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant except for a few analytes in milk	CC α for erythromycin, lincomycin, pirlimycin, and spiramycin in milk not suitable : “same as limit for screening method” and not above the MRL level
Levels of action		MRL or “presence” if non authorised compounds	/
Species/ matrices		Compliant except eggs	No control in eggs
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		Quinolones: the 8 recommended substances and nalixidic acid, norfloxacin, ofloxacin: compliant	No control for danofloxacin, difloxacinfor Rabbits
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	CC β : compliant	/
	CC α (confirmatory)	Compliant	CC α too low for flumequine, marbofloxacin in Milk (CC α > MRL)
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovine, Farmed Game, Pigs, Poultry, Sheep/goats: muscle • Honey, Milk (cow) 	Except Eggs
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
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Analytes		Compliant : 16 analytes	No control for <i>sulfabenzamide, sulfacetamide, sulfachloropyrazine, sulfaguanidine, sulfameter, sulphaniamide, sulfasalazine, sulfatroxazol, sulfisomidine</i>
Methods	Screening	Compliant: LC-MS/MS	/
	Confirmatory	Compliant: HPLC-fluo, LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	Non-compliant: CC α for some sulphonamides in Honey, Muscle (3 sulfonamides) and Milk reported as "Same as limit for screening method" (CC α in milk reported only for sulfadoxine and sulfadiazine); impossible because no CC α determined for screening methods and CC β should be < MRL in Milk/Muscle while CC α must be > MRL.
Levels of action		Compliant: presence or MRL	
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Honey, Milk (cow) 	No control for Eggs
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances and the 3 kind of 4-epimers : compliant	/
Methods	Screening	LC-MSMS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		Other B1: <i>bacitracin, florfenicol, florfenicol amine, ormethoprim, thiamphenicol, tiamulin, trimethoprim, valnemulin, virginiamycin M1 and S1</i>	<ul style="list-style-type: none"> No control for <i>tiamulin</i> in Pigs, Poultry, Rabbits No control for <i>valnemulin</i> in Rabbits
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> CCα = CCβ for <i>bacitracin</i>: non-compliant (MRL Rabbit: 150 μg/kg, MRL Milk: 100 μg/kg) CCα = CCβ for <i>virginiamycin S1</i> and <i>M1</i>: non-compliant
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Honey, Milk 	No control for Eggs
Other remarks		/	/

2.7.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> 6 avermectines, 8 benzimidazoles and piperazine, triclabendazole, rafoxanide, closantel, nitroxinil are not included; 8 out of 12 minimum requirements fulfilled <p>Aquaculture: 4 avermectines, 2 benzimidazoles Bovine: 5 avermectines, 6 benzimidazoles, levamisole, mercaptobenzimidazole Eggs: B2a compounds not covered Farmed game: avermectines not covered, 8 benzimidazoles Horse: avermectines not covered, 7 benzimidazoles, mercaptobenzimidazole Milk: avermectines not covered, 6 benzimidazoles Pig: 3 avermectines, 5 benzimidazoles, levamisole, piperazine, mercaptobenzimidazole</p>	

		Poultry: avermectines not covered, 5 benzimidazoles Rabbit: avermectines not covered, 6 benzimidazoles Sheep/goat: 3 avermectines, benzimidazoles are not covered mercaptobenzimidazole	
Methods	Screening	Compliant, LC-DAD for benzimidazoles and others, LC-FLU for avermectines	
	Confirmatory	Same as screening, no LC-MS/MS methods in use	
Limits	CC β (screening)	Compliant, meet the MRLs	
	CC α (confirmatory)	Compliant, meet the MRLs	
Levels of action		Compliant: presence or MRL	
Species/matrices		Most but not all relevant analyte/matrix combinations are analysed. Avermectins are not analysed in milk	
Other remarks			

2.7.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 14 anticoccidials: 4 chemical coccidiostats, 5 ionophores and 5 nitroimidazoles All minimum requirements included Except halofuginone and ipronidazole no recommended analytes covered 	Include more recommended analytes especially toltrazuril, decoquinate and semduramycin in the main matrices (egg and poultry) due to the positive findings in recent years
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Not compliant for several analytes: <ul style="list-style-type: none"> Lasalocid in muscle bovine: CCα = same as screening =2.4 $\mu\text{g}/\text{kg}$ and the MRL = 10 $\mu\text{g}/\text{kg}$. CCα should be > MRL (or ML) Lasalocid in poultry muscle: CCα = 24 $\mu\text{g}/\text{kg}$ and the MRL = 60 $\mu\text{g}/\text{kg}$. CCα should be > MRL (or ML) Nicarbazin in bovine muscle: CCα =2.1 $\mu\text{g}/\text{kg}$ and the ML= 50$\mu\text{g}/\text{kg}$. . CCα should be > MRL (or ML) 	<ul style="list-style-type: none"> Review the levels of action as depending on the MRL or ML CCα is should be > MRL or ML
Levels of action		Presence, MRL, ML Some MRL or ML values are false. For example:	Review the levels of action for the different species/matrices

	<ul style="list-style-type: none"> Lasalocid in bovine muscle MRL = 10 µg/kg and not a ML of 5 µg/kg. The ML of 5 µg/kg is only applicable for all species other than poultry and bovine. Lasalocid in poultry: MRL 60 µg/kg and not 20 µg/kg Nicarbazine in muscle bovine: ML =50 mg/kg and not 25 µg/kg 	
Species/matrices	Relevant analytes/species/matrices are covered	
Other remarks		

2.7.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Almost compliant minimum required: haloperidol is missing Almost compliant recommended: xylazine is missing 	Include haloperidol and xylazine
Methods	Screening	<ul style="list-style-type: none"> HPLC-DAD 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD, LC-MS/MS for chlorpromazine 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.7.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 21 analytes (milk: 21): recommended analyte flufenamic acid is analysed as well Minimum requirements almost fulfilled for milk except IP IP not analysed in any matrix/species 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	

Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence / MRL	
Species/matrices		Only plasma (bovine, farmed game, horse, pig, poultry, sheep/goat) and milk are covered. Tissue, a relevant matrix for NSAIDs with MRL, is not analysed. Plasma is not a suitable matrix for confirmation (same as last years).	
Other remarks		No further remarks	

2.7.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant (same as screening)	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Pigs liver only : compliant	Controlling specifically in liver tissue, it should be mentioned which metabolites have to be monitored QCA, DCBX for carbadox and MQCA for olaquinox.
Other remarks			

2.7.14 Group B2f – Corticosteroids

B2f	Evaluation	Recommendation
Analytes	<ul style="list-style-type: none"> • Compliant: bovines, pigs, horses. 	

		<ul style="list-style-type: none"> Not included: sheep/goats, poultry, aquaculture, farmed game/rabbit (optional). Additional: Beclomethasone dipropionate, Betamethasone, Flumethasone, Fluocinolone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone. 	
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for urine, almost compliant for liver. For liver just above the noted MRL concentration. 	
Levels of action		<ul style="list-style-type: none"> 'Presence' or 'MRL with concentration'. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> Included: Bovines, pigs, horses. Included matrices: liver, urine. 	Also include at least sheep goats.
Other remarks			

2.7.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg, As and Ni	Good to see that As and Ni is included Cu should be included (396/2005 and amendments)
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	Note: There is no ML for Cd in milk and honey (1881/2006 and amendments), assume the stated MLs are national MLs
Species/matrices		Relevant species/matrices included	
Other remarks			

2.7.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLD (aflatoxin M1), ELISA (ochratoxin), LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD, LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Aflatoxin M1: 0.05 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture, farmed game, rabbit Matrices: milk, kidney, muscle, urine 	
Other remarks			

2.7.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant (same as screening)	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.8 Member State: Estonia (EE)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1		-	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/ matrices	<ul style="list-style-type: none"> • For CAP: missing control for horses, farmed game, and rabbit • For Nitrofuranes: missing control for horses, farmed game, milk and rabbit • For Dapsone: missing control for Aquaculture, Horses, farmed game, milk, rabbit and sheep/goat 	/
B1 – Aminoglycosides	Analytes	Compliant	
	Species/ matrices		No control for Aquaculture products, Horses, Milk, Rabbits: non-compliant
	Limits		CCα for neomycin and spectinomycin in muscle higher than 1,5 MRL which is quite high
B1 Betalactams	Analytes	<ul style="list-style-type: none"> • Overall compliant but <i>Cephapirin</i> shall also be included in Porcine and Sheep/goat meat control due to possible Cascade use • <i>Cefacetriple and Ceftiofur/desfuroylceftiofur</i> are missing in Milk 	/
	Species/ matrices	Missing Species/ matrices are Rabbit, Farmed Game, Horses	
B1 – Macrolides and lincosamides	Analytes	Compliant	

	Species/ matrices	To include aquaculture, farmed games, horses, Rabbit and sheep/goat muscles	
	Limits	Compliant	Pay attention to the reported CC α for eggs, honey and milk
B1- Quinolones	Species/ matrices	No control for Farmed Game, Horses, Milk, Rabbit, Sheep/goats	/
B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> • 15 analytes are controlled in all the Species/ matrices: compliant • Extension of the number of monitored sulphonamides: at least to Minimum Required (sulfachloropyrazine), Recommended (sulfameter), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfatroxazole, sulfisomidine) 	No control for <i>sulfacetamide</i> , <i>sulfaguanidine</i> and <i>sulfamoxole</i> in Honey
	Species/ matrices	No control for Aquaculture products, Eggs, Farmed game, Horses, Rabbits	
B1 – Tetracyclines	Species/ matrices	Non-compliant	No Farmed games, Horses and Rabbits
B1 – Other antibacterials	Analytes	<i>Baquiloprim, colistin, tiamulin, trimethoprim, valnemulin</i>	
	Species/ matrices	No control for Aquaculture products, Farmed game, Horses and Rabbits	Control for colistin only in Bovines, Pigs and Poultry muscle
	Methods	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level	
B2a	Analytes	Eprinomectin should be included for aquaculture	
	Limits		
B2b	Analytes		
	Limits	Review the CC β values. CC β should be < MRL or ML for screening	
B2d		-	
B2f antimicrobials	- Analytes	There is no mention about metabolites QCA & DCBX for carbadox and MQCA for olaquinox	/

B2f corticosteroids	-	-	
B2e	Analytes		
	Limits		
	Matrices		
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As is included
	Methods		
	Limits		
	Levels of action		
	Species /matrices		
B3d	Analytes	Include ochratoxin and zearalenone	
B3e		Compliant in all aspects	/
	Other remarks		

2.8.1 Group A1 – Stilbenes

A1 - EE		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> ‘Presence’. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for minimal required species/matrices tested Not tested: horses Matrices: urine/muscle 	For poultry feces/liver is to prefer
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified	

2.8.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: urine and thyroid 	
Other remarks			

2.8.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines (boldenone^h, estradiol^h, testosterone^h), pigs. Remark: only a few samples are tested. sheep/goats (hair is tested for boldenone^h, estradiol^h, testosterone^h) Non-compliant: poultry (only testosterone is included), aquaculture (only estradiol, methyltestosterone and trenbolone are included) Horses, farmed game/rabbit (optional) (no tests included) Additional: 1-testosterone, Boldenone undecylenate, Estradiol benzoate, Estradiol dipropionate, Estradiol enanthate, Estradiol valerate, Estradiol-17-Alpha, Nortestosterone decanoate, Nortestosterone phenylpropionate, Testosterone acetate, Testosterone benzoate, Testosterone cypionate, Testosterone decanoate, (Testosteronecaprinate), Testosterone isocaproate, Testosterone phenylpropionate, Testosterone propionate, Testosterone-17-Alpha. 	Expand the number of analytes
Methods	Screening	<ul style="list-style-type: none"> GC-MS/MS, LC-MSMS. 	

	Confirmatory	<ul style="list-style-type: none"> GC-MS/MS, LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> Compliant, except there is no differentiation for testosterone. 	
Species/matrices		<ul style="list-style-type: none"> Samples of horses (minimum required) and farmed game/rabbit (optional) are missing. Used matrices: hair, kidney fat, muscle, serum, urine. 	Add tests for horses and farmed game/rabbits
Other remarks		^h means hair is tested instead of the recommend matrices and counted as compliant.	

2.8.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for species tested Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for species tested; replacement matrices used Not tested: horses/farmed game Matrices: urine/liver 	
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified	

2.8.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • 21 analytes in all monitored species • Minimum requirements and recommendations are covered 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant except for clenbuterol and clenproperol in bovines, pigs and sheep/goats liver. CC β above recommended concentrations.	CC β should be < RC
	CC α (confirmatory)	Compliant for all except clenbuterol in bovines liver. CC α = 0.591 μ g/kg and RC = 0.2 μ g/kg	CC α should be < RC
Levels of action		Presence	
Species/matrices		Fulfilled, consider lung in addition to or instead of liver	
Other remarks		It is recommendable to consider not only broiler but also turkey. No changes in comparison to 2016, 2017 and 2018	

2.8.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.8.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • Chloramphenicol: compliant • 4 Nitrofurans metabolites: compliant • Dapsone: compliant 	/

Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA and LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: GC-MS for muscle and milk LC-MS/MS for Urine, Eggs and Honey compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No Horses, farmed games, and rabbit No Horses, farmed games, milk and rabbit No Aquaculture, Horses, farmed games, milk, rabbit and sheep/goats
Other remarks		/	/

2.8.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		Compliant	/
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	CC α for neomycin and spectinomycin in muscle higher than 1.5 MRL which is quite high
Levels of action		CC α	/

Species/ matrices	<ul style="list-style-type: none"> • Bovines, Farmed game, Pigs, Poultry, Sheep/goats: muscle • Eggs, Honey 	No control for Aquaculture products, Horses, Milk, Rabbits: non-compliant
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		Beta-lactams: 8 penicillins and 7 cephalosporins – overall compliant but depending on Species/ matrices few absolute minimum required/recommended analytes are missing.	<ul style="list-style-type: none"> • <i>Cephapirin</i> is recommended in Porcine and Sheep/goat meat control due to possible Cascade use • <i>Cefacetrile</i> and <i>Ceftiofur/desfuroylceftiofur</i> are missing in Milk
Methods	Screening	screened with a specific screening method (LC-MS/MS)	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		MRL or Presence	/
Species/ matrices		6 species/ matrices (Aquaculture, Bovines, Pigs, Poultry, Milk and Sheep/Goats)	Missing Species/ matrices are Rabbit, Farmed Game, Horses
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Compliant	<ul style="list-style-type: none"> • It is not clear if 3-O-acetyl tylosin is included in milk and eggs • No control of tylvalosin in muscle
Methods	Screening	LC-MS/MS	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	Compliant for MRL substances	CC α are sometimes above the CC α for non-authorised substances in eggs, honey and milk
Levels of action		Compliant : MRL or “presence” if not authorised compound	There is a MRL for pirlimycin in milk
Species/ matrices		Compliant for milk, honey, eggs	Regarding muscle, some species are missing: aquaculture, farmed games, horses, Rabbit and sheep/goat
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		The 8 recommended substances and ciprofloxacin, enrofloxacin, lomefloxacin, nalidixic acid, norfloxacin, ofloxacin, orbifloxacin,: compliant	/
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL: compliant	/
Species/ matrices		Aquaculture, Bovine, Pigs, Poultry,: muscle	No control for Farmed Game, Horses, Milk, Rabbit, Sheep/goats
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Sulfonamides: 18 analytes: compliant • 15 out of 18 analytes are controlled on all the Species/matrices: compliant 	<ul style="list-style-type: none"> • No control for sulfabenzamide, sulfachloropyrazine, sulfaclozine, sulfameter, sulfasalazine, sulfatroxazol, sulfisomidine: non-compliant • No control for sulfacetamide, sulfaguanidine and sulfamoxol in Honey
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	Compliant	/
Levels of action		MRL or presence	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Pigs, Poultry, Sheep/goats (ewes): muscle Honey, Milk 	No control for Aquaculture products, Eggs, Farmed game, Horses, Rabbits
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances and the 3 kind of 4-epimers : compliant	/
Methods	Screening	<ul style="list-style-type: none"> HPLC for Eggs: compliant LC-MSMS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC for Eggs: compliant LC-MS/MS: compliant 	/
Limits	CC β (screening)	Compliant	For sheep /goats CC β above the MRL
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Non-Compliant	No Farmed games, Horses and Rabbits
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		<i>Baquiloprim, colistin, tiamulin, trimethoprim, valnemulin</i>	Control for colistin only in Bovines, Pigs and Poultry
Methods	Screening	<ul style="list-style-type: none"> Delvotest-SP or LC-MS/MS for Milk: compliant NAT screening for kidneys: compliant LC-MS/MS for other species/ matrices: compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL	/

Species/ matrices	<ul style="list-style-type: none"> • Bovines, Pigs: muscle and kidney • Poultry, Sheep/goats: muscle • Eggs, Milk 	No control for Aquaculture products, Farmed game, Horses and Rabbits
Other remarks	/	/

2.8.9 Group B2a – Antihelmintics

B2a		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 6 avermectines, 15 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled <p>Aquaculture: 5 avermectines, 7 benzimidazoles, levamisole Bovine: 6 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, morantel, nitroxinil, oxyclozanide, praziquantel, rafoxanide Eggs: not analysed for B2a Farmed game: not analysed for B2a Horse: not analysed for B2a Milk: 6 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, morantel, nitroxinil, oxyclozanide, praziquantel, rafoxanide Pig: 6 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, morantel, nitroxinil, oxyclozanide, praziquantel, rafoxanide Poultry: 6 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, morantel, nitroxinil, oxyclozanide, praziquantel, rafoxanide Rabbit: not analysed for B2a Sheep/goat: 6 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, morantel, nitroxinil, oxyclozanide, praziquantel, rafoxanide</p>	
Methods	Screening	HPLC-MS/MS for avermectines and benzimidazoles, as well	
	Confirmatory	HPLC-MS/MS for avermectines and benzimidazoles, as well	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant, meet the MRLs	
Levels of action		Compliant: presence or MRL	
Species/matrices		Eggs, farmed game and horse are not analyse for B2a group	
Other remarks			

2.8.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 18 anticoccidials: 10 chemical coccidiostats, 6 ionophores and 2 nitroimidazoles • All minimum requirements included • The majority of the recommended included 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant except for: <ul style="list-style-type: none"> • Lasalocid in muscle bovine CCβ = 12.7 $\mu\text{g}/\text{kg}$ and the MRL = 10 $\mu\text{g}/\text{kg}$. CCβ for screening should be < MRL or ML • Lasalocid in muscle pig: CCβ = 13.2 $\mu\text{g}/\text{kg}$ and the MRL = 5 $\mu\text{g}/\text{kg}$. CCβ for screening should be < MRL or ML • Lasalocid in muscle sheep/goats: CCβ = 13.2 $\mu\text{g}/\text{kg}$ and the MRL = 5 $\mu\text{g}/\text{kg}$. CCβ for screening should be < MRL or ML 	CC β should be < MRL or ML values for screening
	CC α (confirmatory)	Compliant except for the following analyte in muscle poultry : <ul style="list-style-type: none"> • Monensin: CCα = 1.5 $\mu\text{g}/\text{kg}$ and the MRL = 8 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML • Narasin: CCα = 3.85 $\mu\text{g}/\text{kg}$ and the MRL = 50 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML • Salinomycin: CCα = 1.5 $\mu\text{g}/\text{kg}$ and the MRL = 5 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML • Robenidine: CCα = 3.36 $\mu\text{g}/\text{kg}$ and the MRL = 200 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML • Diclazuril: CCα = 3.48 $\mu\text{g}/\text{kg}$ and the MRL = 500 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML • Decoquinatate: CCα = 12.2 $\mu\text{g}/\text{kg}$ and the MRL = 500 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML 	CC α should be > MRL or ML values for confirmatory
Levels of action		MRL, ML, presence	
Species/matrices		<ul style="list-style-type: none"> • Farmed game, horses and rabbit not included • Analysed matrices: egg and muscle 	
Other remarks		Lasalocid and lasalocid A are the same, better use just one name Same for monensin and monesin sodium or robenidine and robenidine chloride	

2.8.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Compliant recommended 	
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Azaperone/azaperol in pigs (sum 100 $\mu\text{g}/\text{kg}$) Carazolol in bovines (15 $\mu\text{g}/\text{kg}$) Carazolol in pigs (25 $\mu\text{g}/\text{kg}$) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.8.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 16 analytes (milk: 16) Minimum requirements and many recommended analytes are covered in relevant matrices (milk, tissue) 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, except for DC in milk - CC β should be below the MRL	
	CC α (confirmatory)	Compliant, except for meloxicam in sheep/goat muscle - CC α should be above the MRL	
Levels of action		presence / MRL	

Species/matrices	recommendations fulfilled (bovine, pig, poultry, sheep/goat – muscle; milk)	
Other remarks	No further remarks	

2.8.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	No mention about metabolites QCA, DCBX for carbadox and MQCA for olaquinox
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Pigs and bovines: compliant	/
Other remarks		/	/

2.8.14 Group B2f – Corticosteroids

B2f - EE		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs. • Not included: sheep/goats, horses, aquaculture, farmed game/rabbit (optional). • Additional: Betamethasone, Flumethasone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone, Triamcinolone acetone. 	
Methods	Screening	• LC-MSMS.	
	Confirmatory	• LC-MSMS.	
Limits	CC β (screening)	• Compliant.	
	CC α (confirmatory)	• Almost compliant, just minimal above MRL.	

Levels of action	<ul style="list-style-type: none"> • ‘MRL with concentration’, for some additional analytes ‘Presence’. 	Note all LoA in clear concentrations.
Species/matrices	<ul style="list-style-type: none"> • Only tested bovines (including milk) and pigs. • Included matrices: muscle, raw milk. 	Include at least sheep/goats and horses.
Other remarks		

2.8.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg and As	Good to see that As is included Cu should be included (396/2005 and amendments)
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	
Species/matrices		Relevant species/matrices included	
Other remarks			

2.8.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Minimum required not completely covered, only aflatoxin M1 	Include ochratoxin and zearalenone
Methods	Screening	<ul style="list-style-type: none"> • HPLC-FLD 	
	Confirmatory	<ul style="list-style-type: none"> • HPLC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • 0.05 μg/kg (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> • Minimum required species for aflatoxin M1 covered • Matrices: milk 	
Other remarks			

2.8.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Cristal Violet and Cristal Violet-Leuco: compliant • Malachite Green and Malachite Green-Leuco: compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant (same as screening)	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.9 Member State: Greece (EL)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Species / matrices	For poultry dienestrol/hexestrol should be included.	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Limits	<ul style="list-style-type: none"> evaluation of CCβ and CCα values in all matrices not possible Please indicate single values for the corresponding substances. No changes in comparison to 2016 or 2017 	
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/ matrices	<ul style="list-style-type: none"> For CAP: Horses control is missing For Nitrofuranes: Horses and milk For Dapsone: No Aquaculture, Eggs, Horses, Farmed games, Honey, milk, pigs, Poultry, Rabbit and sheep/goats 	/
B1 - Aminoglycosides	Analytes	8 analytes: compliant	<ul style="list-style-type: none"> All 8 analytes are controlled only in Bovines, Pigs, and Sheep/goats. For other Species/ matrices, only <i>dihydrostreptomycin</i> and <i>streptomycin</i> are controlled
	Species/ matrices		<ul style="list-style-type: none"> No control in Horses meat No screening control for Honey
	Limits	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all aminoglycosides at their MRL level	<ul style="list-style-type: none"> Most CCβ obtained with Five Plate Test are too high (CCβ must be \leq MRL) CCα for neomycin in kidneys is too low (MRL in kidney = 9000 μg/kg)
B1 - Betalactams	Analytes	<ul style="list-style-type: none"> It is no possible to make an accurate and relevant evaluation for beta-lactam (penicillin+cephalosporin) group having regard to the denomination of “Beta-lactams” or “Penicillins group” claimed as whole groups to be altogether 	<ul style="list-style-type: none"> There is no clue of specific beta-lactam/penicillin analytes under consideration in the NRCP.

		<p>monitored with similar parameters (ranges of limits). The validation of the methods shall give enough detailed to demonstrate reliable control for each substances specifically.</p> <ul style="list-style-type: none"> It is strongly recommended to display substances per substances and not as a whole group of substances like Penicillins or like Beta-lactams. 	
	Limits	<ul style="list-style-type: none"> Non-compliant: No CCβ screening have been estimated for Biosensor in Eggs for each beta-lactam of concern. Only an overall estimated CCβ for all “beta-lactams” of 3.12. Non-compliant: CCβ estimated at the MRL of relevant beta-lactams for the Five Plate Test in all species/ matrices of concern. This is not realistic nor applicable Non-compliant: A range of CCα is proposed/claimed for LC-MSMS for the whole penicillins group. Not an appropriate determination. Determination of CCα for each compound is awaited thanks to validation of the LC-MSMS method. 	
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> To extend the scope to others macrolides and lincosamides : 3-O-acetyltylosin, gamithromycin, lincomycin, neospiramycin, pirlimycin, tildipirosin, tulathromycin and tylvalosin Pay attention to the filling of the table : detail of the monitored substances and not “macrolides” 	/
	Species/matrices	<ul style="list-style-type: none"> No control for Honey and Horses 	
	Limits	<ul style="list-style-type: none"> CCα and CCβ cannot be assessed when the substances are not named 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all macrolides at their MRL level
B1- Quinolones	Species/matrices	<ul style="list-style-type: none"> No control for Honey and Horses 	
	Methods	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level For STAR test, validation is seemingly not achieved for all quinolones. In addition, the additional files proposed are not manageable, at least the species/matrix pairs are written in greek: non-compliant 	
	Limits	<ul style="list-style-type: none"> No precise data for the CCα for muscle of Aquaculture products, Farmed Game, Pigs, Poultry, Rabbit, Sheep/goats. CCβ level too high for <i>difloxacin</i> and <i>marbofloxacin</i> in Bovines with STAR test (CCβ must to be \leq MRL) CCα too low for <i>enrofloxacin</i> in Bovines 	

B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> 14 analytes controlled Extension of the number of monitored sulphonamides: at least to Minimum required (sulfaguanidine, sulfapyridine, sulfaquinoxaline, sulfisoxazole), Recommended (sulfacetamide, sulfameter, sulfamoxol), Optional (sulfabenzamide, sulfasalazine, sulfatroxazol, sulfisomidine) Pay attention to the filling of the table : detail of the monitored substances and not “sulfonamides” 	
	Species/ matrices	No control for Horses	
	Limits	CC β and CC α cannot be assessed when the specific substances are not correctly named	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all sulfonamides at their MRL level
B1 Tetracyclines -	Species/ matrices	Non-compliant	/
B1 – Other antibacterials	Analytes	No control: non-compliant	/
B2a	Analytes	Eprinomectin should be included (at least for aquaculture), closantel, rafoxanide, nitroxinil should be included	
	Limits		
B2b	Analytes		
	Limits	Indicate specific values for CC β for each species/matrice	
B2d	Analytes	Include haloperidol	
B2e	Analytes	Consider IP and FLU-OH in recommended matrices	
	Limits		
	Matrices		
B2f antimicrobials -	Analytes	Mostly compliant	No mention about the metabolites QCA, DCBX for carbadox and MQCA for olaquinox
B2f corticosteroids -		-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits		

	Levels of action		
	Species /matrices		
B3d		-	
B3e		Compliant in all aspects	/
	Other remarks	According additional information no equines are slaughtered.	Missing horses is noted, but not counted as non-compliant.

2.9.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for bovines/pigs/sheep/goat, with the exception for poultry (DE, HEX) 	Include DE and HEX for poultry Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for the analytes tested 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for the analytes tested 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for minimal required species/matrices tested Not tested: horses Matrices: urine/liver/muscle 	For poultry feces/liver is to prefer
Other remarks		Subspecies tested: For bovines/pigs subspecies are specified For farmed game: rabbit(/other)	

2.9.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional phenylthiouracil, 5-methyl-2-thiouracil, 2-mercaptoimidazole 	Include mercaptobenzimidazole, benzylthiouracil

Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for Tapazole in urine (CCβ > 10) 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: urine and thyroid Additional serum 	
Other remarks		Good to see 5-methyl-2-thiouracil is included	

2.9.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovine, pigs. Non-compliant: sheep/goats, poultry, aquaculture (testosterone), horses (not included) Farmed game/rabbit (optional) (ethinylestradiol, methyltestosterone and trenbolone included). Additional: Trenbolone acetate. 	
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening method. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	Use the same notation for all concentrations (instead of $\mu\text{g}/\text{kg}$ and ng/g).
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	Note clearly in concentrations.
Species/matrices		<ul style="list-style-type: none"> Horses are missing. For aquaculture the whole animal is used instead of muscle. Used matrices: fat, kidney fat, muscle, serum, urine, whole animal (aquaculture). 	Use only muscle from aquaculture instead of the whole animal.
Other remarks			

2.9.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for species tested Zearalanone is tested in farmed game (muscle) 	Include zearalanone for all species
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for species tested; replacement matrices used Not tested: horses Matrices: urine/muscle/serum 	
Other remarks		Subspecies tested: For bovines/pigs subspecies are specified For farmed game: rabbit(/other)	

2.9.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 16 analytes in the most relevant species (bovine, pig and poultry) monitored All minimum requirements and almost all recommendations are covered 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> Evaluation of the values not possible Only ranges are given for CCβ 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Due to unclear assignment evaluation not possible 	
Levels of action		Presence	
Species/matrices		<ul style="list-style-type: none"> Relevant analytes/species/matrices are covered 	

	<ul style="list-style-type: none"> • Maybe consider lung in addition to or instead of liver and hair for screening 	
Other remarks	<ul style="list-style-type: none"> • evaluation of CCβ values not possible • no improvements compared to 2016, 2017 	indicate CC β and CC α values

2.9.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.9.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Chloramphenicol: compliant • 4 Nitrofurans metabolites: compliant • Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • Chloramphenicol: ELISA compliant • Nitrofurans: LC-MS/MS compliant • Dapsone: LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • Chloramphenicol: LC-MS/MS compliant • Nitrofurans: LC-MS/MS same as screening compliant • Dapsone: LC-MS/MS same as screening compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: compliant 	/

	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: only Bovines milk and muscle non-compliant 	<ul style="list-style-type: none"> No Horses No Horses and milk No Aquaculture, Eggs, Horses, Farmed games, Honey, milk, pigs, Poultry, Rabbit and sheep/goats
Other remarks		/	/

2.9.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		8 analytes: compliant	All 8 analytes are controlled only in Bovines, Pigs, and Sheep/goats. For other Species/ matrices, only dihydrostreptomycin and streptomycin are controlled
Methods	Screening	Biosensor for Eggs, Biosensor, Five plate Test (STAR) for the other Species/ matrices: compliant	<ul style="list-style-type: none"> No screening control for Honey To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all aminoglycosides at their MRL level
	Confirmatory	HPLC-DAD (Milk), HPLC-FLD with PCD (Honey), LC-MS or LC-MS/MS for the other Species: compliant	/
Limits	CCβ (screening)	Compliant	Most CC β obtained with Five Plate Test are too high (CC β must be \leq MRL)
	CCα (confirmatory)	Compliant	CC α for neomycin in kidneys is too low (MRL in kidney = 9000 μ g/kg)
Levels of action		Presence or MRL	/

Species/ matrices	<ul style="list-style-type: none"> • Bovines, Pigs, Sheep/goats: muscle, kidney • Aquaculture products, Farmed game, Poultry, Rabbits: muscle • Eggs, Honey, Milk (cows, goats, sheep) 	No control in Horses meat
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		<p>Beta-lactams: non-compliant</p> <p>“Beta-lactams” or “Penicillins (group)” claimed as whole groups to be altogether monitored in Meat of various Species/ matrices</p> <p>5 penicillins are claimed monitored in eggs</p> <p>1 cephalosporin (cephalexin) is specifically monitored in meat</p> <p>3 cephalosporins are monitored in milk</p>	<ul style="list-style-type: none"> • It is no possible to make an accurate and relevant evaluation for beta-lactam (penicillin+cephalosporin) group having regard to the denomination of “Beta-lactams” or “Penicillins group” claimed as whole groups to be altogether monitored with similar parameters (ranges of limits). The validation of the methods shall give enough detailed to demonstrate reliable control for each substances specifically. • It is strongly recommended to display in the NRCP substances per substances and no more as a group of substances like Penicillins or like Beta-lactams.
Methods	Screening	<ul style="list-style-type: none"> • A non-specific screening method (Five Plate Test) for milk, kidney, muscle (all species except horses), and aquaculture products • A semi-specific method (Biosensor™) is implemented for the screening of Eggs and part of Bovine muscle samples (12 out of 72) 	
	Confirmatory	LC-MSMS	/
Limits	CCβ (screening)	Non-compliant	<ul style="list-style-type: none"> • Non-compliant: no CCbeta screening have been estimated for Biosensor in Eggs for each beta-lactam of concern. Only an overall estimated CCbeta for all “beta-lactams” of 3.12. • Non-compliant: CCbeta estimated at the MRL of relevant beta-lactams for the Five Plate Test in all species/

			matrices of concern. This is not realistic nor applicable
	CC α (confirmatory)	Non-compliant	Non-compliant: A range of CC α is proposed/claimed for LC-MSMS for the whole penicillins group. Not an appropriate determination. Determination of CC α for each compound is awaited thanks to validation of the LC-MSMS method.
Levels of action		MRL or Presence	/
Species/ matrices		9 out of 11 species/ matrices are controlled - Compliant	Only missing is control for Horses
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Erythromycin, josamycin, spiramycin, tilmicosin, tylosin A and B	<ul style="list-style-type: none"> 3-O-acetyltylosin, gamithromycin, lincomycin, neospiramycin, pirlimycin, tildipirosin, tulathromycin and tylvalosin Substances are called “macrolides” in the table but we do not know what they are in the case of farmed games, pig, poultry, rabbit and sheep/goat muscle
Methods	Screening	<ul style="list-style-type: none"> 5-plate test for milk Biosensor for eggs 5 plate test and biosensor for muscle 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all macrolides at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	/	Not possible to see if the CC β are in adequacy with the level of action when substances are called “macrolides”
	CC α (confirmatory)	/	Not possible to see if the CC α are in adequacy with the level of action when substances are called “macrolides”

Levels of action	Compliant : MRL or “presence” if the substance is not authorised	There is no MRL for josamycin but MRL is reported as level of action for josamycin in eggs
Species/ matrices	Compliant except horses muscle and honey	No control in horses muscle and honey
Other remarks	/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		Quinolones: the 8 recommended substances and nalixidic acid : compliant	/
Methods	Screening	<ul style="list-style-type: none"> Semi-specific: Biosensor for Eggs and Bovine muscle : compliant Non-specific: Five plate Test (STAR) for other species/ matrices 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level For STAR test, validation is seemingly not achieved for all quinolones. In addition, the additional files proposed are not manageable, at least the species/matrix pairs are written in greek: non-compliant
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)		<ul style="list-style-type: none"> Lack of precision on the performance of the STAR method "Quinolones": non-compliant CCβ level too high for difloxacin and marbofloxacin in Bovines with STAR test (CCβ must to be \leq MRL
	CC α (confirmatory)	7/8 analytes recommended for Bovines: compliant	<ul style="list-style-type: none"> No precise data for the CCα for muscle of Aquaculture products, Farmed Game, Pigs, Poultry, Rabbit, Sheep/goats. CCα too low for enrofloxacin in Bovine
Levels of action		Presence or MRL: compliant	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines (+ kidney), Farmed Game, Pigs (+ kidney), Poultry, Rabbit, Sheep/goats (+ kidney): muscle Eggs, Milk (cow, goat, sheep) 	No control for Honey and Horses
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		14 analytes out of 25 recommended. Sulfaphenazole (optional substance) is also included.	No control for <i>sulfabenzamide</i> , <i>sulfacetamide</i> , <i>sulfaguanidine</i> , <i>sulfameter</i> , <i>sulfamoxol</i> , <i>sulfapyridine</i> , <i>sulfaquinoxaline</i> , <i>sulfasalazine</i> , <i>sulfatroxazol</i> , <i>sulfisomidine</i> , <i>sulfisoxazole</i>
Methods	Screening	Compliant: Microbial inhibition test, biosensor	/
	Confirmatory	Compliant: HPLC-DAD, HPLC-FLD, LC-MS/MS	/
Limits	CC β (screening)	Compliant	<ul style="list-style-type: none"> CCβ cannot be assessed when the substances are not named. Non-compliant: for milk, kidney, and muscle (Aquaculture products, Farmed Game, Pigs, Poultry, Rabbit, Sheep/goats), CCβ are reported at 100 μg/kg for all sulfonamides with a non-specific screening method. To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all the sulfonamides at their MRL level
	CC α (confirmatory)	Compliant	CC α cannot be assessed when the substances are not named.
Levels of action		Compliant	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines (+ kidney), Farmed Game, Pigs (+ kidney), Poultry, Rabbit, Sheep/goats (+ kidney): muscle Eggs, Honey, Milk (cow, goat, sheep) 	No control for Horses
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances and only the 4-epi-CTC: compliant	The 4-epi-tetracycline and the 4-epi-oxytetracycline
Methods	Screening	<ul style="list-style-type: none"> Biosensor for eggs and Bovines muscle: compliant Five Plate Test 	<ul style="list-style-type: none"> No screening for Honey only confirmation To the EU-RL knowledge the performances of the non-specific

			screening method do not allow to detect most of tetracyclines at their MRL level
	Confirmatory	<ul style="list-style-type: none"> • HPLC-DAD for Honey: compliant • LC-MS for kidney and muscle • LC-MS/MS for Eggs: compliant 	/
Limits	CC β (screening)	Compliant	CC β must be lower than MRL
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Non-Compliant	No Horses and Rabbits
Other remarks		/	/

B1 – Other antibacterials		Compliant Evaluation	Recommendations
Analytes		No control: non-compliant	/
Methods	Screening	/	/
	Confirmatory	/	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/
Levels of action		/	/
Species/ matrices		/	/
Other remarks		/	/

2.9.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	<p>5 avermectines, 7 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled, closantel, nitroxinil and rafoxanide not included</p> <p>Aquaculture: 5 avermectines, 6 benzimidazoles, levamisole Bovine: 5 avermectines, 6 benzimidazoles, levamisole</p>	<p>Eprinomectin not analysed Closantel, rafoxanide nitroxinil not analysed at all</p>

		Eggs: no B2a compounds Farmed game: 5 avermectines, 6 benzimidazoles, levamisole Horse: no B2a compounds Milk: 4 avermectines, 3 benzimidazoles, levamisole Pig: 5 avermectines, 6 benzimidazoles, levamisole Poultry: 5 avermectines, 6 benzimidazoles, levamisole Rabbit: 5 avermectines, 6 benzimidazoles, levamisole Sheep/goat: 5 avermectines, 6 benzimidazoles, levamisole	
Methods	Screening	No screening for avermectines, LC-MS/MS for benzimidazoles	
	Confirmatory	HPLC-FLU for avermectines LC-MS/MS for benzimidazoles	
Limits	CC β (screening)	No values	
	CC α (confirmatory)	No values for benzimidazoles in tissues, values for benzimidazoles in milk compliant, values for avermectines compliant	
Levels of action		Presence or MRL	
Species/matrices		Fulfilled	
Other remarks			

2.9.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 20 anticoccidials: 12 chemical coccidiostats, 6 ionophores and 2 nitroimidazoles All minimum requirements included 7 out of 8 recommended included 2 optional analytes included 	Include toltrazuril in egg due to the positive findings in recent years
Methods	Screening	AAS, LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> No values given only for ternidazole and ipronidazole in plasma and muscle of aquaculture, poultry, farmed game and rabbit The given values in the above cited matrices are all > CCα (confirmatory) No possible evaluation of the remaining values 	Specific values for each species/matrice would be preferable
	CC α (confirmatory)	Compliant except for lasalocid in poultry muscle. CC α = 22.7 μ g/kg and the MRL = 60 μ g/kg. CC α should be > MRL or ML value.	CC α should be > MRL or ML values for confirmatory and < CC α max
Levels of action		> CC α , presence, MRL and ML without defined values	
Species/matrices		Relevant analytes/species/matrices are covered	

Other remarks	<ul style="list-style-type: none"> • evaluation of CCβ values not possible • no improvements compared to previous year (2017) 	<ul style="list-style-type: none"> • indicate CCβ values • > CCα is no levels of action
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2.9.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Almost compliant minimum required: haloperidol is missing • Compliant recommended • Additional: promazine 	Include haloperidol
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Complaint 	
Levels of action		<ul style="list-style-type: none"> • Presence 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> • Chlorpromazine in A6 	

2.9.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 14 analytes (milk: 14) • Minimum requirements almost fulfilled • IP and FLU-OH are not included, except for milk • Some recommended analytes are covered 	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> • N/A • For MAA and DC: CCβ were specified without screening method (CCβ is above MRL) 	

	CC α (confirmatory)	compliant	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		Minor changes compared to 2017.	

2.9.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	No mention about metabolites QCA, DCBX for carbadox and MQCA for olaquinox
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : same as screening compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Pigs and bovines: compliant	/
Other remarks		/	/

2.9.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs. • Not included: sheep/goats, horses, poultry, aquaculture, farmed game/rabbit (optional). • Additional: Flumethasone, Triamcinolone acetonide. 	It is a very minimum list. Expand the number of species, analytes and samples.
Methods	Screening	• LC-MSMS.	
	Confirmatory	• Same as screening.	

Limits	CC β (screening)	<ul style="list-style-type: none"> Probably compliant, but the MRL is not clear for bovines. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> For bovines it is not clear. For pigs the LoA is noted in a clear concentration. 	Make a clear notation of the MRL for bovines.
Species/matrices		<ul style="list-style-type: none"> Only bovines and pigs are included. Matrix compliant: muscle. 	
Other remarks			

2.9.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	<p>Cu should be included (396/2005 and amendments)</p> <p>Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)</p>
Methods	Screening	AAS	
	Confirmatory	AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Seems to be consistent with regulation. MLs not stated, but reference to 1881/2006 is made	
Species/matrices		Relevant species/matrices included	
Other remarks			

2.9.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLD, LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD, LC-MS/MS 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence MRL (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Matrices: milk, kidney, muscle, urine 	
Other remarks			

2.9.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant (same as screening)	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/
B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 8 analytes: compliant 	<ul style="list-style-type: none"> All 8 analytes are controlled only in Bovines, Pigs, and Sheep/goats. For other Species/ matrices, only <i>dihydrostreptomycin</i> and <i>streptomycin</i> are controlled

Methods	Screening	<ul style="list-style-type: none"> Biosensor for Eggs, Biosensor, Five plate Test (STAR) for the other Species/ matrices: compliant 	<ul style="list-style-type: none"> No screening control for Honey To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all aminoglycosides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD (Milk), HPLC-FLD with PCD (Honey), LC-MS or LC-MS/MS for the other Species: compliant 	/
Limits	CCβ (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Most CCβ obtained with Five Plate Test are too high (CCβ must be \leq MRL)
	CCα (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα for neomycin in kidneys is too low (MRL in kidney = 9000 μg/kg)
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Pigs, Sheep/goats: muscle, kidney Aquaculture products, Farmed game, Poultry, Rabbits: muscle Eggs, Honey, Milk (cows, goats, sheep) 	<ul style="list-style-type: none"> No control in Horses meat
Other remarks		/	/

2.10 Member State: Spain (ES)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
	Matrices	Unsuitable matrix muscle for poultry	
A6 - other	Species/ matrices	<ul style="list-style-type: none"> For CAP: No control for Farmed games and Horses For Nitrofuranes: No control for Farmed games, and milk For Dapsone: No control for Aquaculture, Horses, Farmed games and Honey	/
B1 – Aminoglycosides	Analytes	8 analytes (+ "Aminoglycosides"): compliant	<ul style="list-style-type: none"> No control for <i>gentamicin</i>, <i>neomycin</i>, <i>paromomycin</i> and <i>spectinomycin</i> in Aquaculture products: non-compliant No control for <i>neomycin</i> in Eggs: non-compliant No control for <i>gentamicin</i> in Milk: non-compliant
	Species/ matrices		No control for Farmed game
	Limits		<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of aminoglycosides at their MRL level CCα of 25-57.7 reported for <i>gentamicin</i> in muscles when MRL is 50 $\mu\text{g}/\text{kg}$

B1 Betalactams	- Analytes		Would be better to harmonise the number of substances tested in each of the groups of species/ matrices when possible
	Limits	<ul style="list-style-type: none"> • CCβ for screening estimated at the MRL is not sufficient and CCβ should be below the MRL • CCβ for Five Plate Test screening is not always described specifically for each substances but as a value or a range of values for “penicillins” or “beta-lactams” 	
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> • To extend the scope to others macrolides and lincosamides : 3-O-acetyltylosin, gamithromycin, neospiramycin, pirlimycin, tildipirosin, tulathromycin, tylosin A, tylvalosin 	
	Species/ matrices	<ul style="list-style-type: none"> • Compliant 	
	Limits	<ul style="list-style-type: none"> • Pay attention to the reporting of CCβ and to the determination of CCα according to the level of action 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all macrolides at their MRL level
B1- Quinolones	Methods	<ul style="list-style-type: none"> • No trend in the choice of a screening method depending on the species/ matrix pair: Five Plate Screening Test (including all kidneys), Four plate test, HRMS, LC-MS, LC-MSMS or no screening test (for Honey): compliant • Five Plate Screening Test (<i>ciprofloxacin</i>, <i>enrofloxacin</i>, <i>flumequine</i>) or no screening test for Milk • The choice of confirmation method is not linked to the screening method: HPLC-FLD, LC-MS, LC-MSMS or no confirmatory test: compliant 	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of quinolones at their MRL level
	Limits	<ul style="list-style-type: none"> • Not enough defined CCβ data (no data, or multiple data, or range of data, regardless of method or species / matrix pair): non-compliant in most cases 	
	Species/ matrices		<ul style="list-style-type: none"> • Farmed game controlled only for <i>oxolinic acid</i>
B1 Sulfonamides	- Analytes	<ul style="list-style-type: none"> • 20 analytes controlled • Extension of the number of monitored sulphonamides: at least to Minimum required (sulfachloropyrazine), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfatroxazol, sulfisomidine) 	
	Limits	<ul style="list-style-type: none"> • Choice of methods is compliant however : Ranges of CCα for each substance are not compliant (ie. 0.6 - 5 $\mu\text{g}/\text{kg}$)? • Non-compliant: range out of regulatory scope - CCα of sulfaguandine in milk is reported as “0.118-106.7 mg/kg” !!! 	

B1 Tetracyclines	–	Methods		<ul style="list-style-type: none"> No screening for Honey, only confirmation To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level
B1 – Other antibacterials		Analytes	<ul style="list-style-type: none"> <i>Florfenicol, thiamphenicol, trimethoprim</i>, "Inhibitors" 	
		Limits	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level Control for <i>trimethoprim</i> (methods, CCβ, CCα): compliant 	
B2a		Analytes	Inclusion of triclabendazole, closantel, nitroxinil, rafoxanide Inclusion of levamisole in milk	
		Limits	Adoption of CCα eprinomectin in aquaculture	
B2b		Analytes		
		Limits	Include levels of action	
B2d			-	
B2e		Analytes	Consider DC and IP in the analysis.	
		Limits		
		Matrices		
B2f antimicrobials	-	Analytes	No control plan for carbadox and olaquinox and their metabolites	/
B2f corticosteroids	-		-	A nice list of additional analyte-species combinations
B3c		Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
		Methods		
		Limits		
		Levels of action	No levels of action provided for most analyte-matrix combinations	Levels of action should be provided for all analyte-matrix combinations
		Species /matrices		
B3d			-	
B3e			Compliant in all aspects	/
		Other remarks		

2.10.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species Also tested for diethylstilbestrol dipropionaat 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> No screening test 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS, LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/muscle Extra matrices: fat/feed/drinking water 	For poultry feces/liver is to prefer
Other remarks		For sheep/goats subspecies are specified For aquaculture : not mentioned For farmed game: not mentioned	

2.10.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional phenylthiouracil, 5-methyl-2-thiouracil, benzylthiouracil 	Include mercaptobenzimidazole
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> NA 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Almost all compliant. The ones which are non-compliant are just above the RC. 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species 	

	<ul style="list-style-type: none"> • Additional: horses, poultry, rabbit • Matrices: urine and thyroid • Additional: muscle, feed, drinking water 	
Other remarks	Good to see 5-methyl-2-thiouracil is included	

2.10.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant: bovines, pigs, sheep/goats, poultry (testosterone), horses (, estradiol, testosterone, methyltestosterone), aquaculture (only nandrolone, trenbolone and stanozolol are included), • Farmed game (optional) (only trenbolone and stanozolol are included), rabbit (optional) (only nandrolone, ethinylestradiol, trenbolone and stanozolol are included). • Additional: Methandrostenolone, Testosterone dihydromethyl 	Add the several missing analytes.
Methods	Screening	• No screening method.	
	Confirmatory	• GC-MS/MS, LC-MSMS.	
Limits	CC β (screening)	• NA.	
	CC α (confirmatory)	• Almost all compliant. The ones which are non-compliant are just above the RC.	
Levels of action		• 'Presence'.	Note in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> • All species are included, but for many combinations very few samples are included. • Included matrices: drinking water, fat+muscle, kidney fat, muscle, urine. 	
Other remarks			Expand the number of samples for many combinations.

2.10.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		• Compliant for both minimal required and optional species	

		<ul style="list-style-type: none"> Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> - 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS , LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Replacement matrices used Matrices: urine/muscle Extra matrices: fat/drinking water 	
Other remarks		Subspecies tested: For sheep/goats subspecies is specified (goat) For aquaculture : not mentioned For farmed game: rabbit	

2.10.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 26 analytes are covered in all relevant matrices Minimum requirements, recommendations and optional analytes are covered 	
Methods	Screening	ELISA for sheep/goats liver but for most analyte/matrix combinations no screening methods	
	Confirmatory	LC-MS/MS, GC-MS, GC-MS/MS, HRMS, For cimbuterol and mabuterol in sheep/goats liver no confirmatory method	
Limits	CC β (screening)	No values given for the majority of analytes In some case not compliant, e.g. brombuterol, clenbuterol, mabuterol in sheep/goats liver. CC β = 0.2 or 0.3 $\mu\text{g}/\text{kg}$ and RC = 0.2 $\mu\text{g}/\text{kg}$	CC β should be < RC
	CC α (confirmatory)	Not compliant for some analytes. CC α should be < RC, e.g. bromchlorbuterol, fenoterol, ractopamine, cimaterol, cimbuterol, clenbuterol, clenpenterol, isoxuprine, mabuterol, mapenterol and tulobuterol in drinking water (bovine, pig, sheep/goat, poultry and horses)	CC α should be < RC
Levels of action		Presence	

Species/matrices	All relevant analyte/matrix combinations are covered	
Other remarks		

2.10.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	No screening	
	Confirmatory	HRMS (feed), LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	compliant	CC α for DMZ in Sheep/Goat (Feed) should be lower the RC
Levels of action		presence	
Species/matrices		recommendations fulfilled except for poultry	
Other remarks		Unsuitable matrix muscle for poultry	

2.10.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 9 Nitrofurans including Nifursol: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA or no screening for Feed, Honey and Drinking water compliant Nitrofurans: No screening all in confirmation compliant Dapsone: No screening all in confirmation compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: no screening so no CCβ Dapsone: no screening so no CCβ 	/

	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	CC β at 5 $\mu\text{g}/\text{kg}$ for in eggs, milk and muscle is suspicious. CC β must be < MRPL/RPA
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No Farmed games and Horses No Farmed games, and milk No Aquaculture, Horses, Farmed games and Honey
Other remarks		/	/

2.10.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		8 analytes (+ "Aminoglycosides"): compliant	<ul style="list-style-type: none"> No control for gentamicin, neomycin, paromomycin and spectinomycin in Aquaculture products: non-compliant No control for neomycin in Eggs: non-compliant No control for gentamicin in Milk: non-compliant
Methods	Screening	Five Plate Test, Four plate test or no-screening: compliant	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	LC-MS or no confirmatory test: compliant?	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	CC α of 25-57.7 reported for gentamicin in muscles when MRL is 50 $\mu\text{g}/\text{kg}$
Levels of action		MRL	/

Species/ matrices	<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle and kidney • Aquaculture: muscle • Eggs, Honey, Milk 	No control for Farmed game
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		Beta-lactams: 8 penicillins and 4 cephalosporins in Muscle of aquaculture, bovines, farmed games, horses, sheep/goats 8 penicillins and 4 cephalosporins in Kidney of bovines, horses, sheep/goats, poultry, rabbit, 8 penicillins and 7 cephalosporins in muscle of aquaculture, pigs, poultry 8 penicillins and 5 cephalosporins in muscle of rabbit 6 penicillins in muscle of Farmed Game 8 penicillins and 4 cephalosporins in Milk 8 penicillins and 2 cephalosporins in Eggs 7 penicillins in Honey	Would be better to harmonise the number of substances tested in each of the groups of species/ matrices when possible
Methods	Screening	<ul style="list-style-type: none"> • A Set of Non-specific methods (Five Plate test & Four plate test in Meat and Eclipse, DelvotestSP and Five Plate Test in Milk and Five Plate test only in Eggs and Kidney) • Also set of Specific screening methods (LC-MS, LC-MSMS and HRMS) for all Spcies-Products 	/
	Confirmatory	LC-MSMS	/
Limits	CC β (screening)	Mostly compliant	<ul style="list-style-type: none"> • CCbeta for screening estimated at the MRL is not sufficient • Still CCbeta for Five Plate Test screening is not always described specifically for each substances but as a value or a range of values for groups of substances called “penicillins” or “beta-lactams”
	CC α (confirmatory)	Compliant	/
Levels of action		MRL or Presence	/

Species/matrices	All 11 species/ matrices are monitored	/
Other remarks	A non-negligible number of samples from all the species/ matrices are not screened but are directly controlled in a confirmatory frame. May-be different strategies handled in different regions of Spain	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Erythromycin, josamycin, lincomycin, spiramycin, tilmicosin, tylosin	<ul style="list-style-type: none"> 3-O-acetyltylosin, gamithromycin, neospiramycin ?, pirlimycin, tildipirosin, tulathromycin, tylosin A, tylvalosin Substances are called “macrolides” in the table but we do not know what they are in the case of kidney and aquaculture
Methods	Screening	<ul style="list-style-type: none"> No screening or 5-plate test for eggs No screening for honey No screening, 5-plate test or eclipse for milk No screening, LC/HRMS, LC-MS/MS or 5-plate test for muscle 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect all macrolides at their MRL level
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	/	<ul style="list-style-type: none"> CCβ of 500 $\mu\text{g}/\text{kg}$ reported for lincomycin in eggs when MRL is 50 $\mu\text{g}/\text{kg}$ No CCβ in honey No CCβ in milk CCβ of 160-7500 reported for erythromycin in poultry muscle when MRL is 200 $\mu\text{g}/\text{kg}$
	CC α (confirmatory)	Compliant in honey, milk and muscle	<ul style="list-style-type: none"> CCα of 50 $\mu\text{g}/\text{kg}$ for piramycin in milk when MRL is 200 $\mu\text{g}/\text{kg}$ High CCα for tylosin and erythromycin in honey
Levels of action		Compliant : MRL or “presence” if non authorised substances	There is a MRL for spiramycin in milk, bovine and poultry muscle : the level of action should always be the MRL
Species/matrices		Compliant	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
Analytes		Quinolones: the 8 recommended substances and nalixidic acid, norfloxacin: compliant	/
Methods	Screening	No trend in the choice of a screening method depending on the species/ matrix pair: Five Plate Screening Test (including all kidneys), Four plate test, HRMS, LC-MS, LC-MSMS or no screening test (for Honey): compliant Five Plate Screening Test (ciprofloxacin, enrofloxacin, flumequine) or no test for Milk	To the EU-RL knowledge the performances of thenon-specific screening methods do not allow to detect most of quinolones at their MRL level
	Confirmatory	The choice of confirmation method is not linked to the screening method: HPLC-Fluo, LC-MS, LC-MSMS or no confirmatory test: compliant	/
Limits	CC β (screening)	Not enough defined CC β data (no data, or multiple data, or range of data, regardless of method or species / matrix pair): non-compliant in most cases	CC β must be \leq than MRL
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL: compliant	/
Species/matrices		<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle and kidney • Aquaculture, Farmed Game : muscle • Eggs, Honey, Milk (cow, goat, sheep) 	Farmed game controlled only for <i>oxolinic acid</i>
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		Compliant: 20 analytes	No control for <i>sulfabenzamide, sulfachloropyrazine, sulfaclozine, sulfasalazine, sulfatroxazol, sulfisomidine</i>
Methods	Screening	Compliant: Inhibition test, LC-MS, HRMS or no screening	/
	Confirmatory	Compliant: HPLC-DAD, LC-MS, LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> • Ranges of CCα for each substance are not compliant (ie. 0.6 - 5 $\mu\text{g}/\text{kg}$)? • Non-compliant: range out of regulatory scope - CCα of sulfaguanidine in milk is reported as "0.118-106.7 mg/kg" !!!

Levels of action	Compliant	For 2 sulfonamides, action level is reported as "Presence, MRL, MRL"
Species/matrices	<ul style="list-style-type: none"> Bovines, Pigs, Poultry, Rabbits, Sheep/goat: muscle and kidney Aquaculture products, Farmed game, Horses: muscle Eggs, Honey, Milk (cow, goat, sheep) 	/
Other remarks	/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances and the 3 kind of 4-epimers : compliant	/
Methods	Screening	Eclipse, Five Plate Screening Test, Four plate test, HRMS, LC-MS, LC-MSMS: compliant	<ul style="list-style-type: none"> No screening for Honey only confirmation To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level
	Confirmatory	LC-MS and LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/matrices		Compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		Other B1: <i>florfenicol, thiamphenicol, trimethoprim</i> , "Inhibitors"	/
Method s	Screening	<ul style="list-style-type: none"> Five Plate Screening Test, Inhibitors test for "Inhibitors": compliant No screening test for phenicols LC-MS, LC-MSMS for <i>trimethoprim</i>: compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	<ul style="list-style-type: none"> CCβ for phenicols (no screening test) CCβ = inhibition zone for Inhibitors tests: non-compliant CCβ for <i>trimethoprim</i> (if data provided): compliant 	/

	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL	/
Species/matrices		<ul style="list-style-type: none"> • Bovines, Pigs, Poultry, Rabbits, Sheep/goat: muscle and kidney • Aquaculture products, Farmed game, Horses: muscle • Eggs, Honey, Milk (cow, goat, sheep) 	/
Other remarks		/	/

2.10.9 Group B2a – Anthelmintics

B2a		Evaluation	Recommendations
Analytes		<p>6 avermectines, 5 benzimidazoles and others are analysed, triclabendazole, closantel, nitroxinil, rafoxanide are not included, 8 out of 12 minimum requirements fulfilled</p> <p>Aquaculture: 5 avermectines, 4 benzimidazoles Bovine: 6 avermectines, 5 benzimidazoles, levamisole Eggs: not analysed for B2a compounds Farmed game: 4 avermectines, no benzimidazoles Horse: 6 avermectines Milk: 6 avermectines, 4 benzimidazoles Pig: 6 avermectines, 4 benzimidazoles, levamisole Poultry: 6 avermectines, 4 benzimidazoles, levamisole Rabbit: 6 avermectines, 4 benzimidazoles Sheep/goat: 6 avermectines, 5 benzimidazoles, levamisole</p>	Levamisole is not analysed in milk
Methods	Screening	No Screening Test	
	Confirmatory	HPLC-FLU (avermectines), LC-MS/MS for benzimidazoles and levamisole	
Limits	CC β (screening)	no data	
	CC α (confirmatory)	Compliant for almost all, not compliant for eprinomectin in aquaculture. CC α = 2.2 μ g/kg but MRL = 50 μ g/kg	
Levels of action		Presence or MRL	
Species/matrices		In general compliant	
Other remarks		Limited analyte scope	

2.10.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		19 anticoccidials: 8 chemical anticoccidials, 5 ionophores and 6 nitroimidazoles in all investigated species/matrices	
Methods	Screening		
	Confirmatory	LC-MS/MS, compliant	
Limits	CC β (screening)	n/a	
	CC α (confirmatory)	CC α given as range compliant for the majority of analytes except: Toltrazuril in muscle bovine, MRL = 100 μ g/kg and CC α = 2,5 μ g/kg and for decoquinatate in poultry muscle, MRL 500 μ g/kg and CC α = 22 μ g/kg CC α should be > MRL or ML.	
Levels of action		No values given	Indicate the levels of action
Species/matrices		Minimum requirements are fulfilled, poultry, egg, sheep/goat and pig are analysed for ionophores and chemical anticoccidials.	
Other remarks		CC α should be \leq CC α max	

2.10.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Compliant recommended Additional in liver: promazine Additional in muscle: alprazolam, diazepam, promazine Additional in urine: nordazepam, oxazepam, temazepam 	
Methods	Screening	<ul style="list-style-type: none"> No screening method, except for additional analytes in urine: HPLC-DAD 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS GC-MS/MS for analytes in liver and xylazine in urine 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	

Species/matrices	<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, rabbit Matrices: kidney Additional: urine, liver, muscle, feed, drinking water 	
Other remarks	<ul style="list-style-type: none"> Chlorpromazine in A6 CCα in feed 100 μg/kg CCα in drinking water 20 mg/kg 	

2.10.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 14 analytes (milk: 11) Basic NSAIDs are not analysed minimum requirements are only partly covered DC and IP are missing in most matrices/ species Many recommended analytes are covered 	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	<ul style="list-style-type: none"> In some cases not compliant: CCα should be below recommended concentrations (OPB and PBZ in muscle) Not compliant for one MRL analyte: CCα should be above the MRL (Meloxicam in sheep/ goat muscle) 	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		Minor changes compared to 2017	

2.10.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)	Compliant Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • Carbadox: non-compliant • Olaquinox : non-compliant 	No control plan for carbadox and olaquinox and their metabolites
Methods	Screening	/	/
	Confirmatory	/	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/
Levels of action		/	/
Species/matrices		/	/
Other remarks		/	/

2.10.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, sheep/goats, horses, poultry, rabbit (optional). • Not included: aquaculture. • Additional: Beclometasone, Betamethasone, Flumethasone, Fluocinolone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone, Triamcinolone acetonide. 	A nice list of additional analyte-species combinations.
Methods	Screening	<ul style="list-style-type: none"> • No screening test. 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • NA. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant for bovine urine. For liver no MRL concentration is noted. 	
Levels of action		<ul style="list-style-type: none"> • 'MRL' (without concentration) or 'Presence'. 	Note all LoA in clear concentrations, with MRL concentration.
Species/matrices		<ul style="list-style-type: none"> • Included species: bovines, pigs, sheep/goats, horses, poultry, rabbit (optional). • Not included: Aquaculture. • Matrices compliant. • Matrices included: liver, urine, raw milk (bovines). 	
Other remarks			

2.10.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)
Methods	Screening	No screening	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		No levels of action provided for most analyte-matrix combinations	Levels of action should be provided for all analyte-matrix combinations
Species/matrices		Relevant species/matrices included	
Other remarks			

2.10.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD, LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence MRL 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required Additional: rabbit, aquaculture Matrices: kidney, muscle, milk 	
Other remarks			

2.10.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	No screening all in confirmation compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/matrices		Aquaculture : compliant	/
Other remarks		/	/

2.11 Member State: Finland (FI)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	CCα for diethylstilbestrol in urine should be lowered to meet regulatory limits	
A2	Analytes	Include mercaptobenzimidazole, phenylthiouracil, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/ matrices	non-compliant	<ul style="list-style-type: none"> • For CAP: No control for rabbit • For Nitrofuranes: No control for Farmed games, and for rabbit • For Dapsone: No control at all - non-compliant
B1 - Aminoglycosides	Analytes	<ul style="list-style-type: none"> • 2 (<i>dihydrostreptomycin</i>, <i>streptomycin</i>) out of 8 analytes: non-compliant 	/
	Species/ matrices	<ul style="list-style-type: none"> • 2 (Honey, Milk) out of 11 Species/ matrices: non-compliant Compliant 	
B1 - Betalactams	Analytes	<ul style="list-style-type: none"> • Penicillin-G is missing in Poultry and Farmed Game • Penicillin-V is missing in Pig • Nafcillin should be added at least in Bovine and Sheep/goats • Dicloxacillin is missing in all species/ matrices • Overall the control of 8 penicillins should be a standardised method in all species/ matrices • Very reduced number of cephalosporins controlled (cephalexin) : missing are ceftiofur, cephapirin and cefquinome in meat except ceftiofur for bovine and pig kidney – also missing are cefacetrile, cefalonium, cefoperazone, cefazoline, cephapirin and desacetylcephapirin in milk 	Remark : It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in kidney tissues
	Species/ matrices	<ul style="list-style-type: none"> • Control in Eggs, Rabbit and Aquaculture to be considered 	

		<ul style="list-style-type: none"> Control in Bovine and Pig Muscles to be considered (only in Kidney and for only 4 penicillins and 2 cephalosporins) 	
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Extend the scope to other macrolides (3-O-acetyltylosin, gamithromycin, neospiramycin, spiramycin, tildipirosin, tilmicosin) in all matrices Pay attention to the level of action and the resulting not suitable CCα 	/
B1- Quinolones	Species/matrices	No control for Eggs, Farmed Game, Honey, Horses, Poultry, Rabbit, Sheep/goats	<ul style="list-style-type: none"> No control for flumequine and marbofloxacin in Milk No control for sarafloxacin in Aquaculture products
B1 Sulfonamides	Analytes	<ul style="list-style-type: none"> 15 analytes: compliant but 10 to 13 analytes are controlled in muscles, Milk and Eggs. Only 5 analytes are controlled for Honey Extension of the number of monitored sulphonamides: at least to Minimum required (sulfaguanidine, sulfamethizol, sulfamonomethoxine), Recommended (sulfacetamide, sulfameter, sulfamoxol, sulphanilamide), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfisomidine) 	Control for <i>sulfatroxazol</i> only in Bovine muscle
	Methods		To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of sulfonamides at their MRL level
B1 – Tetracyclines	Analytes	compliant	<ul style="list-style-type: none"> However no control expressed for the 3 types of 4-epimers CCβ must be lower than MRL it is not the case for Bovines Kidney No control for rabbit
B1 – Other antibacterials	Analytes	Other substances could be implemented	Only florfenicol and florfenicol amine: non-compliant
	Species/matrices	Other species/ matrices should be implemented	Aquaculture products only: non-compliant
	Limits	compliant	
B2a	Analytes	Benzimidazoles should be included for bovine	
	Limits	adjustment of CC α for eprinomectin to new MRL in aquaculture (50 μ g/kg)	
B2b	Analytes		
	Limits	Consider testing of muscle and/or liver in the different species	
B2d	Analytes	Include chlorpromazine, carazolol, xylazine	
B2e	Analytes	MAA should be included to complete the minimum requirement	

	Limits	reconsider the CC α / CC β for analytes with RC	
	Matrices		
B2f antimicrobials	-	compliant	/
B2f corticosteroids	-	-	
B3c	Analytes	Hg should be analysed in other matrices than fish (396/2005 and amendments)	Good to see that As and Ni is included Good to note that also Cr, Mn, Se, Zn are provided
	Methods		
	Limits		
	Levels of action		Note: There is no ML for Cd in milk, honey and eggs (1881/2006 and amendments), assume the stated MLs are national MLs Note: Only few MRLs for Cu is stated, for more MRLs please refer to 396/2005 and amendments
	Species /matrices		
B3d	Analytes	Include zearalenone	
	Methods	Change screening method to HPLC-FLD for aflatoxin M1 Change confirmatory method to HPLC-FLD or LC-MS/MS for aflatoxin M1	
B3e - Dyes		Compliant in all aspects	/
	Other remarks		

2.11.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant (except for feces) 	

	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for diethylstilbestrol in urine (and all analytes in feces) 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine (faeces)/muscle 	For poultry feces/liver is to prefer
Other remarks		For all species subspecies are specified, except horses For aquaculture : finfish For farmed game: wild boar	

2.11.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	Include mercaptobenzimidazole, phenylthiouracil, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, poultry, farmed game Matrices: urine Additional: plasma 	
Other remarks			

2.11.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines Non-compliant: pigs (ethinylestradiol, trenbolone, stanozolol), sheep/goats (only included ethinylestradiol, estradiol, testosterone, methyltestosterone), 	Add the many missing analytes and expand the number of samples for several analytes.

		horses (only included nandrolone, ethinylestradiol, testosterone, methyltestosterone), poultry (only included estradiol and methyltestosterone)	
Methods	Screening	<ul style="list-style-type: none"> Farmed game (optional) (only included nandrolone). ELISA, GC-MS/MS, LC-MSMS 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS/MS, LC-MSMS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Almost all compliant, if non-compliant the CCα is compliant. 	Optimise the tests with a non-compliant CC β .
	CC α (confirmatory)	<ul style="list-style-type: none"> Almost all compliant, if non-compliant the CCβ is compliant. 	Optimise the tests with a non-compliant CC α .
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	Note in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> All species are included but some with a very little number of samples. Matrices included: Kidney fat, muscle, plasma, urine. 	
Other remarks			

2.11.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (ELISA, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS, LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant For horses and farmed game plasma is tested Matrices: urine/plasma 	Add urine as matrix
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: wild boar	

2.11.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 12 analytes in the most relevant species (bovine, pig and poultry) are monitored. All minimum requirements are covered. Isoxsuprine has been added. 6 recommended analytes included 	
Methods	Screening	ELISA for drinking water and urine, LC-MS/MS for tissues (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	In some cases CC β above recommended concentrations, e.g. for clenbuterol, mabuterol and brombuterol in bovines/poultry/pig urine and drinking waters. In all these cases CC β = recommended concentrations	CC β should be < RC
	CC α (confirmatory)	CC α for some analytes above recommended concentrations, e.g. for mabuterol, brombuterol, mapenterol and salbutamol in farmed game, bovine, poultry, sheep/goat, pig, horse and aquaculture (liver and plasma)	CC α should be < RC
Levels of action		Presence	
Species/matrices		Fulfilled, consider lung in addition to or instead of liver and hair for screening	
Other remarks		No changes in comparison to 2016 and 2017	

2.11.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.11.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans metabolites: compliant Dapsone: No control non-compliant 	
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA and LC-MS/MS compliant Nitrofurans: LC-MS for milk and LC-MS/MS compliant Dapsone: No control non-compliant 	
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: No control non-compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : / 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: / 	<ul style="list-style-type: none"> No rabbit No Farmed games, and rabbit
Other remarks		/	/

2.11.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Recommendations
Analytes		<i>dihydrostreptomycin, streptomycin</i> : compliant	2 out of 8 analytes: non-compliant
Methods	Screening	ELISA (Milk), LC-MS/MS (honey): compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL	/
Species/ matrices		Honey, Milk	Species/ matrices to be improved : meat
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 5 penicillins and 1 cephalosporin in Milk and in Sheep/goats, Horses, Poultry and Farmed game muscle 4 penicillins and 2 cephalosporins in Bovine and Pig kidney 	<ul style="list-style-type: none"> • Penicillin-G is missing in Poultry and Farmed Game • Penicillin-V is missing in Pig • Nafcillin should be added at least in Bovine and Sheep/goats • Dicloxacillin is missing in all species/ matrices • Overall the control of 8 penicillins should be a standardised method in all species/ matrices • Very reduced number of cephalosporins controlled (cephalexin) : missing are ceftiofur, cephapirin and cefquinome in meat except ceftiofur for bovine and pig kidney – also missing are cefacetile, cefalonium, cefoperazone, cefazoline, cephapirin and desacetylcephapirin in milk • Remark : It is not detailed whether <i>desfuoylceftiofur</i> is also controlled together with the <i>ceftiofur</i> in kidney tissues
Methods	Screening	<ul style="list-style-type: none"> • Premi-test for Bovine and Pig Kidney • Delvo-Test for Milk • LC-MSMS for all other Species/ matrices concerned 	
	Confirmatory	LC-MSMS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/

Levels of action	MRL or Presence	/
Species/ matrices	7 species/ matrices are considered : Bovines, Pigs, Farmed Games, Horses, Milk, Poultry and Sheep/Goats	<ul style="list-style-type: none"> No control in Eggs, Rabbit and Aquaculture No control in Bovine and Pig Muscles (only Kidney)
Other remarks	/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Recommendations
Analytes		Clindamycin, erythromycin, lincomycin, pirlimycin, tulathromycin, tylosin, and tylvalosin	<ul style="list-style-type: none"> 3-O-acetyltylosin, gamithromycin, neospiramycin, spiramycin, tildipirosin, tilmicosin Only 1 or 2 compounds monitored in honey and and eggs: tylosin, tylvalosin
Methods	Screening	LC-MS/MS	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant except certain cases	<ul style="list-style-type: none"> Tylvalosin CCα in eggs < MRL !!! Tylosin MRL is 50 $\mu\text{g}/\text{kg}$ when the reported CCα is 115 $\mu\text{g}/\text{kg}$ MRL tulathromycin in bovine muscle is 300 $\mu\text{g}/\text{kg}$ when the reported CCα is 116 $\mu\text{g}/\text{kg}$
Levels of action		Compliant except in a few cases	<ul style="list-style-type: none"> There is a MRL for tylvalosin in eggs (200 $\mu\text{g}/\text{kg}$) There is a MRL for tulathromycin in sheep/goat muscle = 450 $\mu\text{g}/\text{kg}$
Species/ matrices		Compliant	No control in rabbit muscle
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Recommendations
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Analytes		The 8 recommended substances and <i>nalixidic acid, norfloxacin</i> : compliant	<ul style="list-style-type: none"> No control for <i>flumequine</i> and <i>marbofloxacin</i> in Milk No control for <i>sarafloxacin</i> in Aquaculture products
Methods	Screening	<ul style="list-style-type: none"> CHARM tests (ciprofloxacin, danofloxacin, diflofloxacin, enrofloxacin for Milk: compliant LC-MS/MS for Muscle: compliant 	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL: compliant	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines , Pigs: muscle Milk 	No control for Eggs, Farmed Game, Honey, Horses, Poultry, Rabbit, Sheep/goats/
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 15 analytes: compliant 10 to 13 analytes are controlled in muscles, Milk and Eggs 	<ul style="list-style-type: none"> No control for sulfabenzamide, sulfacetamide, sulfaclozine, sulfaguanidine, sulfameter, sulfamethizol, sulfamonomethoxine, sulfamoxol, sulphanilamide, sulfasalazine, sulfisomidine Control for <i>sulfatroxazole</i> only in Bovine muscle Only 5 analytes are controlled for Honey
Methods	Screening	<ul style="list-style-type: none"> Premi@test for Kidneys: compliant Delvotest® or LC-MS/MS for Milk: compliant Delvotest® or LC-MS/MS for other Species/ matrices : compliant 	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of sulfonamides at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	Compliant	CC α values are equal to LOQ or LOD in Honey and approximately equal to 1/2 MRL in Eggs
Levels of action		MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Pigs: muscle and kidney • Aquaculture products, Horses, Poultry, Sheep/goats: muscle • Eggs, Honey, Milk 	No control for Rabbits
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Recommendations
Analytes		Tetracyclines: 4 substances: compliant	No control of the the 3 types of 4-epimers
Methods	Screening	Premi-test for Bovines and Pigs Kidney and LC-MSMS for the other species/ matrices: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Non-compliant	CC β must be lower than MRL it is not the case for Bovines Kidney
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Non-compliant	No control for rabbit
Other remarks			/

B1 (Other antibacterials)		Compliant Evaluation	Recommendations
Analytes		<i>Florfenicol & florfenicol amine in aquaculture products</i>	Other compounds should be implemented: thiamphenicol, ...
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		MRL	/
Species/ matrices		Aquaculture products only: non-compliant	Other species/ matrices should be implemented
Other remarks		/	/

2.11.9 Group B2a – Antihelmintics

B2a		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 5 avermectines, 6 benzimidazoles, closantel, nitroxinil, rafoxanide, triclabendazole are not included; 8 out of 12 minimum requirements fulfilled <p>Aquaculture: 5 avermectines, no benzimidazoles or others Bovine: 5 avermectines, no benzimidazoles or others Eggs: no avermectines, 7 benzimidazoles, closantel, levamisole, nitroxinil, oxcyclozanide, rafoxanide Farmed game: 5 avermectines, no benzimidazoles or others Horse: 5 avermectines, no benzimidazoles or others Milk: 5 avermectines, 4 benzimidazoles, levamisole Pig: 5 avermectines, 7 benzimidazoles, levamisole, closantel, nitroxinil, oxcyclozanide, rafoxanide Poultry: no avermectines, 7 benzimidazoles, levamisole, closantel, nitroxinil, oxcyclozanide, rafoxanide Rabbit: not analysed for B2a Sheep/goat: no avermectines, 7 benzimidazoles, levamisole</p>	
Methods	Screening	HPLC-FLU for avermectines, LC-HRMS and LC-MS/MS for benzimidazoles and others	
	Confirmatory	HPLC-FLU for avermectines, LC-HRMS and LC-MS/MS for benzimidazoles and others	
Limits	CC β (screening)	Compliant, CC β below MRL	
	CC α (confirmatory)	CC α below MRL, other values compliant	
Levels of action		Compliant: presence or MRL	
Species/matrices		Not all relevant analyte/matrix combinations are analysed, e.g. benzimidazoles are not analysed in bovine	
Other remarks			

2.11.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 14 anticoccidials: 9 chemical coccidiostats and 6 ionophores All minimum requirements included The majority of the recommended included 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant	
Levels of action		MRL, ML, presence	
Species/matrices		<ul style="list-style-type: none"> No tissues included for the different species. Principal analysed matrices: egg, feed and plasma 	Muscle and/or liver must be included for all analytes in all species
Other remarks			

2.11.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Almost compliant minimum required: chlorpromazine is missing Additional: xylazine (pigs), azaperone, azaperol 	Include chlorpromazine, carazolol, xylazine
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Azaperone/azaperol: 100 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks			

2.11.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 13 analytes (milk: 13) Minimum required substance metamizole (basic NSAID) in milk and muscle is analysed additionally Minimum required and recommended analytes are almost covered Marker residue MAA should be included in the analysis 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant), LC-MS (non-compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> Not compliant for most compounds with recommended concentrations PBZ, OPB, IP in muscle → CCβ should be below not equal the recommended concentrations DC in milk → CCβ should be below the MRL; CCβ should be below and not equal to recommended concentrations 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for most compounds with recommended concentrations PBZ, OPB, IP in muscle → CCα should be below the recommended concentrations DC in milk (CCα 1.24 μg/kg ↔ CCα max: 0.22 μg/kg) VDP in horse muscle (CCα > CCα max) or MAA in muscle (in some cases CCα > CCα max). CCα < MRL for few MRL compounds (e.g. flunixin in muscle) 	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, sheep/goat – muscle; bovine - urine; milk)	
Other remarks		No further remarks	

2.11.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox: compliant Olaquinox : compliant 	Only 3 metabolites no parent compound
Methods	Screening	LC-MS/MS	/

	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		pigs only: compliant	/
Other remarks		/	/

2.11.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, horses. Not included: sheep/goats, poultry, aquaculture, Additional: none. 	Include also recommended analytes and more samples for horses.
Methods	Screening	<ul style="list-style-type: none"> ELISA. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> Compliant. Noted in clear MRL concentrations. 	
Species/matrices		<ul style="list-style-type: none"> Only included bovines, pigs, horses. Matrices compliant. Matrices included: liver, raw milk (bovines). 	Include at least sheep/goats.
Other remarks			

2.11.15 Group B3c – Chemical elements

B3c	Evaluation	Recommendations/comments
Analytes	<ul style="list-style-type: none"> Cd, Pb, Hg and Cu; As, Ni, Cr, Mn, Se and Zn Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments) 	Good to see that As and Ni is included Hg should be analysed in other matrices than fish (396/2005 and amendments)

Methods	Screening	ICPMS	
	Confirmatory	ICPMS, AAS (Hg)	
Limits	LOQ	Complies with regulation	
Levels of action		Overall consistent with regulation	Note: There is no ML for Cd in milk, honey and eggs (1881/2006 and amendments), assume the stated MLs are national MLs Note: Only few MRLs for Cu is stated, for more MRLs please refer to 396/2005 and amendments
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.11.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, Ochratoxin 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> ELISA (aflatoxin M1), HPLC-FLD 	Change screening method to HPLC-FLD for aflatoxin M1
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD, HPLC (aflatoxin M1) 	Change confirmatory method to HPLC-FLD or LC-MS/MS for aflatoxin M1
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 0.05 μg/kg (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture Matrices: kidney, liver, milk 	
Other remarks			

2.11.17 Group B3e – Antimicrobial compounds

B3e (Dyes)	Compliant Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.12 Member State: France (FR)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Optional include benzestrol	
A2	Analytes	Include 6-propyl-2-thiouracil	
A3	Analytes	Quite an impressive list, especially for the analytes in hair and feed.	
A4		-	
A5	Analytes	Include CC α values for confirmatory methods for all species	
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits	<ul style="list-style-type: none"> Indicate CCβ values and avoid the use of < Include CCα values for confirmatory method otherwise no evaluation possible Set levels of action to presence and not CCα 	
	Matrices	Unsuitable matrix muscle for poultry	
A6 - other	Limits		<ul style="list-style-type: none"> Nitrofurans: CCβ are the same than CCα Dapsone CCα is higher than the recommended concentration of 5μg/kg
	Species/matrices	<ul style="list-style-type: none"> Nitrofuranes: No bovines, farmed Game, horses, milk Dapsone: No control in Milk 	
B1 Aminoglycosides	Analytes	Compliant	
	Species/matrices		No control for Aquaculture products or Milk: non-compliant
	Limits	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosodes at their MRL level	CC β for kanamycin in Sheep/goats muscle seems too high
B1 Betalactams	Analytes	In several species/ matrices like FG, R, OC, and Eggs, are missing some substances from penicillins as well as from cephalosporin sub-groups. To be updated and covered according to EU-RL recommendations as from the MRL regulation 37/2010	/

	Methods/ Limits	<ul style="list-style-type: none"> • CCbeta screening for Premi-test and/or Four Plate Test are not acceptable for Cloxacillin and Dicloxacillin in B,P,Py Muscle estimated at 2 x MRL • CCbeta screening for Delvotest not estimated (Unknown) – To be updated • CCalpha confirmation for LC-MSMS not estimated (Unknown) for all 8 penicillins 	
	Species/ matrices	Eggs control is reduced to one cephalosporin (Ceftiofur) => number of substances to be improved	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS
B1 – Macrolides and lincosamides	Analytes	Compliant but an extension of the scope in eggs and honey could be relevant	/
	Species/ matrices	No control in milk	
	Limits	Pay attention to the reported CC α and CC β which are not always in agreement with the MRL	
B1 – Quinolones	Species/ matrices	No control in Milk	No data for danofloxacin in Bovines muscle
	Limits		CC α level too low for flumequine in Aquaculture products
B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> • 17 analytes controlled: compliant • Extension of the number of monitored sulphonamides: at least to Minimum required (sulfachloropyrazine, sulfisoxazole), Recommended (sulfameter, 	Number of controlled analytes/products is 6 (Farmed Game, Rabbits) to 17 (Pigs). 6 analytes for Bovines, Poultry, Sheep/goats

		sulfamoxol), Optional (sulfabenzamide,sulfasalazine, sulfatroxazol, sulfisomidine)	
	Limits	<ul style="list-style-type: none"> CCβ values obtained with “Premi®Test or Four Plate Test” are not acceptable (CCβ > 6 MRL), CCβ must be \leq MRL CCβ and CCα should be reported for Milk (CCβ and CCα levels "unknown"): non-compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of sulfonamides at their MRL level
B1 – Tetracyclines	Analytes	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level	<ul style="list-style-type: none"> CCβ unknown for milk CCα unknown for milk
B1 – Other antibacterials	Analytes	<ul style="list-style-type: none"> <i>Baquiloprim, florfenicol, florfenicol amine, novobiocin, rifaximin, thiamphenicol, tiamulin, trimethoprim</i> 	
	Species/matrices	<ul style="list-style-type: none"> No control for Aquaculture products and Milk: non-compliant 	
	Limits	Compliant	<ul style="list-style-type: none"> No precise data for <i>thiamphenicol</i> and <i>tiamulin</i> CCα CCα level too low for <i>trimethoprim</i> in Horses muscle (MRL=100 μg/kg)
B2a	Analytes	Eprinomectin should be included	
	Limits		
B2b	Analytes		
	Limits	Include CC α values for confirmatory methods for all matrices/species, otherwise no possible evaluation	
B2d		-	
B2e	Analytes	<ul style="list-style-type: none"> Indicate CCα values for confirmatory methods Set levels of action to MRL or presence 	
	Limits	<ul style="list-style-type: none"> Include CCα value for confirmatory methods otherwise no evaluation possible Review CCβ values in milk for diclofenac and naproxen. CCβ should be < MRL or RC 	
	Matrices		
B2f antimicrobials	Analytes	<ul style="list-style-type: none"> Carbadox (QCA-DCBX): non-compliant Olaquinox(MQCA): non-compliant 	No control plan for carbadox/olaquinox

B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)and amendments)	
	Methods		
	Limits	MS should provide info on LOQs	
	Levels of action	MS should provide info and levels of action	
	Species /matrices		
B3d	Analytes	Include aflatoxin M1, ochratoxin, zearalenone	
B3e	Analytes	Compliant	/
	Other remarks		

2.12.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Optional include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant (except for feces) 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant (except for feces) 	
Levels of action		<ul style="list-style-type: none"> 'CCalpha' 	
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine (feces)/liver/muscle Extra matrices: feed/hair 	
Other remarks		Subspecies tested: For poultry subspecies are specified For aquaculture : finfish For farmed game: rabbit(/other)	

2.12.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Almost compliant: propyl thiouracil is missing Additional: 5-propyl-2-thiouracil, 2-mercaptoimidazole, 6-ethyl-2-thiouracil, benzylthiouracil, dimethylthiouracil, phenylthiouracil 	Include 6-propyl-2-thiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant with the exception for pigs 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant with the exception for pigs 	
Levels of action		<ul style="list-style-type: none"> CCα 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: urine and thyroid Additional: feed 	
Other remarks			

2.12.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses, poultry. Non-compliant: aquaculture (stanozolol) Farmed game/rabbit (optional) (boldenone). Optional: 17-Alpha-Methyl-5-Beta-Androstan-3-Alpha-17-Beta-Diol, 1-dehydro androstanolone thp ether, 1-dehydro-androstanolone acetate, 1-dehydro-androstanolone benzoate, Bolasterone, Boldenone acetate, Boldenone benzoate, Boldenone beta, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Boldenone propionate, Boldenone undecylenate, Boldenone-Alpha, Chlortestosterone (Clostebol), Chlortestosterone-17-Alpha, Danazol, Estradiol cypionate, Estradiol enanthate, Estradiol propionate, Estradiol valerate, Estradiol-17-Alpha, Ethisterone (Ethinyltestosterone), Methandriol, Nandrolone propionate, Norethandrolon, Norethandrone, Norethindrone (Norethisteron), Nortestosterone benzoate, Nortestosterone decanoate, 	Only add the very few missing analytes.

		Progesterone, Progesterone-17-Alpha-Hydroxy, Testosterone acetate, Testosterone benzoate, Testosterone isocaproate, Testosterone nanthate, Testosterone propionate, Testosterone-17-Alpha, Vinylestradiol.	
Methods	Screening	• GC-MS, GC-MS/MS, LC-MSMS.	
	Confirmatory	• GC-MS, GC-MS/MS, LC-MSMS.	
Limits	CC β (screening)	• Almost all compliant, sometimes it is not clear because of 2 concentrations are mentioned.	Make clear the few double concentrations.
	CC α (confirmatory)	• Almost all compliant, sometimes it is not clear because of 2 concentrations are mentioned.	
Levels of action		• 'CCalpha'.	
Species/matrices		<ul style="list-style-type: none"> • From all species a lot of samples are included, only subspecies from poultry and fish are specified. • Matrices included: feces, feed, hair, liver, lung, muscle, urine. 	
Other remarks			

2.12.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		• Compliant for both minimal required and optional species	Include zearalanone
Methods	Screening	• Compliant (GC-MS, GC-MS/MS)	
	Confirmatory	• Compliant (GC-MS, GC-MS/MS, LC-MS/MS)	
Limits	CC β (screening)	• Compliant	
	CC α (confirmatory)	• Compliant	
Levels of action		• 'CCalpha'	
Species/matrices		<ul style="list-style-type: none"> • Compliant for both minimal required and optional species • Replacement matrices used • Matrices: urine/hair/liver/muscle • Extra matrix: feed 	
Other remarks		Subspecies tested: For poultry subspecies are specified For aquaculture : finfish For farmed game: rabbit(/other)	

2.12.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 29 analytes in all relevant species (bovine, farmed game, horses, sheep/goats, rabbits, pig and poultry) monitored All minimum requirements covered 9 recommended analytes included Zilpaterol, Bromchlorbuterol, cimbuterol and mapenterol not analysed in any matrices 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	No values given	Indicate CC α values for confirmatory methods
Levels of action		CC α	Level of action should be set at “presence” and not at CC α .
Species/matrices		<ul style="list-style-type: none"> Relevant analytes/species/matrices fulfilled Lung monitored in all species 	
Other remarks		No changes in comparison to 2016, 2017	

2.12.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		Minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	Avoid the use of < to express the values
	CC α (confirmatory)	no values given	Indicate CC α for confirmatory methods otherwise no evaluation possible
Levels of action		CC α	Indicate levels of action as presence and not CC α .
Species/matrices		recommendations fulfilled except for poultry	
Other remarks		Unsuitable matrix muscle for poultry	

2.12.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: Evidence test for honey and LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	CC β screening are the same as CC α confirmation
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCβ screening are the same as CCα confirmation CCα is higher than the recommended concentration of 5μg/kg
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant ? CCα but too high ? 	/
Species/matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> Nitrofuranes not controlled in bovines, farmed Game, horses, milk Dapsone not controlled in milk
Other remarks		/	/

2.12.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Compliant	/
Methods	Screening	<ul style="list-style-type: none"> Evidence for Honey and Eggs: compliant Premi test or Four plate test or LC-MS/MS for muscle: compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosodes at their MRL level
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	CC β for <i>kanamycin</i> in Sheep/goats muscle seems too high
	CC α (confirmatory)	Compliant	/
Levels of action		CC α	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs(hens, quails), Honey 	No control for Aquaculture products or Milk: non-compliant
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Beta-lactams: 8 penicillins and 8 cephalosporins in B,E,P,Py muscle 8 penicillins and 7 cephalosporins in Aquaculture and in Milk 2 penicillins and 2 cephalosporins in FG muscle 3 penicillins and 2 cephalosporins in Rabbit muscle 4 penicillins and 3 cephalosporins in OC muscle 1 cephalosporin in Eggs and in Honey	In several species/ matrices like FG, R, OC, E and H, are missing some substances from penicillins as well as from cephalosporin sub-groups. To be covered according to recommendations from the MRL regulation 37/2010
Methods	Screening	<ul style="list-style-type: none"> Premi-test or Four Plate test for Meat (muscle) Delvotest-T for Milk Evidence for Eggs and Honey LC-MSMS for all Species/ matrices except Milk, Eggs and Honey 	/
	Confirmatory	LC-MSMS for all Species/ matrices - compliant	/
Limits	CC β (screening)	Mostly Compliant	<ul style="list-style-type: none"> Except CCbeta screening for Premi-test and/or Four Plate Test are not

			acceptable for Cloxacillin and Dicloxacillin in B,P,Py Muscle at 2 x MRL
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> Except CCbeta screening for Delvotest not estimated (Unknown)
Levels of action		CCalpha against MRL	/
Species/matrices		<ul style="list-style-type: none"> 8 species are involved with testing muscle of bovines, pigs, horses, poultry, rabbit, sheeps/goats and aquaculture products 3 products are involved : milk, eggs, honey 	Eggs and Honey controls are reduced to one cephalosporin (Ceftiofur) => control to be improved
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Compliant	Only 2 compounds monitored in honey and eggs: tilmicosin and tylosin
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS and premi-test for muscle Evidence for eggs and honey 	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	Compliant except for a few cases	<ul style="list-style-type: none"> Reported CCβ for tylosin in farmed games, pigs and poultry is 1000 $\mu\text{g}/\text{kg}$ when MRL is 100 $\mu\text{g}/\text{kg}$ Reported CCβ for erythromycin in pig, poultry and rabbit is 600 $\mu\text{g}/\text{kg}$ when MRL is 200 $\mu\text{g}/\text{kg}$ Reported CCβ for neospiramycin in muscle is 250 $\mu\text{g}/\text{kg}$ when MRL is 200 $\mu\text{g}/\text{kg}$
	CC α (confirmatory)	Compliant except a few cases	<ul style="list-style-type: none"> Reported CCα for tulathromycin in horses muscle is 1004 $\mu\text{g}/\text{kg}$ when this compound is not authorised

			<ul style="list-style-type: none"> Reported CCα for gamithromycin in sheep/goat muscle is 106 $\mu\text{g}/\text{kg}$ when MRL is 50 $\mu\text{g}/\text{kg}$ When the substance is not authorised, the level of action could be lower than the MRL level in other matrices
Levels of action	CC α		/
Species/matrices	Compliant except milk		No control in milk
Other remarks	/		/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		The 8 recommended substances and <i>nalixidic acid, norfloxacin</i> : compliant	No control for difloxacin in Farmed game muscle
Methods	Screening	<ul style="list-style-type: none"> EVIDENCE for Eggs and Honey: compliant LC-MS/MS for other species/ matrices : compliant 	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> CCα level too low for flumequine in Aquaculture products CCα: no data for danofloxacin in Bovines muscle
Levels of action		CC α : compliant	/
Species/matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed Game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle Eggs, Honey 	No control in Milk
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Sulfonamides: 17 analytes: compliant	<ul style="list-style-type: none"> Control for sulfabenzamide, , sulfachloropyrazine, sulfameter, sulfamoxol, sulfasalazine,

			<p>sulfatroxazol, sulfisomidine, sulfisoxazole: non-compliant</p> <ul style="list-style-type: none"> Number of controlled analytes/products is 6 (Farmed Game, Rabbits) to 17 (Pigs). 6 analytes for Bovines, Poultry, Sheep/goats
Methods	Screening	<ul style="list-style-type: none"> Delvotest T for Milk: compliant Evidence for Honey: compliant HPTLC for Eggs: compliant Premi test or Four plate test, or HPTLC or LC-MS/MS for muscle: compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of sulfonamides at their MRL level
	Confirmatory	HPLC-UV or LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	<ul style="list-style-type: none"> CCβ values obtained with "Premi@Test or Four Plate Test" are not acceptable (CCβ > 6 MRL), CCβ must be \leq MRL CCβ "unknown" for Milk: non-compliant
	CC α (confirmatory)	CC α level for muscle: compliant	CC α "unknown" for Milk: non-compliant
Levels of action		CC α	/
Species/matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs (hens, quails), Honey, Milk (cows, sheep, goats) 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Tetracyclines: 4 substances and the 3 kind of epimers compliant	/
Methods	Screening	Evidence, Delvotest T, HPLC-UV, Four-plate test; Premitest and LC MS/MS: compliant	To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of tetracyclines at their MRL level
	Confirmatory	HPLC-UV and LC-MS/MS compliant	/
Limits	CC β (screening)	Compliant	CC β unknown for milk

	CC α (confirmatory)	Compliant	CC α unknown for milk
Levels of action		Compliant	/
Species/matrices		Compliant	No Farmed game
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<i>Baquiloprim, florfenicol, florfenicol amine, novobiocin, rifaximin, thiamphenicol, tiamulin, trimethoprim</i>	/
Methods	Screening	<ul style="list-style-type: none"> EVIDENCE for Eggs and Honey: compliant LC-MS/MS for other species/ matrices : compliant 	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> No precise data for <i>thiamphenicol</i> and <i>tiamulin</i> CCα CCα level too low for <i>trimethoprim</i> in Horses muscle (MRL = 100 μg/kg)
Levels of action		CC α	/
Species/matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits Sheep/goat: muscle Eggs(hens, quails), Honey 	No control for Aquaculture products and Milk: non-compliant
Other remarks		/	/

2.12.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	<p>5 avermectines, 16 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled</p> <p>Aquaculture: 5 avermectines, eprinomectin not covered Bovine: 5 avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p>	<ul style="list-style-type: none"> Eprinomectin should be included as it is authorized for fin fish, MRL: 50 μg/kg

		<p>Eggs: no avermectines,, 8 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p> <p>Farmed game: 5 avermectines, no benzimidazoles or other</p> <p>Horse: 5 avermectines, 2 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, pyrantel, rafoxanide</p> <p>Milk: 5 avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p> <p>Pig: 5 avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p> <p>Poultry: no avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p> <p>Rabbit: no avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p> <p>Sheep/goat: 5 avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, nitroxinil, oxyclozanide, pyrantel, rafoxanide</p>	
Methods	Screening	HPLC-FLU (avermectines), HPLC-MS/MS for benzimidazoles and other	
	Confirmatory	HPLC-FLU (avermectines), HPLC-MS/MS for benzimidazoles and other	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		CC α	
Species/matrices		all relevant analyte/matrix combinations are analysed	
Other remarks		Very comprehensive analyte portfolio	

2.12.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 11 anticoccidials: 4 chemical coccidiostats, 6 ionophores and 1 nitroimidazole • All minimum requirements included • 3 recommended analytes included 	Include more chemical coccidiostats
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant but values given as <	

	CC α (confirmatory)	No values given	No evaluation possible. Specify the individual CC α values in all matrices/species otherwise no possible evaluation of the confirmatory methods
Levels of action		CC α	Levels of actions must be set as MRL, ML or presence
Species/matrices		<ul style="list-style-type: none"> Relevant analyte/matrix combinations are analysed Analysed matrices: egg, muscle and feed 	
Other remarks		Dinitrocarbanilide is the marker substance for nicarbazin. It is sufficient to use just one.	

2.12.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Compliant recommended 	
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> CCα 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.12.12 Group B2e – NSAIDs

B2e	Description	Comments
Analytes	<ul style="list-style-type: none"> 11 analytes: Minimum requirements are partly fulfilled. 	

		<ul style="list-style-type: none"> basic NSAIDs (MAA), IP (tissue/milk) and FLUOH (milk) are not included. Some recommended analytes are covered MRLs in milk were established for DC, FLUOH, TFA, MLX, metamizole (→ MAA) and SA 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, except diclofenac and naproxen in milk. For diclofenac CC β is 0.5 μ g/kg and the MRL 0.1 mg/kg For naproxen CC β is 12.5 μ g/kg and the recommended concentration is 10 μ g/kg	CC β for screening should be < MRL or RC
	CC α (confirmatory)	No values given	No possible evaluation of the data
Levels of action		CC α	Levels of action should be set to MRL or presence
Species/matrices		<ul style="list-style-type: none"> recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle) cow, sheep and goats' milk included 	
Other remarks		No further remarks	

2.12.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox (QCA-DCBX): non-compliant Olaquinox(MQCA): non-compliant 	No control plan for carbadox/olaquinox
Methods	Screening	LC-MS/MS: /	/
	Confirmatory	LC-MS/MS: /	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/
Levels of action		/	/
Species/matrices		/	/
Other remarks		/	/

2.12.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses. Not included: poultry, aquaculture, farmed game/rabbit (optional). Additional: Beclometasone, Betamethasone, Flumethasone, Flunisolide, Fluocinolone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Probably compliant. It is not clear what is meant with 'for both' and MRL is not noted in concentrations. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Probably compliant, but 2 concentrations are noted. 	Note one concentration per combination of analyte – species – matrix.
Levels of action		<ul style="list-style-type: none"> 'CCalpha or MRL' without concentration. 	Note LoA in clear concentrations with MRL concentration.
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats, horses. Matrice compliant: liver. 	
Other remarks			

2.12.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Pb, Cd and Hg	<p>Cu should be included (396/2005 and amendments)</p> <p>Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)</p>
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	

Limits	LOQ	Not stated, hence not evaluated	MS should provide info on LOQs
Levels of action		Not stated, hence not evaluated	MS should provide info on levels of action
Species/matrices		Relevant species/matrices included	
Other remarks			

2.12.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Missing all analytes 	Include aflatoxin M1, ochratoxin, zearalenone
Methods	Screening	<ul style="list-style-type: none"> N/A 	
	Confirmatory	<ul style="list-style-type: none"> N/A 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> N/A 	
Levels of action		<ul style="list-style-type: none"> N/A 	
Species/matrices		<ul style="list-style-type: none"> N/A 	
Other remarks			

2.12.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant green: compliant Crystal Violet: compliant Crystal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	Leuco Brilliant green should be added to the method
Methods	Screening	LC-MS/MS: compliant	/
	Confirmatory	LC-MS/MS: compliant	/
Limits	CC β (screening)	compliant	CC β screening are the same as CC α confirmation
	CC α (confirmatory)	compliant	/

Levels of action	compliant	/
Species/matrices	Aquaculture: compliant	/
Other remarks	/	/

2.13 Member State: Croatia (HR)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Methods	AAS is not a suitable screening or confirmatory method for β -agonists	
	Limits	Review CC α and CC β values for clenbuterol-hydroxymethyl, brombuterol, mapenterol and tulobuterol in liver CC α and CC β should be < RC	
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/ matrices	non-compliant	<ul style="list-style-type: none"> For Nitrofuranes: No control for Horses For Dapsone: No control for Aquaculture, Bovines, Eggs, Farmed games, Honey, Rabbit and Sheep/goats
B1 - Aminoglycosides	Analytes	8 analytes: compliant	<ul style="list-style-type: none"> No control for <i>neomycin</i> in Eggs: non-compliant
	Species/ matrices	compliant	
	Methods/ Limits	compliant	
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> Desfuoylceftiofur is missing for horse and pigs muscle Cefacetrile is missing for milk Penicillin-V is missing for Eggs (MRL) 	
	Methods / Limits		It is a bit strange to have estimated CCbeta screening equal to CCalpha confirmation when monitoring for the presence of the substances

B1 – Macrolides and lincosamides	Analytes	Compliant	
	Species/matrices	Compliant	
	Methods	Compliant	Pay more attention to the determination or reporting of CC α and CC β
B1- Quinolones	Analytes	Compliant	<ul style="list-style-type: none"> No control for ciprofloxacin in Sheep/goat
B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> Compliant : 14 analytes controlled Extension of the number of monitored sulphonamides: at least to Minimum required (sulfachloropyrazine, sulfamethizol, sulfapyridine), Recommended (sulfacetamide, sulfamoxol, sulphanilamide), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfatroxazol, sulfisomidine) 	/
	Methods/Limits	<ul style="list-style-type: none"> Choice of methods: Compliant Pay more attention to the determination or reporting of CCα: Non-compliant for Honey : CCα is given as "same as screening method": impossible because no CCα calculated for a screening method 	<ul style="list-style-type: none"> Non-compliant for 1/4th of the milk samples classified with "presence" while there is an MRL but CCα correctly calculated from MRL
B1 – Tetracyclines	/	Compliant	<ul style="list-style-type: none"> /
B1 – Other antibacterials	Analytes	<i>Avilamycine, bacitracin, colistin A and B, florfenicol, novobiocin, rifamycin, rifaximin, thiamphenicol, trimethoprim, valnemulin, virginiamycin (M1+S1)</i>	<ul style="list-style-type: none"> No control for <i>tiamulin</i> in Eggs
	Methods/Limits		<ul style="list-style-type: none"> CCβ for <i>valnemulin</i> too high for Pigs and Rabbits (CCβ must be \leq MRL) CCα = CCβ for <i>rifaximin</i>: non-compliant
B2a	Analytes		
	Limits		
B2b	Analytes	Consider testing of lasalocid to meet the minimum requirements	
	Limits		
B2d		-	
B2e	Analytes	Consider FLU-OH in poultry muscle to fulfil the analyte spectrum	
	Limits	Compliant, except for some cases	
	Matrices		

B2f antimicrobials	-		No mention about metabolites QCA, DCBX for carbadox and MQCA for olaquinox
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits		
	Levels of action		Note: There are no MLs for Cd and Pb in rabbit and game, assume the stated MLs are national MLs
	Species /matrices		
B3d		-	
B3e		Compliant in all aspects	/
	Other remarks		

2.13.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/liver 	
Other remarks		Subspecies tested: For pigs/poultry/sheep/goats subspecies are specified For farmed game: rabbit(/other)	

2.13.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional phenyl thiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Thiouracil: 10 μg/l 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: urine 	
Other remarks			

2.13.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines. Non-compliant: pigs, sheep/goats, horses (estradiol, testosterone), poultry (boldenone, nandrolone, estradiol, testosterone, methyltestosterone, stanozolol, gestagens), aquaculture (only included methyltestosterone and trenbolone, Farmed game/rabbit (optional) only included ethinylestradiol and trenbolone). Optional: Flugestone-17-Acetate. 	Add the several missing recommended analytes.
Methods	Screening	<ul style="list-style-type: none"> ELISA, LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS/MS, LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	

	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. No differentiation for testosterone. 	Note in clear concentrations and differentiate for testosterone.
Species/matrices		<ul style="list-style-type: none"> All species are included but some with very little number of samples. Included matrices: Kidney fat, liver, muscle, plasma, urine. 	Expand the number of samples for some species.
Other remarks		<i>Additional comment Croatia: estradiol and testosterone in serum only included samples of bovines because lack of knowledge about interpretation results in pigs.</i>	

2.13.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/liver 	Add or replace liver for urine where possible
Other remarks		Subspecies tested: For pigs/sheep/goats/poultry subspecies are specified For farmed game: rabbit(/other)	

2.13.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 15 analytes considered in the plan All minimum requirements included 	

		<ul style="list-style-type: none"> Bromchlorbuterol and clenproperol, clenclorhexerol as recommended added 	
Methods	Screening	LC-MS/MS (compliant); AAS not suitable method for β -agonists	Same remarks as 2017, 2018
	Confirmatory	LC-MS/MS (compliant); AAS not suitable method for β -agonists	
Limits	CC β (screening)	Not compliant in some case, for example in poultry, bovine, pigs and farmed games liver for clenbuterol-hydroxymethyl, brombuterol, mapenterol and tulobuterol. CC β values varies between 0.2 and 0.22 $\mu\text{g}/\text{kg}$ and RC = 0.2 $\mu\text{g}/\text{kg}$	CC β should be < RC
	CC α (confirmatory)	Not compliant in some case, for example in poultry, bovine, pigs and farmed games liver for clenbuterol-hydroxymethyl, brombuterol, mapenterol and tulobuterol. CC α values varies between 0.2 and 0.22 $\mu\text{g}/\text{kg}$ and RC = 0.2 $\mu\text{g}/\text{kg}$	CC α should be < RC
Levels of action		Presence	
Species/matrices		<ul style="list-style-type: none"> Relevant analytes/species/matrices are covered unusual matrices bile, thyroid, fat+skin 	
Other remarks			

2.13.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.13.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
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Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans metabolites: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS and LC-HRMS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS same as screening compliant Nitrofurans: LC-MS/MS same as screening compliant Dapsone: LC-MS/MS and LC-HRMS same as screening compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: same as screening compliant Nitrofurans: same as screening compliant Dapsone: same as screening compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: 	<ul style="list-style-type: none"> No Horses No Aquaculture, Bovines, Eggs, Farmed games, Honey, rabbit and sheep/goats
Other remarks		/	/

2.13.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		8 analytes: compliant	/
Methods	Screening	LC-HRMS or LC-MS/MS: compliant	/
	Confirmatory	LC-HRMS or LC-MS/MS: compliant	/
Limits	CC β (screening)	Compliant	/

	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle • Honey, Milk (cows, sheep, goats) 	No control in Eggs (for neomycin): non-compliant
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 8 penicillins and 7 cephalosporins are monitored for Milk 8 penicillins and 8 cephalosporins are monitored for Muscle 7 penicillins are monitored for Eggs 	<ul style="list-style-type: none"> • Desfuoylceftiofur is missing for horse and pigs muscle • Cefacetriple is missing for milk • Penicillin-V is missing for Eggs
Methods	Screening	LC-HRMS	/
	Confirmatory	LC-HRMS	/
Limits	CC β (screening)	Compliant	It is a bit strange to have estimated CCbeta screening equal to CCalpha confirmation when monitoring for the presence of the substances
	CC α (confirmatory)	Compliant	/
Levels of action		MRL or Presence	/
Species/ matrices		10 out of 11 species/ matrices are of concern - Compliant	/
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Compliant	/
Methods	Screening	<ul style="list-style-type: none"> • LC/HRMS for all matrices except honey • Premi test for honey 	/
	Confirmatory	LC/HRMS ou LC-MS/MS	/

Limits	CC β (screening)	Compliant except for a few cases	<ul style="list-style-type: none"> Lincomycin CCbeta in milk > MRL !!! Tildipirosine CCbeta in muscle (when not authorised) are high Tilmicosin CCbeta in muscle and milk > MRL
	CC α (confirmatory)	Compliant for MRL compounds	CCalpha = CCbeta in case of non-authorisation
Levels of action		MRL or “presence” for non-authorised substances	/
Species/ matrices		Compliant	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		The 8 recommended substances and lomefloxacin, nalixidic acid, norfloxacin, ofloxacin, orbifloxacin, pefloxacin : compliant	No control for ciprofloxacin in Sheep/goat
Methods	Screening	LC-HRMS, LC-MS/MS: compliant	/
	Confirmatory	HPLC-FLD (oxolinic acid in Eggs), LC-MS/MS (1% of the controls), LC-HRMS: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Presence or MRL: compliant	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Farmed Game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs (hens, quails), Milk (cows, goats, sheeps) 	No control for Honey
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		Compliant : 14 analytes controlled	<ul style="list-style-type: none"> No control for <i>sulfabenzamide</i>, <i>sulfacetamide</i>, <i>sulfachloropyrazine</i>, <i>sulfaclozine</i>, <i>sulfamethizol</i>, <i>sulfamoxol</i>, <i>sulphanilamide</i>, <i>sulfapyridine</i>,

			<i>sulfasalazine, sulfatroxazol, sulfisomidine</i>
Methods	Screening	Compliant: LC-HRMS, LC-MS/MS	/
	Confirmatory	Compliant: LC-HRMS, LC-MS/MS	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> Non-compliant for Honey : CCα is given as "same as screening method": impossible because no CCα calculated for a screening method
Levels of action		Compliant	<ul style="list-style-type: none"> Non-compliant for 1/4th of the milk samples classified with "presence" but CCα correctly calculated from MRL
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Eggs, (hens, quails), Honey, Milk (cows, goats, sheeps) 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		8 substances including the 3 kind of 4-epimers: compliant	/
Methods	Screening	Premitest for Honey and LC-HRMS: compliant	/
	Confirmatory	HPLC-DAD, LC-HRMS and LC-MS/MS for Honey: compliant	/
Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	Compliant	/
Levels of action		Compliant	/
Species/ matrices		Compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<i>Avilamycine, bacitracin, colistin A and B, florfenicol, novobiocin, rifamycin, rifaximin, thiamphenicol, trimethoprim, valnemulin, virginiamycin M1 and S1</i>	No control for <i>tiamulin</i> in Eggs

Methods	Screening	LC-HRMS: compliant	/
	Confirmatory	LC-HRMS: compliant	/
Limits	CC β (screening)	Compliant	CC β for <i>valnemulin</i> too high for Pigs and Rabbits (CC β must be \leq MRL)
	CC α (confirmatory)	Compliant	CC α = CC β for <i>rifaximin</i> : non-compliant
Levels of action		Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovines, Horses, Pigs, Poultry, Rabbits Sheep/goat: muscle • Eggs, (hens, quails), Milk (cows, goats, sheeps) 	No control for Honey
Other remarks		/	/

2.13.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • 6 avermectines, 6 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled <p>Aquaculture: 6 avermectines, 6 benzimidazoles, levamisole Bovine: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Eggs: 6 avermectines, 6 benzimidazoles, levamisole Farmed game: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Horse: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Milk: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Pig: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Poultry: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Rabbit: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Sheep/goat: 6 avermectines, 6 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, oxyclozanide, rafoxanide Wild game: not contained in the plan</p>	

Methods	Screening	HPLC-FLU for avermectines, LC-MS/MS for benzimidazoles, levamisole and others	
	Confirmatory	HPLC-FLU for avermectines, LC-MS/MS for benzimidazoles, levamisole and others	
Limits	CC β (screening)	Compliant for avermectines, benzimidazoles and others	
	CC α (confirmatory)	Compliant for avermectines, benzimidazoles and others	
Levels of action		MRL and presence	
Species/matrices		Relevant species/matrix/analyte combination fulfilled	
Other remarks		No further remarks or recommendations necessary	

2.13.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 10 chemical anticoccidials, 6 ionophores and 6 nitroimidazoles All minimum requirements included Lasalocid analysed only in bovines liver All recommended analytes are included 	Broaden the scope of lasalocid in the different species/matrices
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS, LC-DAD For some analytes no method is given, e.g. robenidine in bovine liver and monensin and salinomycin in sheep's liver 	Indicate the used method
	Confirmatory	LC-MS/MS, LC-DAD	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant for all analytes except for the following: <ul style="list-style-type: none"> halofuginone in bovine liver, MRL is set to 30 mg/kg and CCα equals 15.7 μg/kg lasalocid in bovine liver, MRL = 100 μg/kg and CCα = 33.4 μg/kg CCα should be > MRL (or ML) 	Review CC α for halofuginone and lasalocid in bovine liver as it should be higher than MRL
Levels of action		MRL, presence, VMP	
Species/matrices		Relevant analytes/species/matrices are covered.	
Other remarks		Lasalocid and lasalocid A are the same, better use just one name	

2.13.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Compliant recommended 	
Methods	Screening	• LC-MS/MS, for chlorpromazine no screening method	
	Confirmatory	• LC-MS/MS, for chlorpromazine HPLC-DAD	
Limits	CC β (screening)	• Compliant	
	CC α (confirmatory)	• Compliant	
Levels of action		• Presence	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks		• Chlorpromazine in A6	

2.13.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 27 analytes (milk: 26) Analysis of minimum required, recommended and optional analytes for all matrices Flunixin-5-hydroxy is missing in poultry muscle Analysis of several basic NSAIDs including MAA 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, except for few cases: <ul style="list-style-type: none"> DC in muscle - CCβ should be below the MRL 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Partially compliant As last year, in few cases MRL is not considered for specification of CCα, e.g. FLUOH, DC, Tolfenamic acid, Meloxicam and MAA in milk 	
Levels of action		MRL / presence	

Species/matrices	recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks	No further remarks	

2.13.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	No mention about metabolites QCA, DCBX for carbadox and MQCA for olaquinox
Methods	Screening	N/A	/
	Confirmatory	LC-MS/MS	/
Limits	CC β (screening)	N/A	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		pigs only: compliant	/
Other remarks		/	/

2.13.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, sheep/goats, horses. • Not included: poultry, aquaculture • Additional: Betamethasone, Flumethasone, Isoflupredone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> • LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> • Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant. 	

	CC α (confirmatory)	<ul style="list-style-type: none"> Urine compliant, liver almost compliant. 	
Levels of action		<ul style="list-style-type: none"> 'MRL with concentration' or 'Presence'. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats, horses, but some with very little number of samples. Matrices compliant. Matrices included: liver, urine, raw milk (bovines). 	Include more samples for some combinations.
Other remarks			

2.13.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)
Methods	Screening	ICPMS, AAS	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	Note: There are no MLs for Cd and Pb in rabbit and game, assume the stated MLs are national MLs
Species/matrices		Relevant species/matrices are covered	
Other remarks			

2.13.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> ELISA, N/A (zearalenone) 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence LOQ (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture, farmed game, rabbit Matrices: milk, feed, liver, urine 	
Other remarks			

2.13.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet and Cristal Violet-Leuco: compliant Malachite Green and Malachite Green-Leuco: compliant 	/
Methods	Screening	LC-MS/MS : compliant	/
	Confirmatory	LC-MS/MS : same as screening compliant	/
Limits	CC β (screening)	compliant	/
	CC α (confirmatory)	compliant	/
Levels of action		compliant	/
Species/ matrices		Aquaculture : compliant	/
Other remarks		/	/

2.14 Member State: Hungary (HU)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzenestrol	
A2	Analytes	Include mercaptobenzimidazole, phenylthiouracil, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits	DMZ in all matrices, except honey: CC β should be lower than the RC	
A6 - other	Analytes	Non-compliant	<ul style="list-style-type: none"> For Dapsone: No control plan acted CCβ is expected instead of LOD
	Limits		
B1 – Aminoglycosides	Analytes	7 out of 8 analytes: compliant	<ul style="list-style-type: none"> No control for <i>paromomycin</i>: non-compliant
	Species/matrices	Compliant	
	Methods/Limits	Compliant	<ul style="list-style-type: none"> More than half of the CCα values are too low (=LOD). CCα must be > MRL. Non-compliant
B1 – Beta-lactams	Analytes	Compliant	<ul style="list-style-type: none"> Remark : It is not detailed whether <i>desfuoylceftiofur</i> is also controlled together with the <i>ceftiofur</i> in all species/ matrices or concern
	Methods/Limits	For substances with Presence instead of MRL, CC α should be as low as achievable and not calculated against the MRL	<ul style="list-style-type: none"> Only when the Cascade regulation is in use, the CCα can be calculated above the MRL of the Cascade species.
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> To extend the scope to others macrolides and lincosamides : 3-O-acetyltylosin, gamithromycin, neospiramycin ?, pirlimycin, tildipirosin, tulathromycin, tylvalosin 	<ul style="list-style-type: none"> Only one macrolides monitored in honey

	Species/ matrices	Compliant	
	Methods/ Limits	Pay attention to the reporting of CC α according to the level of action	
B1- Quinolones	Species/ matrices	<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheeps/goats: kidney only 	/
	Methods/ Limits	<ul style="list-style-type: none"> No CCα for muscle of Bovines, Horses, Pigs, Sheep/goats : non-compliant CCα of the quinolones sought in the milk is too low (CCα must be > MRL) For muscles, lack of acceptable data for CCα (data too low, data too high, or LOD): non-compliant 	
B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> Only 9 analytes To extend the scope to other sulfonamides: at least Minimum required (sulfachloropyrazine, sulfaguanidine, sulfamerazine, sulfamethizol, sulfamethoxy pyridazine, sulfamonomethoxine, sulfisoxazole), Recommended (sulfacetamide, sulfameter, sulfamoxol, sulphanilamide), Optional (sulfabenzamide, sulfaclozine, sulfasalazine, sulfatroxazol, sulfisomidine) 	
	Methods/ Limits	<ul style="list-style-type: none"> Choice of methods: compliant Limits mostly compliant, except: For Eggs, CCα is replaced by a LOD at 10 $\mu\text{g}/\text{kg}$. For Milk (for 8 sulfonamides out of the 8 controlled in milk), for Muscle (sulfamethoxazole only) and for Kidney (sulfamethoxazole only), CCα is sometimes replaced by a LOD at 10 $\mu\text{g}/\text{kg}$. 	For Eggs, CC β is set at quite high value (50 $\mu\text{g}/\text{kg}$), but no MRL (Presence).
B1 – Tetracyclines	/	Compliant	/
B1 – Other antibacterials	Analytes	<ul style="list-style-type: none"> A single substance (<i>trimethoprim</i>): non-compliant 	
	Methods/ Limits	<ul style="list-style-type: none"> Compliant 	CC α level too low for trimethoprim in Horses muscle (MRL=100 $\mu\text{g}/\text{kg}$)
B2a	Analytes	Eprinomectin, emamectin in aquaculture, milk	
	Limits	Adoption of CC α and CC β to MRL	
B2b	Analytes		
	Limits	Review the levels of action for the different species/matrices Correct the MRL and ML values Take into consideration the MRL and ML values in the different species/matrices	
B2d	Analytes	Include missing analytes	

	Species /matrices	analyse all analytes in all mentioned species and change the matrix in kidney for all analytes and species	
B2e	Analytes	Consider IP and TFA in the analysis	
	Limits	Consider CC α relating to CC α max; consider CC β for some compounds with MRL or RC; Sensitivity for some analytes seems not sufficient.	
	Matrices		
B2f antimicrobials	-	Compliant	/
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As and Ni are included
	Methods		
	Limits		
	Levels of action	The MS should use ML for Pb in honey (1881/2006 and amendments) The MS should use MRLs for Hg (and Cu) in food of animal origin (396/2005)	
	Species /matrices		
B3d		-	
B3e		Compliant in all aspects	/
	Other remarks		

2.14.1 Group A1 – Stilbenes

A1 - HU		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/liver 	

Other remarks	Subspecies tested: For pigs/poultry/sheep/goats subspecies are specified For farmed game: rabbit(/other)	
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2.14.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	Include mercaptobenzimidazole, phenylthiouracil, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Almost compliant except for tapazol 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: urine 	
Other remarks			

2.14.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs Non-compliant: sheep/goats (trenbolone, stanozolol), horses (ethinylestradiol, estradiol, trenbolone) Poultry, farmed game (optional) (included estradiol and gestagens), aquaculture, rabbit (optional) (included estradiol). Optional: Androstendione, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), CLAD (Chlortestosterone metabolite), Equilenin, Equilin, Estriol, Progesterone, Stanozolol-3-Hydroxy, Stanozolol-4-Beta-Hydroxy, Trenbolone acetate. 	Add the several missing recommended analytes.
Methods	Screening	<ul style="list-style-type: none"> GC-MS, GC-MS/MS, LC-MSMS 	

	Confirmatory	<ul style="list-style-type: none"> GC-MS/MS, LC-MSMS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Mostly compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Compliant, except there is no differentiation for testosterone. 'Presence' 	Note in clear concentrations and differentiate for testosterone.
Species/matrices		<ul style="list-style-type: none"> All species are included, but from some a very few samples. Included matrices: Kidney, kidney fat, muscle, serum, urine. 	
Other remarks			

2.14.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included (except for farmed game/poultry) 	Include zearalanone for farmed game/poultry
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goats/poultry subspecies are specified For farmed game: rabbit(/other)	

2.14.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • 11 analytes monitored in the most relevant species (bovine, pig and poultry) • All minimum requirements included • 4 optional analytes included 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	CC β above or equal to recommended concentrations for some analytes: mabuterol, tulobuterol, brombuterol in bovines and pigs urine as well as for clenbuterol in aquaculture muscle	CC β should be < RC
	CC α (confirmatory)	CC α equal or above recommended concentrations for: <ul style="list-style-type: none"> • Brombuterol in urine (bovine and pig) • Brombuterol and tulobuterol in muscle (aquaculture) 	CC α should be < RC
Levels of action		Presence	
Species/matrices		Minimum requirements are fulfilled, retina, feed and drinking water are not analysed	
Other remarks			

2.14.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, except for one analyte: <ul style="list-style-type: none"> • DMZ in all matrices, except honey: CCβ should be lower the RC 	
	CC α (confirmatory)	compliant	
Levels of action		presence / MRPL	
Species/matrices		recommendations fulfilled	
Other remarks			

2.14.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans metabolites: compliant Dapsone: non-compliant 	/ <ul style="list-style-type: none"> No control plan for Dapsone
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA compliant Nitrofurans: Biochip and LC-MS/MS compliant Dapsone: / 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS for Horses and LC-MS/MS compliant Dapsone: / 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: not CCβ but LOD Nitrofurans: not CCβ but LOD Dapsone: / 	<ul style="list-style-type: none"> CCβ is expected CCβ is expected
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
Other remarks		/	/

2.14.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 7 out of 8 analytes: compliant 	<ul style="list-style-type: none"> No control for <i>paromomycin</i>: non-compliant
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/

	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> More than half of the CCα values are too low (=LOD). CCα must be > MRL. Non-compliant
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: kidney Aquaculture products, Farmed game, Poultry, Rabbits: muscle Eggs, Honey, Milk (cows, sheep, goats) 	/
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 8 penicillins and 7 cephalosporins in all Species-Products of concern 	<ul style="list-style-type: none"> Remark : It is not detailed whether <i>desfuroylceftiofur</i> is also controlled together with the <i>ceftiofur</i> in all species/ matrices or concern
Methods	Screening	<ul style="list-style-type: none"> Non-specific method (Four Plate test) for Muscle of 7 species LC-MSMS for Honey 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> For substances with Presence instead of MRL, CCα should be as low as achievable 	<ul style="list-style-type: none"> Only when the Cascade regulation is in use the CCα can be calculated above the MRL of the cascade species.
Levels of action		<ul style="list-style-type: none"> MRL or Presence 	/
Species/ matrices		<ul style="list-style-type: none"> 10 species/ matrices are screened 	/
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
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Analytes		<ul style="list-style-type: none"> Erythromycin, lincomycin, spiramycin, tilmicosin, tylosin 	<ul style="list-style-type: none"> 3-O-acetyltylosin, gamithromycin, neospiramycin ?, pirlimycin, tildipirosin, tulathromycin and tylvalosin Only lincomycin is monitored in honey
Methods	• LC-MS/MS	/	/
	• LC-MS/MS	/	/
Limits	• Compliant	/	/
	/	<ul style="list-style-type: none"> CCα for erythromycin in eggs reported as “LOD” when there is a MRL set at 150 $\mu\text{g}/\text{kg}$ CCα for spiramycin in poultry muscle is 382 for a MRL set at 200 $\mu\text{g}/\text{kg}$ CCα of tilmicosin is not suitable with MRL levels 	/
Levels of action		<ul style="list-style-type: none"> MRL or “no MRL” when not authorised 	<ul style="list-style-type: none"> Level of action for spiramycin in poultry muscle reported as “no MRL” or “200 $\mu\text{g}/\text{kg}$”. The MRL is effectively 200 $\mu\text{g}/\text{kg}$
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> The 8 recommended substances and nalixidic acid, norfloxacin, ofloxacin, orbifloxacin : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC-Fluo or LC-MS/MS (for <i>difloxacin</i> in Bovine kidneys): compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> CCα for <i>oxolinic acid</i>, <i>ciprofloxacin</i>, <i>enrofloxacin</i> for <u>muscle</u> of Aquaculture products, Farmed game, Poultry and Rabbits: compliant CCα for <i>oxolinic acid</i>, <i>ciprofloxacin</i>, <i>enrofloxacin</i> for <u>kidneys</u> of Bovines, Horses: compliant CCα for <i>oxolinic acid</i>, <i>enrofloxacin</i> for <u>kidneys</u> of Bovines, Horses, Pigs, Sheep/goats: compliant CCα for <i>flumequine</i> for muscle of Poultry and Rabbits: compliant No CCα for muscle of Bovines, Horses, Pigs, Sheep/goats : non-compliant 	<ul style="list-style-type: none"> CCα of the quinolones sought in the milk is too low (CCα must be > MRL) For muscles, lack of acceptable data for CCα (data too low, data too high, or LOD): non-compliant

Levels of action	<ul style="list-style-type: none"> • Presence or MRL: compliant 	/
Species/ matrices	<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Sheeps/goats: kidney only • Aquaculture, Farmed Game, Poultry, Rabbits: muscle • Eggs, Honey, Milk (cow, goat, sheep) 	/
Other remarks	/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Tetracyclines: 7 substances including the 3 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • HPLC-DAD, LC-MS/MS for honey: compliant • LC-MS/MS for Honey: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Compliant 	/
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant : 9 analytes, but 	<ul style="list-style-type: none"> • No control for <i>sulfabenzamide, sulfacetamide, sulfachloropyrazine, sulfaclozine, sulfaguanidine, sulfamerazine, sulfameter, sulfamethizol, sulfamethoxypyridazine, sulfamonomethoxine, sulfamoxol, sulphanilamide, sulfasalazine, sulfatroxazol, sulfisomidine, sulfisoxazole</i>
Methods	Screening	<ul style="list-style-type: none"> • Compliant: LC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> • Compliant: HPLC-DAD, LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • For eggs, CCβ is set at quite high (50 $\mu\text{g}/\text{kg}$), but no MRL (Presence).
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • For eggs, CCα is replaced by a LOD at 10 $\mu\text{g}/\text{kg}$. • For milk (for 8 sulfonamides out the 8 controlled in milk), muscle (sulfamethoxazole only) and kidney

		(sulfamethoxazole only), CC α is sometimes replaced by a LOD at 10 $\mu\text{g}/\text{kg}$.
Levels of action	<ul style="list-style-type: none"> Compliant 	/
Species/ matrices	<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: kidney only Aquaculture, Farmed Game, Poultry, Rabbits: muscle only Eggs, Honey, Milk (cow, goat, sheep) 	/
Other remarks	/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> A single substance (<i>trimethoprim</i>): non-compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα level too low for <i>trimethoprim</i> in Horses muscle (MRL=100 $\mu\text{g}/\text{kg}$)
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: kidney only Aquaculture, Farmed Game, Poultry, Rabbits: muscle Eggs, Honey, Milk (cow, goat, sheep) 	<ul style="list-style-type: none"> No control for Honey
Other remarks		/	/

2.14.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>4 avermectines, 8 benzimidazoles and others; 9 out of 12 minimum requirements fulfilled, closantel, nitroxinil, rafoxanide not within the scope</p> <p>Aquaculture: 4 avermectines, 4 benzimidazoles Bovine: 4 avermectines, 5 benzimidazoles, levamisole Eggs: no avermectines, 2 benzimidazoles Farmed game: 4 avermectines, 4 benzimidazoles Horse: 4 avermectines, 2 benzimidazoles</p>	

		Milk: 4 avermectines, 7 benzimidazoles, levamisole Pig: 4 avermectines, 3 benzimidazoles, levamisole Poultry: no avermectines, flubendazole, levamisole Rabbit: no avermectines, 5 benzimidazoles Sheep/goat: 4 avermectines, 4 benzimidazoles, levamisole	
Methods	Screening	Compliant: HPLC-FLU for avermectines, LC-MS/MS for the other substances	
	Confirmatory	Compliant: HPLC-FLU for avermectines, LC-MS/MS for the other substances	
Limits	CC β (screening)	Not compliant for all, CC β values are calculated from CC α of confirmatory method; CC β for screening should be below or equal to MRL, e.g. given CC β Febendazol in milk=35.19 $\mu\text{g}/\text{kg}$ but MRL= 10 $\mu\text{g}/\text{kg}$	
	CC α (confirmatory)	Not compliant for all, e.g. MRL albendazole in Milk = 100 $\mu\text{g}/\text{kg}$, but CC α is given as 13.58 $\mu\text{g}/\text{kg}$ (albendazole sulfoxide)	
Levels of action		Compliant, presence or MRL	
Species/matrices			
Other remarks			

2.14.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 19 anticoccidials: 14 chemical coccidiostats, and 5 ionophores All minimum required analytes included 5 out of 8 recommended analytes included 1 optional analyte included 	Include semduramycin due to the positive findings in recent years
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Not compliant for halofuginone, lasdalcid, salinomycin and monensin in bovines and poultry liver: <ul style="list-style-type: none"> Halofuginone in bovine liver, the MRL = 30 $\mu\text{g}/\text{kg}$ and the CCβ = 32.9 $\mu\text{g}/\text{kg}$. CCβ should be < MRL or ML for screening For salinomycin in poultry liver, CCβ = 11.4 $\mu\text{g}/\text{kg}$ and the MRL (or ML) = 5 $\mu\text{g}/\text{kg}$. 	Specific values would be preferable for each species/matrix CC β should be < MRL or ML values
	CC α (confirmatory)	Not compliant for all analytes, for example: <ul style="list-style-type: none"> CCα for diclazuril in bovine liver is 12.57 mg/kg and the ML = 40 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML value 	CC α should be > MRL or ML values for confirmatory and < CC α max

		<ul style="list-style-type: none"> • CCα for decoquinat in poultry liver is 22.57 $\mu\text{g}/\text{kg}$ and the MRL = 1000 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML value • For salinomycin or monensin in poultry liver. CCα for monensin = 11.7 $\mu\text{g}/\text{kg}$ and MRL/ML = 8 $\mu\text{g}/\text{kg}$, CCα should be > MRL or ML and CCα should be < CCα max (11.6 $\mu\text{g}/\text{kg}$) 	
Levels of action		<ul style="list-style-type: none"> • MRL, ML, no MRL • For some analyte “no MRL” is given as level of action although MRL or ML values exist. For example for decoquinat in liver poultry, MRL =1000 $\mu\text{g}/\text{kg}$ and in all other species the ML = 20 $\mu\text{g}/\text{kg}$. • In liver poultry the ML for halofuginone is 30 $\mu\text{g}/\text{kg}$ • In bovine liver the ML of diclazuril is 40 $\mu\text{g}/\text{kg}$ • False MRL or ML level: for example monensin in poultry liver is 8 $\mu\text{g}/\text{kg}$ and not 2 $\mu\text{g}/\text{kg}$ 	<ul style="list-style-type: none"> • Review the levels of action for the different species/matrices • Correct the MRL and ML values • Take the MRL and ML values in the different species/matrices into consideration
Species/matrices		<ul style="list-style-type: none"> • Relevant analytes/species/matrices are covered 	
Other remarks		<ul style="list-style-type: none"> • Nequinat and methylbenzoquat are the same, better use just one name 	

2.14.11 Group B2d – Tranquilisers

B2d - HU		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant minimum required: chlorpromazine only in horses and bovines, acepromazine and haloperidol are missing • Additional: diazepam, carazolol, azaperon 	Include acepromazine, haloperidol, azaperol and xylazine; analyse all analytes in all mentioned species and change the matrix in kidney for all analytes and species
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Chlorpromazine in kidney: presence • Carazolol: 25 $\mu\text{g}/\text{kg}$ • Azaperone: 100 $\mu\text{g}/\text{kg}$ • Analytes in liver: no MRL • Chlorpromazine in horses: no MRL 	

Species/matrices	<ul style="list-style-type: none"> Compliant minimum required species in liver Chlorpromazine (in kidney) in bovines, pigs, horses; sheep/goats are missing Carazolol in muscle of bovines, pigs, sheep/goats, horses 	
Other remarks	<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.14.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 15 analytes (milk: 15): Minimum requirements are covered in parts IP and TFA are missing Recommended analytes are included The analysis of basic NSAIDs is included for milk and tissue 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> Not compliant for some MRL compounds and some compounds with RC CCβ should be below RC or MRL, e.g. CPF in bovine muscle, PBZ in milk, OPB in muscle 	
	CC α (confirmatory)	Not compliant for most MRL substances, e.g. DC, CPF, MAA and MLX in muscle or milk: CC α above CC α max (e.g. MAA in muscle: CC α 163.6 μ g/kg \leftrightarrow CC α max: 142.8 μ g/kg)	
Levels of action		presence / MRL / no MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		Is the sensitivity sufficient? Values for CC α and CC β too high for many compounds	

2.14.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> Carbadox: compliant Olaquinox : compliant 	/

Methods	Screening	• LC-MS/MS	/
	Confirmatory	• LC-MS/MS	/
Limits	CC β (screening)	• compliant	/
	CC α (confirmatory)	• compliant	/
Levels of action		• compliant	/
Species/ matrices		• pigs only: compliant	/
Other remarks		/	/

2.14.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, sheep/goats, horses. • Not included: poultry, aquaculture, farmed game/rabbit (optional). • Additional: Flumethasone, Methylprednisolone, Prednisolone, Triamcinolone. 	
Methods	Screening	• LC-MSMS.	
	Confirmatory	• LC-MSMS.	
Limits	CC β (screening)	• Compliant.	
	CC α (confirmatory)	• Compliant.	
Levels of action		• 'Presence' or 'no MRL'.	Note all LoA in clear concentrations.
Species/matrices		• Included: bovines, pigs, sheep/goats, horses. Sheep/goats and horses only with one sample.	Include more samples especially for sheep/goats and horses.
Other remarks			

2.14.15 Group B3c – Chemical elements

B3c	Evaluation	Recommendations/comments
Analytes	Cd, Pb, Hg, As and Ni	Good to see that As and Ni are included Cu should be included (396/2005 and amendments)

Methods	Screening	Not stated	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	Note: There is a ML for Pb in honey (1881/2006 and amendments) Note: 396/2005 and amendments sets MRLs for Hg and Cu in food of animal origin
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.14.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> LC-FLD, GC-MS (zearalenone) 	
	Confirmatory	<ul style="list-style-type: none"> LC-FLD, GC-MSMS (zearalenone) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 0.05 $\mu\text{g}/\text{kg}$ (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Additional: aquaculture Matrices: milk, kidney, urine, muscle 	
Other remarks			

2.14.17 Group B3e – Antimicrobial compounds

B3e (Dyes)	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> Cristal Violet: compliant Cristal Violet-Leuco : compliant 	/

		<ul style="list-style-type: none"> • Malachite Green : compliant • Malachite Green-Leuco : compliant 	
Methods	Screening	• LC-MS iontrap : compliant	/
	Confirmatory	• LC-MS iontrap : compliant	/
Limits	CC β (screening)	• compliant	/
	CC α (confirmatory)	• compliant	/
Levels of action		• compliant	/
Species/ matrices		• Aquaculture : compliant	/
Other remarks		/	/

2.15 Member State: Ireland (IE)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzenestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes	Review CC α and CC β values in drinking water	
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Analytes	non-compliant	<ul style="list-style-type: none"> • CAP: No control for Rabbit • Nitrofuranes: No control for Milk and Rabbit Dapsone: No control for Aquaculture, Farmed Game, Horses and Rabbit.
B1 – Aminoglycosides	Analytes	<ul style="list-style-type: none"> • 8 analytes: compliant • The 8 analytes are controlled on all Species/ matrices: compliant 	
	Species/ matrices	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • No control in Aquaculture products and Rabbits: non-compliant
	Methods/ Limits	<ul style="list-style-type: none"> • CCβ should be expressed as concentration or < concentration • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all compounds at their MRL level 	<ul style="list-style-type: none"> • CCβ for kanamycin, neomycin, paromomycin in Poultry is too high (CCβ must to be \leq MRL) CCα for neomycin, spectinomycin in Poultry is too low (CCα must be > MRL)
B1 – Beta-lactams	Methods/ Limits	<ul style="list-style-type: none"> • Non-compliant for all Inhibitory Tests like 1 Plate Test or 2 Plate test or EEC-Six Plate Test Method: There is no CCβ for screening reported satisfactorily as a concentration value; instead “Zone Size > 2 mm and Reaction” OR “Zone Size / Reaction” is not a valid CCβ 	

B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Compliant 	
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	
	Methods/ Limits	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all compounds at their MRL level CCβ should be expressed as concentration or < concentration 	
B1- Quinolones	Methods/ Limits	<ul style="list-style-type: none"> To the EU-RL knowledge, the performances of the non-specific screening methods (all products except honey) do not allow to detect most of quinolones at their MRL level. <p>CCβ = inhibition zone size for all products tested with microbiological methods: non-compliant</p>	<ul style="list-style-type: none"> CCα: no data for <i>oxolinic acid</i> in Aquaculture products CCα too high for <i>danofloxacin</i> in Horses, Pigs and for <i>difloxacin</i> in Farmed game, Horses, Poultry CCα too low for <i>marbofloxacin</i> in Pigs
B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> Compliant : 25 analytes To extend the scope to other sulfonamides: at least Minimum <i>required (sulfachloropyrazine) and Optional (sulfasalazine, sulfanitran)</i> 	
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control for rabbit
	Methods/ Limits	<ul style="list-style-type: none"> CCβ should be expressed as concentration or < concentration Non-compliant: For farmed game muscle, no CCβ available Non-compliant: For farmed game and horses muscle, no CCα available Non-compliant: No CCβ reported for sulfadiazine in aquaculture products Non-compliant: For farmed game and horses muscle, no CCα available 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all compounds at their MRL level
B1 – Tetracyclines	/	compliant	<ul style="list-style-type: none"> /
B1 – Other antibacterials	Analytes	<ul style="list-style-type: none"> <i>Florfenicol, florfenicol amine, rifamicyn, thiamphenicol, tiamulin, trimethoprim, valnemulin,</i> 	<ul style="list-style-type: none"> No control for thiamphenicol in Aquaculture products No control for <i>tiamulin</i> in Pigs and Poultry No control for <i>valnemulin</i> in Pigs and Rabbits

			•
	Species/ matrices	•	<ul style="list-style-type: none"> No control for Milk and Rabbit CCα for <i>florfenicol</i> and <i>florfenicol amine</i> in Aquaculture products: data not available
	Methods/ Limits	<ul style="list-style-type: none"> CCβ should be calculated against concentrations and not against inhibition zone size for all products tested with microbiological methods: non-compliant 	
B2a	Analytes	Eprinomectin in aquaculture is missing	
	Limits		
B2b	Analytes		
	Limits	Include CC β values for screening	
B2d	Analytes	Include zearalenone	
B2e	Analytes	Consider IP in milk and tissue to fulfill the minimum requirements.	
	Limits		
	Matrices		
B2f antimicrobials	-	compliant	/
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As is included
	Methods		
	Limits		
	Levels of action		
	Species /matrices	Offal should be included	
B3d		-	
B3e		compliant	/
	Other remarks		

2.15.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> - 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/liver Extra matrix: serum 	
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: deer	

2.15.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant, with the exception of thiouracil (compliant according to the EURL reflection paper) 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, farmed game, poultry Matrices: urine Additional: drinking water (poultry) 	

Other remarks		
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2.15.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines Non-compliant: pigs (boldenone, estradiol), sheep/goats (only included nandrolone, trenbolone, gestagens), horses (only included (nandrolone, estradiol, trenbolone, stanozolol, gestagens), poultry (only included trenbolone), aquaculture (only included estradiol and methyltestosterone), Farmed game (optional) (only included estradiol). Optional: Delmadinone acetate, Oestradiol diacetate - (17b)-Estra-1,3,5(10)-trene-3,17-diol diacetate, Progesterone. 	Include the missing recommended analytes.
Methods	Screening	• ELISA, IA, IMMULITE, RIA.	
	Confirmatory	• GC-MS/MS, LC-MSMS.	
Limits	CC β (screening)	• Compliant except for aquaculture. For testosterone there is a differentiation noted between female and male. This differentiation is expected for LoA, not for CC β .	
	CC α (confirmatory)	• Compliant.	
Levels of action		• 'Presence' except for estradiol – aquaculture a concentration of 0.5 μ g/kg is noted.	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> All species are included in the plan, but most only for a few analytes. Matrices included: fat, kidney fat, liver, milk (raw), muscle+skin, serum, urine. 	
Other remarks		Also included under A3: raw cow milk for ethinylestradiol and estradiol.	

2.15.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	• LC-MS/MS for urine, none for liver (poultry)	
	Confirmatory	• Compliant (LC-MS/MS)	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for urine, none for liver 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/liver 	
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: deer	

2.15.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 31 analytes monitored in all relevant species (bovine, pig and poultry) Minimum requirements, recommendations and optional analytes are covered 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	CC β above recommended concentrations for several analytes in drinking water, e.g. Brombuterol, cimbuterol, mabuterol, clenbuterol, clenproperol etc.	CC β should be < RC
	CC α (confirmatory)	CC α above recommended concentrations for some analytes, e.g. brombuterol, cimbuterolin, mabuterol etc. in drinking water	CC α should be < RC
Levels of action		Presence	
Species/matrices		Fulfilled, Maybe consider lung in addition to or instead of liver and hair for screening	
Other remarks		No further changes in comparison to 2016 and 2017	

2.15.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	No screening	

	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.15.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 5 Nitrofurans metabolites including Nifursol: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA, RIA and LC-MS/MS compliant N/A for Honey, Milk and Serum only confirmation Nitrofurans: N/A for Eggs, Honey, Muscle, plasma and LC-MS/MS for nifursol in poultry muscle compliant Dapsone: EC 2 Plate test & Charm BY11, EEC-1 Plate Test and Premi-test and LC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: UPLC-MS/MS for aquaculture and LC-MS/MS for compliant Dapsone: LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: non-compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/

		<ul style="list-style-type: none"> It is mentioned no MRL, the Presence should be the level of action
Species/matrices	<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No control for Rabbit No control for milk and Rabbit No control for aquaculture, Farmed Game, Honey, Horses and Rabbit.
Other remarks	/	/

2.15.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 8 analytes: compliant The 8 analytes are controlled on all Species/ matrices: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> EEC 1 Plate for kidneys and Eggs, EEC 2 Plate for Milk, Premitest for Eggs, LC-MS/MS for Honey and muscle: compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all compounds at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> CCβ = inhibition zone size for all products tested with microbiological methods: non-compliant 	<ul style="list-style-type: none"> CCβ for <i>kanamycin</i>, <i>neomycin</i>, <i>paromomycin</i> in Poultry is too high (CCβ must to be \leq MRL)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα for <i>neomycin</i>, <i>spectinomycin</i> in Poultry is too low (CCα must be $>$ MRL)
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Horses, Pigs, Sheep/goats: kidney Poultry: muscle Eggs (hens, quails, other), Honey, Milk (cows, goats) 	<ul style="list-style-type: none"> No control in Aquaculture products and Rabbits: non-compliant
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 8 penicillins and 7 cephalosporins in Muscle, Milk and Eggs 8 penicillins in Honey 	/
Methods	Screening	<ul style="list-style-type: none"> • Non-specific methods : Plate Tests at least : a 2 Plate test and a Charm Blue Yellow II® for Milk and a 6 Plate test for Muscle, a 1 Plate test and a Premi-test for Eggs • LCMSMS for Honey 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Non-compliant 	<ul style="list-style-type: none"> • Non-compliant for all Inhibitory Tests like 1 Plate Test or 2 Plate test or EEC-Six Plate Test Method: There is no CCβ reported as a concentration value; instead “Zone Size > 2 mm and Reaction” OR “Zone Size / Reaction” is not a valid CCβ
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • MRL or Presence 	/
Species/matrices		<ul style="list-style-type: none"> • 8 species/ matrices are screened (Eggs, Milk, Bovines muscle, Farmed Game muscle, Horses, Pigs muscle, Poultry and Sheep/Goats muscle) 	<ul style="list-style-type: none"> • Aquaculture products and Rabbit are missing
Other remarks		/	<ul style="list-style-type: none"> • Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • EEC 1 plate test for eggs • EEC 2 plate test for milk • EEC 6 plate test for muscle • LC-MS/MS for honey 	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all compounds at their MRL level
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	/

Limits	CC β (screening)	/	<ul style="list-style-type: none"> • CCbeta expressed as a zone size !!! Non-compliant
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCa for tulathromycin in bovin and pig muscle not suitable regarding the MRL level
Levels of action		<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • The MRL for gamithromycin in sheep/goats is 50 μg/kg • There is no MRL for tylvalosin in poultry
Species/matrices		<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • No control in farmed game and rabbit
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Quinolones: the 8 recommended substances and <i>nalixidic acid</i>, <i>norfloxacin</i>: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • EEC 6 Plate for Muscle: compliant • EC 2 Plate test and Charm BY11 for Milk: compliant • EEC-1 Plate Test and Premitest for Eggs: compliant • LC-MS/MS Honey: compliant • Modified EC 2-plate and or 2nd LC-TOF for Aquaculture products: compliant 	<ul style="list-style-type: none"> • To the EU-RL knowledge, the performances of the non-specific screening methods do not allow to detect most of quinolones at their MRL level
	Confirmatory	<ul style="list-style-type: none"> • LC-Flu : Aquaculture products: compliant • LC-MS/MS for the other products: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Only data for CCβ for Honey and Aquaculture products (LC-TOF): compliant • CCβ = inhibition zone size for all products tested with microbiological methods: non-compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα: no data for <i>oxolinic acid</i> in Aquaculture products • CCα too high for <i>danofloxacin</i> in Horses, Pigs, and for <i>difloxacin</i> in Farmed game, Horses, Poultry • CCα too low for <i>marbofloxacin</i> in Pigs (18 μg/kg ? input error ?)
Levels of action		<ul style="list-style-type: none"> • Presence, MRL or LOD: compliant 	/

Species/matrices	<ul style="list-style-type: none"> • Aquaculture, Bovines, Farmed Game, Horses, Pigs, Poultry, Sheep/goats: muscle • Eggs, Honey, Milk (cow, goat) 	<ul style="list-style-type: none"> • No control for Rabbits
Other remarks	/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Tetracyclines: 7 substances including the 3 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • HPLC-DAD, LC-MS/MS for honey: compliant • LC-MS/MS for Honey: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/matrices		<ul style="list-style-type: none"> • Compliant 	/
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant : 25 analytes 	<ul style="list-style-type: none"> • No control for sulfachloropyrazine, sulfasalazine, sulfantran
Methods	Screening	<ul style="list-style-type: none"> • Compliant: Immunoassay, Inhibition tests (Plate tests, PremiTest, Charm BY11), LC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> • Compliant: LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant for Honey and Muscle (Bovines, Horses, Pigs, Poultry, Sheep/goats) 	<ul style="list-style-type: none"> • Non-compliant: For milk and eggs no CCβ reported ; “Zone Size > 2 mm and Reaction” OR “Zone Size / Reaction” is not a valid CCβ • Non-compliant: For farmed game muscle, no CCβ available • Non-compliant: No CCβ reported for sulfadiazine in aquaculture products by immunoassay (the other

			sulphonamides are not screened, go directly to confirmation).
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Non-compliant: For farmed game and horses muscle, no CCα available
Levels of action		<ul style="list-style-type: none"> Compliant 	
Species/matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Sheep/goat: muscle Eggs (hens, quails, other), Honey, Milk (cow, goat) 	<ul style="list-style-type: none"> No control for rabbit
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Other B1: florfenicol, florfenicol amine, rifamicyn, thiamphenicol, tiamulin, trimethoprim, valnemulin, virginiamycin (M1+S1) 	<ul style="list-style-type: none"> No control for <i>thiamphenicol</i> in Aquaculture products No control for <i>tiamulin</i> in Pigs and Poultry No control for <i>valnemulin</i> in Pigs and Rabbits
Methods	Screening	<ul style="list-style-type: none"> Microbiological tests (EEC-1 Plate, Modified EC 2-plate, EEC- 6 plate, PremiTest) or LC-MS/MS. No trend in the choice of a screening method depending on the matrix/analyte pair: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> CCβ with LC-MS/MS method: compliant CCβ = inhibition zone size for all products tested with microbiological methods: non-compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα for <i>florfenicol</i> and <i>florfenicol amine</i> in Aquaculture products: data no available
Levels of action		<ul style="list-style-type: none"> MRL or presence 	/
Species/matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Sheep/goat: muscle Eggs (hens, quails, other), Honey 	<ul style="list-style-type: none"> No control for Milk and Rabbit
Other remarks		/	/

2.15.9 Group B2a – Antihelmintics

B2a		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 6 avermectines, 23 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled, new compounds included: bromophen and tribromosalan <p>Aquaculture: 3 avermectines, no benzimidazoles or other compounds Bovine: 6 avermectines, 8 benzimidazoles, clorsulon, closantel, levamisole, monepantel, morantel, niclosamid, nitroxinil, oxyclozanide, rafoxanide Eggs: no B2a compounds investigated Farmed game: 6 avermectines, 8 benzimidazoles and 9 other same as for bovine Horse: 6 avermectines, 8 benzimidazoles and 9 other substances including nitroxinil, closantel and rafoxanide Milk: 6 avermectines, 9 benzimidazoles, bromophen clorsulon, closantel, levamisole, monepantel, morantel, niclosamid, nitroxinil, oxyclozanide, praziquantel, pyrantel, rafoxanide, tribromosalan Pig: 6 avermectines, 8 benzimidazoles and 9 other same as for bovine Poultry: 6 avermectines, 8 benzimidazoles and 9 other same as for bovine Rabbit: no B2a compounds covered Sheep/goat: 6 avermectines, 8 benzimidazoles and 9 other same as for bovine</p>	
	Methods	<p>Screening: Screening methods not given</p> <p>Confirmatory: LC-MS/MS, UFLC-FLU for avermectines in aquaculture</p>	
Limits	CC β (screening)	No CC β given	
	CC α (confirmatory)	Compliant, meet requirements for MRL and non-authorized substances	
Levels of action		Presence or MRL	
Species/matrices		Fulfilled; with respect to the food basket, muscle should be included	
Other remarks		very comprehensive portfolio	

2.15.10 Group B2b – Coccidiostats

B2b	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • 23 anticoccidials: 14 chemical coccidiostats, 6 ionophores and 3 nitroimidazoles • All minimum requirements included • All recommended analytes included • 2 optional analytes included 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS, UPLC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> • No values given, evaluation of CCβ values not possible 	For the evaluation values must be included
	CC α (confirmatory)	<p>Compliant for the majority of the analytes. Not compliant for several analytes, e.g.:</p> <ul style="list-style-type: none"> • CCα for lasalocid in poultry muscle is 23.3 $\mu\text{g}/\text{kg}$ and the MRL = 60 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML value • CCα for nicarbazin in poultry muscle is 27.1 $\mu\text{g}/\text{kg}$ and the ML = 50 $\mu\text{g}/\text{kg}$. CCα should be > ML value 	CC α should be > MRL or ML values for confirmatory and < CC α max
Levels of action		MRL, ML, presence	
Species/matrices		Relevant analytes/species/matrices are covered	
Other remarks		Nequinat and methylbentzoquat are the same, better use just one name	

2.15.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant minimum required • Compliant recommended 	
Methods	Screening	<ul style="list-style-type: none"> • No screening method 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Presence • Carazolol in bovines: 15 $\mu\text{g}/\text{kg}$ • Carazolol in pigs: 25 $\mu\text{g}/\text{kg}$ • Azaperone/azaperol in pigs: 100 $\mu\text{g}/\text{kg}$ 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species 	

	<ul style="list-style-type: none"> • Additional: horses • Matrices: kidney 	
Other remarks	<ul style="list-style-type: none"> • Chlorpromazine in A6 	

2.15.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 13 analytes (milk: 12) • Minimum required and recommended analytes are almost covered • To completely fulfill the minimum requirements, the analysis of IP in milk/tissue is to be included 	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	Compliant, except: <ul style="list-style-type: none"> • PBZ in kidney → CCα should be below the recommended concentrations • MLX in kidney → CCα should be above the MRL • FLU-OH, TFA and DC in milk → CCα should be above the MRL 	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (Bovine, farmed game, horse, pig, poultry, sheep/goat – kidney and plasma; milk)	
Other remarks		Minor changes compared to 2017	

2.15.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/
Species/matrices		<ul style="list-style-type: none"> pigs only: compliant 	/
Other remarks		/	/

2.15.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses, aquaculture. Not included: poultry Additional: Betamethasone, Flumethasone, Methylprednisolone, Prednisolone, Prednisone. 	
Methods	Screening	<ul style="list-style-type: none"> Only for aquaculture: ELISA. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS, LC-MS (aquaculture). 	
Limits	CC β (screening)	<ul style="list-style-type: none"> For aquaculture MRL is not noted. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. For aquaculture 'N/A'. 	
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats, horses, aquaculture. Matrices compliant. Matrices included: muscle+skin (aquaculture), urine, raw milk (bovines, goats). 	
Other remarks			

2.15.15 Group B3c – Chemical elements

B3c	Evaluation	Recommendations/comments
Analytes	Cd, Pb, Hg and As	Good to see that As is included

			Cu should be included (396/2005 and amendments)
Methods	Screening	Not stated	
	Confirmatory	ICPMS, AAs	
Limits	LOQ	Compliance with regulation	
Levels of action		Consistent with regulation	
Species/matrices		Most of the relevant species/matrices are included	Offal should be included
Other remarks			

2.15.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, ochratoxin A 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> HPLC 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> N/A 	
Species/matrices		<ul style="list-style-type: none"> Matrices: milk, liver 	
Other remarks			

2.15.17 Group B3e – Antimicrobial compounds

B3e	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant Victoria Blue R: compliant 	/

Methods	Screening	• N/A	/
	Confirmatory	• UF-LCMSMS: compliant	/
Limits	CC β (screening)	• N/A	/
	CC α (confirmatory)	• compliant	/
Levels of action		• compliant	/
Species/matrices		• Aquaculture : compliant	/
Other remarks		/	/

2.16 Member State: Italy (IT)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4	Limits	CC β for zeranol in muscle from farmed game/poultry should be lowered to meet regulatory limits, or matrix muscle should be replaced by urine/serum	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Methods/ Limits		<ul style="list-style-type: none"> • CCβ at 0.3 $\mu\text{g}/\text{kg}$ for CAP is suspicious. CCβ must be < MRPL/RPA • CCβ at 1 $\mu\text{g}/\text{kg}$ for Nitrofuranes is suspicious. CCβ must be < MRPL/RPA • CCβ and CCα at 5 $\mu\text{g}/\text{kg}$ for Dapsone is suspicious. CCβ and CCα must be < MRPL/RPA
	Species/ matrices	<ul style="list-style-type: none"> • Nitrofurans: non-compliant 	<ul style="list-style-type: none"> • No Honey and milk
	Level of action		<ul style="list-style-type: none"> • Be careful not using a date format for this category
B1 - Aminoglycosides	Analytes	<ul style="list-style-type: none"> • 7 out of 8 analytes (+ <i>amikacin</i>, <i>tobramycin</i>): compliant • Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle • 	<ul style="list-style-type: none"> • No-control for <i>paromomycin</i>: non-compliant •

	Species/ matrices	<ul style="list-style-type: none"> Honey, Milk (cows, goats, sheep) 	<ul style="list-style-type: none"> No control in Aquaculture products or Eggs
	Methods/ Limits	<ul style="list-style-type: none"> No screening control: non-compliant? Confirmatory method: compliant 	<ul style="list-style-type: none">
B1 Betalactams	- Analytes	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Remark : It is not detailed whether <i>desfuoylceftiofur</i> is also controlled together with the <i>ceftiofur</i> in all species/ matrices or concern
	Methods/ Limits	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> It is not possible to strictly evaluate the relevance of all the screening methods claimed thanks to sometimes the long list proposed within one single cell. Probably due to possible different strategies from one local Region to the other.
	Level of Action	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> The “Not requested” option should be changed to “Presence” when the substance is not bearing an MRL for the species of concern
	Species/ matrices	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Control for Eggs is missing
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Pirlimycin could be included in the scope
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	
	Methods	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No screening method specified in a few cases
B1 – Quinolones	Methods		<ul style="list-style-type: none"> CCβ too high for <i>sarafloxacin</i> (Aquaculture)
	Species/ matrices	No control in Honey	
B1 Sulfonamides	- Analytes	<ul style="list-style-type: none"> Compliant : 16 analytes To extend the scope to other sulfonamides: at least Minimum required (sulfamethizol, sulfaguanidine), Recommended (sulfacetamide, sulfameter, 	/

		sulfamoxol), Optional (sulfabenzamide, sulfaclozine, sulfaethoxypyridazine, sulfanitran, sulfasalazine, sulfatroxazol, sulfisomidine)	
	Methods/ Limits	<ul style="list-style-type: none"> Choice of methods: compliant For honey, CCβ should be revised (10 $\mu\text{g}/\text{kg}$ > “national level” (5 $\mu\text{g}/\text{kg}$)) Non-compliant: most of CCβ in Eggs should be revised (set at 50 $\mu\text{g}/\text{kg}$, while there is no MRL in eggs (action levels was set at MRL)). CCα should be lowered in Honey (CCα at 5 $\mu\text{g}/\text{kg}$ =“national level” (5 $\mu\text{g}/\text{kg}$)) 	
B1 Tetracyclines	–	Compliant	• /
B1- Other antibacterials	Analytes	• Colistin, tiamulin, valnemulin are monitored	• No control for <i>tiamulin</i> in Pigs and Eggs
	Species/ matrices	• No control for Aquaculture products, Farmed game, Honey, Milk	
	Methods/ Limits	• Compliant	• CC β level too high for <i>colistin</i> (Except for Rabbits)
B2a	Analytes	triclabendazole, closantel, nitroxinil, rafoxanide should be included	
	Limits	Adoption of CC α (eprinomectin in finfish) to new MRL	
B2b	Analytes	Broaden the scope of testing by adding more recommended analytes	
	Limits		
B2d	Analytes	Include haloperidol for all species	
	Species/ matrices	Include azaperone, azaperol, carazolol for bovines, sheep/goats, horses Preferred matrix is kidney	
B2e	Analytes	Consider MAA in milk/tissue	
	Limits	Consider CC α for all MRL compounds and for some analytes with RC	
	Matrices		
B2f antimicrobials	- Analytes	Only rabbit monitored: non-compliant	Others species of interest like Pigs are expected
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits	MS should provide LOQs used (not only provide a reference to 333/2007)	

	Levels of action	MS should provide the levels of action used	
	Species /matrices		
B3d	Analytes	Include ochratoxin and zearalenone	
B3e	Analytes	Compliant	/
	Other remarks		

2.16.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (ELISA, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/muscle 	For poultry feces/liver is to prefer
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For aquaculture : rainbow trout For farmed game: rabbits/birds	

2.16.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenyl thiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> HPLC-DAD, LC-MS/MS, GC-MS 	

	Confirmatory	<ul style="list-style-type: none"> LC-MSMS, GC-MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, poultry, farmed game, rabbit Matrices: urine and thyroid Additional: muscle (poultry, farmed game, rabbit) 	
Other remarks			

2.16.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovine. Non-compliant: pigs (only included trenbolone, stanozolol, gestagens), sheep/goats (only included trenbolone), horses (only included stanozolol), poultry, aquaculture, farmed game, rabbit (only included ethinylestradiol). Optional: Boldione, Delmadinone, Delmadinone acetate, Progesterone. 	As for bovines also include all recommended analytes for the other species.
Methods	Screening	<ul style="list-style-type: none"> ELISA, GC-MS/MS, LC-MSMS, RIA. 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS/MS, LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for ethinylestradiol. 	Optimise the screening method for ethinylestradiol.
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for testosterone. It is stated just above the LoA. 	
Levels of action		<ul style="list-style-type: none"> 'Presence' or sometimes an explanation. This explanation is not very clear. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> All species are included, but only for bovine the full panel of recommended analytes. Matrices included: Kidney fat, muscle, serum, urine. 	
Other remarks			

2.16.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (ELISA, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS, LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except for zeranol in muscle (farmed game/poultry) 	Use of another matrix
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/muscle 	Add or replace muscle for urine where possible
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For farmed game: rabbits/birds	

2.16.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 11 analytes monitored Zilpaterol in bovines, pigs and poultry has been added 	
Methods	Screening	ELISA, LC-MS/MS, LC-HRMS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> Not compliant for the majority of analytes, CCβ of ELISA methods in general above recommended concentrations CCβ= 3 μg/kg for zilpaterol in urine (RC=2 μg/kg) or 10 μg/kg for brombuterol in bovine hair 8RC =2 μg/kg) 	Review CC β values for all analytes/matrices combination for screening method
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for several analytes. CCα above recommended concentrations for some analytes, e.g. brombuterol, mabuterol, mapenterol, and clenpenterol in bovine hair and urine 	Review CC α values for all analytes, CC α should be < RC
Levels of action		Presence, MRL	
Species/matrices		Fulfilled	
Other remarks		No changes in comparison to 2016 and 2017	

2.16.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.16.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation / Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: 9 substances including nifursol Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA compliant Nitrofurans: ELISA, HPLC-DAD, TLC and LC-MS/MS compliant Dapsone: LC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol :LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: non compliant Nitrofurans: non compliant Dapsone 	<ul style="list-style-type: none"> CCβ at 0.3 $\mu\text{g}/\text{kg}$ for CAP is suspicious. CCβ must be < MRPL/RPA

			<ul style="list-style-type: none"> • CCβ at 1 $\mu\text{g}/\text{kg}$ for Nitrofuranes is suspicious. CCβ must be < MRPL/RPA • CCβ at 5 $\mu\text{g}/\text{kg}$ for Dapsone is suspicious. CCβ must be < MRPL/RPA
	CC α (confirmatory)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone : non-compliant 	<p>/</p> <p>/</p> <ul style="list-style-type: none"> • CCα at 5 $\mu\text{g}/\text{kg}$ for Dapsone is suspicious. CCα must be < MRPL/RPA
Levels of action		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: compliant 	<ul style="list-style-type: none"> • Be careful not using a date format for this category
Species/ matrices		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: non-compliant • Dapsone : compliant 	<ul style="list-style-type: none"> • No control for Honey and Milk
Other remarks		/	/

2.16.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • 7 out of 8 analytes (+ <i>amikacin, tobramycin</i>): compliant 	<ul style="list-style-type: none"> • No-control for <i>paromomycin</i>: non-compliant
Methods	Screening	<ul style="list-style-type: none"> • No screening control: non-compliant? 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS, HPLC-FLD (Honey) or LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • No value 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle • Honey, Milk (cows, goats, sheep) 	<ul style="list-style-type: none"> • No control in Aquaculture products or Eggs
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 8 penicillins and 9 cephalosporins in Milk and in Muscle 	<ul style="list-style-type: none"> • Remark : It is not detailed whether <i>desfuoylceftiofur</i> is also controlled together with the <i>ceftiofur</i> in all species/ matrices or concern
Methods	Screening	<ul style="list-style-type: none"> • ELISA, LC-MSMS, LC-HRMS, Microbiological methods • LC-MSMS 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS / LC-HRMSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • It is not possible to strictly evaluate the relevance of all the screening methods claimed thanks to sometimes the long list proposed within one single cell. Probably due to possible different strategies from one local Region to the other.
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • MRL or Presence 	<ul style="list-style-type: none"> • The “Not requested” option should be changed to “Presence” when the substance is not bearing an MRL for the species of concern
Species/ matrices		<ul style="list-style-type: none"> • 9 species/ matrices monitored 	<ul style="list-style-type: none"> • Control for Eggs is missing
Other remarks		/	<ul style="list-style-type: none"> • Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Pirlimycin could be included
Methods	Screening	<ul style="list-style-type: none"> • ELISA for honey • LC-MS/MS, LC/HRMS and microbiological methods for others matrices 	<ul style="list-style-type: none"> • Non screening method reported in a few cases
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS, LC/HRMS and LC/DAD 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	CC α not reported for honey
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL or “presence” when non authorised compound National level for honey 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 10 substances: the 8 recommended substances and <i>nalixidic acid</i>, <i>norfloxacin</i>: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> ELISA and/or HPLC-FLD and/or LC-HRMS and/or LC-MS/MS for all matrices: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD and/or HPLC-FLD and/or LC-HRMS/MS and/or LC-MS/MS for all matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ too high for <i>sarafloxacin</i> (Aquaculture)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle Milk (buffalo, cow, goat, sheep), Eggs 	<ul style="list-style-type: none"> Except Honey
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Compliant : 16 analytes 	<ul style="list-style-type: none"> No control for sulfabenzamide, sulfacetamide, sulfaclozine, sulfaguanidine, sulfameter, sulfamethizol, sulfamoxol, sulfasalazine, sulfatroxazol, sulfisomidine

Methods	Screening	• Compliant: ELISA; HPLC-DAD, TLC, LC-HRMS, LC-MS/MS	/
	Confirmatory	• Compliant: HPLC-DAD, LC-HRMS/MS, LC-MS/MS;	/
Limits	CC β (screening)	• Compliant	<ul style="list-style-type: none"> • Non-compliant: For honey, CCβ 10 μg/kg is higher than “national level” (5 μg/kg) • Most of CCβ in eggs are set at 50 μg/kg, while there is no MRL in eggs.
	CC α (confirmatory)	• Compliant	• Non-compliant: CC α at 5 μ g/kg in honey (= “national level” (5 μ g/kg))
Levels of action		• Compliant	• Non-compliant for eggs (action levels was set at MRL)
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbit, Sheep/goat: muscle • Milk (buffalo, cow, goat, sheep), Honey, Eggs 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• Tetracyclines: 4 substances and the 3 kind of 4-epimers : compliant	/
Methods	Screening	• ELISA, HPLC-DAD, LC-MS/MS, LC HRMS: compliant	/
	Confirmatory	• HPLC-DAD, HPLC-FLD, LC-MSMS, LC HRMS/MS,: compliant	/
Limits	CC β (screening)	• Compliant	/
	CC α (confirmatory)	• Compliant	/
Levels of action		• Compliant	/
Species/matrices		• Compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• <i>Colistin, tiamulin, valnemulin</i>	No control for <i>tiamulin</i> in Pigs and Eggs
Methods	Screening	• LC-MS/MS or no screening: compliant	/

	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for tiamulin and valnemulin 	<ul style="list-style-type: none"> CCβ level too high for <i>colistin</i> (except for Rabbits)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL or Reg. (CE) 37/2010 e.s.m. 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Rabbit, Sheep/goat: muscle Pigs, Poultry: muscle and liver Eggs 	<ul style="list-style-type: none"> No control for Aquaculture products, Farmed game, Honey, Milk
Other remarks		/	/

2.16.9 Group B2a – Anthelmintics

B2a		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 6 avermectines, 7 benzimidazoles and levamisole; 9 out of 12 minimum requirements fulfilled, triclabendazole, closantel, nitroxinil, rafoxanide are not included <p>Aquaculture: 6 avermectines, 6 benzimidazoles Bovine: 6 avermectines, 6 benzimidazoles and levamisole Eggs: B2a compounds not analysed Farmed game: 6 avermectines, 6 benzimidazoles, levamisole Horse: no avermectines, 6 benzimidazoles Milk: 6 avermectines, 6 benzimidazoles and levamisole Pig: 6 avermectines, 6 benzimidazoles and levamisole Poultry: 6 avermectines, 6 benzimidazoles Rabbit: 6 avermectines, 6 benzimidazoles Sheep/goat: 6 avermectines, 6 benzimidazoles and levamisole</p>	
	Methods	Screening Confirmatory	ELISA, HPLC-FLU, HPLC-DAD, HPLC-MS/MS HPLC-FLU (avermectines), HPLC-MS/MS for benzimidazoles
Limits	CC β (screening)	compliant	
	(confirmatory)	compliant (exception: eprinomectin in aquaculture)	New MRL for eprinomectin in finfish: 50 $\mu\text{g}/\text{kg}$
Levels of action		MRL, presence	

Species/matrices	fulfilled	
Other remarks		

2.16.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 11 anticoccidials: 5 chemical coccidiostats and 6 ionophores All minimum requirements included 3 out of 8 recommended included No optional analytes included 	More recommended analytes could be included
Methods	Screening	LC-DAD, LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant for the majority, except: <ul style="list-style-type: none"> Robenidine in bovine muscle: CCβ = 5.7 μg/kg and the MRL = 5 μg/kg. CCβ should be < MRL or ML value 	CC β should be < MRL or ML value
	CC α (confirmatory)	Not compliant for some analytes (lasalocid, robenidine and decoquinate in poultry muscle), e.g.: <ul style="list-style-type: none"> For lasalocid in bovine muscle CCα = 23 μg/kg and the MRL = 10 μg/kg. CCα should be > MRL or ML value For lasalocid in poultry muscle, CCα = 23 μg/kg and the MRL = 60 μg/kg. CCα should be > MRL or ML value For decoquinate CCα = 24 μg/kg and the MRL = 500 μg/kg or ML = 20 μg/kg 	CC α should be > MRL or ML values for confirmatory and < CC α max CC α should be < CC α max
Levels of action		MRL, ML, 124/2009	
Species/matrices		Relevant analytes/species/matrices are covered	
Other remarks			

2.16.11 Group B2d – Tranquilisers

B2d	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> Almost compliant minimum required: haloperidol is missing Compliant recommended for pigs Recommended for bovines, sheep/goats, horses: azaperone, azaperol, carazolol are missing 	Include haloperidol for all species Include azaperone, azaperol, carazolol for bovines, sheep/goats, horses

		<ul style="list-style-type: none"> Additional: promazine, trifluopromazine, promethazine 	
Methods	Screening	<ul style="list-style-type: none"> ELISA, HPLC-DAD, LC-MS/MS for azaperone, azaperol 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD; LC-MS/MS for azaperone, azaperol, carazolol 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Azaperone/azaperol: 100 μg/kg Carazolol: 25 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney for azaperone, azaperol, carazolol Additional: urine for all other analytes 	Preferred matrix is kidney
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.16.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 17 analytes (milk: 16) Basic NSAIDs are not analysed minimum requirements are not fulfilled completely: the analysis of MAA in milk/tissue is to be included All recommended analytes are covered except for FFA 	
Methods	Screening	No screening	
	Confirmatory	HPLC-MS/MS (compliant), HPLC-DAD (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant in some cases, e.g. CCα above CCα(max) for flunixin in bovine or horse muscle Not compliant for all substances with recommended concentration in milk: CCα should be lower than recommended concentrations Not compliant for some substances with recommended concentration in plasma (PBZ, IP): CCα should be lower than recommended concentrations 	
Levels of action		presence / MRL	

Species/matrices	recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle and plasma; milk)	
Other remarks	Minor changes compared to 2017	

2.16.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox: compliant • QCA and MQCA: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • HPLC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • HPLC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • compliant 	/
Levels of action		<ul style="list-style-type: none"> • compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Only rabbit: non-compliant 	Others species of interest like Pigs is expected
Other remarks		/	/

2.16.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, horses. • Not included: sheep/goats, poultry, aquaculture, farmed game/rabbit (optional). • Additional: Beclometasone, Betamethasone, Flumethasone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> • ELISA, HPLC-DAD, LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS. 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Almost compliant, for liver just above the noted MRL concentration. 	
Levels of action		<ul style="list-style-type: none"> 'Presence', MRL or National level with concentration. 	
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, horses. Matrices compliant. Matrices included: liver, urine. 	Include at least samples of sheep/goats.
Other remarks			

2.16.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	<p>Cu should be included (396/2005 and amendments)</p> <p>Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)</p>
Methods	Screening	Not stated	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Not clearly stated in all cases	
Levels of action		Not stated. Reference to 1881/2006.	
Species/matrices		Relevant species/matrices included	
Other remarks			

2.16.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1 	Include ochratoxin and zearalenone
Methods	Screening	<ul style="list-style-type: none"> HPLC, ELISA 	Change screening method to LC-FLD for aflatoxin M1
	Confirmatory	<ul style="list-style-type: none"> N/A 	

Limits	CC β (screening)	• N/A	
	CC α (confirmatory)	• N/A	
Levels of action		• N/A	
Species/matrices		• Matrices: milk	
Other remarks		• No species assigned	

2.16.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Methylene Blue : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	• LC-MS/MS : compliant	/
	Confirmatory	• LC-MS/MS : compliant	/
Limits	CC β (screening)	• compliant	/
	CC α (confirmatory)	• compliant	/
Levels of action		• compliant	/
Species/ matrices		• Aquaculture : compliant	/
Other remarks		/	/

2.17 Member State: Lithuania (LT)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
	Matrices	Unsuitable matrix muscle for poultry	
A6 - other	Species/ matrices	<ul style="list-style-type: none"> Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No mil
	Methods/ Limits	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> CCβ at 5 μg/kg for Dapsone is suspicious CCβ must be < Recom Limit/MRPL
B1 – Aminoglycosides	Analytes	<ul style="list-style-type: none"> 7 out of 8 analytes (+ <i>hygromycin B</i>, <i>tobramycin</i>): compliant 	<ul style="list-style-type: none"> No-control for paromomycin: non-compliant
	Species/ matrices	<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs (hens, quails), Honey, Milk (cows, goats, sheep) 	
	Methods/ Limits	<ul style="list-style-type: none"> CCα: insufficient data: non-compliant 	<ul style="list-style-type: none"> Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> Control for desacetylcephapirin is missing at least in Milk 	<ul style="list-style-type: none"> /
	Methods/ Limits	<ul style="list-style-type: none"> Coverage of CCbeta screening values is missing for Eggs except for 3 analytes: Ceftiofur/Desfuroylceftiofur and Cefuroxime 	<ul style="list-style-type: none">
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Tildipirosin could be included Are the metabolites of spiramycin and tylvalosin included ?

		•	
	Species/ matrices	• Compliant •	•
	Methods/ Limits	• No data regarding the analytical performances of the methods when there is subcontracting	
B1- Quinolones	Methods/ Limits	• Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details	• CC α level too high for <i>oxolinic acid</i> in Sheep/goats, for <i>difloxacin</i> in Farmed game, Horses, Poultry, Rabbits, and <i>flumequine</i> in Poultry
B1 Sulfonamides	Analytes	• Sulfonamides : 22 analytes • To extend the scope to other sulfonamides: at least Minimum required (sulfachloropyrazine), Recommended (sulphanilamide), Optional (sulfaclozine, sulfasalazine, sulfaphenazol, sulfatroxazol)	• /
	Methods/ Limits	• Pay attention to report CC β in Eggs (lacking for 16 sulfonamides out of 21 detected sulphonamides) • Non-compliant: when it is written: “other laboratories” instead of reporting the technique and values of CC α (for the 11 species/matrices for 13 sulfonamides)	•
B1 Tetracyclines	/	• Compliant	• /
B1-Other	Analytes	• Bacitracin, baquiloprim, colistin, florfenicol, florfenicol amine, novobiocin, ormetoprim, rifaximin, thiamphenicol, tiamulin, trimethoprim, valnemulin, vancomycin, virginiamycin (M1+S1)	
	Methods/ Limits	• Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details	• CC α level too low for phenicols (CC α must be higher than MRL) • CC α level too low for <i>trimethoprim</i> for Horses muscle (MRL=100 μ g/kg)
B2a	Analytes	eprinomectin	
	Limits	Even if analysis are performed by other laboratories CC α should be given	
B2b	Analytes		
	Limits	Include CC β values for screening Review the MRL and ML values in all species	
B2d	Species/ matrices	Include azaperol for pigs, sheep/goats, horses	
B2e	Analytes	Consider MAA in milk.	

	Limits	Consider the limits of CC_{α} in some cases for MRL compounds and for all analytes with RC	
	Matrices		
B2f antimicrobials	Methods/ Limits	Non-compliant for confirmation	Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As is included
	Methods		
	Limits		
	Levels of action	MS should establish levels of action for all analyte-matrix combinations	
	Species /matrices		
B3d		-	
B3e		Compliant in all aspects	/
	Other remarks		

2.17.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> - 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
Limits	CC_{β} (screening)	<ul style="list-style-type: none"> - 	
	CC_{α} (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/muscle Extra matrix: plasma 	For poultry feces/liver is to prefer, for all analytes

Other remarks	Subspecies tested: For bovines/pigs/poultry subspecies are specified For aquaculture : carps For farmed game: rabbits(/other)	
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2.17.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenyl thiouracil, 2-mercaptoimidazole 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS (N/A) 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, poultry, farmed game, rabbit Matrices: urine Additional: plasma 	
Other remarks			

2.17.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs Non-compliant: sheep/goats, horses, poultry, aquaculture (ethinylestradiol) Farmed game/rabbit (optional) (ethinylestradiol, trenbolone, stanozolol, gestagens) Optional: Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Clostebol, Testosterone propionate, Trenbolone acetate 	Include also the missing recommended analytes for at least sheep/goats and horses, aquaculture.

Methods	Screening	<ul style="list-style-type: none"> • NA. 	
	Confirmatory	<ul style="list-style-type: none"> • GC-MS, GC-MS/MS, LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • NA. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant except for nandrolone, testosterone and medroxyprogesterone acetate. 	
Levels of action		<ul style="list-style-type: none"> • 'Presence' except for testosterone. 	Note all in clear concentrations
Species/matrices		<ul style="list-style-type: none"> • All species are included, but some for only a few analytes and or samples. • Compliant except for testosterone for sheep/goats, horses, aquaculture and farmed game (optional). • Matrices included: Kidney fat, muscle, plasma, plasma+urine, urine. 	
Other remarks			

2.17.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant 	Include zearalanone
Methods	Screening	<ul style="list-style-type: none"> • - 	
	Confirmatory	<ul style="list-style-type: none"> • Compliant (GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> • Compliant; replacement matrices used • Matrices: urine/muscle (extra some plasma's) 	
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For farmed game: rabbit(/other)	

2.17.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • 20 analytes in the most relevant species (bovine, pig, poultry) • Minimum requirements and recommended analytes covered 	
Methods	Screening	No method given	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No values given (n/a)	
	CC α (confirmatory)	Compliant for all except tulobuterol in drinking water; CC α above the recommended concentrations.	
Levels of action		Presence	
Species/matrices		Fulfilled	
Other remarks		No further remarks	

2.17.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled except for poultry	
Other remarks		Unsuitable matrix muscle for poultry	

2.17.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> • Chloramphenicol: compliant • 8 Nitrofurans metabolites and parent compounds: compliant • Dapsone: compliant 	/

Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA and N/A compliant Nitrofurans: N/A compliant (no screening all in confirmation) Dapsone: LC-MS/MS and UPLC-MS/MS for milk compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: N/A compliant Nitrofurans: N/A compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCβ at 5 μg/kg for Dapsone is suspicious CCβ must be < Recom Limit/MRPL
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: compliant 	<ul style="list-style-type: none"> No milk No Honey
Other remarks		/	/

2.17.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 7 out of 8 analytes (+ <i>hygromycin B</i>, <i>tobramycin</i>): compliant 	<ul style="list-style-type: none"> No-control for <i>paromomycin</i>: non-compliant
Methods	Screening	<ul style="list-style-type: none"> UPLC-MS/MS (Milks) or LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC-Fluo for <i>streptomycin</i> in Honey: compliant LC-MS/MS for <i>gentamicin C1</i> in Milk: compliant In other laboratories for other controls 	<ul style="list-style-type: none"> Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/

	CC α (confirmatory)	<ul style="list-style-type: none"> Insufficient data: non-compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs (hens, quails), Honey, Milk (cows, goats, sheep) 	/
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 8 penicillins and 8 cephalosporins in Muscle, in Milk & in Eggs 8 penicillins and 5 cephalosporins in Honey 	<ul style="list-style-type: none"> Control for desacetylcephapirin is missing at least in Milk
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS UPLC-MSMS for Milk 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS Part of confirmation of samples (for cephalosporins in Milk and all beta-lactams in Eggs) are delegated to other laboratories with no detailed information about the type of method used and the analytical limits (CCα). 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except: 	<ul style="list-style-type: none"> CCbeta screening values are missing for Eggs except for 3 analytes: Ceftiofur/Desfuroylceftiofur and Cefuroxime
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL or Presence 	/
Species/ matrices		<ul style="list-style-type: none"> All 11 species/ matrices are of concern 	/
Other remarks		/	<ul style="list-style-type: none"> Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control for tildipirosin

			<ul style="list-style-type: none"> • Are the metabolites neospiramycin and 3-O-acetyltylosin monitored
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	<ul style="list-style-type: none"> • LC-MS/MS
	Confirmatory	<ul style="list-style-type: none"> • Most of the confirmations are subcontracted by others laboratories • HPLC/UV or fluo for tylosin in eggs ? • LC-MS/MS in a few cases 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Missing CC\square in eggs
	CC α (confirmatory)	/	<ul style="list-style-type: none"> • No reporting of the CCα by the subcontractor laboratories
Levels of action		<ul style="list-style-type: none"> • MRL or “presence” when not authorised substance 	/
Species/ matrices		<ul style="list-style-type: none"> • Compliant 	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Quinolones: the 8 recommended substances and ciprofloxacin, enrofloxacin, fleroxacin, lomefloxacin, sarafloxacin, norfloxacin, ofloxacin, orbifloxacin, pefloxacin, pipemedic acid : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • UPLC-MS/MS (Milk only), LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • HPLC-Fluo (except Honey) or other laboratories: compliant 	<ul style="list-style-type: none"> • Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα level too high for <i>oxolinic acid</i> in Sheep/goats, for <i>difloxacin</i> in Farmed game, Horses, Poultry, Rabbits, and <i>flumequine</i> in Poultry
Levels of action		<ul style="list-style-type: none"> • Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovine, Farmed Game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle • Eggs (hens, quails), Honey, Milk (cow, goat, sheep) 	/
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 22 analytes controlled 	<ul style="list-style-type: none"> No control for sulfachloropyrazine, sulfaclozine, sulphanilamide, sulfasalazine, sulfaphenazol, sulfatroxazol
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS and UPLC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	<ul style="list-style-type: none"> Non-compliant: when it is written: "other laboratories" instead of the technique (for the 11 species/matrices for 13 sulfonamides)
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ in eggs are lacking for 16 sulfonamides out of 21 detected sulfonamides
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Non-compliant: when it is written: "other laboratories" instead of reporting values of CCα (for the 11 species/matrices for 13 sulfonamides)
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Eggs(hens, quails), Honey, Milk (cows, sheep, goats) 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Tetracyclines: 7 substances including the 3 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS and UPLC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Bacitracin, baquiloprim, colistin, florfenicol, florfenicol amine, novobiocin, ormetoprim, rifaximin, thiamphenicol, tiamulin, trimethoprim, valnemulin, vancomycin, virginiamycin (M1+S1) 	/
Methods	Screening	<ul style="list-style-type: none"> UPLC-MS/MS (Milk only), LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS or UPLC-MS/MS or other laboratories : compliant 	<ul style="list-style-type: none"> Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα level too low for phenicols (CCα must be higher than MRL) CCα level too low for <i>trimethoprim</i> for Horses muscle (MRL=100 μg/kg)
Levels of action		<ul style="list-style-type: none"> MRL or presence 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Eggs(hens, quails), Honey, Milk (cows, sheep, goats) 	/
Other remarks		/	/

2.17.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>5 avermectines, 15 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled</p> <p>Aquaculture: 5 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, morantel, oxyclozanide, rafoxanide</p> <p>Bovine: 5 avermectines, 9 benzimidazoles, levamisole, clorsulon, closantel, nitroxinil, morantel, oxyclozanide, rafoxanide</p> <p>Eggs: 5 avermectines, 9 benzimidazoles, and other same as for bovine</p> <p>Farmed game: 5 avermectines, levamisole, morantel</p> <p>Horse: 5 avermectines, and other same as for bovine</p>	Eprinomectin not analysed

		Milk: 5 avermectines, and other same as for bovine Pig: 5 avermectines, 9 benzimidazoles, and other same as for bovine Poultry: 5 avermectines, 9 benzimidazoles, and other same as for bovine Rabbit: 5 avermectines, 9 benzimidazoles, and other same as for bovine Sheep/goat: 5 avermectines, 9 benzimidazoles, and other same as for bovine	
Methods	Screening	no information for avermectines, LC-MS/MS for other compounds	
	Confirmatory	HPLC-FLU for avermectines, HPLC-DAD, and HPLC-MS/MS for benzimidazoles and other, in part other laboratories	
Limits	CC β (screening)	no data for avermectines, for benzimidazoles compliant	
	CC α (confirmatory)	not for all analytes data included, given data compliant	
Levels of action		Presence, MRL	
Species/matrices		Relevant analyte/matrix combinations are covered	

2.17.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 19 anticoccidials: 9 chemical coccidiostats, 7 ionophores and 3 nitroimidazole All minimum requirements included 3 out of 8 recommended included 	
Methods	Screening	LC-MS/MS, AAS is no suitable method for coccidiostats, n/a	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No values for CC β (screening)	<ul style="list-style-type: none"> For the evaluation values must be given Evaluate CCβ for screening
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for some analytes: decoquinate, monensin, diclazuril, robenidine, salinomycin and narasinin poultry muscle, also halofuginone in bovine muscle. CCα for halofuginone in bovine muscle is = 3.4 $\mu\text{g}/\text{kg}$ and MRL = 10 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML. Same remarks as last year (2017) For diclazuril in poultry muscle, CCα =5.5 $\mu\text{g}/\text{kg}$ and MRL =500 $\mu\text{g}/\text{kg}$ For some analyte CCα > CCα max. for example for lasalaocid in sheep/goat muscle, CCα = 12 $\mu\text{g}/\text{kg}$ (ML = 5 $\mu\text{g}/\text{kg}$) and CCα max = 8.33 $\mu\text{g}/\text{kg}$ 	CC α should be > MRL or ML values for confirmatory and < CC α max <ul style="list-style-type: none"> CCα should be < CCα max otherwise method not suitable

Levels of action	MRL, ML, presence, not established, no MRL required	<ul style="list-style-type: none"> • ML given as MRL value • Differentiate between ML and MRL
Species/matrices	Minimum requirements are fulfilled	
Other remarks		

2.17.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant minimum required • Additional: xylazine, carazolol, azaperone and azaperol (bovines) 	Include azaperol for pigs, sheep/goats, horses
Methods	Screening	<ul style="list-style-type: none"> • No screening method 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Presence • Azaperone in pigs: 100 μg/kg • Carazolol in bovine: 15 μg/kg • Carazolol in pigs: 25 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horses • Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> • Chlorpromazine in A6 	

2.17.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 24 analytes (milk: 15) • Minimum requirements and recommended analytes are almost fulfilled • the analysis of MAA (instead of metamizole) in milk should be included 	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	

Limits	CC β (screening)	N/A	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Not compliant for some MRL compounds in milk and muscle • Case 1: CCα is below MRL, e.g. CPF in bovine muscle or MAA in muscle or FLU in pig muscle • Case 2: CCα above CCα max: DC in milk (CCα 0.7 μg/kg \leftrightarrow CCα max: 0.22 μg/kg) or FLU in horse muscle (CCα 21.8 μg/kg \leftrightarrow CCα max: 16 μg/kg). • For all substances with recommended concentrations in muscle not compliant: CCα should be below recommended concentrations 	
Levels of action		presence / MRL / no MRL required/ not required	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		No further remarks	

2.17.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox: compliant 	/
Methods	Screening	• N/A for Feed, AAS, UPLC-MS/MS and LC-MS/MS: compliant	/
	Confirmatory	• HPLC-UV for Feed and other laboratories: non-compliant	<ul style="list-style-type: none"> • Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
Limits	CC β (screening)	• compliant	/
	CC α (confirmatory)	• other laboratories: non-compliant	/
Levels of action		• compliant	/
Species/ matrices		• compliant	/
Other remarks		/	/

2.17.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, but only with a few samples. Not included: sheep/goats, horses, poultry, aquaculture, farmed game/rabbit (optional). Additional: Betamethasone, Flumethasone, Methylprednisolone, Prednisolone. 	
Methods	Screening	• NA.	
	Confirmatory	• LC-MSMS.	
Limits	CC β (screening)	• Compliant.	
	CC α (confirmatory)	• Compliant.	
Levels of action		• Compliant, noted in clear MRL concentrations for dexamethasone and betamethasone.	
Species/matrices		<ul style="list-style-type: none"> Only included bovines and pigs. Matrix compliant: muscle. 	Include at least sheep/goats and horses. Include more samples of bovines and pigs.
Other remarks			

2.17.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg and As	Good to see that As is included Cu should be included (396/2005 and amendments)
Methods	Screening	Not stated	
	Confirmatory	ICPMS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation. For some analyte-matrix combinations no levels of action is provided.	MS should establish levels of action for all analyte-matrix combinations
Species/matrices		Relevant species/matrices included	
Other remarks			

2.17.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	
Methods	Screening	<ul style="list-style-type: none"> ELISA 	
	Confirmatory	<ul style="list-style-type: none"> ELISA, HPLC, LC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 0.05 $\mu\text{g}/\text{kg}$ (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture Matrices: milk, kidney, liver, muscle, feed 	
Other remarks			

2.17.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco: compliant Methylene Blue: compliant Malachite Green: compliant Malachite Green-Leuco: compliant Methylviolet :compliant 	/
Methods	Screening	<ul style="list-style-type: none"> N/A : compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A : compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/

Species/ matrices	• Aquaculture : compliant	/
Other remarks		/

2.18 Member State: Luxemburg (LU)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	CC α should be stated for all species/matrices	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4	Species/matrices	Preferred matrix is urine followed by liver	
A5	Analytes		
	Limits		
A6 - nitroimidazoles	Analytes	MNZOH should be included for bovine and pig muscle	
	Limits	Evaluation partially not possible: values "on demand" (for bovine, pig and sheep/goats muscle)	
	Matrices	Recommendations fulfilled except for poultry	
A6 - other	Methods/Limits	<ul style="list-style-type: none"> Nitrofurans: compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCβ at 5 $\mu\text{g}/\text{kg}$ for Nitrovin in muscle is suspicious CCβ must be < Recom Limit/MRPL CCβ at 10 $\mu\text{g}/\text{kg}$ for Dapsone in Eggs and Honey is suspicious CCβ must be < Recom Limit/MRPL
	Species/matrices	<ul style="list-style-type: none"> For Chloramphenicol, Nitrofuranes and Dapsone: non-compliant 	<ul style="list-style-type: none"> No Aquaculture, Farmed game, Horses, Poultry and Rabbit
B1 - Aminoglycosides	Analytes	<ul style="list-style-type: none"> 8 analytes (+ framycetin): compliant 	
	Species/matrices	<ul style="list-style-type: none"> Bovines, Pigs, Rabbits: muscle Eggs, Honey, Milk 	<ul style="list-style-type: none"> No control for Aquaculture products, Farmed game, Horses, Poultry, Sheep/goats: non-compliant
	Methods/Limits	<ul style="list-style-type: none"> No method indicated for screening in muscle: non-compliant CCβ for apramycin, dihydrostreptomycin, kanamycin, paromomycin and spectinomycin are too high (CCβ must be \leq MRL) 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level

B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> • Penicillin-V and cefoperazone should be also considered in Milk • Penicillin-V, Penicillin-G, Nafcillin and Dicloxacillin should be also considered in Eggs • Cephapirin is missing in B,P,OC muscle • Cephalosporins are missing in Rabbit 	
	Methods/ Limits		<ul style="list-style-type: none"> • Sometimes, CCβ for screening are claimed at the MRL; however they always should be estimated lower than the MRL CCα of confirmation shall be readily mentioned in the plan instead of “on demand”
	Species/ matrices	<ul style="list-style-type: none"> • Control is missing for four species : aquaculture products, farmed games, horses, poultry • 	
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Gamithromycin and tildipirosin should be included • Is the metabolite of tylvalosin monitored as well?
	Species/ matrices	<ul style="list-style-type: none"> • To extend the scope of the method to aquaculture products, farmed game, horses and poultry muscle • 	<ul style="list-style-type: none"> •
	Limits	<ul style="list-style-type: none"> • Screening test not in agreement with the level of action for eggs, honey and milk • CCα should be reported 	<ul style="list-style-type: none"> •
B1 – Quinolones	Analytes	<ul style="list-style-type: none"> • 11 substances: the 8 recommended substances and nalixidic acid, norfloxacin, ofloxacin: compliant 	<ul style="list-style-type: none"> • No screening method for flumequine in Eggs
	Methods/ Limits	<ul style="list-style-type: none"> • CCβ too high for <i>flumequine</i> (Milk) • No data for CCα 	
	Species/ matrices	<ul style="list-style-type: none"> • No control for Aquaculture, Farmed game, Horses, Poultry products 	
B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> • Compliant: 18 analytes controlled • To extend the scope to other sulfonamides: at least to Minimum Required (sulfachloropyrazine), Recommended (sulphanilamide), Optional 	<ul style="list-style-type: none"> / •

		(sulfabenzamide, sulfaclozine, sulfisomidine, sulfaethoxypyridazine, sulfaphenazole, sulfatroxazole, sulfanitran, sulfasalazine)	
	Species/ matrices	<ul style="list-style-type: none"> No control for Aquaculture, Farmed game, Horses, Poultry 	
	Methods/ Limits	<ul style="list-style-type: none"> Pay attention to report values of CCα: All CCα reported “on demand” for Honey, Milk, Muscle and some for Eggs 	
B1 – Tetracyclines		<ul style="list-style-type: none"> Non-compliant 	<ul style="list-style-type: none"> No Aquaculture, Farmed games, Horses and Poultry
B1 – Other antibacterials	Analytes	<ul style="list-style-type: none"> Bacitracin, clavulanic acid, colistin, florfenicol, florfenicol amine, novobiocin, rifaximin, thiamphenicol, tiamulin, trimethoprim, valnemulin, virginiamycin (M1+S1) 	
	Species/ matrices	<ul style="list-style-type: none"> No control for Aquaculture products, Farmed game, Honey, Horses, Poultry 	<ul style="list-style-type: none"> No control for <i>bacitracin</i>, <i>novobiocin</i> in Milk and Rabbits muscle No control for <i>novobiocin</i> and <i>trimethoprim</i> in Milk, for <i>tiamulin</i> in Eggs and Rabbits, for <i>valnemulin</i> in Rabbits Control for <i>clavulanic acid</i>, <i>colistin</i> only in Milk
	Limits		<ul style="list-style-type: none"> CCβ level too high for <i>florfenicol amine</i> in Bovines and Pigs muscle, for <i>rifaximin</i> in Milk, for <i>trimethoprim</i> with UPLC method (CCβ must be lower at MRL)
B2a	Analytes		
	Limits	Adoption of CC β to MRL	
B2b	Limits	Indicate screening method used Review CC α values as they are higher than MRLs and MLs Review the MRL and ML value in the different matrices	
	Matrices	Poultry should be considered to meet the minimum requirement	
B2e	Analytes	Consider FLU-OH and MAA to complete the minimum requirements	
	Limits	In some cases an evaluation was not possible, because values are “on demand”	
	Matrices		
B2f – antimicrobials	Methods/ Limits	non-compliant	CC β at 50 μ g/kg for carbadox and olaquinox is suspicious CC β must be < Recom Limit/MRPL
B2f – corticosteroids		-	

B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As and Ni are included
	Methods		
	Limits		
	Levels of action		Note: For MRLs for Hg refer to CR 73/2018
	Species /matrices		
B3d	Analytes	Include ochratoxin	
	Species/ matrices	Include horses, poultry	
B3e	Analytes	non-compliant	No control plan for Dyes
	Other remarks		

2.18.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for species tested 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> For muscle UPLC-MS/MS; other matrices unknown 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for feces 'On demand' 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for species/matrices tested Not tested: horses/poultry Matrices: faeces/muscle Extra matrix: fat 	For bovines/pigs urine is to prefer above feces
Other remarks		Subspecies tested: For sheep subspecies is specified For farmed game: rabbits	

2.18.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: urine 	
Other remarks			

2.18.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats Non-compliant: horses, poultry Aquaculture and farmed game (optional) (not included in the plan for A3), rabbit (optional) (estradiol, testosterone, trenbolone, stanozolol). Optional: 17-Alpha-Methyl-5-Beta-Androstan-3-Alpha-17-Beta-Diol, Allyltrenbolone (Altrenogest), Androst-5-Alpha-16-En-3-One, Androsten-4-Chloro-4-Ene-3,17-Dione, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Clostebol acetate, Delmadinone acetate, Estradiol dipropionate, Flugestone-17-Acetate, Methandriol, Norethandrolon, Norgestrel, Nortestosterone decanoate, Nortestosterone phenylpropionate, Progesteroncaproat-17-Alpha-Hydroxy, Progesterone, Progesterone-Acetoxy, Testosterone acetate, Testosterone benzoate, Testosterone phenylpropionate, Testosterone propionate, Trenbolone acetate. 	
Methods	Screening	<ul style="list-style-type: none"> UPLC-MS/MS. 	

	Confirmatory	<ul style="list-style-type: none"> HPLS-MS, LC-MS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Non-compliant for a few analytes in muscle. Compliant for the other matrices. 	Optimise the methods for muscle.
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant or noted as 'on demand'. 	Note CC α in concentrations for all methods.
Levels of action		<ul style="list-style-type: none"> 'Presence' except for chlormadinone acetate for which 4 μg/kg is noted. 	Note in clear concentrations for all methods.
Species/matrices		<ul style="list-style-type: none"> Horses, poultry and aquaculture are not included for A3 in this plan at all. Matrices are compliant except for a few analytes for the optional species rabbit. Included matrices: feces, fat, muscle, plasma. 	Include at least horses, poultry and aquaculture. Expand the number of samples from the slaughterhouse.
Other remarks			

2.18.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for species tested 	Include zearalanone
Methods	Screening	<ul style="list-style-type: none"> For muscle UPLC-MS/MS Other matrices none 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant with the exception of muscle 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for feces Muscle 'on demand' 	A value should be stated
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant Not tested: horses/poultry Matrices: feces/fat/muscle 	Preferred matrix is urine followed by liver
Other remarks			

2.18.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • 21 analytes in bovine pig, rabbit and sheep/goat • Minimum requirements and almost all recommendations are covered. 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> • The majority of the CCβ values are above the recommended concentrations, e.g. cimaterol, brombuterol, cimbuterol, isoxuprine, clenbuterol etc. in liver and muscle (bovines, pigs, rabbits and sheep/goats) 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Several values above the recommended concentrations, e.g. cimaterol, brombuterol, cimbuterol, isoxsuprine, mapenterol, ractopamine, ritodrinand, clenbuterol, mabuterol, tolubuterol in liver (bovine, pigs, rabbits, sheep/goats) 	
Levels of action		Presence, MRL	
Species/matrices		Poultry not analysed	
Other remarks			

2.18.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements not fulfilled	MNZOH should be included for bovine and pig muscle
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS, LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant, except in some cases an evaluation not possible, because values are “on demand” (for bovine, pig and sheep/goats muscle) 	
Levels of action		presence	
Species/matrices		Recommendations fulfilled except for poultry	
Other remarks			

2.18.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 6 Nitrofurans metabolites and parent compounds: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA, IA, CHARM Amphenicol test and UPLC-MS/MS compliant Nitrofurans: ELISA and UPLC-MS/MS for nitrovin (no screening for metabolites) compliant Dapsone: Charm II (Receptor assay), Sulfasensor Honey, UPLC-MS/MS, Delvotest-SP compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS and LC-MS/MS compliant Nitrofurans: LC-MS and LC-MS/MS for milk compliant Dapsone: LC-MS and LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> CCβ at 5 $\mu\text{g}/\text{kg}$ for Nitrovin in muscle is suspicious CCβ must be < Recom Limit/MRPL CCβ at 10 $\mu\text{g}/\text{kg}$ for Dapsone in Eggs and honey is suspicious CCβ must be < Recom Limit/MRPL
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: on demand ? compliant ? Nitrofurans: on demand for nitrovin? compliant ? Dapsone: on demand ? compliant ? 	<ul style="list-style-type: none"> Limits shall be reported in the NRCP
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: non-compliant 	<ul style="list-style-type: none"> No Aquaculture, Farmed game, Horses, Poultry and Rabbit No Aquaculture, Farmed game, Horses, Poultry and Rabbit

	<ul style="list-style-type: none"> Dapsone: compliant 	<ul style="list-style-type: none"> No Aquaculture, Farmed game, Horses, Poultry and Rabbit
Other remarks	/	/

2.18.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 8 analytes (+ <i>framycetin</i>): compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Charm II Streptomycins (Honey), Premitest (Eggs), 4-aminosensor or Biosensor or Delvotest SP (Milk): compliant No method indicated for screening in muscle: non-compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD for Eggs: compliant LC-MS/MS for Honey and Milk: compliant LC-MS for muscles: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ for <i>apramycin</i>, <i>dihydrostreptomycin</i>, <i>kanamycin</i>, <i>paromomycin</i> and <i>spectinomycin</i> are too high (CCβ must be \leq MRL)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Pigs, Rabbits: muscle Eggs, Honey, Milk 	<ul style="list-style-type: none"> No control for Aquaculture products, Farmed game, Horses, Poultry, Sheep/goats: non-compliant
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 7 penicillins and 7 cephalosporins in Milk 4 penicillins and 1 cephalosporin in Eggs 	<ul style="list-style-type: none"> Penicillin-V and cefoperazone should be also considered in Milk

		8 penicillins and 6 cephalosporins in B,P,OC Muscle 8 penicillins in Rabbit	<ul style="list-style-type: none"> • Penicillin-V, Penicillin-G, Nafcillin and Dicloxacillin should be also considered in Eggs • Cephapirin is missing in B,P,OC muscle • Cephalosporins are missing in Rabbit
Methods	Screening	<ul style="list-style-type: none"> • non-specific or semi-specific methods (Premitest for eggs, and Delvotest SP and Biosensor for milk) • specific methods (UPLC or UPLC-MSMS for muscle). 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS or LC-MS • HPLC-DAD for Eggs 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • CCbeta mostly compliant 	<ul style="list-style-type: none"> • Sometimes, CCbeta for screening are claimed at the MRL; however they always should be lower than the MRL
	CC α (confirmatory)	<ul style="list-style-type: none"> • Non-compliant 	<ul style="list-style-type: none"> • CCalpha shall be readily mentioned in the plan instead of “on demand”
Levels of action		/	/
Species/ matrices		<ul style="list-style-type: none"> • 6 out of 11 species/ matrices 	<ul style="list-style-type: none"> • Control is missing for aquaculture products, farmed games, horses, poultry
Other remarks		/	<ul style="list-style-type: none"> • Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant for most of the macrolides and lincosamides 	<ul style="list-style-type: none"> • No control for gamithromycin and tildipirosin • Is the metabolite of tylvalosin monitored?
Methods	Screening	<ul style="list-style-type: none"> • Premi test in eggs • CHARM II in honey • Delvo test in milk • HPLC Or LC-MS/MS for muscle 	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of macrolides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> • LC/DAD, LC/MS and LC-MS/MS 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> • CCbeta suitable with regard to the level of action in muscle 	<ul style="list-style-type: none"> • CCbeta not always suitable in eggs and milk with regard to the level of action
	CC α (confirmatory)	/	<ul style="list-style-type: none"> • CCalpha “on demand” : not suitable, a numeric value shall be reported in the NRCP.
Levels of action		<ul style="list-style-type: none"> • MRL or “presence” 	<ul style="list-style-type: none"> • No MRL for spiramycin in sheep/goats and rabbit muscle • Spiramycin MRL is 250 μg/kg in pigs • No MRL for tylvalosin in bovin, sheep/goats and rabbit muscle • Tulathromycin mRLs are not the same in the different species muscles
Species/ matrices		<ul style="list-style-type: none"> • Bovin, pigs, rabbit, sheep/goats, eggs, honey and milk 	<ul style="list-style-type: none"> • No control in aquaculture products, farmed game, horses and poultry muscle
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • 11 substances: the 8 recommended substances and <i>nalixidic acid</i>, <i>norfloxacin</i>, <i>ofloxacin</i>: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • ELISA for Eggs: compliant • <i>E. coli</i> test for Milk: compliant • Fluoroquinolones EIA for Honey: (<i>ciprofloxacin</i>, <i>enrofloxacin</i>, <i>norfloxacin</i>) • UPLC and/or UPLC-MS/MS for Muscle: compliant 	<ul style="list-style-type: none"> • Except <i>flumequine</i> in Eggs
	Confirmatory	<ul style="list-style-type: none"> • LC-MS for Muscle only and LC-MS/MS for Muscle and others matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCβ too high for <i>flumequine</i> (Milk)
	CC α (confirmatory)	<ul style="list-style-type: none"> • No data (except for <i>norfloxacin</i> in Eggs) 	<ul style="list-style-type: none"> • CCα shall be mentioned
Levels of action		<ul style="list-style-type: none"> • Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovine, Pigs, Rabbit, Sheep/goats: muscle • Milk, Eggs, Honey 	<ul style="list-style-type: none"> • Except Aquaculture, Farmed game, Horses, Poultry
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	
Analytes		<ul style="list-style-type: none"> • Compliant : 18 analytes 	<ul style="list-style-type: none"> • No control for <i>sulfabenzamide, sulfachloropyrazine, sulfaclozine, sulfaethoxypyridazine, sulphanilamide, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazol, sulfisomidine</i>
Methods	Screening	<ul style="list-style-type: none"> • Compliant: Delvotest SP, PremiTest, Sulfasensor, Charm II, UPLC, UPLC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> • Compliant: HPLC-DAD, LC-MS, LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	Non-compliant: All CC α reported “on demand” for honey, milk, muscle and some for eggs
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Pigs, Rabbits, Sheep/goat: muscle • Eggs, Honey, Milk (cow) 	No control for Aquaculture, Farmed game, Horses, Poultry
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Tetracyclines: 7 substances including the 3 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • Biosensor for milk, Tetrasensor, UPLC and UPLC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • HPLC-DAD for Eggs • LC-MS/MS and LC-MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/matrices		<ul style="list-style-type: none"> • Non-compliant 	No Aquaculture, Farmed games, Horses and Poultry
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations

Analytes		<ul style="list-style-type: none"> • Other B1: bacitracin, clavulanic acid, colistin, florfenicol, florfenicol amine, novobiocin, rifaximin, thiamphenicol, tiamulin, trimethoprim, valnemulin, virginiamycin (M1+S1) 	<ul style="list-style-type: none"> • No control for <i>bacitracin</i>, <i>novobiocin</i> in Milk and Rabbits muscle • No control for <i>novobiocin</i> and <i>trimethoprim</i> in Milk • No control for <i>tiamulin</i> in Eggs and Rabbits • No control for valnemulin in Rabbits • Control for <i>clavulanic acid</i>, <i>colistin</i> only in Milk
Methods	Screening	<ul style="list-style-type: none"> • CHARM Amph or Delvotest-SP OR ELISA for Milk: compliant • UPLC or UPLC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS or LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCβ level too high for <i>florfenicol amine</i> in Bovines and Pigs muscle, and for <i>rifaximin</i> in Milk (CCβ must be lower at MRL) • <i>Trimethoprim</i> CCβ obtained with the UPLC method is too high (CCβ must be lower at MRL)
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα level too low for <i>florfenicol</i> and <i>florfenicol amine</i> in Pigs muscle (CCα must be higher than MRL=300 μg/kg) • CCα level too low for <i>trimethoprim</i> for Horses muscle (MRL=100 μg/kg)
Levels of action		MRL or presence	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Pigs, Rabbits, Sheep/goat: muscle • Eggs, Milk 	<ul style="list-style-type: none"> • Except Aquaculture, Farmed game, Honey, Horses, Poultry
Other remarks		/	/

2.18.9 Group B2a – Anthelmintics

B2a	Evaluation	Recommendations
Analytes	7 avermectines, 24 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled	<ul style="list-style-type: none"> • Eprinomectin not analysed

		<p>Aquaculture: no B2a compounds Bovine: 7 avermectines, 9 benzimidazoles, clorsulon, closantel, dicyclanil, levamisole, nitroxinil, oxyclozanide, rafxanide and others Eggs: Carbendazim Farmed game: no B2a compounds Horse: no B2a compounds Milk: 6 avermectines, 9 benzimidazoles, and other same as for bovine Pig: 7 avermectines, 9 benzimidazoles and other same as for bovine Poultry: no B2a compounds Rabbit: 7 avermectines, 9 benzimidazoles, and other same as for bovine Sheep/goat: 7 avermectines, 9 benzimidazoles, and other same as for bovine</p>	
Methods	Screening	UPLC-MS/MS	
	Confirmatory	LC-MS, UPLC-MS/MS	
Limits	CC β (screening)	Not compliant: for most analytes CC β >MRL, apparently calculated on basis of CC α of corresponding confirmatory methods	
	CC α (confirmatory)	compliant	
Levels of action		Presence or MRL	
Species/matrices		Relevant analyte/matrix combinations are covered with the exception of fish and poultry.	
Other remarks		Very comprehensive analyte scope	

2.18.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 19 anticoccidials: 7 chemical coccidiostats, 5 ionophores and 7 nitroimidazoles • All minimum requirements included • 5 out of 8 recommended included • 5 optional included • Clopidol removed • Semduramycin not included 	Include semduramycin due to the NC results of recent years
Methods	Screening	Mostly not given, otherwise LC-MS/MS	Indicate the screening methods used
	Confirmatory	LC-MS, LC-MS/MS	
Limits	CC β (screening)	Compliant	

	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for any analyte CCα should be > MRL or ML values For example: for decoquinatone in bovine muscle, CCα = 0.39 $\mu\text{g}/\text{kg}$ and ML = 20 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML values 	CC α should be > MRL or ML values
Levels of action		<ul style="list-style-type: none"> MRL, ML, presence False values for MRLs in the different matrix/species combinations, e.g.: MRL for lasalocid in bovine muscle = 10 $\mu\text{g}/\text{kg}$ and not 5 $\mu\text{g}/\text{kg}$ For halofuginone in bovine muscle MRL= 10 $\mu\text{g}/\text{kg}$ and not 3 $\mu\text{g}/\text{kg}$ For Robenidine in rabbit muscle, MRL =100 $\mu\text{g}/\text{kg}$ and not 5 $\mu\text{g}/\text{kg}$ 	MRL and ML values should be corrected
Species/matrices		Poultry was not considered	Broaden the scope of the analysis and include the minimum requirement matrix poultry
Other remarks		Same remarks as last year (2017)	

2.18.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required and recommended Additional: chlorprothixene, promazine, promethazine 	
Methods	Screening	<ul style="list-style-type: none"> Kidney: no screening method Muscle: UPLC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant in kidney Muscle: on demand 	
Levels of action		<ul style="list-style-type: none"> Presence Azaperone/azaperol: 100 $\mu\text{g}/\text{kg}$ Carazolol: 5 $\mu\text{g}/\text{kg}$ 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: kidney Additional: muscle 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.18.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 19 analytes (milk: 17) • Minimum required and recommended analytes are covered • To completely fulfill the minimum requirements the analysis of FLUOH and MAA in milk is to be included • In contrast to last year, SA is not analysed in milk 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS (not compliant), LC-MS/MS (compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Not compliant in some cases • PBZ in muscle: CCβ should be below the recommended concentrations • CPF in muscle, FLU in bovine muscle or TFA in muscle: CCβ should be below the MRL • FLU, TFA or MXC in milk: CCβ should be below the MRL 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Not compliant for some MRL substances • FLU in pig muscle, DC in bovine muscle, MLX in muscle: CCα should be above the MRL • In some cases an evaluation not possible, because values are “on demand” (for bovine, pig and sheep/goats muscle) • MRL for flunixin in pig muscle is 50 $\mu\text{g}/\text{kg}$ and not 20 $\mu\text{g}/\text{kg}$ 	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled ((bovine, pig, rabbit, sheep/goat – muscle; milk)	
Other remarks		Minor changes compared to 2017	

2.18.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • UPLC-MS/MS: compliant 	/

	Confirmatory	<ul style="list-style-type: none"> LC-MS : compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> non-compliant 	<ul style="list-style-type: none"> CCβ at 50 μg/kg for carbadox and olaquinox is suspicious CCβ screening must be < Recom Limit/MRPL
	CC α (confirmatory)	<ul style="list-style-type: none"> on demand ? compliant ? 	<ul style="list-style-type: none"> Limits shall be reported in the NRCP
Levels of action		<ul style="list-style-type: none"> compliant 	/
Species/ matrices		<ul style="list-style-type: none"> compliant 	/
Other remarks		/	/

2.18.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats Not included: horses, poultry, aquaculture, farmed game/rabbit (optional). Additional: Betamethasone, Clobetasol, Cortisol (Hydrocortisone), Desoxycorticosterone, Dexamethasone acetate, Flumethasone, Fluorometholone, Fluoxymesterone (Flurogestone), Isoflupredone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> No screening method for faeces and urine, UPLC-MS/MS for muscle. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for faeces and muscle, 'on demand' for muscle. 	Note all CC α in clear concentrations.
Levels of action		<ul style="list-style-type: none"> 'Presence' for faeces, MRL with concentration for liver and muscle. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats. Matrices compliant. Matrices included: faeces, liver, muscle. 	Include at least horses.
Other remarks			

2.18.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg, As and Ni	Good to see that As and Ni are included Cu should be included (396/2005 and amendments)
Methods	Screening	Not stated	
	Confirmatory	ICPMS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	Note: For MRLs for Hg please refer to CR 73/2018
Species/matrices		Most relevant species/matrices are included	
Other remarks			

2.18.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, zearalenone 	Include ochratoxin
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 0.05 μg/kg (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Species: missing horses, poultry Matrices: milk, feed 	Include horses, poultry
Other remarks			

2.18.17 Group B3e – Antimicrobial compounds

B3e (Dyes)	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations

Analytes		• non-compliant	• No control plan for Dyes
Methods	Screening	/	/
	Confirmatory	/	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/
Levels of action		/	/
Species/ matrices		/	/
Other remarks		/	/

2.19 Member State: Latvia (LV)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	CC α for diethylstilbestrol (esp. in urine from horses) should be lower to meet regulatory limits	
A2	Analytes	Add phenylthiouracil, benzylthiouracil, mercaptobenzimidazole	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Analytes	<ul style="list-style-type: none"> Dapsone : non compliant For Nitrofuranes: non-compliant 	<ul style="list-style-type: none"> No control plan for Dapsone
	Species/ matrices		<ul style="list-style-type: none"> No control in Horses
B1- Aminoglycosides	Analytes	<ul style="list-style-type: none"> 6 out of 8 analytes: compliant? 	<ul style="list-style-type: none"> No control for <i>apramycin</i>, <i>paramomycin</i>: non-compliant
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control for Aquaculture products, Eggs or Honey: non-compliant
	Methods/ Limits	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> MRL of aminoglycosides in poultry meat is wrong, it is not equal to 75 $\mu\text{g}/\text{kg}$, but 100 to 500 $\mu\text{g}/\text{kg}$ depending on the Species/ matrices
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> Penicillin-V, Nafcillin should be also considered in Eggs and in Milk Cephapirin (and desacetylcephapirin), Cefalonium, and Cefazoline are missing in Milk Cephapirin in missing in control for all Species Meat (Kidney and Muscle) 	<ul style="list-style-type: none"> Remark : It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk

B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Extension of the control to 3-O-acetyltylosin, gamithromycin, neomycin, pirlimycin, tildipirosin, tulathromycin and tylvalosin 	
	Methods/ Limits	<ul style="list-style-type: none"> 	Pay attention to the determination of CC α for non-authorized compounds (not to be calculated as for MRL compounds)
B1 – Quinolones	Species/ matrices	<ul style="list-style-type: none"> No control for muscle of Pigs and Sheep/goats 	
	Analytes	<ul style="list-style-type: none"> No control for <i>oxolinic acid</i> 	
	Limits		<ul style="list-style-type: none"> CCβ level for <i>flumequine</i> too high in Aquaculture products and Poultry and for <i>sarafloxacin</i> in Aquaculture products (CCβ must be \leq MRL). CCα level too low for <i>ciprofloxacin</i> in Milk, for <i>difloxacin</i> in Horses, for <i>enrofloxacin</i> in Milk. CCα level too high for <i>danofloxacin</i> in Farmed game, Horses, Rabbits, and for <i>marbofloxacin</i> in Aquaculture.
B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> Sulfonamides : 6 analytes only. To extend the scope to other sulfonamides: at least to Minimum required (sulfapyridine; sulfamerazine, sulfadiazine, sulfaquinoxaline, sulfamonomethoxine; sulfamethoxy pyridazine; sulfamethoxazole; sulfadoxine; sulfisoxazole; sulfaguanidine), Recommended (sulfacetamide; sulfameter; sulfanilamide; sulfamoxole), Optional (sulfasalazine; sulfisomidine; sulfaclozine; sulfabenzamide; sulfatroxazole; sulfaethoxy pyridazine; sulfaphenazole; sulfanitran) 	

	Methods/ Limits	<ul style="list-style-type: none"> All CCα for matrices having MRL (Muscle, Kidney, Milk) (100 $\mu\text{g}/\text{kg}$) are non-compliant because they are below MRL. Revise CCα of sulfamethazine in poultry muscle (at 23 $\mu\text{g}/\text{kg}$: non compliant because MRL = 100 $\mu\text{g}/\text{kg}$). 	•
B1 Tetracyclines	– Analytes	<ul style="list-style-type: none"> Probably compliant however : 	<ul style="list-style-type: none"> The 3 types of 4-epimers should be included as analytes of concern in the plan
B1 – Other antibacterials	Analytes	<ul style="list-style-type: none"> Bacitracin, novobiocin, rifaximin, tiamulin, trimethoprim are of concern 	<ul style="list-style-type: none"> No control for <i>tiamulin</i> in Eggs •
	Methods/ Limits	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ level should be estimated lower for <i>novobiocin</i> in Milk (CCβ < MRL) CCα level too low for <i>bacitracin</i> in Rabbits muscle (CCα \geq MRL), for <i>trimethoprim</i> in Horses muscle (MRL = 100 $\mu\text{g}/\text{kg}$). CCα confirmation shall be estimated above the MRL
B2a	Analytes	Eprinomectin in aquaculture	
	Limits		
B2b	Analytes	Broaden the scope of testing by adding more recommended analytes	
	Limits		
B2d	Analytes	Include haloperidol, propiopromazine and carazolol;	
	Species/ matrices	Preferred matrix is kidney	
B2e	Analytes		
	Limits		
	Matrices		
B2f antimicrobials	- Method/Li mits	Non-compliant	No control plan for Carbadox/Olaquinox

B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits		
	Levels of action		
	Species /matrices		
B3d	Analytes	Include zearalenone	
B3e		Compliant	/
	Other remarks		

2.19.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for diethylstilbestrol in urine (bovines/pigs/horses) Compliant for diethylstilbestrol in <i>liver</i> for bovines and pigs 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/liver/muscle 	For sheep/goat urine is to prefer above muscle
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For aquaculture : carps For farmed game: rabbit/deer	

2.19.2 Groups A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required 	Include phenylthiouracil, benzylthiouracil, mercaptobenzimidazole
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, farmed game, poultry, rabbit Matrices: urine Additional: muscle (for all species, including part of minimum required) 	Analyse in urine/thyroid instead of muscle if possible
Other remarks			

2.19.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, poultry. Non-compliant: pigs, sheep/goats, (testosterone), horses (estradiol, testosterone, gestagens), aquaculture (nandrolone, testosterone). Optional: None. 	Include the missing recommended analytes for at least pigs, sheep/goats, horses and aquaculture. Expand the plan other analytes than only the minimum required.
Methods	Screening	<ul style="list-style-type: none"> GC-MS, LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant except estradiol in serum. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Non-compliant for several methods but mostly just above the recommended concentration. 	Optimise the methods with the non-compliant CC α .
Levels of action		<ul style="list-style-type: none"> 'Presence'. 	Note in clear concentrations and differentiate for testosterone.
Species/matrices		<ul style="list-style-type: none"> All species are included but some species only with one sample. 	Expand the number of samples.

	<ul style="list-style-type: none"> • Matrices are compliant. • Optional matrices: none. 	
Other remarks		

2.19.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant • Zearalanone included 	
Methods	Screening	• Compliant (LC-MS/MS)	
	Confirmatory	• Compliant (LC-MS/MS)	
Limits	CC β (screening)	• Compliant	
	CC α (confirmatory)	• Compliant (except for zearalanone in liver poultry)	
Levels of action		• 'Presence'	State regulatory value
Species/matrices		<ul style="list-style-type: none"> • Compliant; replacement matrices used • Matrices: urine/liver/muscle 	Add or replace muscle for urine where possible
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For farmed game: rabbit/deer	

2.19.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 18 analytes in the most relevant species (bovine, pig, poultry) • Minimum requirements and recommendations fulfilled 	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant, values meet recommended concentrations	
	CC α (confirmatory)	Not compliant only for clenbuterol in bovines liver and horses urine. CC α =0.53 μ g/kg above recommended concentrations = 0.2 μ g/kg	

Levels of action	Presence	
Species/matrices	<ul style="list-style-type: none"> porcine urine not included Maybe consider lung in addition to or instead of liver and hair for screening 	
Other remarks	No changes in comparison to 2016 and 2017	

2.19.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.19.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans metabolites: compliant Dapsone: non-compliant 	/ <ul style="list-style-type: none"> No control plan for Dapsone
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: / 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: same as screening LC-MS/MS compliant Nitrofurans: same as screening LC-MS/MS compliant Dapsone: / 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: / 	/
Species/matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: / 	<ul style="list-style-type: none"> No Horses
Other remarks		/	/

2.19.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 6 out of 8 analytes: compliant? 	<ul style="list-style-type: none"> No control for <i>apramycin</i>, <i>paramomycin</i>: non-compliant MRL of aminoglycosides in poultry meat is wrong, it is not equal to 75 $\mu\text{g}/\text{kg}$, but 100 to 500 $\mu\text{g}/\text{kg}$ depending on the Species/matrices
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines: muscle and kidney Pigs, Sheep/goats: kidney 	<ul style="list-style-type: none"> No control for Aquaculture products, Eggs or Honey: non-compliant

	<ul style="list-style-type: none"> Farmed game, Horses, Poultry, Rabbits: muscle Milk (cows, goats) 	
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 6 penicillins and 5 cephalosporins in Milk, in Eggs, and in Honey 6 penicillins and 5 cephalosporins in B,P,OC Kidney and in Aq,B,FG,H,Py,R Muscle 	<ul style="list-style-type: none"> Penicillin-V, Nafcillin should be also considered in Eggs and in Milk Cephapirin (and desacetylcephapirin), Cefalonium, and Cefazoline are missing in Milk Cephapirin in missing in control for all Meat (Kidney and Muscle) Remark : It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL or Presence 	/
Species/matrices		<ul style="list-style-type: none"> All 11 species/ matrices are of concern 	/
Other remarks		/	<ul style="list-style-type: none"> Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Erythromycin, josamycin, kitasamycin, lincomycin, spiramycin, tilmicosin and tylosin 	<ul style="list-style-type: none"> No control for 3-O-acetyltylosin, gamithromycin, neomycin,pirlimycin, tildipirosin, tulathromycin and tylvalosin
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	/

	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Mostly suitable in eggs, honey and milk 	<ul style="list-style-type: none"> CC\square erythromycin in eggs > MRL
	CC α (confirmatory)	<ul style="list-style-type: none"> Suitable 	<ul style="list-style-type: none"> CC\square aasometimes high when non authorised compounds
Levels of action		<ul style="list-style-type: none"> MRL, no MRL or “presence” when not authorised substances 	<ul style="list-style-type: none"> Tilmicosin MRL in aquaculture products is 50 μg/kg
Species/matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Quinolones)		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Quinolones: the 7/8 recommended substances and <i>nalixidic acid</i>, <i>norfloxacin</i>, <i>orbifloxacin</i> : compliant 	<ul style="list-style-type: none"> No control for <i>oxolinic acid</i>
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ level for <i>flumequine</i> too high in Aquaculture products and Poultry and for <i>sarafloxacin</i> in Aquaculture products (CCβ must be \leq MRL)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα level too low for <i>ciprofloxacin</i> in Milk, for <i>difloxacin</i> in Horses, for <i>enrofloxacin</i> in Milk. CCα level too high for <i>danofloxacin</i> in Farmed game, Horses, Rabbits, and for <i>marbofloxacin</i> in Aquaculture products.
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/matrices		<ul style="list-style-type: none"> Bovines : muscle and kidney Pigs, Sheep/goats: kidney Aquaculture, Farmed Game, Horses, Poultry, Rabbit: muscle Eggs (hens, quails), Honey, Milk (cow, goat) 	<ul style="list-style-type: none"> No control for muscle of Pigs and Sheep/goats
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Sulfonamides: 6 analytes only. 	<ul style="list-style-type: none"> • No control for <i>sulfabenzamide, sulfacetamide, sulfaclozine, sulfadiazine, sulfadoxine, sulfaguanidine, sulfamerazine, sulfameter, sulfamethoxazol, sulfamethoxyipyridazine, sulfamonomethoxine, sulfamoxol, sulphaniamide, sulfapyridine, sulfaquinoxaline, sulfasalazine, sulfatroxazol, sulfisomidine, sulfisoxazole, sulfaethoxyipyridazine, sulfaphenazole; sulfanitran</i>
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Non-compliant 	<ul style="list-style-type: none"> • All CCα for matrices having MRL (muscle, kidney, milk) (100 μg/kg) are non-compliant because they are below MRL. • CCα of sulfamethazine in poultry muscle at 23 μg/kg: non compliant because MRL = 100 μg/kg.
Levels of action		<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • It is written: "No MRL for poultry muscle for sulfamethazine"
Species/matrices		<ul style="list-style-type: none"> • Aquaculture products, Farmed game, Horses, Poultry, Rabbits: muscle • Bovines, Pigs: muscle and kidney • Pigs, Sheep/goat: kidney • Eggs(hens, quails), Honey, Milk (cows, goats) 	/
Other remarks		/	/
B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations

Analytes		• Tetracyclines: 4 substances..compliant ?	• Not including the 3 kind of 4-epimers
Methods	Screening	• LC-MS/MS: compliant	/
	Confirmatory	• Same as screening LC-MS/MS compliant	/
Limits	CC β (screening)	• Compliant	/
	CC α (confirmatory)	• Compliant	/
Levels of action		• Compliant	/
Species/matrices		• Compliant	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• Other B1: <i>bacitracin, novobiocin, rifaximin, tiamulin, trimethoprim</i>	• No control for <i>tiamulin</i> in Eggs
Methods	Screening	• LC-MS/MS: compliant	/
	Confirmatory	• LC-MS/MS: compliant	/
Limits	CC β (screening)	• Compliant	• CC β level should be lower for <i>novobiocin</i> in Milk (CC β < MRL)
	CC α (confirmatory)	• Compliant	• CC α level too low for <i>bacitracin</i> in Rabbits muscle (CC α \geq MRL) • CC α level too low for <i>trimethoprim</i> in Horses muscle (MRL = 100 μ g/kg)
Levels of action		• MRL or presence	/
Species/matrices		• Aquaculture products, Farmed game, Horses, Poultry, Rabbits: muscle • Bovines, Pigs: muscle and kidney • Sheep/goat: kidney • Eggs(hens, quails), Honey, Milk (cows, goats)	/
Other remarks		/	/

2.19.9 Group B2a – Antihelminthics

B2a	Evaluation	Recommendations
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Analytes		5 avermectines, 13 benzimidazoles and others; 12 out of 12 minimum requirements fulfilled Aquaculture: 5 avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, nitroxinil, oxyclozanide, rafoxanide Bovine: 5 avermectines, 7 benzimidazoles, clorsulon, closantel, levamisole, nitroxinil, oxyclozanide, rafoxanide Eggs: no B2a compounds Farmed game: no avermectines, 7 benzimidazoles, and others same as for bovine Horse: 5 avermectines, 7 benzimidazoles, and others same as for bovine Milk: 5 avermectines, 7 benzimidazoles, and others same as for bovine Pig: 5 avermectines, 7 benzimidazoles, and others same as for bovine Poultry: no avermectines, 7 benzimidazoles, and others same as for bovine Rabbit: 5 avermectines, 7 benzimidazoles, and others same as for bovine Sheep/goat: 5 avermectines, 7 benzimidazoles, and others same as for bovine	Eprinomectin not analysed
	Methods	Screening Confirmatory	HPLC-FLU for avermectins, LC-MS/MS for the benzimidazoles HPLC-FLU for avermectins, LC-MS/MS for the benzimidazoles
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	Compliant for most compounds, but action level “presence” and e.g. a CC α of 442 μ g/kg (flubendazole in bovine liver) do not match,	New MRL for eprinomectin in finfish: 50 μ g/kg
Levels of action		Presence or MRL	
Species/matrices		Relevant analyte/matrix combinations are covered.	
Other remarks			

2.19.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 22 anticoccidials: 11 chemical coccidiostats, 6 ionophores and 5 nitroimidazole All minimum requirements included 3 out of 8 recommended included No optional 	More analytes (recommended) could be integrated
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Non-Compliant for the majority of analytes CCβ should be < MRL or ML value 	CC β should be < MRL or ML value
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for several analytes. CCα should be < MRL or ML values For example lasalocid in bovine muscle CCα = 65 μg/kg and the MRL = 10 μg/kg. CCα should be > MRL or ML value and CCα should be < CCα max (16.1 μg/kg) For monensin in bovine muscle, CCα = 9.9 μg/kg and the ML = 2 μg/kg. CCα should be > MRL or ML value but < CCα max (3.55 μg/kg) For robenidine in bovine muscle, CCα = 238 μg/kg and the ML = 5 μg/kg. CCα max = 8.33 μg/kg 	<ul style="list-style-type: none"> CCα should be > MRL or ML values for confirmatory and < CCα max CCα should be < CCα max
Levels of action		MRL, ML, 124/2009	
Species/matrices		Relevant analytes/species/matrices are covered	
Other remarks		<ul style="list-style-type: none"> Nequinat and methylbenzoquat are the same, better use just one name Avoid methylbenzoquat-nequinat to express nequinat 	Better use only nequinat or only methylbenzoquat

2.19.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant minimum required: haloperidol, propiopromazine Additional: xylazine, azaperon, azaperol and promazine 	Include haloperidol, propiopromazine and carazolol
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence MRL azaperone/azaperol in pigs kidney/liver: 100 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney (bovines, pigs) Additional: liver (bovines, pigs, sheep/goats) and muscle (horses) 	Preferred matrix is kidney
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.19.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 20 analytes (milk: 19) • Minimum requirements are covered • Some recommended and optional analytes are analysed 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, except one analyte (FLU-OH in milk; CC β should be below the MRL)	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Mainly compliant • not compliant for: • MAA in milk (CCα 77 $\mu\text{g}/\text{kg}$ above CCα max: 73.7 $\mu\text{g}/\text{kg}$) • VDP in horse muscle: CCα should be above MRL • flunixin in horse muscle is 10 $\mu\text{g}/\text{kg}$ and not 20 $\mu\text{g}/\text{kg}$ 	
Levels of action		presence / MRL / no MRL	
Species/matrices		recommendations fulfilled	
Other remarks		No further remarks	

2.19.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: non-compliant • Olaquinox: non-compliant 	<ul style="list-style-type: none"> • No control plan for Carbadox/Olaquinox
Methods	Screening	/	/
	Confirmatory	/	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/

Levels of action	/	/
Species/matrices	/	/
Other remarks	/	/

2.19.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, horses, but only with a few samples. Not included: sheep/goats, poultry, aquaculture, Additional: none. 	Include also recommended analytes as betamethasone, flumethasone, etc.
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Almost compliant. 	
Levels of action		<ul style="list-style-type: none"> Compliant, noted in clear MRL concentrations. 	
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, horses, but with a very little amount of samples. Matrix compliant; liver. 	Include at least sheep/goats. Include more samples for all species.
Other remarks			

2.19.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	<p>Cu should be included (396/2005 and amendments)</p> <p>Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)</p>
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	

Limits	LOQ	Overall compliance with regulation	
Levels of action		Consistent with regulation	
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.19.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, ochratoxin A 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLD 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 0.05 μg/kg (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: milk, kidney, liver 	
Other remarks			

2.19.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Same as screening: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> compliant 	/

	CC α (confirmatory)	<ul style="list-style-type: none">compliant	/
Levels of action		<ul style="list-style-type: none">compliant	/
Species/matrices		<ul style="list-style-type: none">Aquaculture: compliant	/
Other remarks		/	/

2.20 Member State: Malta (MT)

No plan available

2.21 Member State: The Netherlands (NL)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	LoA clearly stated in concentrations
A2	Analytes	Include mercaptobenzimidazole	
A3		-	
A4	Limits	Adjust LoA for muscle	LoA clearly stated in concentrations
A5	Analytes		
	Limits		
A6 - nitroimidazoles	Analytes		
	Limits	No CC α for DMZ in eggs	
	Matrices	Matrix for poultry: partly plasma, partly unsuitable matrix muscle	
A6 - other	Species/ matrices	<ul style="list-style-type: none"> • Non-compliant : • Nitrofuranes: No control in Horses • Dapsone: No control in Aquaculture, Eggs, Farmed Game, Horses, Rabbit and Sheep/Goats. • No screening and no confirmation for AHD, AMOZ, AOZ and SEM in Honey and in Poultry drinking water and in Rabbit muscle 	
	Methods/ Limits		<ul style="list-style-type: none"> • CCα are missing for Eggs and Farmed game for the 4 metabolites AHD, AMOZ, AOZ and SEM CCα_{conf} and CCβ_{screen} at 0.3 μg/kg for CAP in milk is suspicious ; CCβ_{screening} must be < Recom Limit/MRPL/RP
B1 - Aminoglycosides	Analytes	<ul style="list-style-type: none"> • 8 analytes: compliant 	<ul style="list-style-type: none"> • No control for <i>spectinomycin</i> (except for Bovines)
	Species/ matrices	<ul style="list-style-type: none"> • Compliant • 	<ul style="list-style-type: none"> • No data for the control of <i>spectinomycin</i> and <i>streptomycin</i> in Bovine meat

	Methods/ Limits	<ul style="list-style-type: none"> • Very few indicative CCα released (except for Pigs): non-compliant 	<ul style="list-style-type: none"> •
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Pay attention to the level of action : “presence” when substances are not authorised (no MRL)
	Species/ matrices	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Screening methods not always relevant in regard to the level of action
	Methods/ Limits	<ul style="list-style-type: none"> • Improve the screening in order to get analytical limits in agreement with the level of action requested • Reporting of the CCα is needed 	<ul style="list-style-type: none"> •
B1 – Beta- lactams	Analytes	<ul style="list-style-type: none"> • Pen-V is missing in Poultry and Farmed Game Muscle • Cefacetriole is missing in Milk • Some other non-claimed penicillins (non-authorized in laying hens) should be considered in Eggs 	<ul style="list-style-type: none"> • Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk • Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
	Methods/ Limits	<ul style="list-style-type: none"> • A lot of CCα values are missing!!! • There is almost no values recorded for the CCα of confirmation for Beta-lactams except for 3 cases : cefapirin in pigs, cephalixin in pigs and dicloxacillin in Poultry • CCα of 600μg/kg for an MRL of 300μg/kg for dicloxacillin in Poultry is non-compliant 	<ul style="list-style-type: none"> •
B1- Quinolones	Methods/ Limits	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level • CCα (confirmatory): no data except for <i>danofloxacin</i>, <i>difloxacin</i>, <i>enrofloxacin</i> and <i>flumequine</i>, in poultry only. Additional files unusable. Non-compliant 	<ul style="list-style-type: none"> • No control for <i>ciprofloxacin</i>. Was accounted with <i>enrofloxacin</i>?
B1- Sulfonamides	Analytes	<ul style="list-style-type: none"> • 16 analytes, but not for all species/matrices • To extend the scope to other sulfonamides: at least to Minimum required (sulfachloropyrazine, sulfaguanidine, sulfamethoxypridazine), Recommended 	/

		(sulfameter, sulphanilamide), Optional (sulfabenzamide, sulfaclozine, sulfantran, sulfaphenazole, sulfasalazine, sulfatroxazol, sulfisomidine)	
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	
	Methods/ Limits	<ul style="list-style-type: none"> Need to develop confirmatory methods for Bovine Kidney + Muscle Revise CCβ in Eggs (100 μg/kg: too high because no MRL in eggs (not for use in laying hens)). Revise CCβ for sulfadimethoxine in Muscle (140 μg/kg) > MRL (100 μg/kg) A lot of CCα values are missing No CCα reported for eggs, aquaculture products, kidney + muscle (bovines, farmed game, horses, poultry, rabbits, sheep/goats) and drinking water (poultry) For cow milk, revise CCα (estimated at 5 μg/kg, while the MRL is set at 100 μg/kg) 	
B1 – Tetracyclines	Analytes	<ul style="list-style-type: none"> Non-compliant 	<ul style="list-style-type: none"> Not including the 3 kind of 4-epimers A lot of CCα values are missing
B1- Others antibacterials	Analytes	<ul style="list-style-type: none"> Baquiloprim, colistin, novobiocin, tiamulin, trimethoprim, valnemulin 	
	Species/ matrices	<ul style="list-style-type: none"> No control for Aquaculture products and Eggs 	
	Methods/ Limits	<ul style="list-style-type: none"> Ccα: no data, except for <i>tiamulin</i> and <i>baquiloprim</i> in Pigs: non-compliant 	A few CC β are too high, CC β must be \leq MRL
B2a	Analytes	Eprinomectin in aquaculture, abamectin in milk, closantel, rafoxanide in sheep/goat	
	Limits	Adoption CC α to MRL values	
B2b	Analytes		
	Limits	Review MRL and ML values in the different matrices/species	
B2d	Analytes	Include haloperidol	
B2e	Analytes	Consider MAA, FLU-OH, IP and TFA in the analysis.	
	Limits	Consider CC α for analytes with RC in muscles. Correct the stated MRLs	
	Matrices		
B2f antimicrobials	-	Compliant	/
B2f corticosteroids	-	-	

B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As and Ni are included
	Methods		
	Limits	MS should provide LOQs for all analyte-matrix combinations	
	Levels of action	MS should provide levels of action for all analyte-matrix- combinations	Note; MRL for Hg in kidney is 0,02 mg/kg (396/2005 and amendments)
	Species /matrices		
B3d	Analytes	Include ochratoxin	
B3e	Methods/ Limits	<ul style="list-style-type: none"> Non-compliant: Only the 5 analytes are satisfactorily enlisted; However there is no other details on any used methods, their CCbeta, CCalpha ? ⇒ Relevant cells to be completed accordingly 	
	Other remarks		

2.21.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> - 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS, GC-MS/MS) 	
Limits	CCβ (screening)	<ul style="list-style-type: none"> - 	
	CCα (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Compliant 	
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/liver/muscle Extra matrix: drinking water 	
Other remarks		Subspecies tested: For bovines/sheep/goat/poultry subspecies are specified For aquaculture : not mentioned For farmed game: rabbit/deer	

2.21.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: 2-mercaptoimidazole, phenylthiouracil, benzylthiouracil 	Include mercaptobenzimidazole
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 10 μg/l (MRPL) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: urine 	
Other remarks			

2.21.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines Non-compliant: pigs, sheep/goats (boldenone), horses (estradiol, testosterone), poultry (boldenone, testosterone, trenbolone, stanozolol, gestagens), aquaculture (boldenone, stanozolol, gestagens), Farmed game (optional) (testosterone, gestagens), rabbit (optional) (boldenone, testosterone, stanozolol, gestagens). Additional: Androsten-4-Chloro-4-Ene-3,17-Dione, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Chlortestosterone (Clostebol), CLAD (Cholortestosterone metabolite), Clostebol, Clostebol acetate 	Include the missing minimum required analytes for all species.
Methods	Screening	<ul style="list-style-type: none"> When used: Effect-based Bioassay, HPLC-MS, LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS, GC-MS/MS, LC-MSMS, not noted for some methods. 	Note method for all combinations.

Limits	CC β (screening)	<ul style="list-style-type: none"> • NA for minimum required. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant when noted. 	Note method for all combinations.
Levels of action		<ul style="list-style-type: none"> • 'MRPL $\mu\text{g}/\text{kg}$'. Compliant except for methyltestosterone and trenbolone in aquaculture. 	Check or optimise the non-compliant LoA.
Species/matrices		<ul style="list-style-type: none"> • All species are included. • Compliant except for estradiol (bovines, pigs, sheep/goats, poultry, farmed game). • Matrices included: Drinking water, feed, hair, kidney fat, liver, muscle, urine. 	
Other remarks			

2.21.4 Group A4 – Resorcylic acid lactone

A4 - NL		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant • Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> • - 	
	Confirmatory	<ul style="list-style-type: none"> • Compliant (LC-MS/MS, GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Compliant, with the exception of muscle recommended concentration is 1 $\mu\text{g}/\text{kg}$ instead of 2 $\mu\text{g}/\text{kg}$ 	Adjust LoA for muscle
Species/matrices		<ul style="list-style-type: none"> • Compliant • Matrices: urine/liver/muscle • Extra matrix: drinking water 	
Other remarks		Subspecies tested: For bovines/sheep/goat/poultry subspecies are specified For farmed game: rabbit/deer	

2.21.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 18 analytes in the most relevant species (bovine, pig, poultry) Minimum requirements are covered Recommended analytes are almost covered 	
Methods	Screening	No method given for the majority of analytes, otherwise LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No value given	Indicate CC β values for screening methods
	CC α (confirmatory)	Not compliant for several analytes, e.g.: <ul style="list-style-type: none"> for clenbuterol, mabuterol, mapenterol, cimaterol, brombuterol, clenproperol, isoxuprine, tolubuterol, cimbuterol etc. in urine (bovine pigs), in drinking water (pigs, poultry) and liver (poultry) 	Review CC α values for all analytes in the different matrices
Levels of action		MRL, MRPL	
Species/matrices		All relevant analyte/matrix combinations are covered	
Other remarks		β -agonists have no MRPLs but recommended concentrations; same as in 2016 and 2017	

2.21.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)		
	CC α (confirmatory)	compliant	No CC α for DMZ in eggs
Levels of action		MRPL	
Species/matrices		Recommendations fulfilled except for poultry	
Other remarks		Matrix for poultry: partly plasma, partly unsuitable matrix muscle	

2.21.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA compliant Nitrofurans: “-?” or LC-MS/MS compliant Dapsone: : “-“ or HPLC-UV for milk compliant 	<ul style="list-style-type: none"> No screening and no confirmation for AHD, AMOZ, AOZ and SEM in Honey and in Poultry drinking water and in Rabbit muscle
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS for milk and LC-MS/MS for all others - compliant Nitrofurans: “- ?“ or LC-MS/MS compliant Dapsone: LC-MS for milk and LC-MS/MS for muscle 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCβ at 0.3 $\mu\text{g}/\text{kg}$ for milk is suspicious CCβ must be < Recom Limit/MRPL/RPA
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	<ul style="list-style-type: none"> CCα at 0.3 $\mu\text{g}/\text{kg}$ for milk is suspicious CCα must be < Recom Limit/MRPL/RPA CCα are missing for Eggs and Farmed game for the 4 metabolites AHD, AMOZ, AOZ and SEM
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: non-compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No control in Horses No control in Aquaculture, Eggs, Farmed Game, Horses, Rabbit and Sheep/Goats.
Other remarks		/	/

2.21.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 8 analytes: compliant 	<ul style="list-style-type: none"> No control for <i>spectinomycin</i> (except for Bovines) No data for the control of <i>spectinomycin</i> and <i>streptomycin</i> in Bovine meat
Methods	Screening	<ul style="list-style-type: none"> Microbiological Inhibition Assay (MIA): ES-MIA (Eggs), FS-MIA (Aquaculture products), NAT-MIA (muscle and/or kidney), PS-MIA (poultry), tube methods/multi plate tests (Milk): compliant No screening method for Honey 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS for Milk: compliant LC-MS/MS for other Species/ matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Very few indicative CCα released (except for Pigs): non-compliant 	<ul style="list-style-type: none"> A lot of CCα values are missing !!!
Levels of action		<ul style="list-style-type: none"> MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: muscle and kidney Aquaculture, Farmed Game, Poultry, Rabbit: muscle Eggs, Honey, Milk (cow, goat), Drinking water (for Poultry) 	/
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 8 penicillins and 7 cephalosporins in B,P,OC,H Kidney and Muscle 7 penicillins and 4 cephalosporins in Aq,Py,FG,R Muscle 8 penicillins and 8 cephalosporins in Milk 3 penicillins in Eggs 6 penicillins in Poultry drinking water 	<ul style="list-style-type: none"> Pen-V is missing in Py,FG Muscle Some other penicillins (non-authorized in laying hens) should be considered in Eggs Cefacetrile is missing in milk Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk

Methods	Screening	<ul style="list-style-type: none"> Non-specific inhibitory methods (ES-MIA, FS-MIA, NAT-MIA, PS-MIA) in Meat and Tube method/multipalpe test method in milk 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS, LC-MSMS, HPLC 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Non-compliant 	<ul style="list-style-type: none"> A number of claimed CCβ screening are above the MRL for a lot of non-specific inhibitory methods
	CC α (confirmatory)	<ul style="list-style-type: none"> Non-compliant 	<ul style="list-style-type: none"> A lot of CCα values are missing There is almost no values recorded for the CCα of confirmation for Betalactams except for 3 cases : cefapirin in pigs, cephalixin in pigs and dicloxacillin in Poultry CCα of 600μg/kg for an MRL of 300μg/kg for dicloxacillin in Poultry is non-compliant
Levels of action		/	/
Species/ matrices		<ul style="list-style-type: none"> 10 out of 11 Species/ matrices (except honey) are monitored 	/
Other remarks		/	<ul style="list-style-type: none"> Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Is the metabolite of tylvalosin included?
Methods	Screening	<ul style="list-style-type: none"> Microbiological Inhibition Assay (MIA): ES-MIA (Eggs), FS-MIA (Aquaculture products), NAT-MIA (muscle and/or kidney), PS-MIA (poultry), tube methods/multi plate tests (Milk) 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of macrolides at their MRL level No information regarding the screening method used for honey
	Confirmatory	<ul style="list-style-type: none"> LC/MS or LC-MS/MS 	/
Limits	CC β (screening)	/	<ul style="list-style-type: none"> A lot of CCbeta > MRL level
	CC α (confirmatory)	/	<ul style="list-style-type: none"> No information about the CCalpha
Levels of action		/	<ul style="list-style-type: none"> Level of action for tulathromycin not reported Spiramycin mRL in bovin = 200 μg/kg and 250 μg/kg in porcine and no MRL in horses and sheep/goats MRL pirlimycin = 100 μg/kg in bovine muscle but not in other species muscles

		<ul style="list-style-type: none"> No MRL for josamycin No MRL for spiramycin in rabbi, etc...
Species/ matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Control of lincomycin, tylosin and erythromycin in aquaculture products and eggs
Other remarks	/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Quinolones: the 8 recommended substances and <i>nalixidic acid, norfloxacin</i>: compliant 	<ul style="list-style-type: none"> No control for <i>ciprofloxacin</i>. Was accounted with <i>enrofloxacin</i>?
Methods	Screening	<ul style="list-style-type: none"> Microbiological Inhibition Assay (MIA): ES-MIA (Eggs), FS-MIA (Aquaculture products), NAT-MIA (muscle and/or kidney), PS-MIA (poultry), tube methods/multi plate tests (Milk): compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level No screening method for Honey
	Confirmatory	<ul style="list-style-type: none"> LC-MS for Milk: compliant LC-MS/MS for other Species/ matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> No data except for <i>danofloxacin, difloxacin, enrofloxacin</i> and <i>flumequine</i>, in poultry only. Additional files unusable. Non-compliant 	<ul style="list-style-type: none"> A lot of CCα values are missing
Levels of action		<ul style="list-style-type: none"> - or MRL: compliant? 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: muscle and kidney Aquaculture, Farmed Game, Poultry, Rabbit: muscle Eggs, Honey, Milk (cow, goat), Drinking water (for Poultry) 	/
Other remarks		<ul style="list-style-type: none"> / 	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 16 analytes, but not for all species/matrices 	<ul style="list-style-type: none"> No control for sulfachloropyrazine, sulfaguanidine, sulfamethoxypyridazine, sulfameter, sulphaniamidesulfabenzamide, sulfaclozine, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazol, sulfisomidine
Methods	Screening	<ul style="list-style-type: none"> Compliant (microbiological inhibition assays) 	

	Confirmatory	<ul style="list-style-type: none"> LC-MS or LC-MS/MS 	<ul style="list-style-type: none"> No confirmation for Bovine Kidney + Muscle: non-compliant
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ at 100 $\mu\text{g}/\text{kg}$: too high because no MRL in eggs (not for use in laying hens). For sulfadimethoxine, CCβ muscle is too high (140 $\mu\text{g}/\text{kg}$) > MRL (100 $\mu\text{g}/\text{kg}$)
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> A lot of CCα values are missing No CCα reported for eggs, aquaculture products, kidney + muscle (bovines, farmed game, horses, poultry, rabbits, sheep/goats) and drinking water (poultry) For cow milk, CCα are reported at 5 $\mu\text{g}/\text{kg}$, while the MRL is set at 100 $\mu\text{g}/\text{kg}$.
Levels of action		<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No levels set for Eggs, Kidney + Muscle (bovine) MRL set at 100 $\mu\text{g}/\text{kg}$ for drinking water (poultry)
Species/matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: muscle and kidney Aquaculture, Farmed Game, Rabbit: muscle Poultry: muscle and drinking water Eggs, Honey, Milk (cow) 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Tetracyclines: 4 substances listed 	<ul style="list-style-type: none"> Not including the 3 types of 4-epimers : 4-epiCTC, 4-epiOTC, 4-epiTC
Methods	Screening	<ul style="list-style-type: none"> ESMIA, FSMIA, NATMIA, PSMIA, tube method / multi plate test: compliant with a set of non-specific screening methods 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS for milk and , LC-MS/MS for all other species/matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for those CCα estimated however : 	<ul style="list-style-type: none"> A lot of CCα values are still missing
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Other B1: <i>baquiloprim, colistin, novobiocin, tiamulin, trimethoprim, valnemulin</i> 	<ul style="list-style-type: none"> • No control for <i>colistin</i> in muscle
Methods	Screening	<ul style="list-style-type: none"> • Microbiological Inhibition Assay (MIA): NAT-MIA (muscle and/or kidney), PS-MIA (poultry), tube methods/multi plate tests (Milk): compliant • No screening method for Honey 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS for Milk: compliant • LC-MS/MS for other Species/ matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • A few CCβ are too high, CCβ must be \leq MRL
	CC α (confirmatory)	<ul style="list-style-type: none"> • Cca: no data, except for <i>tiamulin</i> and <i>baquiloprim</i> in Pigs: non-compliant 	<ul style="list-style-type: none"> • A lot of CCα values are missing
Levels of action		<ul style="list-style-type: none"> • MRL or presence 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Sheep/goats: muscle and kidney • Farmed Game, Rabbit: muscle • Poultry: muscle and drinking water • Honey, Milk (cow, goat) 	<ul style="list-style-type: none"> • No control for Aquaculture products and Eggs
Other remarks		/	/

2.21.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>6 avermectines and 6 benzimidazoles, 12 out of 12 minimum requirements fulfilled;</p> <p>Aquaculture: 5 avermectines, no benzimidazoles Bovine: 5 avermectines, 5 benzimidazoles, levamisole Eggs: levamisole Farmed game: 5 avermectines, levamisole, thiabendazole Horse: 5 avermectines, 6, benzimidazoles, levamisole Milk: 3 avermectines, 6 benzimidazoles, closantel, levamisole, nitroxinil, rafxanide Pig: 5 avermectines, 5 benzimidazoles, levamisole Poultry: no avermectines, 5 benzimidazoles, levamisole Rabbit: 5 avermectines, levamisole, thiabendazole</p>	<ul style="list-style-type: none"> • Setting of level of action for compounds without MRL

		Sheep/goat: 5 avermectines, 5 benzimidazoles, levamisole	
Methods	Screening	No methods indicated	
	Confirmatory	LC-FLU, LC-MS/MS	
Limits	CC β (screening)	No data	
	CC α (confirmatory)	Compliant only in parts, e.g. CC α eprinomectin in milk 5 $\mu\text{g}/\text{kg}$ < MRL (milk, 20 $\mu\text{g}/\text{kg}$)	
Levels of action		MRL, no data for compounds without MRL	
Species/matrices		relevant species/matrices covered	
Other remarks			

2.21.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 14 anticoccidials: 8 chemical coccidiostats and 6 ionophores All minimum requirements included 5 out of 8 recommended included No optional analytes included Amprolium removed 	
Methods	Screening	HPLC-UV for toltrazuril otherwise not given	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No data available	
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for the majority of analytes CCα should be > MRL or ML values For example: for lasalocid in muscle bovine, CCα = 26.4 $\mu\text{g}/\text{kg}$ and ML (level of action) = 5 $\mu\text{g}/\text{kg}$. CCα should be > MRL or ML values Lasalocid in egg: MRL = 150 $\mu\text{g}/\text{kg}$ and CCα = 6,6 $\mu\text{g}/\text{kg}$ 	CC α should be > MRL or ML values
Levels of action		<p>Same remark as in 2016 or 2017: Several MRL values are incorrect, e.g:</p> <ul style="list-style-type: none"> Nicarbazin in egg – given MRL = 100 $\mu\text{g}/\text{kg}$. For nicarbazin only a ML is given according to but according to 610/2012 124/2009 and is equals to 300 $\mu\text{g}/\text{kg}$. In muscle bovine the MRL for lasalocid is 60 $\mu\text{g}/\text{kg}$ and not 20 $\mu\text{g}/\text{kg}$. Decoquinatate in muscle poultry, MRL = 15000 $\mu\text{g}/\text{kg}$. this value in false. In poultry muscle MRL = 500 $\mu\text{g}/\text{kg}$ (or ML = 20 $\mu\text{g}/\text{kg}$) 	MRL and ML values should be corrected in the different species/matrices

Species/matrices	Relevant analytes/species/matrices are covered	
Other remarks	Same remarks as 2016 and 2017	

2.21.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Almost compliant minimum required; haloperidol is missing Additional: xylazine, carazolol, azaperon and azaperol 	Include haloperidol
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant minimum required and recommended 	
Levels of action		<ul style="list-style-type: none"> Azaperone/azaperol, acepromazine, xylazine, propiopromazine: MRL 100 μg/kg (azaperone/azaperol: sum) Carazolol bovines: 15 μg/kg Carazolol pigs: 25 μg/kg Chlorpromazine: MRPL 10 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.21.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 17 analytes (milk: 16) Metamizole (marker residue MAA) is not analysed analysis of FLUOH, IP and TFA in milk/tissue are not included minimum requirements are not fulfilled completely Some recommended compounds are covered 	
Methods	Screening	No screening	

	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)		
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for recommended concentrations in matrix muscle: CCα should be below the recommended concentrations In some cases not compliant for compounds with MRL, e.g. CCα > CCα max for DC in pig muscle, CCα < MRL for CPF in bovine muscle 	
Levels of action		“t. b. d.” / MRL (not correct for all substances, e.g. stated MRL of 300 μ g/kg for FLU in muscle not correct, MRL for CPF in muscle not correct)	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		No further remarks	

2.21.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox: compliant Olaquinox : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> No screening 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS only in pigs kidney 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/
Species/ matrices		<ul style="list-style-type: none"> pigs only: compliant 	/
Other remarks		/	/

2.21.14 Group B2f – Corticosteroids

B2f	Evaluation	Recommendation
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Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses, farmed game. For sheep/goats, horses and farmed game only 1 or a few samples. Not included, poultry, aquaculture. Additional: Betamethasone, Clobetasol, Flumethasone, Isoflupredone, Triamcinolone acetonide. 	
Methods	Screening	• '-'	
	Confirmatory	• LC-MSMS, but not noted for all combinations.	
Limits	CC β (screening)	• '-'	
	CC α (confirmatory)	• Compliant for bovines and liver of pigs, the others are not noted.	
Levels of action		<ul style="list-style-type: none"> Compliant for bovines (MRPL with concentration) and liver of pigs (MRL with concentration). Non-compliant: urines of pigs, sheep/goats, horses, farmed game (not noted). 	
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats, horses, farmed game. For the last 3 just a few samples. Matrices compliant. Matrices included: liver, urine. 	Include more samples of at least sheep/goats and horses.
Other remarks		Not all the data is in the file.	Fill in the whole file.

2.21.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg, As and Ni	Good to see that As and Ni are included Cu should be included (396/2005 and amendments)
Methods	Screening	Not stated	
	Confirmatory	Not stated for most samples, ASS used for some	
Limits	LOQ	Only stated for a few samples, those stated comply with regulation	
Levels of action		Only stated for a few samples, those stated are generally consistent with regulation	Note; MRL for Hg in kidney is 0,02 mg/kg (396/2005 and amendments)
Species/matrices		Relevant species/matrices are covered	
Other remarks			

2.21.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M, zearalenone 	Include ochratoxin
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS, N/A 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 0.05 μg/kg (aflatoxin M1) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture, farmed game Matrices: milk, urine, muscle, liver 	
Other remarks			

2.21.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant 	<ul style="list-style-type: none"> Non compliant because only the compounds are listed then all the cells for other details are empty
Methods	Screening	<ul style="list-style-type: none"> "-" ? 	<ul style="list-style-type: none"> Non-compliant – no information
	Confirmatory	<ul style="list-style-type: none"> "-" ? 	<ul style="list-style-type: none"> Non-compliant – no information
Limits	CC β (screening)	<ul style="list-style-type: none"> "-" ? 	<ul style="list-style-type: none"> Non-compliant – CCbeta values are missing
	CC α (confirmatory)	<ul style="list-style-type: none"> "-" ? 	<ul style="list-style-type: none"> Non-compliant - CCalpha values are missing
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture : compliant 	/
Other remarks		/	/

2.22 Member State: Poland (PL)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzenestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Analytes	Compliant	/
B1 – Aminoglycosides	Analytes	<ul style="list-style-type: none"> 7 out of 8 analytes: compliant 	<ul style="list-style-type: none"> No control for <i>apramycin</i>: non-compliant
	Species/matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control in Eggs: non-compliant
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> No control for cefacetrile in milk 	<ul style="list-style-type: none"> Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
	Methods/Limits	<ul style="list-style-type: none"> Compliant 	
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Extension of the scope of the method to gamithromycin, neospiramycin, tildipirosin, tylvalosin 	/
	Species/matrices	<ul style="list-style-type: none"> Compliant 	
	Methods/Limits	<ul style="list-style-type: none"> Compliant 	

B1 – Quinolones	Analytes	Compliant	No control for <i>Difloxacin</i> in Poultry muscle
B1 Sulfonamides	- Analytes	<ul style="list-style-type: none"> • 16 analytes controlled • 11 analytes are controlled on all Species/ matrices (except Honey): compliant • To extend the scope to other sulfonamides: at least to Minimum required (sulfamethizol), Recommended (sulfameter, sulfamoxole, sulphanilamide), Optional (sulfabenzamide, sulfaclozine, sulfaethoxy pyridazine, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazole, sulfisomidine) 	Control only for sulfacetamide, sulfachloropyridazine, sulfachloropyrazine, sulfapyridine and sulfisoxazol in Honey
	Species/ matrices	<ul style="list-style-type: none"> • Compliant 	
	Methods/ Limits	<ul style="list-style-type: none"> • Compliant 	
B1 Tetracyclines	- Analytes	Compliant	/
B1 - Others	Analytes	<ul style="list-style-type: none"> • Bacitracin, colistin, florfenicol, florfenicol amine, thiamphenicol, tiamulin, trimethoprim, valnemulin, "antibacterials" 	<ul style="list-style-type: none"> • No control for <i>bacitracin</i>, <i>colistin</i> in Milk • Control for phenicols only in Aquaculture products, Milk and Pigs
	Methods/ Limits	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect at their MRL level most of here-considered antibacterials 	
B2a	Analytes	CC β values need to be added	
	Limits		
B2b	Analytes		
	Limits		
B2d	Analytes	Include acepromazine, propiopromazine, haloperidol, xylazine	
B2e	Analytes		
	Limits	Consider CC α for analytes with RC in muscle	
	Matrices		
B2f antimicrobials	- Analytes	Compliant	/
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments)	Good to see that As is included
	Methods		
	Limits		

	Levels of action		Note: there is no ML for Cd in honey, and no ML for Pb in eggs
	Species /matrices		
B3d	Analytes	Include zearalenone	
B3e	Analytes	Compliant	/
	Other remarks		

2.22.1 Group A1 – Stilbenes

A1 - PL		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS, GC-MS/MS, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) (in some cases GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/muscle Extra matrix: drinking water 	For poultry feces/liver is to prefer
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: rabbit(/other)	

2.22.2 Group A2 – Thyrostats

A2 - PL		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	

	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Thiouracil: EURL value 30 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, farmed game Matrices: urine Additional: drinking water, muscle 	
Other remarks			

2.22.3 Group A3 – Steroids

A3 - PL		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines (boldenone^h). Non-compliant: pigs (estradiol), sheep/goats (boldenone, estradiol, testosterone, stanozolol), horses (only included nandrolone, ethinylestradiol, methyltestosterone, trenbolone), poultry (only included (nandrolone, estradiol, methyltestosterone, trenbolone) Farmed game/rabbit (optional) (only included nandrolone, methyltestosterone, trenbolone). Additional: Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Boldenone undecylenate, Nortestosterone decanoate, Nortestosterone phenylpropionate, Testosterone benzoate, Testosterone decanoate (Testosteronecaprinate), Testosterone isocaproate, Testosterone phenylpropionate, Testosterone propionate. 	Include the several missing minimum required analytes.
Methods	Screening	<ul style="list-style-type: none"> ELISA, GC-MS, GC-MS/MS, LC-MS/MS. 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS, LC-MS/MS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	

Levels of action	<ul style="list-style-type: none"> • ‘Presence’ or clearly stated in concentration, even testosterone in serum. 	
Species/matrices	<ul style="list-style-type: none"> • All species included. • Matrices compliant. • Matrices included: Drinking water, hair, kidney fat, muscle, serum, urine. 	
Other remarks	When stated an ^h , a compliant substitute in hair was included and therefore not counted as non-compliant.	

2.22.4 Group A4 – Resorcylic acid lactones

A4 - PL		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant • Zearalanone included 	
Methods	Screening	• Compliant (ELISA, GC-MS, GC-MS/MS, LC-MS/MS)	
	Confirmatory	• Compliant (LC-MS/MS)	
Limits	CC β (screening)	• Compliant	
	CC α (confirmatory)	• Compliant	
Levels of action		• ‘Presence’	State regulatory value
Species/matrices		<ul style="list-style-type: none"> • Compliant; replacement matrices used • Matrices: urine/muscle • Extra matrix: drinking water 	
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: rabbit(/other)	

2.22.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> • 9 analytes in the most relevant species (bovine, pig, poultry) • Minimum requirements are covered (isoxsuprine only in bovine lung) • Some recommended analytes covered too 	

Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant	
Levels of action		Presence, MRL for clenbuterol	
Species/matrices		All relevant analyte/matrix combinations are covered, maybe in future lung in addition to or instead of liver	
Other remarks			

2.22.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.22.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 8 Nitrofurans: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: no screening 	/

		<ul style="list-style-type: none"> Nitrofurans: no screening <ul style="list-style-type: none"> Dapsone: no screening 	
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: N/A Nitrofurans: N/A Dapsone: N/A 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: : compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No aquaculture, Eggs, Farmed Game, Horses Rabbit and Sheep/Goats.
Other remarks		/	/

2.22.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 7 out of 8 analytes: compliant 	<ul style="list-style-type: none"> No control for <i>apramycin</i>: non-compliant
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/

Species/ matrices	<ul style="list-style-type: none"> • Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle • Honey, Milk 	<ul style="list-style-type: none"> • No control in Eggs: non-compliant
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 8 penicillins and 7 cephalosporins in Milk, in Eggs and in muscle of the 8 species 	<ul style="list-style-type: none"> • No control for <i>cefacetrile in milk</i> • Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk • Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • CCα values for analytes with a defined MRL are all compliant 	/
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture, Bovine, Farmed game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle • Eggs, Milk 	/
Other remarks		/	<ul style="list-style-type: none"> • Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Erythromycin, josamycin, lincomycin, spiramycin, tilmicosin, tulathromycin, tylosin 	<ul style="list-style-type: none"> • No control for gamithromycin, neospiramycin ?, tildipirosin, tylvalosin
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	/

	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Quinolones: 10 substances: the 8 recommended substances and <i>nalixidic acid, norfloxacin</i>: compliant 	<ul style="list-style-type: none"> No control for <i>difloxacin</i> in Poultry muscle
Methods	Screening	<ul style="list-style-type: none"> AAS for <i>marbofloxacin</i> in Eggs: compliant LC-MS/MS for others matrices and substances: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle Eggs, Honey, Milk 	<ul style="list-style-type: none"> Only cow milk
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 16 analytes: compliant 11 analytes are controlled on all Species/ matrices (except Honey): compliant 	<ul style="list-style-type: none"> No control for sulfamethizol, sulfameter, sulfamoxole, sulphanilamide, sulfabenzamide, sulfaclozine, sulfaethoxyipyridazine, sulfanitran,

			sulfaphenazole, sulfasalazine, sulfatroxazole, sulfisomidine <ul style="list-style-type: none"> Control in Honey only for sulfacetamide, sulfachloropyridazine, sulfachloropyrazine, sulfapyridine and sulfisoxazol
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD (for some of the honey) or LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL or presence 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs, Honey, Milk 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Tetracyclines: 4 substances including the 3 kind of 4-epimers: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
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Analytes		<ul style="list-style-type: none"> Other B1: bacitracin, colistin, florfenicol, florfenicol amine, thiamphenicol, tiamulin, trimethoprim, valnemulin "antibacterials" 	<ul style="list-style-type: none"> No control for <i>bacitracin, colistin</i> in Milk Control for phenicols only in Aquaculture products, Milk and Pigs
Methods	Screening	<ul style="list-style-type: none"> Five plate test, Delvotest-SP-NT, 4 Sensor for "antibacterials" detection: compliant LC-MS/MS for other analytes: compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of quinolones at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		MRL or presence	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Eggs, Honey, Milk 	/
Other remarks		/	/

2.22.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>6 avermectines, 19 benzimidazoles and others in all relevant matrices (aquaculture, bovine, pig, poultry, milk); 12 out of 12 minimum requirements fulfilled</p> <p>Aquaculture: 6 avermectines, 8 benzimidazoles and 12 other compounds Bovine: 5 avermectines, 8 benzimidazoles and 12 other compounds Eggs: no avermectines, 8 benzimidazoles and 12 other compounds, no screening Farmed game: 5 avermectines, 8 benzimidazoles and 12 other compounds, no screening Horse: 5 avermectines, 8 benzimidazoles and 12 other compounds, no screening</p>	Introduction of screening methods for all species

		<p>Milk: 5 avermectines, 8 benzimidazoles and 12 other compounds, no screening</p> <p>Pig: 5 avermectines, 8 benzimidazoles and 12 other compounds</p> <p>Poultry: 5 avermectines, 8 benzimidazoles and 12 other compounds, no screening for almost all compounds</p> <p>Rabbit: 5 avermectines, 8 benzimidazoles and 12 other compounds, no screening</p> <p>Sheep/goat: 5 avermectines, 8 benzimidazoles and 12 other compounds, no screening</p>	
Methods	Screening	HPLC-UV, HPLC-FLU, LC-MS/MS, no screening in eggs, farmed games, horses, milk, poultry, rabbit, sheep/goats	
	Confirmatory	HPLC-FLU, LC-MS/MS	
Limits	CC β (screening)	No data for most analyte/species combination	
	CC α (confirmatory)	Compliant, in correspondence with MRLs	
Levels of action		Presence or MRL	
Species/matrices		Large analyte scope	

2.22.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 20 anticoccidials: 11 chemical coccidiostats, 6 ionophores and 2 nitroimidazoles • All minimum requirements included • 6 out of 8 recommended included • 2 optional included 	
Methods	Screening	LC-MS/MS, No screening	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant	
Levels of action		MRL, ML, presence	
Species/matrices		Minimum requirements are fulfilled	
Other remarks		No further remarks	

2.22.11 Group B2d – Tranquilisers

B2d - PL		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant minimum required: missing acepromazine, propiopromazine, haloperidol • Additional carazolol, azaperol and azaperon 	Include acepromazine, propiopromazine, haloperidol, xylazine
Methods	Screening	• HPLC-UV, HPLC-FLD	
	Confirmatory	• LC-MS/MS	
Limits	CC β (screening)	• Compliant	
	CC α (confirmatory)	• Compliant	
Levels of action		<ul style="list-style-type: none"> • Azaperone/azaperol: MRL 100 μg/kg • Carazolol pigs: 25 μg/kg • Carazolol bovines: 15 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horses • Matrices: kidney • Additional: urine 	
Other remarks		• Chlorpromazine in A6	

2.22.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 20 analytes (milk: 17) • Minimum requirements are covered • Some recommended analytes are analysed. 	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	No screening	

	CC α (confirmatory)	Not compliant for analytes with recommended concentrations in matrix muscle: CC α should be below the RCs (PBZ, OPZ, NP, mefenamic acid and IP)	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		Minor changes compared to 2017	

2.22.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant • 3 metabolites QCA, MQCA and DCBX are monitored 	/
Methods	Screening	• No screening	/
	Confirmatory	• LC-MS/MS only in pigs muscle	/
Limits	CC β (screening)	• N/A	/
	CC α (confirmatory)	• compliant	/
Levels of action		• compliant	/
Species/ matrices		• pigs only: compliant	/
Other remarks		/	/

2.22.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, horses. • Additional: Betamethasone, Flumethasone, Methylprednisolone, Prednisolone, Triamcinolone acetone. 	
Methods	Screening	• Not in the file.	
	Confirmatory	• LC-MSMS.	
Limits	CC β (screening)	• Not in the file.	

	CC α (confirmatory)	<ul style="list-style-type: none"> Almost compliant, just above the MRL concentration. 	
Levels of action		<ul style="list-style-type: none"> MRL with concentration or 'Presence' for some additional substances. 	
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, horses. Matrix compliant: liver. 	Include at least sheep/goats.
Other remarks			

2.22.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb, Hg and As	Good to see that As is included Cu should be included (396/2005 and amendments)
Methods	Screening	AAS	
	Confirmatory	AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Consistent with regulation	
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.22.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M, ochratoxin A 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 0.05 μg/kg (aflatoxin M) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture 	

	<ul style="list-style-type: none"> • Matrices: milk, kidney, liver, muscle 	
Other remarks		

2.22.17 Group B3e – Antimicrobial compounds

B3e		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Cristal Violet and Cristal Violet-Leuco: compliant • Malachite Green and Malachite Green-Leuco: compliant 	<ul style="list-style-type: none"> • Non compliant because only the compounds are listed then all the cases are empty
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • compliant 	/
Levels of action		<ul style="list-style-type: none"> • compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture : compliant 	/
Other remarks		/	/

2.23 Member State: Portugal (PT)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 - nitroimidazoles	Analytes	DMZ in eggs is not listed in the present plan, but was included in earlier years	
	Limits		
A6 - other	Species/ matrices	<ul style="list-style-type: none"> • CAP : Non-compliant as horses control is missing • NIFU : Non-compliant as Farmed game, Milk and Horses are missing 	<ul style="list-style-type: none"> • For Chloramphenicol: No Horses • For Nitrofurans : No control in Farmed Game, Horses and Milk
	Analytes	<ul style="list-style-type: none"> • Dapsone : Control plan is missing 	<ul style="list-style-type: none"> • No control plan for Dapsone
B1- Aminoglycosides	Analytes	<ul style="list-style-type: none"> • The control of this family of antibiotics is not carried out: non-compliant 	<ul style="list-style-type: none"> • /
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> • A lot of concern with the non-compliance of few analytes chosen • Control is non-compliant in all muscle tissues of 5 species (B,P,H,R,OC,Aq,Py), several other penicillin are mandatory for control and some cephalosporins as well (cefquinome, ceftiofur, cephapirin, cefalexin) • Only penicillin-G monitored in milk is non-compliant as 7 other penicillins and 8 cephalosporins shall be of concern • Some other penicillins should be of concern in Eggs: nafcillin and amoxicillin (not authorised in laying hens) and penicillin-V (authorised with a MRL in Eggs) • Only 1 penicillin and 1 cephalosporin in aquaculture is non-compliant; at least 5 other penicillins should be monitored in Aquaculture 	<ul style="list-style-type: none"> • /
	Methods/ Limits	<ul style="list-style-type: none"> • AAS (Atomic Absorption Spectroscopy) for penicillin-G and for ceftiofur is presumably an input error in this field of control • CCα value is not reported in many cases and only said "<i>same as limit for screening method</i>". However screening method and confirmatory method are 	

		not the same technology (i.e. LC-TofMS and LC-MSMS) and thus validated differently. And CC β screening and CC α confirmation for MRL substances shall be calculated differently (CC β screening < MRL and CC α confirmation > MRL)	
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Extension of the control of macrolides and lincosamides to 3-O-acetyltylosine, erythromycin, gamithromycin, lincomycin, neospiramycin, pirlimycin, tildipirosin, tulathromycin, tylvalosin 	
	Methods/ Limits	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Pay attention to the CCβ over-estimated above the MRL level. Not possible Pay attention to the CCα under-estimated below the MRL level for MRL-substances
	Species/ matrices	<ul style="list-style-type: none"> 	No control for Farmed game, Rabbits
B1 – Quinolones	Analytes	<ul style="list-style-type: none"> No control for <i>difloxacin</i> in Aquaculture products, Bovines, Pigs and Poultry No control for <i>sarafloxacin</i> in Aquaculture products 	
	Species/ matrices	<ul style="list-style-type: none"> No control for Farmed game products 	
	Methods/ Limits	<ul style="list-style-type: none"> CCβ (screening) too high for <i>oxolinic acid</i>, <i>ciprofloxacin</i>, <i>enrofloxacin</i>, <i>flumequine</i>, <i>marbofloxacin</i> in Bovines : no compliant CCα (confirmatory) = CCβ (screening) for <i>flumequine</i> in Horses, Pigs, Rabbits, Sheep/Goat : no compliant CCα (confirmatory) : no accurate data (range) for <i>ciprofloxacin</i> (Milk, Poultry), <i>enrofloxacin</i> (Aquaculture products, Milk, Poultry) and <i>danofloxacin</i> (Milk, Poultry) 	Screening method of <i>oxolinic acid</i> for Bovines with AAS?? (and CC β is too high)
B1 – Sulfonamides	Analytes	<ul style="list-style-type: none"> 16 analytes controlled but not in all species/matrices To extend the scope to other sulfonamides: at least to Minimum required (sulfachlorpyrazine, sulfaguanidine), Recommended (sulfacetamide, sulfameter, sulfamoxole), Optional (sulfabenzamide, sulfaclozine, sulfaethoxypyridazine, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazole) 	/
	Species/ matrices	<ul style="list-style-type: none"> No control for Farmed game, Rabbits. 	

	Methods/ Limits	<ul style="list-style-type: none"> CCα are reported as “106-144 $\mu\text{g}/\text{kg}$” and “113-162 $\mu\text{g}/\text{kg}$”. Some CCα should be revised because higher than 140 $\mu\text{g}/\text{kg}$ (precision > 40 %) are non-compliant. Quantitative values should be reported (no range of concentrations) 	
B1- Tetracyclines	Analytes	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> /
B1 – Others antibacterials	Analytes	<ul style="list-style-type: none"> Only 1 substance : <i>trimethoprim</i>: non-compliant 	<ul style="list-style-type: none"> / •
	Species/ matrices	<ul style="list-style-type: none"> No control for Bovines, Farmed game, Horses, Milk, Pigs, Rabbits, Sheep/goat 	
B2a	Analytes	Closantel, nitroxinil, rafoxanide should be included	
	Limits	Adoption of CC β and CC α to MRL	
B2b	Analytes	Broaden the scope of testing by adding more recommended analytes	
	Limits	Review CC β and CC α values for all analytes	
B2d	Analytes	Include haloperidol in bovines and sheet/goats Include azaperone/azaperol in horses	
B2e	Analytes	Consider MAA, CPF, FLU-OH, IP, NP, PBZ and TFA in tissue as well as MAA, CPF, FLU-OH and PBZ in milk	
	Limits	Consider CC β for IP, NP, DC, MLX, FLU, TFA	
	Matrices		
B2f antimicrobials	- Analytes	compliant	
B2f corticosteroids	-	-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits	MS should ensure that correct units are provided	Seems to comply with regulation, but there seems to be some mix up of units in the data sheet ($\mu\text{g}/\text{kg}$ and mg/kg). F.ex. for Cd limits in the mg/kg range are provided, which seems wrong for a GF-AAS method
	Levels of action		Note ML for Hg in fish is 0,50 or 1,0 mg/kg (1881/2006 and amendments)
	Species /matrices		

B3d	Analytes	Include ochratoxin, zearalenone	
B3e	Analytes	compliant	
	Other remarks		

2.23.1 Group A1 – Stilbenes

A1 - PT		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS, GC-MS/MS, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) (in some cases GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/muscle Extra matrix: drinking water 	For poultry feces/liver is to prefer
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: rabbit(/other)	

2.23.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: 2-mercaptoimidazole, phenylthiouracil 	Include mercaptobenzimidazole, benzyl thiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	

	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 10 $\mu\text{g}/\text{kg}$ for sheep/goats and horses 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, aquaculture Matrices: urine and thyroid Additional: muscle and skin (fish) 	
Other remarks			

2.23.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant: bovines, pigs, horses (only included boldenone, methyltestosterone, nortestosterone, gestagens), sheep/goats (only included nortestosterone, trenbolone, boldenone, gestagens), Poultry, rabbit (optional) (only included boldenone, methyltestosterone), aquaculture (only included boldenone, stanozolol), Farmed game (optional) (not included). Additional: Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl, Nortestosterone acetate - (17b)-17-Hydroxyestr-4-en-3-one acetate, Nortestosterone benzoate, Testosterone-Dehydrochloromethyl, Trenbolone acetate. 	Include the missing minimum required analytes.
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS, UPLC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening method. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	
Levels of action		<ul style="list-style-type: none"> 'Presence' or in clear concentration. Compliant. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> All minimum required species are included. The optional farmed game is not included. For horses only one sample is included. Matrices are compliant. Included matrices: 	Include more samples for horses and the optional farmed game.

	Kidney fat, liver, muscle+skin (fish), urine.	
Other remarks	<p><i>In the extra file the following methods are mentioned, but without species, number of samples, etc.:</i></p> <p><i>Liver: nortestosterone, trenbolone, boldenone, methyltestosterone.</i></p> <p><i>Muscle: nortestosterone, trenbolone, boldenone, methyltestosterone, stanozolol.</i></p> <p><i>Peri renal fat: acetates of medroxyprogesterone, megestrol, melengestrol, chlormadinone.</i></p> <p>A part of these methods is mentioned in the plan.</p>	

2.23.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant For bovines zearalanone included 	Include zearalanone for other species
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS, LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS, LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' Compliant for the stated values 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant Matrices: urine/liver 	Add or replace liver for urine where possible
Other remarks		<p>Subspecies tested:</p> <p>For poultry subspecies are specified</p> <p>For farmed game: rabbit</p>	

2.23.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 19 analytes in the most relevant species 	

		<ul style="list-style-type: none"> Minimum requirements and recommended analytes included 	
Methods	Screening	ELISA, LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant for all except: clenbuterol in horses and bovines liver. CCβ = 0.75 μg/kg and RC = 0.2 μg/kg 	CC β should be < RC
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant for all except: clenbuterol in horses and bovines liver. CCα = 0.6 μg/kg and RC = 0.2 μg/kg 	CC α should be < RC
Levels of action		Presence, 0.2, 0.5, 1, 5	Level of action in liver bovine should be set at “presence” and not at MRL
Species/matrices		All relevant analyte/matrix combinations are covered, maybe in future lung in addition to or instead of liver	
Other remarks			

2.23.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled for all matrices but not for eggs	DMZ in eggs is not listed in the present plan, but was included in earlier years
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence / 1 / 3	
Species/matrices		recommendations fulfilled	
Other remarks			

2.23.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> Chloramphenicol: compliant 	/

		<ul style="list-style-type: none"> • 4 Nitrofurans metabolites: compliant • Dapsone: non-compliant 	<ul style="list-style-type: none"> • No control plan for Dapsone
Methods	Screening	<ul style="list-style-type: none"> • Chloramphenicol: ELISA and LC-MS/MS: compliant • Nitrofurans: AAS and LC-MS/MS compliant • Dapsone: no screening 	/
	Confirmatory	<ul style="list-style-type: none"> • Chloramphenicol: LC-MS/MS or same as screening: compliant • Nitrofurans: same as screening: compliant • Dapsone: / 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Chloramphenicol: compliant (except for Horses 2.6μg/kg ?) • Nitrofurans: compliant • Dapsone: / 	/
Levels of action		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone : / 	/
Species/ matrices		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: : compliant • Dapsone: / 	<ul style="list-style-type: none"> • No control in Horses • No control in Farmed Game, Horses and Milk
Other remarks		/	/

2.23.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Obviously, the control of this family of antibiotics is not carried out: non-compliant 	/
Methods	Screening	/	/
	Confirmatory	/	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	/	/
Levels of action		/	/

Species/ matrices	/	/
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 1 penicillin in Bovine muscle => non-compliant 4 penicillins in P,H,R,OC muscle => non-compliant 2 penicillins in Poultry muscle => non-compliant 1 penicillin in Milk => non-compliant 5 penicillins in Eggs and in Honey => non-compliant 1 penicillin and 1 cephalosporin in Aquaculture => non-compliant 	<ul style="list-style-type: none"> • Control is non-compliant in all muscle tissues of 5 species (B,P,H,R,OC,Aq,Py), several other penicillin are mandatory for control and some cephalosporins as well (cefquinome, ceftiofur, cephapirin, cefalexin) • Only penicillin-G monitored in milk is non-compliant as 7 other penicillins and 8 cephalosporins shall be of concern • Some other penicillins should be of concern in Eggs: nafcillin and amoxicillin (not authorised in laying hens) and penicillin-V (authorised with a MRL in Eggs) • Only 1 penicillin and 1 cephalosporin in aquaculture is non-compliant; at least 5 other penicillins should be monitored in Aquaculture
Methods	Screening	<ul style="list-style-type: none"> • LC-Tof-HRMS • LC-MSMS for Eggs 	<ul style="list-style-type: none"> • AAS (Atomic Absorption Spectroscopy) for penicillin-G and for ceftiofur is presumably an input error in this field of control
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant except when value is reported "same limit as screening" 	<ul style="list-style-type: none"> • CCα value is not reported in many cases and only said "<i>same as limit for screening method</i>". However screening method and confirmatory method are not the same technology and thus

			validated differently. And CC β screening and CC α confirmation for MRL substances shall be calculated differently (CC β screening < MRL and CC α confirmation > MRL)
Levels of action		• MRL or Presence	/
Species/ matrices		• 9 out of 11 species/ matrices are monitored	• Farmed game monitoring is missing
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• Control for spiramycin, tilmicosin and tylosin only	• No control for 3-O-acetyltylosine, erythromycin, gamithromycin, lincomycin, neospiramycin, pirlimycin, tildipirosin, tulathromycin, tylvalosin
Methods	Screening	• LC-MS/MS or LC-TOF-MS: compliant	/
	Confirmatory	• LC-MS/MS or LC-TOF-MS: compliant	/
Limits	CC β (screening)	/	• Pay attention to the CCbeta over-estimated above the MRL level
	CC α (confirmatory)	/	• Pay attention to the CCalpha under-estimated below the MRL level for MRL-substances
Levels of action		• MRL	• Spiramycin MRL in bovine = 200 μ g/kg • Spiramycin MRL in pigs = 250 μ g/kg • No MRL for spiramycin in eggs
Species/matrices		• Compliant	• No control for farmed games and rabbit
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• The 8 recommended substances and ciprofloxacin, enrofloxacin, nalidixic acid, norfloxacin, ofloxacin: compliant	• No control for <i>difloxacin</i> in Aquaculture products, Bovines, Pigs and Poultry

			<ul style="list-style-type: none"> No control for <i>sarafloxacin</i> in Aquaculture products
Methods	Screening	<ul style="list-style-type: none"> LC-ToF-MS for, Honey, Milk, Muscle: compliant AAS method for <i>oxolinic acid</i> in Bovines : no compliant (CCβ) LC-MS/MS for Eggs: compliant 	<ul style="list-style-type: none"> Except <i>oxolinic acid</i> for Bovines (AAS)
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ too high for <i>oxolinic acid</i>, <i>ciprofloxacin</i>, <i>enrofloxacin</i>, <i>flumequine</i>, <i>marbofloxacin</i> in Bovines : no compliant
	CC α (confirmatory)	<ul style="list-style-type: none"> CCα for substances in Bovines and Eggs (for recommended substances): compliant 	<ul style="list-style-type: none"> CCα = CCβ for <i>flumequine</i> in Horses, Pigs, Rabbits, Sheep/Goat : no compliant CCα : no accurate data (range) for <i>ciprofloxacin</i> (Milk, Poultry), <i>enrofloxacin</i> (Aquaculture products, Milk, Poultry) for <i>danofloxacin</i> (Milk, Poultry)
Levels of action		<ul style="list-style-type: none"> MRL if defined: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs (hens, quails), Honey, Milk (cow, sheep, goat) 	<ul style="list-style-type: none"> No control for Farmed game products
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 16 analytes controlled but not in all species/matrices 	<ul style="list-style-type: none"> No control for sulfachlorpyrazine, sulfaguanidine, sulfacetamide, sulfameter, sulfamoxole, sulfabenzamide, sulfaclozine, sulfathiazole, sulfapyridazine, sulfanilic acid, sulfaphenazole, sulfasalazine, sulfatiazole
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS and LC-ToF-MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/

	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα are reported as “106-144 $\mu\text{g}/\text{kg}$” and “113-162 $\mu\text{g}/\text{kg}$”. CCα higher than 140 $\mu\text{g}/\text{kg}$ (precision > 40 %) are non-compliant.
Levels of action		<ul style="list-style-type: none"> MRL or MRL not set 	<ul style="list-style-type: none"> MRL in Eggs is reported at 300 $\mu\text{g}/\text{kg}$ (no MRL). However sulphonamides should not be used in laying eggs. The MRL for aquaculture products is at 100 $\mu\text{g}/\text{kg}$, but they reported MRL not set.
Species/matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Horses, Pigs, Poultry, Sheep/goats: muscle Eggs (hens, quails), Honey, Milk (cow, sheep, goat) 	<ul style="list-style-type: none"> No control for Farmed game, Rabbits.
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Tetracyclines: 4 substances including the 3 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Only 1 substance : <i>trimethoprim</i>: non compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-ToF-MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/

	CC α (confirmatory)	• Compliant	/
Levels of action		• MRL	/
Species/ matrices		• No control for Bovines, Farmed game, Horses, Milk, Pigs, Rabbits, Sheep/goat	/
Other remarks		/	/

2.23.9 Group B2a – Anthelmintics

B2a		Evaluation	Recommendations
Analytes		6 avermectines and 6 benzimidazoles, levamisole are analysed, closantel, nitroxinil, rafoxanide are not included; 9 out of 12 minimum requirements fulfilled Aquaculture: 6 avermectines, 6 benzimidazoles, levamisole Bovine: 6 avermectines, 6 benzimidazoles, levamisole Eggs: no avermectines, 6 benzimidazoles Farmed game: no B2a compounds Horse: 6 avermectines, 6 benzimidazoles, levamisole Milk: 6 avermectines, 6 benzimidazoles, levamisole Pig: 6 avermectines, 6 benzimidazoles, levamisole Poultry: 6 avermectines, 6 benzimidazoles, levamisole Rabbit: 6 avermectines, 6 benzimidazoles, levamisole Sheep/goat: 6 avermectines, 6 benzimidazoles, levamisole	
Methods	Screening	LC-FLU (avermectines), LC-MS/MS benzimidazoles and levamisole)	
	Confirmatory	LC-FLU (avermectines), LC-MS/MS benzimidazoles and levamisole	
Limits	CC β (screening)	Not compliant for all, e.g. CC β for eprinomectin in milk = 35 μ g/kg but MRL = 20 μ g/kg, same for albendazole in milk, 0.01 μ g/kg for ivermectin in milk seems unrealistic	
	CC α (confirmatory)	Not compliant for all, CC α should be adapted to MRLs (CC α must be > MRL), e.g. eprinomectin in aquaculture	Establishment of data for analytes without MRL
Levels of action		MRL, no data for analytes without MRL	
Species/matrices		Relevant matrix/analyte combinations are covered	
Other remarks			

2.23.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 9 Anticoccidials: 4 chemical anticoccidials (without decoquinate) and 5 ionophores (without semduramycin). All minimum requirements included For the recommended only halofuginone is considered No optional considered 	Complete the scope of testing by adding more substances: semduramycin, decoquinate, toltrazuril, clazuril, clopidol. Etc.
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	<ul style="list-style-type: none"> Not compliant for the majority of the analyte in liver CCβ (screening) should be < MRL for screening. E.g. Diclazuril in poultry liver, CCβ= 2900 μg/kg and MRL = 1500 μg/kg Narasin in poultry liver, CCβ= 79 μg/kg and MRL = 50 μg/kg Monensin in poultry liver, CCβ= 15 μg/kg and MRL = 13 μg/kg 	<ul style="list-style-type: none"> Review CCβ for all analytes (diclazuril, narasin, monensin, salinomycin, dinitrocarbanilide, maduramycin and halofuginone) in poultry, pig and bovine liver as it should be lower than MRL or ML Same remarks as 2016 and 2017
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for most. E.g. MRL for diclazuril in poultry liver = 1500 μg/kg, CCα = 2600 μg/kg and CCα max = 1927 μg/kg ML for monensin in poultry liver = 2 μg/kg , CCα = 15 μg/kg and CCα max = 11,6 μg/kg 	<ul style="list-style-type: none"> Review CCα for all analytes (diclazuril, monensin, robenidine and lasalocid) in poultry, pig and bovine liver as it should be higher than MRL or ML but lower than CCα max Same remarks as 2016 and 2017
Levels of action		MRL, “presence” or “is not considered”	
Species/matrices		Minimum requirements are fulfilled	
Other remarks		CC α should be > MRL or ML and CC α should be < CC α max CC β (screening) should be < MRL	

2.23.11 Group B2d – Tranquilisers

B2d	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> Almost compliant minimum required: haloperidol in bovines and sheep/goats is missing Additional: xylazine, carazolol and with the exception of horses azaperone and azaperol 	Include haloperidol in bovines and sheet/goats, Include azaperone/azaperol in horses

Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS • HPTLC for horses 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS • HPTLC for horses 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant with the exception of horses 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Presence (detection limit) 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horses • Matrices: kidney 	
Other remarks		<ul style="list-style-type: none"> • Chlorpromazine in A6 	

2.23.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> • 12 analytes (milk: 11) • Minimum requirements are not fulfilled for tissue (only FLU and DC are analysed) • not fulfilled for milk, either (the analysis of DC, FLUOH, PBZ and MAA is missing) • As last year, no analyses are performed for basic NSAIDs in milk and tissue 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Often not compliant, e.g. IP, NP, DC, MLX, FLU, TFA: CC β should be below the recommended concentration/MRL	
	CC α (confirmatory)	Not compliant in some cases for IP, FLU NP, Mefenamic acid e.g. CC α for recommended concentrations should be < RC, MRL compounds: CC α should be above MRL, but below CC α max	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks		Minor changes compared to 2017	

2.23.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	/
Methods	Screening	• LC-MS/MS compliant No screening	/
	Confirmatory	• Same as screening LC-MS/MS only in liver	/
Limits	CC β (screening)	• compliant	/
	CC α (confirmatory)	• compliant	/
Levels of action		• compliant	/
Species/ matrices		• pigs, poultry and rabbit: compliant	/
Other remarks		/	/

2.23.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, horses. • Not included: pigs, sheep/goats, poultry, aquaculture, farmed game/rabbit (optional). • Additional: Beclometasone, Flumethasone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone acetonide. 	
Methods	Screening	• Dexamethasone: AAS, others: LC-MSMS.	
	Confirmatory	• Same as screening.	
Limits	CC β (screening)	• Non-compliant (>3 times MRL).	Optimise at least the method for dexamethasone.
	CC α (confirmatory)	• Non-compliant (almost 2 times MRL).	
Levels of action		• MRL with or without concentration, 'Presence'.	Not all LoA in clear concentrations.
Species/matrices		• Included: bovines, horses (just 1 samples).	Include at least pigs and sheep/goats.

	<ul style="list-style-type: none"> Matrix compliant: muscle. 	Include more samples for horses.
Other remarks		

2.23.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd, Pb and Hg	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)
Methods	Screening	AAS	
	Confirmatory	ASS	
Limits	LOQ	Seems to comply with regulation, but there seems to be some mix up of units in the data sheet ($\mu\text{g}/\text{kg}$ and mg/kg)	
Levels of action		Overall consistent with regulation	Note ML for Hg in fish is 0,50 or 1,0 mg/kg (1881/2006 and amendments)
Species/matrices		Relevant species/matrices are covered	
Other remarks			

2.23.16 Group B3d – Mycotoxins

B3d - PT		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1 	Include ochratoxin, zearalenone
Methods	Screening	<ul style="list-style-type: none"> HPLC 	
	Confirmatory	<ul style="list-style-type: none"> HPLC 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 0.05 $\mu\text{g}/\text{kg}$ (aflatoxin M) 	
Species/matrices		<ul style="list-style-type: none"> No species assigned 	

	<ul style="list-style-type: none"> • Matrices: milk 	
Other remarks		

2.23.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • Same as screening LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • compliant 	/
Levels of action		<ul style="list-style-type: none"> • compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture : compliant 	/
Other remarks		/	/

2.24 Member State: Romania (RO)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Analytes		One of few countries that include benzetrol, although we cannot judge the results by lack of official limits
	Species/matrices	For sheep/goats/poultry urine/feces or liver is to prefer instead of muscle	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	Very good programme
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Analytes	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: compliant 	/
B1 - Aminoglycosides	Analytes	<ul style="list-style-type: none"> • Compliant 	
	Species/matrices	<ul style="list-style-type: none"> • Compliant 	
	Methods/Limits	<ul style="list-style-type: none"> • Compliant 	No screening for <i>apramycin</i> , <i>kanamycin</i> , <i>paromomycin</i> and <i>spectinomycin</i> (except in Eggs)
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> • Cefacetrile is missing in Milk • Penicillin-V is missing in Pigs and should be extended in Bovine, Horses, Pigs, Rabbit and Sheep/goats 	<ul style="list-style-type: none"> • Remark: Even though overall compliant, It is amazing to have so many different choices of beta-lactam analytes in various species/matrices • Remark : Penicillin-V is controlled for its presence in Eggs where it

			should be controlled at MRL of 25 µg/kg
	Methods/ Limits	<ul style="list-style-type: none"> No screening control for <i>nafcillin</i> or <i>penicillin V</i> – Is there a specific screening/confirmatory plan to test all relevant samples for these 2 substances Only one screening method claimed by Charm II Test => CCβ assimilated to the method's LODs = MRL, except for <i>ceftiofur</i> (all species/matrices) and for <i>cefalonium</i>, <i>cefapirin</i>, <i>cefazolin</i>, <i>cefoperazone</i> and <i>dicloxacillin</i> (in Milk); therefore, it should updated the CCβ to be lower than the MRL 	<ul style="list-style-type: none"> CCβ for <i>cefquinome</i>, <i>cloxacillin</i>, <i>oxacillin</i> is too high and above MRL (except in Milk) Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Extension of the control to of 3-O-acetyltylosin, gamithromycin, neomycin, tildipirosin, tulathromycin and tylvalosin / 	
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	
	Methods/ Limits	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Screening method not enough sensitive for some analytes Pay attention to the CCbeta of screening which should be estimated below the MRL level
B1 – Quinolones	Analytes	<ul style="list-style-type: none"> Compliant 	/
B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> 22 analytes controlled To extend the scope to other sulfonamides: at least to Minimum required (sulfacholoryprazine), Recommended (sulfamoxole), Optional (sulfaclozine, sulfaethoxy pyridazine, sulfasalazine, sulfatroxazole 	<ul style="list-style-type: none"> Only 2 analytes are controlled on all Species/ matrices: compliant, except aquaculture products (21)
	Species/ matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none">
	Methods/ Limits	<ul style="list-style-type: none"> Revise CCβ of rabbit Muscle (too high > MRL (100 µg/kg) (LC-MS/MS, Charm II)) Revise CCα for horses Milk (too high > MRL (100 µg/kg) while a decision level reported as presence). 	<ul style="list-style-type: none">

B1-Tetracyclines	Species/ matrices	<ul style="list-style-type: none"> Compliant 	/
B1 – Others Antibacterials	Analytes Species/ matrices	<ul style="list-style-type: none"> Colistin, tiamulin, trimethoprim, valnemulin No control for Honey and for Rabbits 	/
B2a	Analytes	Eprinomectin in aquaculture	
	Limits		
B2b	Analytes		
	Limits	Correct the MRL and ML values	
B2d		-	
B2e	Analytes	Consider MAA to complete the minimum requirement	
	Limits	Consider CC α in milk	
	Matrices		
B2f - antimicrobials	Analytes	compliant	/
B2f - corticosteroids		-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	Good to see that As is included
	Methods		
	Limits		
	Levels of action		
	Species /matrices	Offal should be included	
B3d	Analytes	Include ochratoxin	
B3e	Analytes	compliant	/
	Other remarks		

2.24.1 Group A1 – Stilbenes

A1	Evaluation	Recommendations
Analytes	<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	

		<ul style="list-style-type: none"> Also tested for benzestrol 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/muscle 	For sheep/goats/poultry urine/feces or liver is to prefer instead of muscle
Other remarks		Subspecies tested: For bovines/poultry subspecies are specified For aquaculture : carps/brown trout/others For farmed game: rabbit/deer/ostriches	

2.24.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, poultry, farmed game Matrices: urine and thyroid Additional: muscle 	
Other remarks			

2.24.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant: bovines, pigs, sheep/goats, horses (gestagens except medroxyprogesterone), poultry (estradiol, testosterone, gestagens except medroxyprogesterone), aquaculture (only included nandrolone) • farmed game (optional) (boldenone, testosterone, gestagens except medroxyprogesterone), rabbit (optional) (gestagens except medroxyprogesterone). • Additional: Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), CLAD (Chlortestosterone metabolyte), Norethandrolon. 	Include the missing minimum required analytes.
Methods	Screening	<ul style="list-style-type: none"> • GC-MS/MS, LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> • Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant. 	
Levels of action		<ul style="list-style-type: none"> • 'Presence', compliant except no differentiation for testosterone in serum. 	Note all LoA in clear concentrations and differentiate for testosterone in serum.
Species/matrices		<ul style="list-style-type: none"> • All species are included but for horses only 2 samples, aquaculture and farmed game (optional) 1 sample and rabbit (optional) zero samples. • Matrices compliant except for testosterone for sheep/goats, horses, rabbit (optional). • Matrices included: liver, muscle, serum, urine. 	Include (more) samples for horses, aquaculture and rabbit.
Other remarks			

2.24.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant for both minimal required and optional species • Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> • Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> • Compliant (LC-MS/MS) 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species Replacement matrices used Matrices: urine/liver/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/poultry subspecies are specified For aquaculture : carps/brown trout/others For farmed game: rabbits/deer/quail/ostriches	

2.24.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 20 analytes covered in all relevant species and matrices Minimum requirements covered 12 recommended covered 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, match recommended concentrations except: clenbuterol in bovine and horse liver CC β = 0.62 μ g/kg and RC =0.2 μ g/kg	
	CC α (confirmatory)	Compliant, match recommended concentrations except: clenbuterol in bovine and horse liver CC α = 0.56 μ g/kg and RC =0.2 μ g/kg	
Levels of action		Presence	
Species/matrices		Fulfilled Maybe in future lung in addition to or instead of liver	
Other remarks			

2.24.6 Group A6 – Nitroimidazoles

A6	Description	Comments
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Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.24.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans metabolites: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA and LC-MS/MS compliant Nitrofurans: ELISA and LC-MS/MS compliant Dapsone: CHARM II 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: LOD 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant 	/

	<ul style="list-style-type: none"> Dapsone: compliant milk of horses, buffalo, cow and sheep/goats 	
Other remarks	/	/

2.24.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	/
Methods	Screening	<ul style="list-style-type: none"> CHARM II or LC-MS/MS for screening for <i>dihydrostreptomycin</i>, <i>gentamicin</i>, <i>neomycin</i> and <i>streptomycin</i>, and for Eggs (all analytes): compliant 	<ul style="list-style-type: none"> No screening for <i>apramycin</i>, <i>kanamycin</i>, <i>paromomycin</i> and <i>spectinomycin</i> (except in Eggs)
	Confirmatory	<ul style="list-style-type: none"> HPLC-Fluo for Honey: compliant LC-MS/MS for the other Species/ matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα for <i>gentamicin</i> in Milk higher than 1,7 MRL which is quite high.
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: muscle and kidney Aquaculture products, Farmed game, Poultry, Rabbits: muscle Eggs (hens, quails), Honey, Milk (buffalos, cows, sheep, goats) 	/
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 7 penicillins and 7 cephalosporins in Milk 7 penicillins and 4 cephalosporins in Eggs 7 penicillins in Aquaculture 7 penicillins and 4 cephalosporins in B Muscle 7 penicillins and 2 cephalosporins in B Kidney 6 penicillins and 2 cephalosporins in H,P Muscle 6 penicillins and 1 cephalosporin in H,P Kidney 7 penicillins and 1 cephalosporin in OC Muscle 	<ul style="list-style-type: none"> Remark: Even though overall compliant, It is amazing to have so many different choices of beta-lactam analytes in various species/ matrices Cefacetile is missing in Milk Penicillin-V is missing in Pigs and should be extended in Bovine, Horse, Pigs, Rabbit and Sheep/goats

		<p>7 penicillins in OC Kidney 8 penicillins and 4 cephalosporins in Py,FG Muscle 6 penicillins and 4 cephalosporins in Rabbit Muscle</p>	<ul style="list-style-type: none"> • Remark: Penicillin-V is controlled for its presence in Eggs where it should be controlled at MRL of 25 µg/kg • Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk • Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
Methods	Screening	<ul style="list-style-type: none"> • CHARM II: compliant but see remark for CCbeta screening 	<ul style="list-style-type: none"> • No screening control for <i>nafcillin</i> or <i>penicillin V</i> (except for <i>nafcillin</i> in Milk)
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CCβ (screening)	<ul style="list-style-type: none"> • CCβ = LOD = MRL, except for <i>ceftiofur</i> (all species/ matrices) and <i>cefalonium</i>, <i>cefapirin</i>, <i>cefazolin</i>, <i>cefoperazone</i> and <i>dicloxacillin</i> (in Milk) 	<ul style="list-style-type: none"> • CCβ for <i>cefquinome</i>, <i>cloxacillin</i>, <i>oxacillin</i> is too high and above MRL (except in Milk) • Remark : Only one screening method claimed by Charm II Test <=> CCβ values assimilated to the method's LODs = MRL (?), which does not always match except for ceftiofur (all species/ matrices) and for cefalonium, cefapirin, cefazolin, cefoperazone and dicloxacillin (in Milk); therefore, it should updated the CCbeta values to be lower than the MRL
	CCα (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovine, Farmed game, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle and kidney • Aquaculture products: muscle • Eggs (hens, quails), Milk (buffalos, cows, goats, horses, sheep) 	/
Other remarks		/	<ul style="list-style-type: none"> • Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Erythromycin, lincomycin, pirlimycin, spiramycin, tilmicosin, tylosin 	<ul style="list-style-type: none"> No control of 3-O-acetyltylosin, gamithromycin, neomycin, tildipirosin, tulathromycin and tylvalosin Only two macrolides monitored in honey
Methods	Screening	<ul style="list-style-type: none"> CHARM II LC-MS/MS for lincomycin in eggs 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening method do not allow to detect most of macrolides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/
Limits	CC β (screening)	/	<ul style="list-style-type: none"> CCbeta > MRL in many cases !!! Shall be estimated below the MRL
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> The 8 recommended substances: compliant 	<ul style="list-style-type: none"> The only controls performed on rabbits are <i>enrofloxacin</i> and <i>ciprofloxacin</i>
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant ELISA (enrofloxacin, ciprofloxacin in Rabbits muscle only): compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Horses, Pigs, Sheep/goats: muscle and kidney 	<ul style="list-style-type: none"> Except Honey

	<ul style="list-style-type: none"> • Aquaculture, Farmed Game, Poultry, Rabbit: muscle • Eggs (hens, quails), Milk (buffalo, cow, goat, sheep) 	
Other remarks	/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • 22 analytes controlled 	<ul style="list-style-type: none"> • No control for sulfacholoryprazine, sulfamoxole, sulfaclozine, sulfaethoxypyridazine, sulfasalazine, sulfatroxazole
Methods	Screening	<ul style="list-style-type: none"> • Charm II, LC-MS/MS or no screening: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCβ for Rabbit Muscle non-compliant: higher than MRL (100 μg/kg) (LC-MS/MS, Charm II)
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα for horses Milk: higher than MRL (100 μg/kg) while they reported a decision level as presence.
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/matrices		<ul style="list-style-type: none"> • Aquaculture products, Bovines, Horses, Pigs, Poultry, Farmed game, Rabbits, Sheep/goat: muscle • Eggs (hens, quails), Honey, Milk (buffalo, cow, goat, sheep, horses), Honey 	/
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Tetracyclines: 4 substances including the 2 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • CHARMII: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • LOD instead of Compliant CCβ 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Compliant 	/

Other remarks	/	/
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B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • <i>Colistin, tiamulin, trimethoprim, valnemulin</i> 	<ul style="list-style-type: none"> • No control for <i>tiamulin</i> in Rabbits
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Horses, Pigs, Sheep/goat: muscle and kidney • Aquaculture products, Poultry, Farmed game: muscle • Eggs, (hens,quails), Milk (buffalo, cow, goat, sheep) 	<ul style="list-style-type: none"> • No control for Honey and for Rabbits
Other remarks		/	/

2.24.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>6 avermectines, 13 benzimidazoles and others are analysed; 12 out of 12 minimum requirements fulfilled</p> <p>Aquaculture: 3 avermectines Bovine: 5 avermectines, 5 benzimidazoles, clorsulon, closantel, levamisole, nitroxinil, oxyclozanide, rafoxanide Eggs: no avermectines, 5 benzimidazoles, levamisole Farmed game: 5 avermectines, 6 benzimidazoles, levamisole, clorsulon Horse: 5 avermectines, 7 benzimidazoles, levamisole Milk: 5 avermectines, 7 benzimidazoles clorsulon, closantel, levamisole, oxyclozanide, rafoxanide Pig: 4 avermectines, 7 benzimidazoles, levamisole Poultry: 4 avermectines, 6 benzimidazoles</p>	

		Rabbit: 4 avermectines, 4 benzimidazoles, levamisole Sheep/goat: 5 avermectines, 6 benzimidazoles, closantel, levamisole, nitroxinil, oxyclozanide, rafoxanide	
Methods	Screening	HPLC-FLU (avermectines), LCMS/MS benzimidazoles and other	
	Confirmatory	HPLC-FLU (avermectines), LCMS/MS benzimidazoles and other	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	Compliant	
Levels of action		Presence or MRL	
Species/matrices		All relevant matrix/analyte combinations are analysed	
Other remarks			

2.24.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		13 anticoccidials: 5 chemical anticoccidials, 6 ionophores and 2 nitroimidazoles (ipronidazole in all matrices) All minimum requirements included 4 out of 5 recommended included	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Not compliant in some case: e.g. salinomycin in poultry liver	
	CC α (confirmatory)	Compliant	
Levels of action		MRL, ML and presence MRL or ML value false in some case. Eg. Salinomycin in poultry liver. MRL/ML =5 μ g/kg and not 150 μ g/kg	Review MRL and ML values
Species/matrices		Minimum requirements are fulfilled, poultry, egg, sheep/goat and pig are analysed for ionophores and chemical anticoccidials.	
Other remarks			

2.24.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required and recommended 	
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Carazolol: 15 μg/kg in bovines Carazolol: 25 μg/kg in pigs Azaperone/azaperol: 100 μg/kg in pigs 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney Additional: muscle 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.24.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 15 analytes (milk: 14) Minimum required analytes are almost covered: the analysis of basic NSAIDs is included, but only metamizole (muscle, milk) is analysed, and not its marker residue MAA Some recommended analytes are included 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	not compliant in some cases in milk (MLX, TFA, MAA, DC, FLU-OH) and one analyte in sheep/goat muscle (MLX): CC α should be above the MRL	
Levels of action		presence / MRL	

Species/matrices	recommendations fulfilled (bovine, farmed game, horse, pig, poultry, rabbit, sheep/goat – muscle; milk)	
Other remarks	Minor changes compared to 2017	

2.24.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant • Olaquinox : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • Same as screening LC-MS/MS only in liver 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • compliant 	/
Levels of action		<ul style="list-style-type: none"> • compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • pigs: compliant 	/
Other remarks		/	/

2.24.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, sheep/goats, horses. • Not included: poultry, aquaculture, farmed game/rabbit (optional). • Additional: Beclometasone, Betamethasone, Flumethasone, Isoflupredone, Methylprednisolone, Prednisolone, Prednisone, Triamcinolone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> • LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> • Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant if MRL for muscle of sheep is the same as for goats. 	

	CC α (confirmatory)	<ul style="list-style-type: none"> • Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> • 'Presence' or MRL with concentration. 	Note all LoA in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> • Included: bovines, pigs, sheep/goats, horses. • Matrices compliant. • Matrices included: muscle, urine, raw milk (bovines, sheep, goats, horses). 	
Other remarks			

2.24.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Pb, Cd, Hg and As	Good to see that As is included Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)
Methods	Screening	AAS	
	Confirmatory	AAS	
Limits	LOQ	Overall in compliance with regulation	
Levels of action		Consistent with regulation	
Species/matrices		Limited selection; Pb (meat, honey, milk), Cd (meat), Hg (fish)	Offal should be included
Other remarks			

2.24.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Zearalenone • Aflatoxin M1 	Include ochratoxin
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant (no standard criteria for zearalenone) 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant (no standard criteria for zearalenone) 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture, farmed game Matrices: muscle 	
Other remarks		<ul style="list-style-type: none"> Clear and straight commentary, makes it easy to evaluate! 	

2.24.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant Green: compliant Cristal Violet: compliant Cristal Violet-Leuco: compliant Malachite Green: compliant Malachite Green-Leuco: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Same as screening LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture : compliant 	/
Other remarks		/	/

2.25 Member State: Sweden (SE)

Substance subgroup	Category	Recommendations from EURLs	Remarks
A1	Limits	CC α for dienestrol/diethylstilbestrol (poultry) should be lowered to meet regulatory limits; CC α confirmatory method for horses should be stated	
A2	Analytes	Add mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4	Methods	Confirmatory method for farmed game (urine) should be added	
	Limits	CC α confirmatory method for horses should be stated	
A5	Analytes	No screening is carried out. CC α for all analyte/matrix combinations should be < RC (in liver, muscle and urine)	
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Analytes	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofuranes: compliant Dapsone: non-compliant 	No control plan for dapsone
	Species/matrices	<ul style="list-style-type: none"> Nitrofuranes: No control in milk, bovines, horses, rabbit and sheep/goats 	
B1 - Aminoglycosides	Analytes Species/matrices	<ul style="list-style-type: none"> Compliant No control for Aquaculture products, Eggs, Farmed game, Honey, Poultry, Rabbits, Sheep/goats: non-compliant 	<ul style="list-style-type: none"> Bovines, Horses and Pigs: kidneys
	Methods/limits	<ul style="list-style-type: none"> Compliant 	Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
B1 - Betalactams	Analytes	<ul style="list-style-type: none"> No control for cefacetrile in milk : non-compliant No control for ceftiofur and desfuroylceftiofur in all species/ matrices: non-compliant 	<ul style="list-style-type: none"> Remark: It is not detailed whether desacetylcephapirin is also

		<ul style="list-style-type: none"> Control of penicillin V only in Milk to be extended to P,Py,FG muscle at least (MRL : 25 µg/kg) Need to extend to at least 5 other MRL-penicillins in Aquaculture 	controlled together with the cefapirin in milk
	Species/ matrices	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> No control for Eggs, and Rabbits
	Meth- ods/Limits	<ul style="list-style-type: none"> All CCβ set at the MRL should be reconsidered to be readily estimated lower than the MRL according to definition of CCbeta 	<ul style="list-style-type: none"> CCα value for <i>penicillin V</i> is too low (in Milk). There is an MRL for <i>penicillin V</i> in Milk (= 25 µg/kg)
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Extension of the control to erythromycin, lincomycin and pirlimycin 	/
	Species/ matrices	<ul style="list-style-type: none"> Extension of the control to aquaculture, eggs and rabbit 	
	Meth- ods/Limits	<ul style="list-style-type: none"> Compliant 	Pay attention to the CCbeta screening which should be < MRL level
B1 – Quinolones	Analytes	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control for <i>flumequine</i>, <i>marbofloxacin</i> in Milk and for <i>sarafloxacin</i> in Aquaculture products
	Species/ matrices		<ul style="list-style-type: none"> No control in Eggs, Honey, Rabbit
	Meth- ods/Limits	<ul style="list-style-type: none"> CCβ screening: non-compliant 	<ul style="list-style-type: none">
B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> Only 11 analytes controlled, control on less than half of the recommended analytes: non-compliant To extend the scope to other sulfonamides: at least to Minimum required (sulfachloropyrazine, sulfaguanidine, sulfamethizol, sulfapyridine, sulfisoxazol), Recommended (sulfacetamide, sulfacholopyridazine, sulfameter, sulfamoxole, sulphanilamide), Optional (sulfabenzamide, sulfaethoxypyridazine, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazole, sulfisomidine) 	<ul style="list-style-type: none"> <i>Sulfadiazine</i>, <i>sulfadoxine</i>, <i>sulfamethazine</i>, and <i>sulfathiazole</i> are controlled in all matrices. Otherwise, 6 to 7 analytes are controlled in Muscle Only 5 analytes (sulfadiazine, sulfadimethoxine, sulfadoxine, sulfamethazine, sulfathiazol) are controlled in Honey No control for <i>sulfaclozine</i> (except Eggs)

	Species/ matrices	<ul style="list-style-type: none"> No control for Aquaculture products or Rabbits 	
	Meth- ods/Limits	<ul style="list-style-type: none"> Non-compliant: Some values (4) of CCα in Muscle are estimated greater than 140 $\mu\text{g}/\text{kg}$, which is quite high above the MRL (precision > 40%) 	<ul style="list-style-type: none">
B1 – Tetracy- clines	Analytes	<ul style="list-style-type: none"> 4 substances claimed; however, not mentioned the 3 types of 4-epimers : non-compliant 	/
	Species/ matrices	<ul style="list-style-type: none"> Compliant except control missing for rabbit 	
B1- Other anti- bacterials	Analytes Species/ matrices Meth- ods/Limits	<ul style="list-style-type: none"> Only 2 substances (<i>trimethoprim</i>, <i>valnemulin</i>): non-compliant No control for Aquaculture products, Eggs, Honey, Milk, Rabbits 	Some values (4) of CC α in the muscle are greater than 140 $\mu\text{g}/\text{kg}$, which is quite high
B2a	Analytes	Inclusion of closantel, radoxanide, nitroxinil for milk and sheep/goat	
	Limits	Adoption of CC α of eprinomectin to new MRL (50 $\mu\text{g}/\text{kg}$)	
B2b	Analytes		
	Limits	Review CC β in bovine liver	
B2d	Analytes	Include chlorpromazine and haloperidol	
B2e	Analytes		
	Limits		
	Matrices		
B2f - antimicro- bials	Analytes	Non-compliant	No control plan for carbadox/olaquinox
B2f - corticoster- oids		-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits		
	Levels of action		

	Species /matrices		
B3d	Analytes	Include zearalenone	
B3e	Analytes	compliant	/
	Other re- marks		

2.25.1 Group A1 – Stilbenes

A1 - SE		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested Also tested benzestrol in urine from horses 	Include benzestrol for all species/matrices
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS, GC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS, GC-MS/MS) except for farmed game 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant except for dienestrol and diethylstilbestrol in poultry (liver) No CCα is given for horses 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/liver 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: reindeer	

2.25.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	

Limits	CC β (screening)	• -	
	CC α (confirmatory)	• Compliant	
Levels of action		<ul style="list-style-type: none"> • Presence • Horses: 10 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: farmed game, horses • Matrices: urine 	
Other remarks			

2.25.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant: bovines, pigs, poultry, (estradiol, testosterone, gestagens), sheep/goats (estradiol, testosterone, methyltestosterone, gestagens), horses (gestagens), aquaculture (boldenone, trenbolone, stanozolol, gestagens). • Additional: 1-testosterone, Androstane-5-Beta-17-Alpha-Methyl-3-Alpha, Androsten-4-Chloro-4-Ene-3,17-Dione, Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl), Boldione, Chlortestosterone (Clostebol), Chlortestosterone-17-Alpha, CLAD (Chlortestosterone metabolite), Clostebol, Estradiol-17-Alpha, Ethylestraandiol (EED) - 17α-Ethyl-5β-estrane-3α,17β-diol, MEAD (methyltestosterone metabolite), Mestranol, Methandriol, Methenolone, Norethandrolon, Norgestrel, Normethandrolone, Progesterone. 	Include the several missing minimum required analytes.
Methods	Screening	• GC-MS, GC-MS/MS, LC-MSMS.	
	Confirmatory	• Same as screening.	
Limits	CC β (screening)	• Almost compliant, some till twice the RC.	Check or optimise the methods with a non-compliant limit.
	CC α (confirmatory)	• Almost compliant, some till twice the RC.	Check or optimise the methods with a non-compliant limit.
Levels of action		• 'Presence'.	Note in clear concentrations.
Species/matrices		<ul style="list-style-type: none"> • All species are included. • Matrices compliant except estradiol and testosterone (horses). • Matrices included: 	

	Liver, muscle, urine.	
Other remarks		

2.25.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	Include zearalanone
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) except for farmed game: none 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant, except for farmed game For horses: "None" 	State value
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrix used Matrices: urine/liver 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: reindeer	

2.25.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		11 analytes are covered in all relevant matrices, meet requirements	
Methods	Screening	No screening method	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No values	
	CC α (confirmatory)	Not compliant for all analytes e.g. brombuterol, mapenterol, tulobuterol in liver (bovine, pigs, sheeps/goats, horses, and poultry). For brombuterol, clenbuterol, mabuterol, mapenterol and tulobuterol in muscle (aquaculture) and for mapenterol and zilpaterol in urine (bovine and pigs)	CC α should be < RC
Levels of action		Presence	

Species/matrices	All relevant analyte/matrix combinations are covered	
Other remarks	No screening is carried out. CC α for all analyte/matrix combinations > recommended concentrations.	

2.25.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.25.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation / Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: 4 metabolites Dapsone: non-compliant 	/ / <ul style="list-style-type: none"> No control plan for dapsone
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: ELISA compliant Nitrofurans: no screening except for AOZ in Honey Dapsone / 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone / 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: Nitrofurans: no CCβ because no screening 	<ul style="list-style-type: none"> CCβ at 0.3 $\mu\text{g}/\text{kg}$ is suspicious. CCβ must be < MRPL/RPA

		<ul style="list-style-type: none"> • Dapsone / 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone / 	/
Levels of action		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: / 	/
Species/ matrices		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: non-compliant • Dapsone / 	<ul style="list-style-type: none"> • Except rabbit • No control in bovines, horses, rabbit and sheep/goats
Other remarks		/	/

2.25.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • Immunoanalysis (IA) for Milk, LC-MS/MS for kidneys: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS (kidneys) or "external" (Milk): compliant 	<ul style="list-style-type: none"> • Even if the confirmation is performed by other laboratories the NRL have to report confirmatory details
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • MRL or presence 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Horses, Pigs: kidney • Milk 	<ul style="list-style-type: none"> • No control for Aquaculture products, Eggs, Farmed game, Honey, Poultry, Rabbits, Sheep/goats: non-compliant
Other remarks		/	/

B1 (Beta-lactams)	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
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Analytes		<ul style="list-style-type: none"> • Beta-lactams: 8 penicillins and 5 cephalosporins in Milk 7 penicillins and 4 cephalosporins in Muscle of 6 Species (B,P,OC,E,FG,Py) 1 penicillin in Aquaculture (Ampicillin) 	<ul style="list-style-type: none"> • No control for <i>cefacetrile in milk</i> : non-compliant • No control for <i>ceftiofur and desfu-roylceftiofur</i> in all species/ matrices: non-compliant • Control of <i>penicillin V</i> only in Milk to be extended to P,Py,FG muscle at least (MRL : 25 µg/kg) • Need to extend to at least 5 other MRL-penicillins in Aquaculture • Remark: It is not detailed whether <i>desacetylcephapirin</i> is also controlled together with the cefapirin in milk
Methods	Screening	<ul style="list-style-type: none"> • Immunoanalysis for Milk, LC-MS/MS for Muscle: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • All CCβ values =MRL: non-compliant 	<ul style="list-style-type: none"> • CCβ set at the MRL should be reconsidered to be readily estimated lower than the MRL according to definition of CCβ
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα value for <i>penicillin V</i> is too low (in Milk). There is an MRL for <i>penicillin V</i> in Milk (= 25 µg/kg)
Levels of action		<ul style="list-style-type: none"> • Presence or MRL or Not Applicable 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture products, Bovine, Farmed game, Horses, Pigs, Poultry, Sheep/goats: muscle • Milk 	<ul style="list-style-type: none"> • No control for Eggs and Rabbits
Other remarks		/	<ul style="list-style-type: none"> • Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	
Analytes		<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • No control for erythromycin, lincomycin and pirlimycin
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS 	/

	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ could be lower for non-authorized compounds
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL or “presence” 	/
Species/matrices		<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control in aquaculture, eggs and rabbit
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> 10 substances: the 8 recommended substances and <i>nalixidic acid, norfloxacin</i>: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	<ul style="list-style-type: none"> Except <i>flumequine, marbofloxacin</i> in Milk and <i>sarafloxacin</i> in Aquaculture products
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Non-compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed game, Horses, Pigs, Poultry, Sheep/goats: muscle Milk 	<ul style="list-style-type: none"> Except Eggs, Honey, Rabbit Only cow milk
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Sulfonamides: <i>sulfaclozine, sulfadiazine, sulfadimethoxine, sulfadoxine, sulfamerazine, sulfamethazine, sulfamethoxazole, sulfamethoxypyridazine, sulfamonomethoxine, sulfaquinoxaline, sulfathiazole</i>. 11 analytes, control on less than half of the recommended analytes: non-compliant 	<ul style="list-style-type: none"> No control for sulfachloropyrazine, sulfaguanidine, sulfamethizol, sulfapyridine, sulfisoxazol), Recommended (sulfacetamide, sulfacholopyridazine, sulfameter, sulfamoxole,

			<p>sulphanilamide), Optional (sulfa-benzamide, sulfaethoxypyridazine, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazole, sulfisomidine</p> <ul style="list-style-type: none"> • No control for <i>sulfaclozine</i> (except Eggs) • <i>Sulfadiazine</i>, <i>sulfadoxine</i>, <i>sulfamethazine</i>, and <i>sulfathiazole</i> are controlled in all Species/ matrices. Otherwise, 6 to 7 analytes are controlled in muscle. • Only 5 analytes (sulfadiazine, sulfamethoxine, sulfadoxine, sulfamethazine, sulfathiazole) are controlled in Honey
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Non-compliant: Some values (4) of CCα in the muscle are estimated greater than 140 $\mu\text{g}/\text{kg}$, which is quite high above the MRL
Levels of action		<ul style="list-style-type: none"> • MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Farmed game, Horses, Pigs, Poultry, Sheep/goats: muscle • Eggs, Honey, Milk 	<ul style="list-style-type: none"> • No control for Aquaculture products, Rabbits
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Tetracyclines: 4 substances: Chlortetracycline, Doxycycline, Oxytetracycline, and Tetracycline are mentioned and not the 3 types of 4-epimers : non-compliant 	<ul style="list-style-type: none"> • the 3 types of 4-epimers shall be mentioned
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS for Honey and Muscle : compliant • Immunoanalysis for Milk and Eggs : compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS same as screening : compliant 	/

Limits	CC β (screening)	Compliant	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Non-Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant : MRL or Risk assessment 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> Except rabbit
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Only 2 substances : <i>trimethoprim, valnemulin</i> 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Horses, Pigs, Poultry, Sheep/goats 	<ul style="list-style-type: none"> No control for Aquaculture products, Eggs, Honey, Milk, Rabbits
Other remarks		/	/

2.25.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>6 avermectines and 10 benzimidazoles and other are analysed, 12 out of 12 minimum requirements fulfilled</p> <p>Aquaculture: 6 avermectines, 7 benzimidazoles, closantel, levamisole, raxofanide, nitroxinil</p> <p>Bovine: 6 avermectines, 6 benzimidazoles, levamisole</p> <p>Eggs: not analysed for B2a compounds</p> <p>Farmed game: 5 avermectines, 6 benzimidazoles, levamisole</p> <p>Horse: 6 avermectines, 6 benzimidazoles, levamisole</p>	

		<p>Milk: 6 avermectines, 6 benzimidazoles, levamisole Pig: 5 avermectines, 6 benzimidazoles, levamisole Poultry: 6 avermectines, 6 benzimidazoles, levamisole Rabbit: not analysed for B2a compounds Sheep/goat: 6 avermectines, 6 benzimidazoles, levamisole</p>	
Methods	Screening	LC-MS/MS	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	Compliant for almost all, exception: eprinomectin in finfish	
Levels of action		Presence or MRL	
Species/matrices		fulfilled	
Other remarks			

2.25.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		20 anticoccidials: The control covers 9 chemical coccidiostats, 6 ionophores and 6 nitroimidazoles.	
Methods	Screening	Compliant, LC-MS/MS	
	Confirmatory	Compliant, LC-MS/MS	
Limits	CC β (screening)	Not compliant for: lasalocid in bovine liver: MRL = 100 μ g/kg and CC β = 130 μ g/kg, or for monensin in bovine liver: MRL 30 μ g/kg and CC β = 62 μ g/kg. CC β should be < MRL or ML for screening method.	Same remarks as 2017
	CC α (confirmatory)	Compliant for the majority except in some case: diclazuril in poultry liver MRL = 1500 μ g/kg, CC α = 2076 μ g/kg and CC α max = 1927 μ g/kg. CC α should be > MRL or ML. CC α should be < CC α max	
Levels of action		MRL , ML, CC α	CC α cannot be considered as level of action
Species/matrices		fulfilled	
Other remarks			

2.25.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant minimum required: chlorpromazine and haloperidol are missing Compliant recommended 	Include chlorpromazine and haloperidol
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Azaperone/azaperol 100 μg/kg Carazolol: 15 μg/kg Acepromazine/propionylpromazine: 50 μg/kg Xylazine: 10 μg/kg 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses Matrices: kidney 	
Other remarks			

2.25.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 21 analytes (milk: 20) Minimum requirements completely fulfilled Several recommended analytes are covered 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant, except that CC β should be below recommended concentrations and not equal	
	CC α (confirmatory)	Compliant	
Levels of action		presence / MRL	
Species/matrices		recommendations fulfilled (bovine, farmed game, horse, pig, sheep/goat – kidney, poultry – muscle; milk)	

Other remarks	No further remarks	
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2.25.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Non-compliant 	<ul style="list-style-type: none"> No control plan for carbadox and olaquinox
Methods	Screening	• /	/
	Confirmatory	• /	/
Limits	CC β (screening)	• /	/
	CC α (confirmatory)	• /	/
Levels of action		• /	/
Species/ matrices		• /	/
Other remarks		/	/

2.25.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines. Not included: pigs, sheep/goats, horses, poultry, aquaculture, farmed game/rabbit (optional). Additional: Betamethasone, Flumethasone, Methylprednisolone, Prednisolone. 	
Methods	Screening	• LC-MSMS.	
	Confirmatory	• Same as screening.	
Limits	CC β (screening)	• MRL not clearly noted.	
	CC α (confirmatory)	• Same comment as CC β .	
Levels of action		• MRL without concentration.	Note all LoA in clear concentrations.

Species/matrices	<ul style="list-style-type: none"> Included: only bovines. Matrix compliant: liver. 	Include at least also pigs, sheep/goats and horses.
Other remarks		

2.25.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Pb, Cd and Hg	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)
Methods	Screening	ICPMS	
	Confirmatory	ICPMS	
Limits	LOQ	Complies with regulation	
Levels of action		MLs are not stated and hence consistency with regulation was not evaluated	
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.25.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, ochratoxin A 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> N/A 	
Levels of action		<ul style="list-style-type: none"> LOQ (aflatoxin A) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required Additional: aquaculture 	

	<ul style="list-style-type: none"> • Matrices: milk, kidney, muscle, liver 	
Other remarks		

2.25.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Cristal Violet: compliant • Cristal Violet-Leuco : compliant • Malachite Green : compliant • Malachite Green-Leuco : compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • none 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • none 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • compliant 	/
Levels of action		<ul style="list-style-type: none"> • complaint 	/
Species/ matrices		<ul style="list-style-type: none"> • compliant 	/
Other remarks		/	/

2.26 Member State: Slovenia (SI)

Substance sub-group	Category	Recommendations from EURLs	Remarks
A1	Species/ matrices	For poultry change matrix to feces or liver	
A2	Analytes	Include 6-propyl-2-thiouracil, mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4	Species/ matrices	For poultry another matrix must be tested instead of kidney/drinking water/feed	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/ matrices	<ul style="list-style-type: none"> Nitrofurans : No control in Eggs, Horses and Milk Dapsone : No control in Rabbit 	
	Meth- ods/Limits		For dapsone LOQ non-compliant
B1 - Aminoglycosides	Analytes Species/ matrices	<ul style="list-style-type: none"> 7 analytes out of 8: compliant 	<ul style="list-style-type: none"> No control for <i>spectinomycin</i> No control for Farmed game
	Meth- ods/Limits	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level <i>Gentamicin</i> have also MRL for Aquaculture products, Horses, Sheep/goats, Rabbits CCβ values for <i>kanamycin</i> are too high If an MRL defined, the CCα cannot be equal to the LOQ.

			<ul style="list-style-type: none"> • CCα levels for <i>kanamycin</i> are not "available"
B1 – Beta-lactams	Analytes	<ul style="list-style-type: none"> • No control for Cefacettrile in Milk • No control for Oxacillin, Nafcillin, Cephalexin and Cephapirin in Meat (Muscle of 7 species) • Penicillin or penicillin-V("?)") is controlled only in Eggs where there is an MRL in Pigs, Farmed Game and Poultry as well. Control to be extended. • 	<ul style="list-style-type: none"> • Remark: what "<i>penicillin</i>" wording is for? Does it mean "<i>penicillin V?</i>" or "<i>penicillin-G?</i>". To be clarified. • Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk • Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk •
	Methods/Limits	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods proposed do not allow to detect most of beta-lactams at their MRL level • 	<ul style="list-style-type: none"> • Most CCβ values obtained with microbiological methods are too high against MRL, as well as CCβ for nafcillin in milk (Twinsensor) • Some CCα values are actually too high (amoxicillin, cefquinome in Muscle), or amazingly too low (= LOQ) when there is a MRL to be controlled or even not available (cefapirin in Milk). To be updated.
	Species/matrices	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • No control for Farmed game •
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> • Extension of the scope of the method to 3-O-acetyltylosin, gamithromycin, lincosamycin, pirlimycin, tildipirosin, tylvalosin 	/
	Species/matrices	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • No control in farmed game and honey

	Meth-ods/Limits	<ul style="list-style-type: none"> Pay attention to the provided level of action and to the CCα not always suitable 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level
B1 – Quinolones	Analytes	<ul style="list-style-type: none"> The only controls performed on Milk are <i>enrofloxacin</i> and <i>flumequine</i> 	<ul style="list-style-type: none"> No control for <i>ciprofloxacin</i> (except for Poultry). Was accounted with <i>enrofloxacin</i> for other Species/ matrices?
	Meth-ods/Limits	<ul style="list-style-type: none"> Screening method: unspecified Microbiological test. To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of quinolones at their MRL level CCα (confirmatory): compliant, except for <i>enrofloxacin</i> and <i>flumequine</i> in Milk (LOQ) 	<ul style="list-style-type: none"> No CCβ (screening) for <i>enrofloxacin</i> in Milk
	Species/matrices	<ul style="list-style-type: none"> 	No control for Farmed game and Honey
B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> 19 analytes: controlled 18 analytes are controlled on all Muscles (except Horses) To extend the scope to other sulfonamides: at least to Recommended (sulfacetamide, sulfameter), Optional (sulfabenzamide, sulfaclozine, sulfaethoxy-pyridazine, sulfanitran, sulfasalazine, sulfatroxazole, sulfisomidine) No control for <i>sulfachlorpyrazine</i> (except Eggs or Farmed game) 	<ul style="list-style-type: none"> 16 analytes are controlled in Eggs, 14 in Horses, 11 in Honey, 10 in Milk
	Species/matrices	<ul style="list-style-type: none"> No control for Rabbits 	<ul style="list-style-type: none">
	Meth-ods/Limits	<ul style="list-style-type: none"> Revise CCα values in Muscle for 4 analytes (sulfaguanidine, sulfamethoxy-pyridazine, sulphanilamide, sulfapyridine) CCα reported as LOQ = 25 μg/kg < MRL). However CCα must be > MRL. Report CCα values of sulfadoxine and sulfaquinoxaline in Eggs (CCα “not available”). Revise CCα of 4 analytes (sulfamoxole, sulphanilamide, sulfaphenazol, sulfapyridine) reported as LOQ). 	<ul style="list-style-type: none">
B1 - Tetracyclines		<ul style="list-style-type: none"> Compliant 	/

B1 – Others Antibacterials	Analytes	<ul style="list-style-type: none"> 3 analytes considered : Florfenicol, florfenicol amine, rifaximin, valnemulin 	<ul style="list-style-type: none"> No control for <i>phenicols</i> in Bovines, Horses, Poultry, Rabbits and Sheep/goats No control for <i>rifaximin</i> in Farmed game <p>To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of here-considered antibacterials at their MRL level</p>
	Species/matrices		<ul style="list-style-type: none"> No control for Eggs and Honey
	Methods/Limits	<ul style="list-style-type: none"> CCα for <i>phenicols</i> too low: non-compliant CCα for <i>rifaximin</i> "not available": non-compliant 	
B2a	Analytes	rafoxanide, closantel, nitroxinil at least for milk and sheep/goat	
	Limits	LOQ should be replaced by CC α	
B2b	Analytes		
	Limits	Review CC α values in the different matrices. CC α should be > MRL or ML. CC α should be < CC α max Review the MRL and ML values in the different matrice/species	
B2d	Analytes	Include haloperidol and xylazine	
B2e	Analytes	Consider IP, NP in milk and tissue, MAA in milk.	
	Limits	Consider CC α for analytes with RC.	
	Matrices	Only plasma was analysed for some important species. Extend the matrices of bovine and poultry for confirmation.	
B2f - antimicrobials	Methods/Limits	/	LOQ non-compliant
B2f - corticosteroids		-	
B3c	Analytes	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)	
	Methods		
	Limits	MS should provide LOQs for all samples and use a method with low enough limits for Pb in meat	

	Levels of action	MS should provide levels of action for all analyte-matrix combinations	Note ML for Cd in muscle is 0,050 mg/kg, not 0,005, 0,02 or 0,01 mg/kg as stated
	Species /matrices		
B3d	Analytes	Include zearalenone	
B3e	Analytes	Compliant	/
	Other re- marks		

2.26.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzenestrol
Methods	Screening	<ul style="list-style-type: none"> - 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS, GC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> - 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for minimal required species/matrices except poultry Compliant for optional species/matrices Matrices: urine/muscle Extra matrices: drinking water/feed/kidney 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For aquaculture : finfish/rainbow trout For farmed game: rabbit(/other)	

2.26.2 Group A2 – Thyrostats

A2	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • Almost compliant, 6-propyl-2-thiouracil is missing mostly • Additional 5-propyl-2-thiouracil, phenylthiouracil 	Include 6-propyl-2-thiouracil, mercapto-benzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> • No screening method 	
	Confirmatory	<ul style="list-style-type: none"> • GC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	
Levels of action		<ul style="list-style-type: none"> • Presence 	
Species/matrices		<ul style="list-style-type: none"> • Compliant minimum required species • Additional: horse, poultry, rabbit • Matrices: urine • Additional: plasma 	
Other remarks			

2.26.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant: bovines, pigs, sheep/goats, horses (nandrolone, trenbolone, stanozolol, gestagens (except medroxyprogesterone) • Farmed game/rabbit (optional) (boldenone, chlormadinone). • Additional: Androstendione, Bolandiol, Boldione, Clostebol acetate, Equilin, Estrone, Mestranol, Methenolone, Norandrostendion, Nortestosterone acetate - (17b)-17-Hydroxyestr-4-en-3-one acetate, Nortestosterone benzoate, Progesterone, Trenbolone acetate. 	Include the several missing minimum required analytes.
Methods	Screening	<ul style="list-style-type: none"> • No screening test. 	
	Confirmatory	<ul style="list-style-type: none"> • GC-MS/MS, LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • NA. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Almost compliant (estradiol-plasma 1.44 instead of 0.1 ppb, testosterone-plasma only non-compliant for female animals). 	
Levels of action		<ul style="list-style-type: none"> • 'Presence', no differentiation for testosterone. 	Note in clear concentrations and differentiate for testosterone.
Species/matrices		<ul style="list-style-type: none"> • All species included, but for sheep/goats and horses only two samples and for farmed game/rabbit (optional) only one sample. 	Include more samples for at least sheep/goats and horses.

	<ul style="list-style-type: none"> • Matrices almost compliant except for a few species-matrix combinations. • Included matrices: muscle, plasma, urine. 	
Other remarks		

2.26.4 Group A4 – Resorcylic acid lactones

A4		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Compliant • Zearalanone included 	
Methods	Screening	• -	
	Confirmatory	• Compliant (GC-MS/MS, LC-MS/MS)	
Limits	CC β (screening)	• -	
	CC α (confirmatory)	• Compliant	
Levels of action		• 'Presence'	State regulatory value
Species/matrices		<ul style="list-style-type: none"> • Compliant; replacement matrix is used • Matrices: urine/muscle • Extra matrices: drinking water/feed/kidney 	Recommended matrix for poultry is feces or liver
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: rabbits(/other)	

2.26.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • 21 analytes are covered in all relevant matrices • Minimum requirements, recommendations and optional analytes are covered 	
Methods	Screening	LC-MS (compliant)	
	Confirmatory	LC-MS (compliant)	
Limits	CC β (screening)	<ul style="list-style-type: none"> • For several analytes not compliant • CCβ values are above recommended concentrations, e.g. CCβ of brombuterol, cimaterol, cimbuterol and isoxsuprine in bovine liver 	

	CC α (confirmatory)	For some analytes CC α values are above recommended concentrations, e.g. CC α of brombuterol, bromchlorbuterol, cimaterol, cimbuterol, clenpeterol, clenbuterol, mabuterol, mapenterol, ractopamine, ritodrin, tolubuterol, isoxsuprine, clenccylohexerol, in drinking water (poultry, pigs)	
Levels of action		Presence, MRL	Level of action should be set at “presence” and not at MRL
Species/matrices		All relevant analyte/matrix combinations are covered, maybe in future lung in addition to or instead of liver	
Other remarks			

2.26.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	HPLC-DAD (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.26.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 4 Nitrofurans metabolites: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: GC-ECD and LC-MS/MS compliant Nitrofurans: no screening 	/

		<ul style="list-style-type: none"> • Dapsone: HPLC-UV 	
	Confirmatory	<ul style="list-style-type: none"> • Chloramphenicol: LC-MS/MS compliant • Nitrofurans: LC-MS/MS compliant • Dapsone: LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: / • Dapsone: compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Chloramphenicol: compliant (except for Honey 0.32 $\mu\text{g}/\text{kg}$?) • Nitrofurans: compliant but too high for honey 1.3 $\mu\text{g}/\text{kg}$ • Dapsone: : non-compliant because LOQ 	/
Levels of action		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: : non-compliant • Dapsone: non-compliant 	<ul style="list-style-type: none"> • No control in Eggs, Horses and Milk • No control in Rabbit
Other remarks		/	/

2.26.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • 7 analytes out of 8: compliant 	<ul style="list-style-type: none"> • No control for <i>spectinomycin</i>
Methods	Screening	<ul style="list-style-type: none"> • ELISA for Honey: compliant • Microbiological test for the other species/ matrices: compliant 	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCβ values for <i>kanamycin</i> are too high
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • If an MRL defined, the CCα cannot be equal to the LOQ. • <i>Gentamicin</i> have also MRL for Aquaculture products, Horses, Sheep/goats, Rabbits

			<ul style="list-style-type: none"> • CCα levels for <i>kanamycin</i> are not "available"
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture products, Bovines, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle • Eggs, Honey, Milk (cows, sheep, goats) 	<ul style="list-style-type: none"> • No control for Farmed game
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 7 penicillins and 4 cephalosporins in Milk 5 penicillins and 2 cephalosporins in Eggs 5 penicillins and 2 cephalosporins in Muscle of 7 Species (Aq,B,P,OC,E,Py) 	<ul style="list-style-type: none"> • No control for <i>cefacertrile</i> in Milk • No control for <i>Oxacillin, Nafcillin, Cephalexin and Cephapirin</i> in Meat (Muscle of 7 species) • Remark: what "<i>penicillin</i>" wording is for? Does it mean "<i>penicillin V</i>"?. To be clarified. • <i>Penicillin or penicillin-V</i>("?") is controlled only in Eggs where there is an MRL in Pigs, Farmed Game and Poultry as well. Control to be extended. • Remark: It is not detailed whether des-furoylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk • Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
Methods	Screening	<ul style="list-style-type: none"> • Non-specific methods for screening: Twinsensor for Milk, Microbiological Test for the other Species/ matrices 	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of beta-lactams at their MRL level
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Non-compliant : 	<ul style="list-style-type: none"> • Most CCβ values obtained with microbiological methods are too high against MRL, as well as CCβ for <i>nafcillin</i> in milk (Twinsensor)

	CC α (confirmatory)	<ul style="list-style-type: none"> Mostly compliant but : 	<ul style="list-style-type: none"> Some CCα values are actually too high (<i>amoxicillin</i>, <i>cefquinome</i> in Muscle), or amazingly too low (= LOQ) when there is a MRL to be controlled or even not available (<i>cefapirin</i> in Milk)
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> 9 out of 11 species/ matrices are monitored : Aquaculture products, Bovine, Horses, Pigs, Poultry, Rabbit, Sheep/goats: muscle Eggs, Milk (buffalos, cows, goats, sheep) 	<ul style="list-style-type: none"> No control for Farmed game
Other remarks		/	<ul style="list-style-type: none"> Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Erythromycin, neospiramycin, spiramycin, tilmicosin, tulathromycin, Tylosin 	<ul style="list-style-type: none"> 3-O-acetyltylosin, gamithromycin, lincomycin, pirlimycin, tildipirosin, tylvalosin
Methods	Screening	<ul style="list-style-type: none"> Microbiological test 	<ul style="list-style-type: none"> To the EU-RL knowledge, the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/
Limits	CC β (screening)	/	<ul style="list-style-type: none"> CCbeta not always available or sometimes > MRL
	CC α (confirmatory)	Compliant	<ul style="list-style-type: none"> CCalpha = 1 μg/kg not suitable when there is an MRL, could be an input error or a mistake
Levels of action		<ul style="list-style-type: none"> MRL or “presence” 	<ul style="list-style-type: none"> MRL for tylosin in aquaculture = 100 μg/kg MRL for spiramycin and neospiramycin in milk = 200 μg/kg MRL for erythromycin in aquaculture = 200 μg/kg

		<ul style="list-style-type: none"> MRL for tilmicosin and tylosin in milk = 50 µg/kg MRL for erythromycin in milk = 40 µg/kg MRL for erythromycin in eggs = 150 µg/kg
Species/ matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control in farmed game and honey
Other remarks	/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> The 8 recommended substances and <i>nalixidic acid</i>, <i>norfloxacin</i>, <i>ofloxacin</i>, <i>orbifloxacin</i>: compliant 	<ul style="list-style-type: none"> The only controls performed on Milk are <i>enrofloxacin</i> and <i>flumequine</i> No control for <i>ciprofloxacin</i> (except for Poultry). Was accounted with <i>enrofloxacin</i> for other Species/ matrices??
Methods	Screening	<ul style="list-style-type: none"> Unspecified Microbiological test: compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of quinolones at their MRL level
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD for Milk: compliant LC-MS/MS for <i>orbifloxacin</i> in Aquaculture, Bovines, Poultry and Pigs muscle HPLC-FLD for the other products: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No data for <i>enrofloxacin</i> in Milk
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant, except for <i>enrofloxacin</i> and <i>flumequine</i> in Milk (LOQ) 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovines, Farmed Game, Horses, Pigs, Poultry, Rabbits, Sheep/goats: muscle Eggs (hens, unspecified "other eggs"), Honey, Milk (cow, goat, sheep) 	<ul style="list-style-type: none"> No control for Farmed game and Honey
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
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Analytes		<ul style="list-style-type: none"> • Sulfonamides: 19 analytes: compliant • 18 analytes are controlled on all muscles (except Horses) 	<ul style="list-style-type: none"> • No control for sulfacetamide, sulfamerter, sulfabenzamide, sulfaclozine, sulfathiazole, sulfapyridine, sulfanilamide, sulfasalazine, sulfatrimethoprim, sulfisoxazole, sulfisomidine • No control for <i>sulfachlorpyrazine</i> (except Eggs or Farmed game) • 16 analytes are controlled in Eggs, 14 in Horses, 11 in Honey, 10 in Milk
Methods	Screening	<ul style="list-style-type: none"> • HPTLC for muscles and HPLC-FLD for Eggs: compliant 	<ul style="list-style-type: none"> • No screening test for Honey or Milk
	Confirmatory	<ul style="list-style-type: none"> • HPLC-DAD for Milk and : compliant • HPLC-FLD for other matrices: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	/	<ul style="list-style-type: none"> • Non-compliant: CCα values in Muscle for 4 analytes (sulfaguanidine, sulfamethoxyypyridazine, sulphanilamide, sulfapyridine) CCα reported as LOQ = 25 μg/kg < MRL). However CCα must be > MRL. • Non-compliant: Report CCα values of sulfadoxine and sulfaquinoxaline in Eggs (CCα “not available”). • Revise CCα of 4 analytes (sulfamoxole, sulphanilamide, sulfaphenazol, sulfapyridine) reported as LOQ).
Levels of action		<ul style="list-style-type: none"> • MRL or presence 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture products, Bovines, Horses, Pigs, Poultry, Sheep/goats: muscle • Eggs, Honey, Milk (cows, sheep, goats) 	<ul style="list-style-type: none"> • No control for Rabbits
Other remarks		/	/

B1 (Tetracyclines)	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> • Tetracyclines: 4 substances including only the 4-epichlortetracycline: compliant 	<ul style="list-style-type: none"> • To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of tetracyclines at their MRL level

Methods	Screening	• Microbiological test and Tetrasensor: compliant	/
	Confirmatory	• LC-MS/MS: compliant	/
Limits	CC β (screening)	• Compliant	/
	CC α (confirmatory)	• Compliant	/
Levels of action		• Compliant	/
Species/ matrices		• Compliant except farmed game	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• <i>Florfenicol, florfenicol amine, rifaximin, valnemulin</i>	<ul style="list-style-type: none"> No control for phenicols in Bovines, Horses, Poultry, Rabbits and Sheep/goats No control for <i>rifaximin</i> in Farmed game
Methods	Screening	<ul style="list-style-type: none"> Microbiological test for <i>rifaximin</i>: compliant LC-MS/MS for phenicols: compliant 	• To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	• LC-MS/MS: compliant	/
Limits	CC β (screening)	<ul style="list-style-type: none"> CCβ for <i>rifaximin</i> only for Milk CCβ for phenicols: compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> CCα for phenicols too low: non-compliant CCα for <i>rifaximin</i> "not available": non-compliant 	/
Levels of action		• Presence or MRL	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Bovines, Farmed game, Horses, Pigs, Poultry, Rabbits, Sheep/goat: muscle Milk 	• No control for Eggs and Honey
Other remarks		/	/

2.26.9 Group B2a – Antihelminthics

B2a	Evaluation	Recommendations
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Analytes		7 avermectines, 7 benzimidazoles and others are analysed, radoxanide, closantel, nitroxinil are not covered; 9 out of 12 minimum requirements fulfilled	
		Aquaculture: 6 avermectines, 6 benzimidazoles and levamisole Bovine: 7 avermectines, 6 benzimidazoles and levamisole Eggs: no avermectines, Lufenuron Farmed game: same as for bovine Horse: same as for bovine Milk: same as for bovine Pig: same as for bovine Poultry: same as for bovine Rabbit: same as for bovine Sheep/goat: same as for bovine Wild game: no avermectines	
Methods	Screening	no screening test	
	Confirmatory	HPLC-FLU (avermectines), LC-MS/MS for benzimidazoles and levamisole	
Limits	CC β (screening)	No data	
	CC α (confirmatory)	Mixture of LOQ and CC α , given values for CC α are compliant	
Levels of action		Presence or MRL, emamectin and eprinomectin has an MRL for aquaculture	Adoption of level of action
Species/matrices		All relevant matrices including aquaculture are investigated for avermectines	
Other remarks			

2.26.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		18 anticoccidials: 7 chemical anticoccidials, 6 ionophores and 5 nitroimidazoles in all investigated species/matrices	
Methods	Screening	LC-MS/MS, LC/DAD	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant	
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for all analytes, e.g: MRL for lasalocid in poultry liver is 300 $\mu\text{g}/\text{kg}$ and CCα = 63.1 $\mu\text{g}/\text{kg}$. For decoquinate in poultry liver MRL = 1000 $\mu\text{g}/\text{kg}$ and CCα = 24,6 $\mu\text{g}/\text{kg}$. 	CC α should be > MRL or ML. CC α should be < CC α max

		<ul style="list-style-type: none"> MRL CCα should be > MRL or ML. 	
Levels of action		MRL, presence and MLs	Review the MRL and ML values
Species/matrices		Minimum requirements are fulfilled, poultry, egg, sheep/goat and pig are analysed for ionophores and chemical anticoccidials.	
Other remarks		CC α should be > MRL or ML	

2.26.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Almost compliant minimum required: haloperidol is missing Additional: azaperon, azaperol, carazolol 	Include haloperidol and xylazine
Methods	Screening	<ul style="list-style-type: none"> HPLC-FLD Chlorpromazine: HPLC-UV 	
	Confirmatory	<ul style="list-style-type: none"> Acepromazine, propiopromazine: HPLC-DAD Chlorpromazine: LC-MS/MS Azaperone, azaperol, carazolol: HPLC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, poultry, farmed game Matrices: kidney Additional: urine, milk (raw), eggs 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.26.12 Group B2e – NSAIDs

B2e	Description	Comments
Analytes	<ul style="list-style-type: none"> 14 analytes (milk: 14) Minimum requirements partly covered 	

		<ul style="list-style-type: none"> No analysis of IP and NP in milk and tissue No analysis of MAA in tissue Some recommended analytes are included 	
Methods	Screening	No screening, except for MAA in milk (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Compliant for MAA in milk	
	CC α (confirmatory)	<ul style="list-style-type: none"> Not compliant for recommended concentrations in plasma and milk (PBZ, OPZ): CCα should be below the recommended concentrations Not compliant for DC (CCα 2.0 μg/kg \leftrightarrow CCα max: 0.22 μg/kg) and MAA in milk (CCα should be above the MRL) 	
Levels of action		presence / MRL	
Species/matrices		<ul style="list-style-type: none"> recommendations fulfilled (Bovine, horse, pig, poultry, rabbit, sheep/goat – plasma; farmed game, horse - muscle; milk) Only plasma for some important species: e.g. bovine, poultry 	
Other remarks		Minor changes compared to 2017.	

2.26.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox: compliant Olaquinox: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> No screening 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC-FLD only in pigs liver 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> LOQ non-compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/
Species/ matrices		<ul style="list-style-type: none"> pigs: compliant 	/
Other remarks		/	/

2.26.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs, horses. Not included: sheep/goats, poultry, aquaculture, farmed game/rabbit. Additional: Prednisolone. 	Include more recommended analytes such as betamethasone, flumethasone, etc.
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Probably compliant, but no MRL concentration is noted. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Same comment as CCβ. 	
Levels of action		<ul style="list-style-type: none"> 'MRL' without concentration. 	Note clear MRL concentrations.
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, horses, but only a few samples. Matrix compliant: liver. 	Include at least sheep/goats. Include more samples for all species.
Other remarks			

2.26.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Pb, Cd and Hg	Cu should be included (396/2005 and amendments) Hg is only analysed in fish (1881/2006 and amendments), should be analysed in other species/matrices as well (396/2005 and amendments)
Methods	Screening	No screening methods	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies mostly with regulation, but not provided for all samples. The limit for Pb in meat muscle is too high to comply with 333/2007 (requirement 0,02 mg/kg)	MS should provide LOQs for all samples and use a method with low enough limits for Pb in meat
Levels of action		Mostly consistent with regulation, but not state for all samples	Not stated for all samples Note ML for Cd in muscle meat is 0,050 mg/kg, not 0,005, 0,02 or 0,01 mg/kg as stated

Species/matrices	Relevant species/matrices are included	
Other remarks		

2.26.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, ochratoxin A 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> LC-FLD 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> N/A 	
Levels of action		<ul style="list-style-type: none"> Presence Aflatoxin M1: ML 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture Matrices: milk, kidney, muscle 	
Other remarks		<ul style="list-style-type: none"> Aflatoxin M1: LoQ 0.015 $\mu\text{g}/\text{kg}$ 	

2.26.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Cristal Violet and Cristal Violet-Leuco: compliant Malachite Green and Malachite Green-Leuco: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> No screening 	/
	Confirmatory	<ul style="list-style-type: none"> HPLC-DAD +FLD compliant 	/
Limits	CC β (screening)	/	/
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/

Species/ matrices	• Aquaculture : compliant	/
Other remarks	/	/

2.27 Member State: Slovakia (SK)

Substance sub-group	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzenestrol	
	Level of Action		LoA clearly stated in concentrations
A2	Analytes	Include 6-propyl-2-thiouracil, mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4	Level of Action	For level of action a value should be stated	
A5	Analytes		
	Limits		
A6 – nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/matrices	<ul style="list-style-type: none"> Chloramphenicol compliant Nitrofuranes: compliant Dapsone: Non-compliant 	<ul style="list-style-type: none"> For Dapsone: no porcine, poultry, horses, rabbit, sheep/goats
B1- Aminoglycosides	Analytes	<ul style="list-style-type: none"> 6 analytes out of 8: compliant 	<ul style="list-style-type: none"> No control for apramycin, paromomycin
	Species/matrices	<ul style="list-style-type: none"> Screening tests only for dihydrostreptomycin and streptomycin 	<ul style="list-style-type: none"> No control for Aquaculture products, Eggs, Horses
	Methods/Limits		<ul style="list-style-type: none"> No CCβ data for dihydrostreptomycin and streptomycin for Bovine muscle: non-compliant
B1 – Betalactams	Analytes	<ul style="list-style-type: none"> Scope of monitoring of beta-lactam control in milk has to be extended at least to the 7 penicillins and 8 cephalosporins having an MRL set in milk Scope of monitoring of beta-lactam control in eggs has to be extended at least to the 8 penicillins with 7 being non-authorized in laying hens and 1 (Pen-V) with MRL set at 25 μg/kg in Eggs 	<ul style="list-style-type: none"> Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in meat tissues and in milk

		<ul style="list-style-type: none"> • Scope of monitoring of beta-lactam control in Muscle has to be extended at least to the regulatory 7 penicillins and 4 cephalosporins having an MRL set in Muscle 	<ul style="list-style-type: none"> • Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
	Methods/Limits	<ul style="list-style-type: none"> • Some CCβ for Charm II test are actually too high and above MRL for Amoxicillin and Ampicillin in Ovine muscle; to be updated accordingly. • Some CCβ for Charm II test are missing like for Amoxicillin and Ampicillin in Bovine muscle. To be updated accordingly. 	<ul style="list-style-type: none"> • Remark : The claimed screening method by Charm II Test displays certain CCβ values assimilated to the method's LODs = MRL (?), which does not always match together; therefore, it should be updated the CCbeta values to be lower than the MRL
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> • Extension of the scope of the method to 3-O-acetyltylosin, neospiramycin ?, pirlimycin, tildipirosin and tylvalosin • Extension of the scope of the method to eggs and milk • 	/
	Species/matrices	<ul style="list-style-type: none"> • Compliant 	/
	Methods/Limits	<ul style="list-style-type: none"> • 	No screening meaning all samples tested in confirmatory way?
B1 – Quinolones	Analytes		<ul style="list-style-type: none"> • No control for <i>ciprofloxacin</i> (except in Honey). Was accounted with <i>enrofloxacin</i> in other Species/ matrices? • Control for ciprofloxacin, danofloxacin, difloxacin, sarafloxacin only in Honey
	Species/matrices		<ul style="list-style-type: none"> • Controls in Eggs, Horses, Milk are missing
	Methods/Limits	<ul style="list-style-type: none"> • No screening test: compliant? 	<ul style="list-style-type: none"> • No screening meaning all samples tested in confirmatory way?

B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> 15 analytes controlled on all the Species/matrices To extend the scope to other sulfonamides: at least to Minimum required (sulfachloropyrazine, sulfamethazine, sulfamethizol), Recommended (sulfamoxole, sulphanilamide), Optional (sulfabenzamide, sulfaclozine, sulfaethoxyypyridazine, sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazole, sufisomidine) 	
	Species/matrices	<ul style="list-style-type: none"> No control for Horses 	
	Methods/Limits	<ul style="list-style-type: none"> CCβ to be reported in the file: no data for Bovines, Farmed game and Rabbit Muscle. For Bovines, only for feed. Half of the substances in Milk have CCα higher than 140 μg/kg which is quite high (precision > 40%). 	CC β : it would be advisable more accurate validated data for Eggs, Milk and Muscle (not only to be written down CC β < 100 μ g/kg), especially for Eggs for which CC α are very low.
B1- Tetracyclines		<ul style="list-style-type: none"> Compliant in all aspects 	/
B1 – Other Antibiotics	Analytes	<ul style="list-style-type: none"> Florfenicol, thiamphenicol, tiamulin, trimethoprim, "antibacterials" 	
	Species/matrices		<ul style="list-style-type: none"> No control for Eggs, Farmed game, Honey
	Methods/Limits	<ul style="list-style-type: none"> No data provided ("CCβ screening \leqMRL"): non-compliant 	To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
B2a	Analytes	Adoption of CC α to MRLs	
	Limits		
B2b	Analytes		
	Limits	Review the value of MRL and /or ML Include CC β values for screening Review CC α values for confirmatory. CC α should be > MRL or ML	
B2d	Analytes	Include haloperidol, chlorpromazine and azaperol	
B2e	Analytes	Consider MAA in the analysis to complete the minimum requirements.	
	Limits		
	Matrices		

B2f - antimicrobials	Analytes	Non-compliant	<ul style="list-style-type: none"> No metabolites controlled in meat and only parent compounds in feed are tested
B2f - corticosteroids		-	<ul style="list-style-type: none">
B3c	Analytes		Good to see that As and other elements are included
	Methods		
	Limits		
	Levels of action		Note MRL for Hg in kidney and liver is 0,02 mg/kg not 0,01 mg/kg
	Species /matrices		
B3d		-	
B3e	Analytes	Compliant	/
	Other remarks		

2.27.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (ELISA) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Compliant 	
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices Matrices: urine/muscle 	For poultry feces/liver is preferable
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For aquaculture : not mentioned	

	For farmed game: rabbit(/other)	
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2.27.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Minimum required: 6-propyl-2-thiouracil is missing Additional: 5-propyl-2-thiouracil 	Include 6-propyl-2-thiouracil, mercapto-benzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> GC-MS 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 10 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, farmed game, poultry, rabbit Matrices: urine Additional: muscle 	If possible try to analyse thyroid instead of muscle
Other remarks			

2.27.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant: bovines, pigs. Non-compliant: sheep/goats (only included nandrolone, trenbolone, gestagens, progesterone-17-Alpha-Hydroxy), Horses, poultry, farmed game/rabbit (optional) (included nandrolone, trenbolone), Aquaculture (included nandrolone, ethinylestradiol, methyltestosterone) Additional: Progesterone-17-Alpha-Hydroxy, Stanozolol-3-Hydroxy. 	Include the missing minimum required analytes.
Methods	Screening	<ul style="list-style-type: none"> ELISA or no screening test. 	
	Confirmatory	<ul style="list-style-type: none"> GC-MS, LC-MSMS. 	

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant (only for methyltestosterone it is just 0.05 above RC). 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant (or under development, in process of validation). 	
Levels of action		<ul style="list-style-type: none"> Noted in very clear concentrations with even the differentiation for testosterone. Probably one mistake in the file for ethinylestradiol in urine of bovines. 	
Species/matrices		<ul style="list-style-type: none"> All species are included but sometime with very few samples and/or analytes. 	
Other remarks			

2.27.4 Group A4 – Resorcylic acid lactones

A4 - SK		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant Zearalanone included 	
Methods	Screening	<ul style="list-style-type: none"> Compliant (ELISA) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (GC-MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Can be present due to feed contamination with fusarium toxins. Discrimination possible on the basis of RAL profiles'. 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/muscle 	
Other remarks		Subspecies tested: For bovines/pigs/sheep/goat/poultry subspecies are specified For farmed game: rabbits(/other)	

2.27.5 Group A5 – Beta-agonists

A5	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> • 11 analytes are covered in all relevant matrices • Minimum requirements covered • 5 recommended added 	
Methods	Screening	No screening tests	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	No values	
	CC α (confirmatory)	Compliant	
Levels of action		Presence (compliant)	
Species/matrices		All relevant analyte/matrix combinations are covered, maybe in future lung in addition to or instead of liver	
Other remarks			

2.27.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	compliant	
Levels of action		presence	
Species/matrices		recommendations fulfilled	
Other remarks			

2.27.7 Group A6 – Antimicrobial compounds

A6	Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes	<ul style="list-style-type: none"> • Chloramphenicol: compliant 	/

		<ul style="list-style-type: none"> • 4 Nitrofurans metabolites: compliant • Dapsone: compliant 	
Methods	Screening	<ul style="list-style-type: none"> • Chloramphenicol: ELISA and CHARM II compliant • Nitrofurans: no screening • Dapsone: no screening 	/
	Confirmatory	<ul style="list-style-type: none"> • Chloramphenicol: LC-MS/MS compliant • Nitrofurans: LC-MS/MS compliant • Dapsone: LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: / • Dapsone: / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: compliant • Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Chloramphenicol: compliant • Nitrofurans: : compliant • Dapsone: non-compliant 	<ul style="list-style-type: none"> • Dapsone: no control for porcine, poultry, horses, rabbit, sheep/goats
Other remarks		/	/

2.27.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • 6 analytes out of 8: compliant 	<ul style="list-style-type: none"> • No control for <i>apramycin</i>, <i>paromomycin</i>
Methods	Screening	<ul style="list-style-type: none"> • Screening tests only for <i>dihydrostreptomycin</i> and <i>streptomycin</i> • CHARM II for Honey: compliant • CHARM II or ELISA for Milk: compliant • ELISA for muscles: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No CCβ data for <i>dihydrostreptomycin</i> and <i>streptomycin</i> for Bovine muscle: non-compliant
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Farmed game, Pigs, Poultry, Rabbits, Sheep/goats: muscle Honey, Milk 	<ul style="list-style-type: none"> No control for Aquaculture products, Eggs, Horses
Other remarks		/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Beta-lactams: 3 penicillins and 5 cephalosporins in Milk 2 penicillins and 4 cephalosporins in Muscle 1 penicillin and 4 cephalosporins in Eggs 	<ul style="list-style-type: none"> Scope of monitoring of beta-lactam control in milk has to be extended at least to the 7 penicillins and 8 cephalosporins having an MRL set in milk Scope of monitoring of beta-lactam control in eggs has to be extended at least to the 8 penicillins with 7 being non-authorized in laying hens and 1 (Pen-V) with MRL set at 25 $\mu\text{g}/\text{kg}$ in Eggs Scope of monitoring of beta-lactam control in Muscle has to be extended at least to the regulatory 7 penicillins and 4 cephalosporins having an MRL set in Muscle Remark: It is not detailed whether des-furoylceftiofur is also controlled together with the ceftiofur in meat tissues and in milk Remark: It is not detailed whether desacetylcephapirin is also controlled together with the cefapirin in milk
Methods	Screening	<ul style="list-style-type: none"> Milk is monitored by Delvotest MCS for 3 penicillins and by Charm II test for 5 cephalosporins. 	/

		<ul style="list-style-type: none"> Muscles (bovines, pigs, poultry, rabbit, sheep/goats) are monitored with a semi-specific (Charm II test) screening method. Eggs are monitored with a combination of specific HPLC screening method and a semi-specific (Charm II test) screening method for penicillins or Charm II test only for cephalosporins. 	
	Confirmatory	<ul style="list-style-type: none"> LC-MSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Often CCβ = LOD = MRL, 	<ul style="list-style-type: none"> Remark : The screening method claimed by Charm II Test \Leftrightarrow CCβ values assimilated to the method's LODs = MRL (?), which does not always match together; therefore, it should updated the CCbeta values to be lower than the MRL Some CCβ are actually too high and above MRL; to be updated accordingly. Some CCβ for Charm II test are missing like for Amoxicillin and Ampicillin in Bovine muscle. To be updated accordingly
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		/	/
Species/ matrices		<ul style="list-style-type: none"> 7 out of 11 species/ matrices monitored 	<ul style="list-style-type: none"> Control is missing for Aquaculture, Farmed game, and Horses
Other remarks		/	Control of beta-lactams for honey is optional according to EU-RL recommendations and not carried out in this EU-MS

B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Erythromycin, gamithromycin, lincomycin, spiramycin, tilmicosin, tulathromycin and tylosin 	<ul style="list-style-type: none"> No control for 3-O-acetyltylosin, neospiramycin ?, pirlimycin, tildipirosin and tylvalosin
Methods	Screening	<ul style="list-style-type: none"> No screening, direct confirmation 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/

Limits	CC β (screening)	/ no object	/
	CC α (confirmatory)	• Compliant	/
Levels of action		• MRL or “-“	• No MRL for spiramycin in farmed games
Species/ matrices		• Compliant except for milk and eggs	• No control in eggs, horses muscle and milk
Other remarks		/	/

B1 (Quinolones)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		• The 8 recommended substances and <i>nalixidic acid, norfloxacin</i> : compliant	<ul style="list-style-type: none"> • No control for <i>ciprofloxacin</i> (except in Honey). Was accounted with <i>enrofloxacin</i> in other Species/ matrices? • Control for ciprofloxacin, danofloxacin, difloxacin, sarafloxacin only in Honey
Methods	Screening	• No screening test: compliant?	/
	Confirmatory	• LC-MS/MS: compliant	/
Limits	CC β (screening)	• No CC β : compliant?	/
	CC α (confirmatory)	• Compliant	/
Levels of action		• Presence or MRL: compliant	/
Species/ matrices		• Aquaculture, Bovine, Farmed Game, Pigs, Poultry, Rabbit, Sheep/goats: muscle	• Except Eggs, Horses, Milk are missing
Other remarks		/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Sulfonamides: 15 analytes: compliant • The 15 analytes are controlled on all the Species/matrices: compliant 	<ul style="list-style-type: none"> • No control for sulfachloropyrazine, sulfamethazine, sulfamethizol, sulfamoxole, sulphanilamide, sulfabenzamide, sulfaclozine, sulfaethoxypridazine,

			sulfanitran, sulfaphenazole, sulfasalazine, sulfatroxazole, sulfisomidine: non-compliant
Methods	Screening	<ul style="list-style-type: none"> CHARM II for Honey: compliant CHARM and/or HPLC (unspecified) for other species/ matrices: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> It would be advisable to have more accurate data for Eggs, Milk and Muscle (not only <100 $\mu\text{g}/\text{kg}$), especially for Eggs for which CCα are very low. 	<ul style="list-style-type: none"> CCβ: no data for Bovines, Farmed game and Rabbit Muscle. For Bovines, only for feed
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant. 	<ul style="list-style-type: none"> Half of the molecules in Milk have CCα higher than 140 $\mu\text{g}/\text{kg}$ which is quite high in regard to MRL
Levels of action		<ul style="list-style-type: none"> MRL when exist 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture products, Farmed game, Pigs, Rabbits, Sheep/goats (ewes): muscle Bovines, Poultry: muscle and feed Eggs, Honey, Milk 	<ul style="list-style-type: none"> No control for Horses
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Tetracyclines: 4 substances including the 3 kind of 4-epimers: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> CHARMII: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Compliant 	/
Other remarks		/	/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Other B1: florfenicol, thiamphenicol, tiamulin, trimethoprim, antibacterials 	/

Methods	Screening	<ul style="list-style-type: none"> STAR+PREMI TEST for "antibacterials": compliant No screening for the other analytes 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of antibacterials at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> No data provided ("CCβ≤MRL"): non-compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Data provided only for Aquaculture products (<i>florfenicol</i>, <i>thiamphenicol</i>), Bovines and Sheeps/goats (<i>florfenicol</i>, <i>thiamphenicol</i>, <i>trimethoprim</i>), Pigs, (<i>florfenicol</i>, <i>thiamphenicol</i>, <i>tiamulin</i>, <i>trimethoprim</i>), Poultry and Rabbit (<i>tiamulin</i>, <i>trimethoprim</i>), Milk (<i>trimethoprim</i>): compliant. 	/
Levels of action		<ul style="list-style-type: none"> MRL or "depending on substances" 	/
Species/ matrices		<ul style="list-style-type: none"> Bovines, Pigs, Sheep/goat: muscle, liver and kidney Aquaculture, Horses, Poultry, Rabbits: muscle and kidney Milk 	<ul style="list-style-type: none"> No control for Eggs, Farmed game, Honey
Other remarks		/	/

2.27.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>6 avermectines, 5 benzimidazoles and others are analysed; 12 out of 12 minimum requirements fulfilled, but method for closantel, nitroxinil, rafoxanide in development</p> <p>Aquaculture: 6 avermectines, 5 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide in development</p> <p>Bovine: 5 avermectines, 5 benzimidazoles, levamisole, closantel, nitroxinil, rafoxanide</p> <p>Eggs: no B2a compounds</p> <p>Farmed game: same as for bovine,</p> <p>Horse: same as for bovine</p> <p>Milk: same as for bovine</p> <p>Pig: same as for bovine</p> <p>Poultry: same as for bovine</p> <p>Rabbit: same as for bovine</p> <p>Sheep/goat: same as for bovine</p>	

Methods	Screening	HPLC-FLU (avermectines), no screening method for benzimidazoles and other compounds	
	Confirmatory	HPLC-FLU for avermectines, LC-MS/MS for benzimidazoles and others	
Limits	CC β (screening)	Compliant for avermectines, no values for benzimidazoles and others	
	CC α (confirmatory)	Not compliant for all, e.g CC α eprinomectin in aquaculture = 121 μ g/kg, MRL: 50 μ g/kg \Rightarrow CC α > CC α_{\max}	
Levels of action		Presence or MRL, no specifications for compounds without MRL	Establishment of data for analytes without MRL
Species/matrices		Benzimidazoles and avermectines are analysed in relevant matrices	
Other remarks			

2.27.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		6 chemical anticoccidials, 6 ionophores, ipronidazole and hydroxyipronidazole	
Methods	Screening	GC-MS for nitroimidazoles; no screening	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	n/a. cannot be evaluated	Include values for CC β
	CC α (confirmatory)	Not compliant for all analytes, e.g. diclazuril in poultry muscle, MRL = 500 μ g/kg and CC α = 2.6 μ g/kg. CC α should be > MRL or ML. For robenidine in poultry muscle MRL = 200 μ g/kg and CC α = 2.5 μ g/kg	Same remarks as 2017 CC α should be > MRL or ML
Levels of action		<ul style="list-style-type: none"> MRL, ML MRL for salinomycin in poultry muscle = 5 μg/kg and not 2 μg/kg 	Correct the value of MRL and /or ML
Species/matrices		Minimum requirements are fulfilled, poultry, egg, sheep/goat and pig are analysed for ionophores and chemical anticoccidials.	
Other remarks			

2.27.11 Group B2d – Tranquilisers

B2d	Evaluation	Recommendations
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Analytes		<ul style="list-style-type: none"> Non-compliant minimum required: haloperidol and chlorpromazine are missing 	Include haloperidol, chlorpromazine and azaperol
Methods	Screening	<ul style="list-style-type: none"> No screening method 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> N/A 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Acepromazine, propiopromazine: presence Azaperone in pigs: MRL 100 μg/kg Carazolol in pigs: 25 μg/kg Carazolol in bovines: 15 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Matrices: kidney 	
Other remarks			

2.27.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 13 analytes (milk 13) Minimum requirements completely fulfilled, except MAA Some recommended analytes are covered. 	
Methods	Screening	No screening	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	N/A	
	CC α (confirmatory)	Compliant, except for DC in milk: CC α above CC α max (CC α 1.0 μ g/kg \leftrightarrow CC α max: 0.22 μ g/kg)	
Levels of action		presence / MRL / RC / not required	
Species/matrices		recommendations fulfilled	
Other remarks		No further remarks	

2.27.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Carbadox: compliant in feed • Olaquinox : compliant in feed 	<ul style="list-style-type: none"> • No metabolites are controlled in any pig, poultry meat
Methods	Screening	<ul style="list-style-type: none"> • No screening 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • CCalpha at 24μg/kg in Feed. Compliant? 	/
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/ matrices		/	<ul style="list-style-type: none"> • Non compliant as only feed is controlled for pig and poultry
Other remarks		/	/

2.27.14 Group B2f – Corticosteroids

B2f		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> • Compliant: bovines, pigs, horses, farmed game, rabbit. • Not included: sheep/goats, poultry. • Additional: Betamethasone, Flumethasone. 	Include more recommended analytes for all species.
Methods	Screening	<ul style="list-style-type: none"> • ELISA. 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant for dexamethasone. 'Under development' for the additional analytes. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • 'In process of validation' for dexamethasone. 'Under development' for the additional analytes. 	
Levels of action		<ul style="list-style-type: none"> • Dexamethason: 'Presence. MRL when there has been authorised treatment 0.75 μg/kg'. • Additional: 'MRL 0.75 μg/kg'. 	
Species/matrices		<ul style="list-style-type: none"> • Included: bovines, pigs, horses, farmed game/rabbit (optional), but with a little number of samples. • Matrix included compliant: muscle. 	Include also sheep/goats. Include more samples.

Other remarks		
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2.27.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Pb, Cd, Hg and Cu; As, Ni, Se, Sb, B, Cr and Ag	Good to see that As and other elements are included
Methods	Screening	ICPMS, AAS	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Complies with regulation	
Levels of action		Overall consistent with regulations	Note MRL for Hg in kidney and liver is 0,02 mg/kg not 0,01 mg/kg
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.27.16 Group B3d – Mycotoxins

B3d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, ochratoxin A, zearalenone 	
Methods	Screening	<ul style="list-style-type: none"> HPLC, ELISA, AAS 	
	Confirmatory	<ul style="list-style-type: none"> HPLC, GC-MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Aflatoxin M1: non-compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Aflatoxin M1: non-compliant 	
Levels of action		<ul style="list-style-type: none"> Aflatoxin M1: 0.05 μg/kg (MRL) 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: aquaculture Matrices: milk, liver, muscle, urine, feed 	
Other remarks		<ul style="list-style-type: none"> Zearalenone can be present due to feed contamination with fusarium 	

2.27.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Brilliant Green: compliant • Cristal Violet: compliant • Cristal Violet-Leuco: compliant • Malachite Green: compliant • Malachite Green-Leuco: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • No screening 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • / 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • compliant 	/
Levels of action		<ul style="list-style-type: none"> • compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Aquaculture : compliant 	/
Other remarks		/	/

2.28 Member State: United Kingdom (UK)

Substance sub-group	Category	Recommendations from EURLs	Remarks
A1	Analytes	Include benzestrol	
A2	Analytes	Include mercaptobenzimidazole, benzylthiouracil	
A3		-	
A4		-	
A5	Analytes		
	Limits		
A6 - nitroimidazoles	Analytes		
	Limits		
A6 - other	Species/matrices	<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: : non-compliant only bovines pigs poultry compliant <p>Dapsone: non-compliant</p>	<ul style="list-style-type: none"> No Farmed Game and Rabbit No Aquaculture, Eggs, Farmed Game, Honey, Horses, Rabbit and Sheep/Goats No Aquaculture, Farmed Game, Horses, Milk, Rabbit
B1 - Aminoglycosides	Analytes	<ul style="list-style-type: none"> Compliant 	
	Species/matrices	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control for Aquaculture products, Horses, Rabbits
	Methods/Limits	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening Methods/Limits do not allow to detect most of aminoglycosides at their MRL level <p>CCα is too low for gentamicin and paromomycin in Sheep/goats kidney, for neomycin in Bovines, Farmed game, Pigs kidney, for</p>

			paromomycin in Poultry muscle (CC α to be must > MRL)
B1 – Betalac-tams	Analytes	<ul style="list-style-type: none"> Cefquinome and ceftiofur-desfuroylceftiofur control is missing in Horses 	<ul style="list-style-type: none"> Remark: Only Kidney is monitored for B, FG, P, E, and OC species. Muscle control would be suitable when Kidney cannot be sampled. Remark: Extending cephalosporin control for all relevant substances in accordance to any cascade use would be useful. Remark: It is not detailed whether desfuroylceftiofur is also controlled together with the ceftiofur in all meat tissues and in milk
B1 – Macrolides and lincosamides	Analytes	<ul style="list-style-type: none"> Compliant 	
	Species/matrices	<ul style="list-style-type: none"> Compliant 	
	Methods/Limits	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all macrolides at their MRL level Pay attention to the reporting of CCbeta screening and CCalpha confirmation
B1 – Quinolones	Species/matrices	<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed Game, Pigs, Sheep/goats: kidney only 	<ul style="list-style-type: none"> Except Honey, Horses, Rabbits
	Methods/Limits	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of quinolones at their MRL level 	<ul style="list-style-type: none"> CCα too high for ciprofloxacin (except in Milk)
B1 - Sulfonamides	Analytes	<ul style="list-style-type: none"> 22 analytes controlled; 13 analytes are controlled on all Species/ matrices. To extend the scope to other sulfonamides: at least to Minimum required (sulfacholoropyrazine), Optional (sulfaclozine, sulfaethoxypridazine, sulfabitrans, sulfaphenazole, sulfasalazine) 	
	Species/matrices	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> No control for Rabbits

	Meth-ods/Limits	<ul style="list-style-type: none"> Revise CCα for Aquaculture products and Milk (CCα must be > MRL, not = MRL): non-compliant 	
B1- Tetracy-clines	Analytes	<ul style="list-style-type: none"> Compliant 	• /
B1 - other	Species/ matrices	<ul style="list-style-type: none"> No control for Farmed game and Rabbits 	
	Meth-ods/Limits	<ul style="list-style-type: none"> CCα: no data for <i>florfenicol</i> and <i>tiamulin</i> in Pigs Except for Milk, CCα level for <i>thiamphenicol</i> is too low (the CCα must be higher than the MRL) 	
B2a	Analytes		
	Limits	Adoption of CC β to MRLs, CC α Eprinomectin in fin fish to new MRL (50 μ g/kg)	
B2b	Analytes		
	Limits		
B2d	Analytes	Include haloperidol and xylazine (in kidney)	
B2e	Analytes	Consider TFA and CPF in milk to complete the minimum requirements.	
	Limits		
	Matrices		
B2f - antimicro-bials	Analytes	Compliant	/
B2f - corticoster-oids		-	
B3c	Analytes	Include Hg (1881/2006 and amendments, 396/2005 and amendments) and Cu (396/2005 and amendments)	
	Methods		
	Limits	Limit for Pb in honey is too high (requirement 0,02 mg/kg according to 333/2007). Use method for Pb in honey with compliant limit	
	Levels of action		
	Species /matrices		
B3d	Analytes	Include zearalenone	
	Species/ matrices	Include bovines, horses, poultry	
B3e	Analytes	Compliant	/
	Other re-marks		

2.28.1 Group A1 – Stilbenes

A1		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant for both minimal required and optional species tested 	Include benzestrol
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> 'Presence' 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant for both minimal required and optional species/matrices tested Matrices: urine/liver Extra matrix: serum (poultry) 	
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: deer	

2.28.2 Group A2 – Thyrostats

A2		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required Additional: phenylthiouracil, 5-ethyl-2-thiouracil, 5-propyl-2-thiouracil 	Include mercaptobenzimidazole, benzylthiouracil
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Thiouracil: 30 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species 	

	<ul style="list-style-type: none"> • Additional: horses, farmed game • Matrices: urine • Additional: liver, kidney 	
Other remarks		

2.28.3 Group A3 – Steroids

A3		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> • Non-compliant: pigs, sheep/goats (estradiol), horses (only included boldenone, nandrolone, methyltestosterone, stanozolol, 16β-hydroxystanozolol), • Poultry, farmed game (optional) (included trenbolone), aquaculture (included methyltestosterone). • Additional: Allyltrenbolone (Altrenogest), Boldenone Methyl (Dianabol, Methandienon, Methandrostenolone, Testosterone dihydromethyl, Boldione, Delmadinone acetate, Ethisterone (Ethinytestosterone), Flugestone-17-Acetate, Methenolone, Norethandrolon, Norgestrel, Progesterone, Stanozolol-3-Hydroxy. 	Include the missing minimum required analytes.
Methods	Screening	<ul style="list-style-type: none"> • DELFIA, LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant if known, except for methyltestosterone in aquaculture (twice the RC). 	
	CC α (confirmatory)	<ul style="list-style-type: none"> • Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> • Mostly noted as 'presence' even when there is no limit, sometimes noted as a clear concentration. No differentiation for testosterone. 	Note all LoA in clear concentrations and differentiate for testosterone.
Species/matrices		<ul style="list-style-type: none"> • All species are present, but for horses only 2 samples per method and for aquaculture and farmed game (optional) only one method. • Matrices mostly compliant except for testosterone for some species and trenbolone in poultry. • Included matrices: feed, kidney fat, liver, muscle+skin (fish), serum, urine. 	Include more samples for horses.
Other remarks			

2.28.4 Group A4 – Resorcylic acid lactones

A4 - UK		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	Include zearalanone
Methods	Screening	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
	Confirmatory	<ul style="list-style-type: none"> Compliant (LC-MS/MS) 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant (serum “not known”) 	
Levels of action		<ul style="list-style-type: none"> ‘Presence’ 	State regulatory value
Species/matrices		<ul style="list-style-type: none"> Compliant; replacement matrices used Matrices: urine/serum/liver 	
Other remarks		Subspecies tested: For poultry subspecies are specified For farmed game: deer	

2.28.5 Group A5 – Beta-agonists

A5		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 16 analytes are covered in all relevant matrices, meet requirements All minimum requirement covered 9 recommended covered 	
Methods	Screening	Biosensor, LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	Not compliant for any analyte For some analytes CC β above recommended concentrations, e.g. brombuterol, mapenterol, cimaterol, clenbuterol, clenpenterol, mabuterol, isoxuprine and tulobuterol in liver (bovine, pigs, poultry and sheeps/goats). For brombuterol, cimaterol, cimbuterol, clenbuterol, clenbuterol-hydroxymethyl, mabuterol, mapenterol, tulobuterol and zilpaterol in bovines urine.	CC β should be < RC
	CC α (confirmatory)	Not compliant for some analyte/matrix combinations. CC α should be < recommended concentrations, e.g. for clenbuterol, brombuterol, cimaterol, clenbuterol-hydroxymethyl, isoxuprine, mapenterol, tulobuterol and cimbuterol in urine and bovine liver.	

Levels of action	Presence, MRL (0.5 µg/kg)	Level of action should be set at “presence” and not at MRL
Species/matrices	All relevant analyte/matrix combinations are covered.	
Other remarks		

2.28.6 Group A6 – Nitroimidazoles

A6		Description	Comments
Analytes		minimum requirements fulfilled	
Methods	Screening	Biosensor, LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	
Limits	CC β (screening)	compliant	
	CC α (confirmatory)	compliant	
Levels of action		presence / MRPL	
Species/matrices		recommendations fulfilled	
Other remarks			

2.28.7 Group A6 – Antimicrobial compounds

A6		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Chloramphenicol: compliant 9 Nitrofurans including nifursol: compliant Dapsone: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Chloramphenicol: Biosensor and LC-MS/MS compliant Nitrofurans: LC-MS/MS compliant Dapsone: Delvotest-SP, HPTLC compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Chloramphenicol: LC-MS/MS or same as screening compliant Nitrofurans: same as screening compliant Dapsone: LC-MS/MS compliant 	/

Limits	CC β (screening)	<ul style="list-style-type: none"> Chloramphenicol: compliant (except for Feed 250 $\mu\text{g}/\text{kg}$?) Nitrofurans: compliant (250 $\mu\text{g}/\text{kg}$ in Feed?) Dapsone: compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant (higher than 100 $\mu\text{g}/\text{kg}$ in Feed?) Dapsone: compliant 	/
Levels of action		<ul style="list-style-type: none"> Chloramphenicol: compliant Nitrofurans: compliant Dapsone : compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Chloramphenicol: non-compliant Nitrofurans: : non-compliant only bovines pigs poultry compliant Dapsone: non-compliant 	<ul style="list-style-type: none"> No Farmed Game and Rabbit No Aquaculture, Eggs, Farmed Game, Honey, Horses, milk, Rabbit and Sheep/Goats No Aquaculture, Farmed Game, Horses, milk, Rabbit
Other remarks		/	/

2.28.8 Group B1 – Antimicrobial compounds

B1 (Aminoglycosides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS for Honey: compliant Six plate test for Eggs: compliant Five plate test or LC-MS/MS for Milk: compliant Six plate test or LC-MS/MS for other Species/ matrices: compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of aminoglycosides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα is too low for <i>gentamicin</i> and <i>paromomycin</i> in Sheep/goats kidney, for <i>neomycin</i> in Bovines, Farmed game, Pigs kidney, for <i>paromomycin</i> in Poultry muscle (CCα to be must > MRL)

Levels of action	<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices	<ul style="list-style-type: none"> • Bovines, Farmed game, Pigs, Sheep/goats: kidney • Poultry: muscle • Eggs, Honey, Milk (cows, sheep, goats) 	<ul style="list-style-type: none"> • No control for Aquaculture products, Horses, Rabbits
Other remarks	/	/

B1 (Beta-lactams)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Beta-lactams: 8 penicillins and 7 cephalosporins in Milk 8 penicillins and 6 cephalosporins in Eggs 8 penicillins and 7 cephalosporins in Poultry Muscle 8 penicillins and 4 cephalosporins in B, FG, P Kidney 8 penicillins and 5 cephalosporins in OC Kidney 8 penicillins in Equine Kidney 8 penicillins in Aquaculture and in Honey 	<ul style="list-style-type: none"> • Cefquinome and ceftiofur-desfuryleftiofur control is missing in Horses • Remark: Only Kidney is monitored for B, FG, P, E, and OC species. Muscle control would be suitable when Kidney cannot be sampled. • Remark: Extending cephalosporin control for all relevant substances in accordance to any cascade use would be useful. • Remark: It is not detailed whether desfuryleftiofur is also controlled together with the ceftiofur in all meat tissues and in milk
Methods	Screening	<ul style="list-style-type: none"> • Non-specific inhibitory method (6PT) [for poultry muscle and kidney (bovines, farmed game, pigs, sheep/goats) and for eggs] • Non-specific inhibitory method (5PT) [for milk] • Specific screening LC-MS/MS method [for aquaculture products, honey, kidney (bovines, farmed game, horses, pigs, sheep/goats), milk, poultry muscle and eggs]. 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MSMS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • Remark : Most of the CCbeta are estimated at the 1/2 MRL
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		/	/
Species/ matrices		<ul style="list-style-type: none"> • 10 out of 11 species/ matrices are monitored 	<ul style="list-style-type: none"> • No control for Rabbit

Other remarks	/	Control of beta-lactams for honey is optional according to EU-RL recommendations
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B1 (Macrolides-Lincosamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Compliant 	/
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS 6 plate test 5 plate test for milk 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect all macrolides at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCβ sometimes not known
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα for tylvalosin in eggs << MRL CCα cannot be equal to the MRL : e.g. lincomycin in poultry muscle
Levels of action		<ul style="list-style-type: none"> MRL or "presence" 	<ul style="list-style-type: none"> MRL for spiramycin in milk = 200 μg/kg MRL spiramycin in poultry = 200 μg/kg
Species/matrices		<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> No control in rabbit
Other remarks		/	/

B1 (Quinolones)		Evaluation	Recommendation
Analytes		<ul style="list-style-type: none"> The 8 recommended substances and <i>nalixidic acid, norfloxacin</i>: compliant 	/
Methods	Screening	<ul style="list-style-type: none"> Five Plate Screening Test for Milk: compliant Six-plate Test and LC-MS/MS for other Species/ matrices (except Sheep/goats): compliant Six plate test only for Sheep/goats: compliant 	<ul style="list-style-type: none"> To the EU-RL knowledge the performances of the non-specific screening methods do not allow to detect most of quinolones at their MRL level
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	<ul style="list-style-type: none"> CCα too high for ciprofloxacin (except in Milk)
Levels of action		<ul style="list-style-type: none"> Presence or MRL: compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture, Bovine, Farmed Game, Pigs, Sheep/goats: kidney 	<ul style="list-style-type: none"> Except Honey, Horses, Rabbits

	<ul style="list-style-type: none"> • Poultry: muscle • Eggs(hens, quails), Milk (cow, goat, sheep) 	
Other remarks	/	/

B1 (Sulfonamides)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • 22 analytes controlled • 13 analytes are controlled on all Species/ matrices: compliant 	<ul style="list-style-type: none"> • No control for sulfacholoropyrazine, sulfaclozine, sulfaethoxypyridazine, sulfabitan, sulfaphenazole, sulfasalazine
Methods	Screening	<ul style="list-style-type: none"> • HPTLC or LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα level too low for Aquaculture products and Milk (CCα must be > MRL, not = MRL): non-compliant
Levels of action		<ul style="list-style-type: none"> • MRL or presence 	/
Species/ matrices		<ul style="list-style-type: none"> • Bovines, Farmed game, Horses, Pigs, Sheep/goats: kidney • Aquaculture products, Poultry: muscle • Eggs (hens, quails), Honey, Milk (cows, sheep, goats) 	<ul style="list-style-type: none"> • No control for Rabbits
Other remarks		/	/

B1 (Tetracyclines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • Tetracyclines: 4 substances including the 3 kind of 4-epimers..compliant 	/
Methods	Screening	<ul style="list-style-type: none"> • LC-MS/MS, Five Plate Test, Six-plate Test: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • LC-MS/MS: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	/
Levels of action		<ul style="list-style-type: none"> • Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> • Compliant 	/
Other remarks			/

B1 (Other antibacterials)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> • <i>Florfenicol, rifamycin, thiamphenicol, tiamulin, virginiamycin M1 and S1</i> 	/
Methods	Screening	<ul style="list-style-type: none"> • Biosensor or LC-MS/MS for phenicols: compliant • LC-MS/MS for other substances: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> • UPLC-MS/MS for <i>florfenicol</i> in Bovines (kidney): compliant • LC-MS/MS for other substances: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> • Compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> • Compliant 	<ul style="list-style-type: none"> • CCα: no data for <i>florfenicol</i> and <i>tiamulin</i> in Pigs • Except for Milk, CCα level for <i>thiamphenicol</i> is too low (the CCα must be higher than the MRL)
Levels of action		<ul style="list-style-type: none"> • Presence or MRL 	/
Species/ matrices		<ul style="list-style-type: none"> • Horses, Pigs, Sheep/goat: kidney only • Bovines: kidney and Feed • Aquaculture, Poultry: muscle • Eggs, (hens, quails), Honey, Milk (cows, goats, sheeps) 	<ul style="list-style-type: none"> • No control for Farmed game, Rabbits
Other remarks		/	/

2.28.9 Group B2a – Antihelmintics

B2a	Evaluation	Recommendations
Analytes	<p>6 avermectines and 21 benzimidazoles and other; 12 out of 12 minimum requirements fulfilled, large analyte portfolio</p> <p>Aquaculture: 6 avermectines, 7 benzimidazoles, lufenuron Bovine: 6 avermectines, 7 benzimidazoles, clorsulon, closantel, derquantel, dicyclanil, levamisole, monepantel, morantel, niclosamide, nitroxinil, oxiclozanide, rafoxanide Eggs: no B2a compounds Farmed game: no avermectines, 7 benzimidazoles, clorsulon, derquantel, levamisole, monepantel</p>	

		Horse: 6 avermectines Milk same as for bovine Pig: same as for bovine Poultry: same as for bovine Rabbit: not analysed for B2a compounds Sheep/goat: same as for bovine	
Meth-ods	Screening	HPLC-FLU, LC-MS/MS	
	Confirmatory	HPLC-FLU, LC-MS/MS	
Limits	CC β (screening)	Not compliant for all, some values above MRL e.g. CC β closantel in bovine liver = 1076 $\mu\text{g}/\text{kg}$, MRL = 1000 $\mu\text{g}/\text{kg}$	
	CC α (confirmatory)	Compliant for almost all, exception: eprinomectin in finfish	
Levels of action		MRL or > CC α	
Species/matrices		Comprehensive portfolio, all relevant analyte/matrix combinations included	
Other remarks			

2.28.10 Group B2b – Coccidiostats

B2b		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> 16 anticoccidials : 6 ionophores, 8 chemical coccidiostats, hydroxyipronidazole and ipronidazole All minimum requirements included 	
Methods	Screening	Biosensor for ipronidazole, LC-MS/MS for ionophores and other chemical coccidiostats	
	Confirmatory	LC-MS/MS	
Limits	CC β (screening)	Compliant for most analytes, but e.g. MRL for diclazuril poultry liver = 50 $\mu\text{g}/\text{kg}$, while CC β is noted as = 1938 $\mu\text{g}/\text{kg}$. CC β should be < MRL or ML.	
	CC α (confirmatory)	Compliant for most analytes, but not all. E.g. MRL for lasalocid in poultry liver = 300 $\mu\text{g}/\text{kg}$ and CC α = 114,8 $\mu\text{g}/\text{kg}$. CC α should be > MRL or ML.	
Levels of action		MRL, MLs are not MRLs. All ML values indicated as MRLs	
Species/matrices		fulfilled	
Other remarks			

2.28.11 Group B2d – Tranquilisers

B2d		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Compliant minimum required for pigs Almost compliant minimum required for bovines, sheep/goats: haloperidol is missing Recommended: xylazine is missing (only in kidney) Additional: promazine 	Include haloperidol and xylazine (in kidney)
Methods	Screening	<ul style="list-style-type: none"> ELISA in kidney, LC-MS/MS in liver 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS in both kidney and liver 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Azaperone/azaperol in pigs: 100 μg/kg Carazolol in pigs: 25 μg/kg Carazolol in bovines: 15 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Compliant minimum required species Additional: horses, farmed game Matrices: kidney Additional: liver 	
Other remarks		<ul style="list-style-type: none"> Chlorpromazine in A6 	

2.28.12 Group B2e – NSAIDs

B2e		Description	Comments
Analytes		<ul style="list-style-type: none"> 15 analytes (milk: 7) Minimum requirements are covered, except for basic NSAIDs in milk/tissue TFA and CPF are not analysed in milk some recommended analytes are covered 	
Methods	Screening	LC-MS/MS (compliant)	
	Confirmatory	LC-MS/MS (compliant)	

Limits	CC β (screening)	In most cases compliant. Not compliant e.g. for CPF, FLU, DC, MLX, TFA in bovine/pig liver → CC β should be below the MRL	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant, except for: FLU-OH in milk (CCα should be lower CCα max) MLX in sheep/goat liver and kidney (CCα should be above the MRL) 	
Levels of action		presence / MRL / National level	
Species/matrices		recommendations fulfilled (liver (bovine, farmed game, pig, poultry, sheep/goat), kidney (bovine, farmed game, horse, pig, sheep/goat), milk)	
Other remarks		No further remarks	

2.28.13 Group B2f – Antimicrobial compounds

B2f (Quinoxalines)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Carbadox: compliant Olaquinox : compliant 	<ul style="list-style-type: none"> No metabolites recorded?
Methods	Screening	<ul style="list-style-type: none"> LC-MS/MS compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Same as screening LC-MS/MS only in pigs liver 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> compliant 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> compliant 	/
Levels of action		<ul style="list-style-type: none"> compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Pigs: compliant 	/
Other remarks		/	/

2.28.14 Group B2f – Corticosteroids

B2f	Evaluation	Recommendation
Analytes	<ul style="list-style-type: none"> Compliant: bovines, pigs, sheep/goats, horses. Not included: poultry, aquaculture, farmed game/rabbit. 	

		<ul style="list-style-type: none"> Additional: Beclometasone, Betamethasone, Cortisol (Hydrocortisone), Cortisone, Flumethasone, Flunisolide, Fluocinolone, Fluorometholone, Fluoymesterone (Flurogestone), Methylprednisolone, Prednisolone, Prednisone, Triamcinolone acetonide. 	
Methods	Screening	<ul style="list-style-type: none"> LC-MSMS. 	
	Confirmatory	<ul style="list-style-type: none"> Same as screening. 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Different limits are noted for the same combinations of species-analyte-matrix. Some are compliant, some non-compliant. 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Same comment as for CCβ. 	
Levels of action		<ul style="list-style-type: none"> 'MRL with concentration' for bovines, pigs and horses. 'Presence' for sheep/goats. 	
Species/matrices		<ul style="list-style-type: none"> Included: bovines, pigs, sheep/goats, horses. For horses only a few samples. Matrix compliant: liver. 	Include more samples for horses.
Other remarks			Check or explain the differences for the limits for the same combinations and note all in clear concentrations.

2.28.15 Group B3c – Chemical elements

B3c		Evaluation	Recommendations/comments
Analytes		Cd and Pb	Include Hg (1881/2006 and amendments, 396/2005 and amendments) and Cu (396/2005 and amendments)
Methods	Screening	ICPMS	
	Confirmatory	ICPMS, AAS	
Limits	LOQ	Mostly consistent with regulation. Limit for Pb in honey is too high (requirement 0,02 mg/kg according to 333/2007)	Use method for Pb in honey with compliant limit
Levels of action		Complies with regulation for most matrices	
Species/matrices		Relevant species/matrices are included	
Other remarks			

2.28.16 Group B3d – Mycotoxins

B3d - UK		Evaluation	Recommendations
Analytes		<ul style="list-style-type: none"> Aflatoxin M1, ochratoxin A 	Include zearalenone
Methods	Screening	<ul style="list-style-type: none"> LC-FLD 	
	Confirmatory	<ul style="list-style-type: none"> LC-MS/MS 	
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant 	
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	
Levels of action		<ul style="list-style-type: none"> Presence Aflatoxin M1: 0.05 μg/kg 	
Species/matrices		<ul style="list-style-type: none"> Species: pigs, sheep/goats Matrices: milk, liver 	Include bovines, horses, poultry
Other remarks			

2.28.17 Group B3e – Antimicrobial compounds

B3e (Dyes)		Compliant Evaluation	Non-Compliant Evaluation and/or Recommendations
Analytes		<ul style="list-style-type: none"> Brilliant green: compliant Cristal Violet: compliant Cristal Violet-Leuco : compliant Malachite Green : compliant Malachite Green-Leuco : compliant And 9 other dyes in a specific shorter plan of 4 samples 	/
Methods	Screening	<ul style="list-style-type: none"> Biosensor and LC-MS/MS: compliant 	/
	Confirmatory	<ul style="list-style-type: none"> Same as LC-MS/MS screening: compliant 	/
Limits	CC β (screening)	<ul style="list-style-type: none"> Compliant but too high for pararosaniline, methylene blue and basic blue 26 	/
	CC α (confirmatory)	<ul style="list-style-type: none"> Compliant 	/
Levels of action		<ul style="list-style-type: none"> Compliant 	/
Species/ matrices		<ul style="list-style-type: none"> Aquaculture : compliant 	/

Other remarks	/	/
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