VETERINARY DRUG RESIDUE NACRW WORKING GROUP

2nd Meeting

56TH NACRW – NAPLES GRANDE BEACH RESORT

SUNDAY JULY 21, 2019 – 2:45 – 4:15

INTRO of the WG – OVERVIEW (Jo-Marie Cook)

CO-CHAIRS OF WG INTRODUCING THE CONCEPT & IDEAS (Sherri & Eric)

HIGHLIGHTS ON EXISTING INTERNATIONAL GUIDANCE (Steve Lehotay)

TRENDS IN DIFFERENT REGIONS OF THE WORLD (US, EU, CHINA)

CRITICAL ISSUES TO DISCUSS AND REVIEW (Moderators : Sherri & Eric)

2020 ROADMAP FOR THE WG toward a WHITE PAPER (Moderators : Sherri & Eric)

AGENDA of the meeting

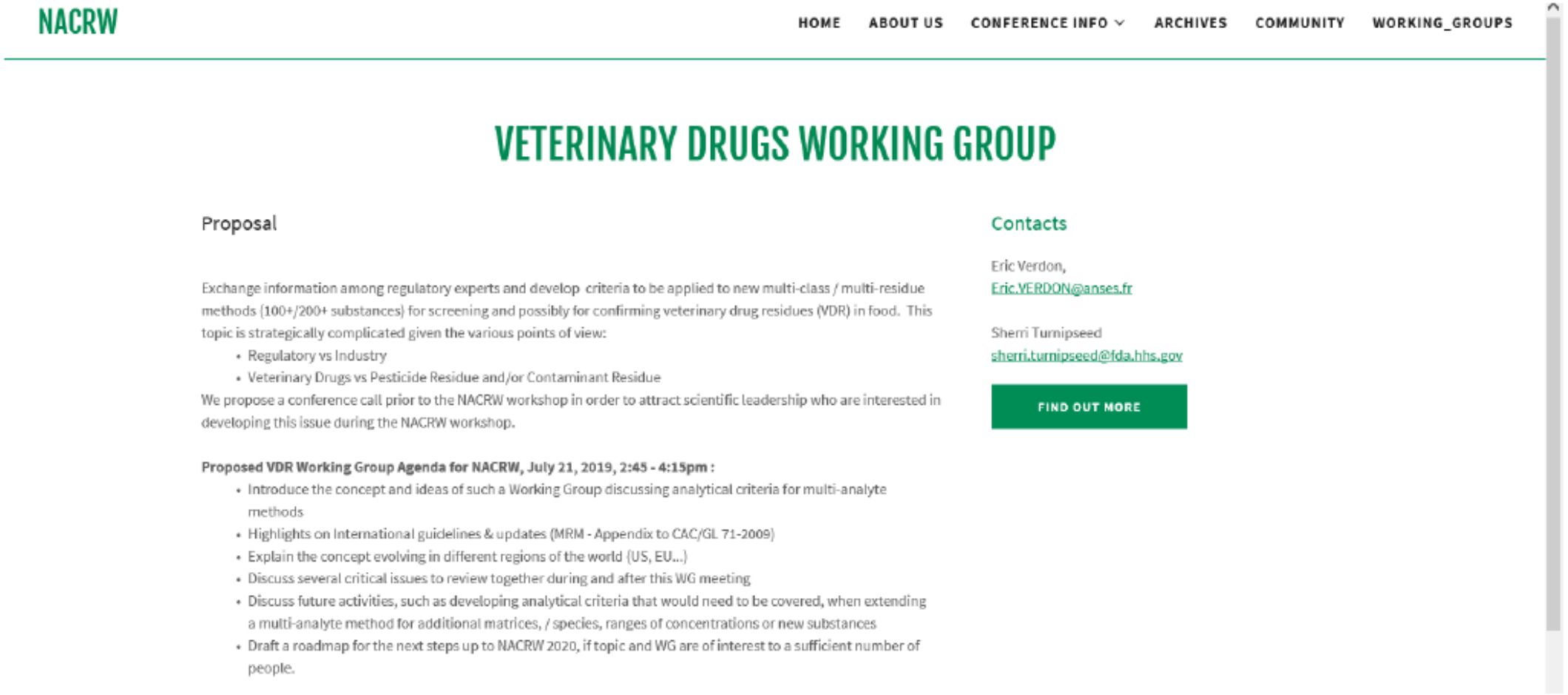
CO-CHAIRS OF WG INTRODUCING THE CONCEPT & IDEAS

TO IDENTIFY **MULTI-RESIDUE VET DRUGS METHODS** THAT WOULD MEET THE NEEDS OF GOVERNMENT REGULATORS

Exchange of information among scientists of regulatory labs to suggest criteria to be applied to new multi-class / multi-residue methods (100+ / 200+ substances) for screening and possibly to confirming as well for veterinary drugs in food.

GOAL

https://nacrw.org/community



WHERE TO FIND NEWS

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HIGHLIGHTS ON EXISTING INTERNATIONAL GUIDANCES

(Steve Lehotay, US-DA Wyndmoor, PA)

HIGHLIGHTS ON EXISTING INTERNATIONAL GUIDANCE

CX/RVDF 13/21/7

CCRVDF ELECTRONIC WORKING GROUP ON MULTI-RESIDUE ANALYTICAL METHODS: PAPER ON REVISION OF THE DRAFT REPORT ON PERFORMANCE CRITERIA FOR MULTI-RESIDUE ANALYTICAL METHODS AND THE DEVELOPMENT OF A GENERIC VALIDATION PROTOCOL FOR THESE METHODS

HIGHLIGHTS ON EXISTING INTERNATIONAL GUIDANCE

The Working Group met in Minneapolis, MN, Sunday August 25th to consider the draft document CX/RVDF 13/21/7 and the written comments received on this draft to date. The co-chairs from the United Kingdom and Canada were assisted by Australia as rapporteur.

The delegates were advised by the co-chairs that there was considerable expectation to see this draft document advanced to step 5/8 of the Codex step process at the 21st session of the CCRVDF. There was also a significant interest in the output of this WG by the Codex Committee on Pesticide Residues and the Codex Committee on Fish and Fishery Products. Both groups had expressed an interest in using the document emerging from this CCRVDF WG as a template for their own initiatives to develop performance criteria for MRMs for analytes/compounds in their areas of interest.

Recommendations:

- The WG unanimously agreed that the revised draft Guideline be inserted as an Appendix to CAC/GL 71-2009;

- The draft Guideline should be advanced to step 5/8;

- The WG recognised the importance of the database for MRMs and related validation data (e.g., stability data) being centrally held and made available to all through the auspices of the IAEA;

- The WG urged that all delegates to the Plenary should provide MRM-related data to the IAEA for general use.

Other international collaborative initiative for MRM methods

Analytica Chimica Acta 962 (2017) 60–72

Contents lists available at ScienceDirect

Analytica Chimica Acta

journal homepage: www.elsevier.com/locate/aca

A global inter-laboratory study to assess acquisition modes for multi-compound confirmatory analysis of veterinary drugs using liquid chromatography coupled to triple quadrupole, time of flight and orbitrap mass spectrometry

Bjorn J.A. Berendsen [a, *], Thijs Meijer [a], Hans G.J. Mol [a], Leen van Ginkel [a], Michel W.F. Nielen [a, b]

[a] *RIKILT Wageningen University & Research, Akkermaalsbos 2, 6708WB, P.O. Box 230, 6700AE, Wageningen, The Netherlands*
[b] *Wageningen University & Research, Laboratory of Organic Chemistry, Stippeneng 4, 6708 WE, Wageningen, The Netherlands*

PERFORMANCE CHARACTERISTICS OF MRMS FOR SCREENING ANALYSIS

Screening methods for approved veterinary drugs should demonstrate a selectivity of 90% with 95% confidence and a sensitivity at the lowest concentration at which the target analyte may be reliably detected within defined statistical limits, usually 95% confidence limit. For regulatory purposes, these screening methods can tolerate a small number of "false positive" results, as any screen "positive/presumptive positive/suspect positive" sample should be carried forward for additional confirmatory and/or quantitative analysis to identify, confirm and/or quantify the presence of the "suspect" residue. For all other veterinary drugs which are NOT approved for use, this appendix may be used to inform decisions on the performance criteria which may need to be developed.

Identification point (IP) system

GC-MS (EI +CI)	2 (EI) + 2 (CI)	4
GC-EIMS or GC-CIMS (2 derivatives)	2 (Derivative A) + 2 (Derivative B)	4
LC-MS	n characteristic ions	N
GC-MS/MS[c]	1 precursor ion + 2 product ions	4
LC-MS/MS[d]	1 precursor ion + 2 product ions	4
GC-MS/MS	2 precursor ions, each with 1 product ion	5
LC-MS/MS	2 precursor ions, each with 1 product ion	5
LC-MS/MS/MS	1 precursor, 1 product ion and 2 2nd generation product ions	5.5
HRMS	N	2n
GC-MS and LC-MS	2 + 2	4
GC-MS and HRMS	2 + 1	4
LC-HRMS/MS and GC-HRMS/MS	1 precursor ion + 2 product ions	6

Typically, a minimum of four identification points is required to meet accepted performance criteria for regulatory methods. Therefore, a combination of a precursor ion and two product ions will provide the four IPs required when low resolution MS/MS instruments are used in a confirmatory method. Examples of non-MS based detection methods are listed in Table 3 in the main text.

Regardless of the mass spectrometer resolution, at least one ion ratio must also be measured to eliminate the potential for fragments of the same mass arising from isobaric compounds of similar structure. Retention times, or better still relative retention times, should also be determined to avoid the potential for false identifications when using mass spectrometers for detection.

Non-magnetic sector type high-resolution mass spectrometers (HRMS) are becomingly increasingly more affordable and commonly used. If using this equipment, it is suggested that confirmation of a compound be based on the high mass accuracy and the resolving power of the mass spectrometer.

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State-of-play in USA

(Sherri Turnipseed, US-FDA, Denver CO)

FDA U.S. FOOD & DRUG ADMINISTRATION
OFFICE OF REGULATORY AFFAIRS

Updates on US FDA guidance documents relating to chemical methods for veterinary drug residues

For NACRW Veterinary Drug Working Group
July 21, 2019

Chemical Method Validation Guidelines for the FDA FVM Program 2nd Edition

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Food and Drug Administration

Memorandum

Date: May 19, 2015

From: FDA Foods and Veterinary Medicine Science and Research Steering Committee

Subject: Guidelines for the Validation of Chemical Methods for the FDA FVM Program, 2nd Edition

To: FVM Executive Council

Available at: https://www.fda.gov/media/81810/download

Chemical Method Validation Guidelines for the FDA FVM Program 2nd Edition

Table 1. Key Validation Parameter Requirements for Chemical Methods

	Level One: Emergency/ Limited Use	Level Two: Single Laboratory Validation	Level Three: Multi-Laboratory Validation	Level Four: Full Collaborative Study
Number participating labs	1	1	≥ 2	8 (quantitative) 10 (qualitative)
Number of matrix sources per matrix*	≥1	≥3 recommended where available	≥3 recommended where available	≥3 recommended where available
Number of analyte(s) spike levels for at least one matrix source**	≥2 spike levels + 1 matrix blank	≥3 spike levels + 1 matrix blank	≥3 spike levels + 1 matrix blank	≥3 spike levels + 1 matrix blank
Replicates required per matrix source at each level tested per laboratory	≥2 (quantitative) ≥2 (qualitative)	≥2 (quantitative) ≥3 (qualitative)	≥2 (quantitative) ≥3 (qualitative)	≥2 (quantitative) ≥3 (qualitative)
Replicates required at each level tested per laboratory if only one matrix source used	≥4 (quantitative) ≥6 (qualitative)	≥6 (quantitative) ≥9 (qualitative)	≥3 (quantitative) ≥6 (qualitative)	≥2 (quantitative) ≥6 (qualitative)

Available at: https://www.fda.gov/media/81810/download

Chemical Method Validation Guidelines for the FDA FVM Program 3rd Edition

Revisions for 3rd Edition ***in progress***

- *Changes to reflect FDA organizational structure*
- *Minor clarifications*
- *Updated reference citations*
- ***Addition of Appendices***

Chemical Method Validation Guidelines for the FDA FVM Program 3rd Edition

Draft Appendix: Guidance for the Verification and Extension of Existing Methods

- *Spiking requirements*
- *Matrix extensions*
- *Analyte extensions*
- *Platform extensions*

Chemical Method Validation Guidelines for the FDA FVM Program 3rd Edition

Draft Appendix: Modification Guidelines for Chromatography-Mass Spectrometry Methods

- *to address allowable method changes within SAME analytical method (not to address equivalent method performance)*

- *changes in chromatography (columns, mobile phase, injection volumes, etc.) that are acceptable OR need validation as new method*

- *changes in MS parameters (source conditions, precursor-product ion selection, polarity, etc.) that are acceptable OR need validation as new method*

Chemical Method Validation Guidelines for the FDA FVM Program 3rd Edition

Continued discussion on adding an appendix to address large multi-analyte methods

Questions being addressed:

- *Should there be alternative method validation guidance for large multi-analyte method (~ hundreds of analytes)?*
- *What would be criteria to use alternative guidance (more than X analytes?, analytes from several chemical classes?)*

- *Should LOD, LOQs be set for each analyte or class of analytes? Or will it depend?*
- *How to fortify samples for initial validation? MLV? On-going QA/QC?*
- *How to establish data acceptance criteria?*

Multi-residue Vet Drug Regulatory Methods USA

US FDA:

- *Targeted (QqQ) methods are used for regulatory monitoring*
  - *Some use initial semi-quant screen (limits test) with confirmation of identity. Presumptive positives are re-analyzed for quantification.*
  - *Matrices include aquaculture products, honey, milk, game meats*
- *Developing screening HRMS methods*
  - *Monitor for additional residues, other contaminants*
  - *Currently using method for aquaculture samples (investigational)*

USDA:

- *Targeted (QqQ) methods used for regulatory monitoring*
  - *Matrices include beef, poultry, porcine (others) muscle and kidney*
  - *Updating methods with new MS technology, streamlining extraction*
- *Ongoing method development to expand scope of analytes monitored*

FDA CVM Guidance Industry #118 Mass Spectrometry for Confirmation of the Identity of Animal Drug Residues

- Used by industry for New Animal Drug Application (NADA) methods

- Used by FDA/ORA laboratories conducting veterinary drug residue programs and assignments

- Included in Federal Register (2003 68 FR#25617)

- Separate internal FDA document used for pesticide program (ORA.LAB.10 Guidance for the Analysis and Documentation to Support Regulatory Action on Pesticide Residues)

Available at:
https://www.fda.gov/regulatory-information/search-fda-guidance-documents/cvm-gfi-118-mass-spectrometry-confirmation-identity-animal-drug-residues

Acceptance Criteria for Confirmation of Identity of Chemical Residues using Exact Mass Data within the Office of Foods and Veterinary Medicine (OFVM)

- This document is applicable for the confirmation of identity of chemical residues using high resolution mass spectrometry (HRMS)

- For the confirmation and identification of small molecules with a molecular weight range typically less than 1000 Daltons at residual levels. Such chemicals include **veterinary drugs, pesticides**, dyes, food or feed additives, and other natural or synthetic contaminants.

- The confirmation criteria documented in this section expand and update the criteria documented in CVM Guidance for Industry #118.

- Included input from state and other federal laboratories

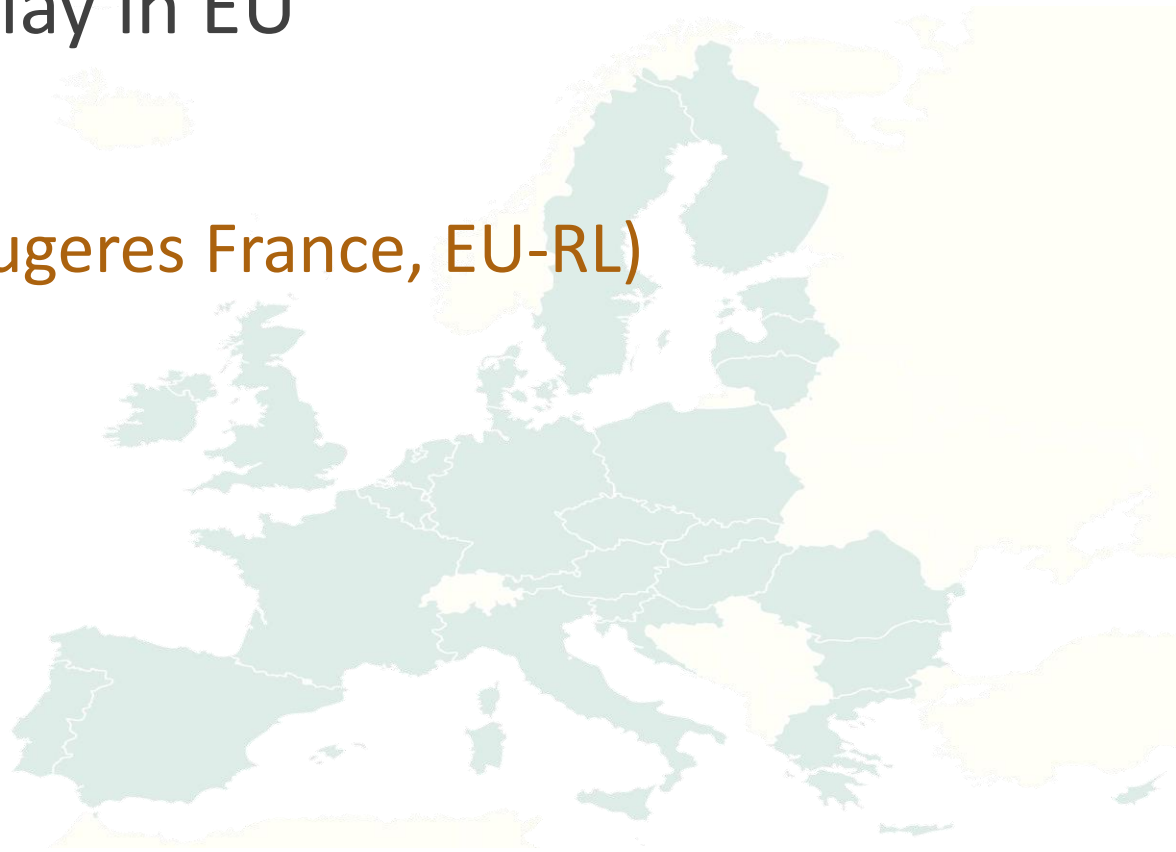
Available at: https://www.fda.gov/media/96499/download

The information in these materials is not a formal dissemination of information by FDA and does not represent agency position or policy.

TRENDS IN DIFFERENT REGIONS OF THE WORLD

State-of-play in EU

(Eric Verdon, Anses-Fougeres France, EU-RL)



State-of-play in the EU

Four pillars to the EU FOOD LAW

Start Regulations from 2004

FOOD LAW
-
Regulation (EC) 178/2002

OFFCR
-
OFFICIAL FOOD & FEED CONTROL
Regulation (EC) 882/2004

OCR
-
Official Control Regulation (EU) 2017/625

OCR 2017/625

Control for Food and Feed,
Animal Health & Animal Welfare,
Plant Health &
Plant Protection Products

Revision of the Decision (EC) No 2002/657

Official Journal of the European Communities 17.8.2002

II

(Acts whose publication is not obligatory)

COMMISSION

Performance of official control analytical methods and the interpretation of results

COMMISSION DECISION

of 12 August 2002

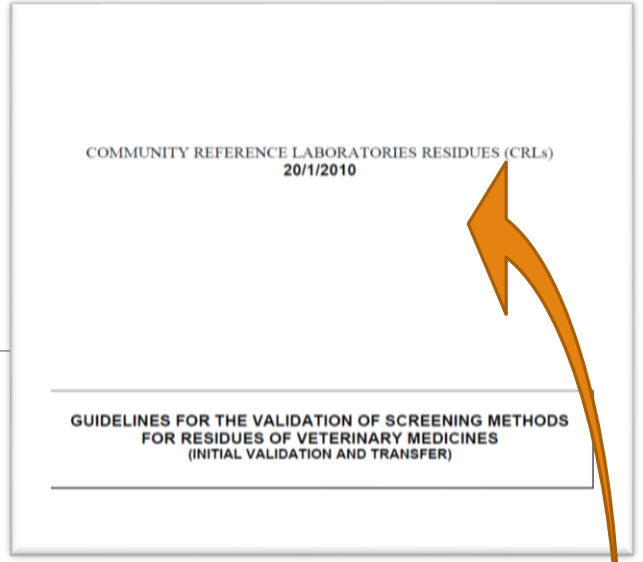
implementing Council Directive 96/23/EC concerning the performance of analytical methods and the interpretation of results

(notified under document number C(2002) 3044)

(Text with EEA relevance)

(2002/657/EC)

Process of Revision of European Commission Decision 2002/657/EC


COMMUNITY REFERENCE LABORATORIES RESIDUES (CRLs)
20/1/2010

GUIDELINES FOR THE VALIDATION OF SCREENING METHODS FOR RESIDUES OF VETERINARY MEDICINES
(INITIAL VALIDATION AND TRANSFER)

Objectives of this Revision :

- To reorganise /clarify and update the current 3 technical documents :

1) => **Decision 2002/657/EC** (main regulatory piece)

2) => Guidance SANCO/2004/2726


EUROPEAN COMMISSION
HEALTH & CONSUMER PROTECTION DIRECTORATE-GENERAL
Directorate E – Safety of the Food Chain

SANCO/2004/2726-rev 4-December 2008[1]

GUIDELINES FOR THE IMPLEMENTATION OF DECISION 2002/657/EC [2]

1. RE. CHAPTER 2: PERFORMANCE CRITERIA AND OTHER REQUIREMENTS FOR ANALYTICAL METHODS

3) => Guidance of CRLs Jan 2010 for Screening methods and their validation

Process of Revision of European Commission Decision 2002/657/EC

Objectives of this Revision :

- **Confirmatory method issues** : identification & quantitation
  - Criteria linked to the Exact Mass Measurement in HRMS
  - Ion Ratio Tolerances in LR-MS/MS and HR-MS/MS
  - LC Retention Times Tolerances
  - Critical Concentration CCalpha for confirmation and/or LOQ and MRL (authorised) / RPA (banned)
  - ….

Process of Revision of European Commission Decision 2002/657/EC

Objectives of this Revision :

- **Confirmatory method issues** : identification & quantitation

- **Screening method issues** : *for biological methods and for chemical methods*
  - Criteria for Validation of Screening Performance in Multi-Class/Multi-Residue for 100^{++} analytes by new LC-MS/MS or LC-HRMS systems
  - HRMS data acquisition modes for screening with low False Neg rate (& low False Pos rate)
  - Critical concentration CCbeta for screening against LOD and/or STC Cut-offs

Process of Revision of European Commission Decision 2002/657/EC

Projection of several technical Guidances :

=> Technical validation approaches for screening methods

=> Technical validation approaches for confirmatory methods

=> On-going performance verification during routine analysis

=> Extension of scope of methods *(add analytes, add species/products, extending calibrations)*

=> Transferring methods to other routine laboratories using a minimal validation scheme

TRENDS IN DIFFERENT REGIONS OF THE WORLD

State-of-play in CHINA

(John Lee, Agilent by Steven Lehotay)

(Dongmei Chen, HZAU, China)

Veterinary drugs by LC/Tandem Mass Spec.

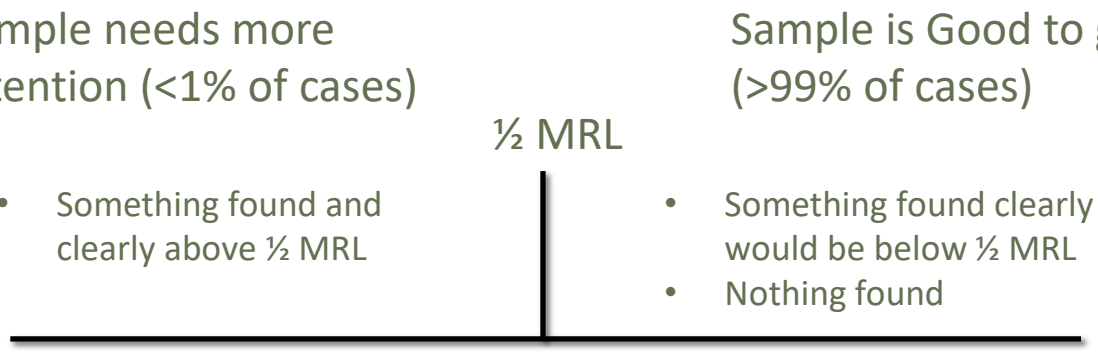
John Lee
Global Food Market Manager

Special Thanks to
Tarun Anumol and Zhiming, Zhang (Tony)

Agilent
Trusted Answers

AOAC Initiative
The compounds and the approach.

- 187 compounds across 17 classes.
- Validation of Screening approach using concept of *Probability of detection (POD)*.
- Where detection refers to whether a given compound is above or below it's Screening detection limit. SDL.
- SDL set to ½ MRL for EU, Codex, Canada, China & US



State-of-play in CHINA

Drug Family	Number of Drugs Included
Aminoglycosides	7
Anthelmintics/Avermectins	23
Beta-Lactams	18
Benzamidazoles/Anthelmintics	5
Beta Agonists/Growth Promoters	5
Coccidiostats	21
Fluoroquinolones/Quinolones	6
Glycopeptides/Polypeptides	6
Hormones	12
Lincosamides	2
Macrolides	11
Non-Steroidal Anti-inflammatory Drugs (NSAIDs)	9
Organophospahtes/Pyrethroids	17
Sulfonamides	18
Tetracyclines	4
Tranquilizers	3
Miscellaneous	17
Total Number of Drugs in List	187

From John Lee, Agilent

Veterinary Drug Regulations in Food:

- **USA**
  - Code of Federal Regulations (CFR) – Title 21 Part 556
  - "Tolerance for Residues in New Animal Drugs in Food"

- China
  - Ministry of Agriculture and Rural Affairs (MARA)
  - Notice no. 235 Lists drugs that can & cannot be detected in meat
  - MARA also drafting GB for MRL on vet drug residues in food

- Europe (EU)
  - Regulation 37/2010
  - on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin
  - Also lists prohibited substances.

From John Lee, Agilent

EUCHINASAFE
中欧食品安全

Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership

HOME | EU-CHINA-SAFE OVERVIEW | WORKPLAN | PARTNERS | TRAINING | VIRTUAL REFERENCE LAB | DISSEMINATION | EVENTS | PRESS AND

WORK PLAN

A highly structured **48 months work plan** has been drawn up by the EU-China-Safe to build **preparedness to prevent, deter and manage various types of food crises in the food chain**, caused by a contamination incident or fraud, which may have a different impact depending on the type of incident (microbiological or chemical incident, fraud, threats or mislabelling).

From John Lee, Agilent

How many standard methods in use in China?

>230: GB, GB/T, S/N, MOA)

What sample prep technologies?

- Solid Phase Extraction (SPE)
  - Reverse phase mode（C18, C8, etc.）
  - Normal phase mode (silica, PSA, NH2, aluminum oxide）
  - Ion-exchange mode（MCX, MAX, WCX, WAX, SCX)
  - Mix mode (PAX, PCX)
- Liquid-liquid

Diverse instrument methods

- Column
- Mobile phase
- Extraction (LLE)

Modified from John Lee, Agilent

How many standard methods are in use for dairy products

>50: GB/T, MOA)

Modified from John Lee, Agilent

Criterion on quality control of laboratories for residue analysis of veterinary drugs

1. Accuracy of methods

1.1 Recovery for Screening method

Recovery >40%, or satisfied with the requirement of testing standards.

1.2 Recovery for quantitative and confirmation methods at a range of element mass fractions

Mass fraction CV (μg/kg)	Recovery (%)
>100	80-110
>10-100	70-110
>1-10	60-120
<=1	50-120

from Dong-mei Chen, HZUA

Criterion on quality control of laboratories for residue analysis of veterinary drugs

2. Precision of methods

2.1 CVs for Screening-method methods

within-laboratory CV(%) : CV<=25% exclude for prohibited drugs (<=30%);
intra-laboratory CV(%) : CV<=30% exclude for prohibited drugs (<=40%);
for qualitative methods: false negative rate <5%, false positive rate <10%.

2.2 CVs for quantitative and confirmation methods at a range of element mass fractions

Mass fraction CV (mg/kg)	CV (%)	
	within-laboratory	intra-laboratory
100	1.5	2.3
10	7	11
1	11	16
0.1	17	26
0.01	21	32
0.001	30	45
0.0001	43	64

from Dong-mei Chen, HZUA

Criterion on quality control of laboratories for residue analysis of veterinary drugs

3. Classification of analytical methods by the performance characteristics that have to be determined

		Detection limit	Limit of Quantitation	Trueness/ recovery	Precision	Selectivity/ specificity	Applicability/ ruggedness/ stability
Qualitative methods	S	+	–	–	–	+	+
	C	+	+	–	–	+	+
Quantitative methods	S	+	–	–	+	+	+
	C	+	+	+	+	+	+

S = screening methods; C = confirmatory methods; + = determination is mandatory

from Dong-mei Chen, HZUA

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AGENDA of the meeting

SUGGESTED CRITICAL ISSUES TO DISCUSS AND REVIEW

1 – Survey on MRM for VDR : Which Technologies suitable for Multi-Residue Methods ?

2 – Level/Quality of VDR Substances Identification ? Minimum required criteria to be applied …

3 – To Screen and to Confirm at same step of control ? Minimum criteria to be applied …

4 – Clarification of Screening vs Quantitative Methods ?

5 – Alternative method validation guidance for large multi-analyte methods ?

6 – SMPRs proposed by AOAC for vet drug screening be applicable to regulatory monitoring ?

Suggestion 1 : Need of a survey of the multi-residue methods currently applied for regulatory purpose?

Which Technologies suitable for MRM (present and future) ?

Suggestion 2 : Level/Quality of VDR Substances Identification ?

Minimum required criteria to be applied …

for a screening step ?

for a confirmatory step ?

Suggestion 3 : To Screen and to Confirm at same step of routine control ?

Manageable or not ?

Which criteria to be applied then …

Suggestion 4 : Clarification of Screening vs Quantitative Methods ?

When/how is it appropriate to use screening methods for regulatory analysis?

What guidance documents are available for validation/implementation of screening methods ?

Suggestion 5 : Should there be alternative method validation guidance for large multi-analyte methods?

What would be criteria to use alternative guidance ?

Should LODs, LOQs be set for each analyte or class of analytes? Or will it depend?

How to fortify samples ?

Suggestion 6 : Would SMPRs proposed by AOAC for Vet Drug screening be applicable to regulatory monitoring ?

Need to modify POD (criteria for False Pos/Neg)?

Does not include banned residues ?

AOAC SMPR® 2018.010

Standard Method Performance Requirements **(SMPRs®) for Screening and Identification Method for Regulated Veterinary Drug Residues in Food**

Intended Use: Routine Surveillance for GMP Compliance

Screening method acceptance criterion : % POD

Table 2. Method performance requirements

Residue concn in matrix	*N*	Acceptance criterion
0 (Blank)	30	≤10% POD with 95% confidence
0.5x MRL	30 per drug[a]	≥90% POD with 95% confidence[b]

[a] Tested as drug cocktail(s).

[b] All incorrect results must be investigated for determination of concentration at which POD_{90} with 95% confidence is achieved.

Probability of detection (POD).—Proportion of positive analytical outcomes for a qualitative method for a given matrix at a given analyte level or concentration. [Appendix H: *Probability of Detection (POD) as a Statistical Model for the Validation of Qualitative Methods*, *Official Methods of Analysis of AOAC INTERNATIONAL* (2019) 21st Ed., AOAC INTERNATIONAL, Rockville, MD, USA (http://www.eoma.aoac.org/app_h.pdf)]

Calculate the POD as the ratio of the number positive (x) to total number tested (N):

$$POD = x/N$$

According to Jian suggestion - how to take advantage of this Table :

Table 2: Veterinary Drugs Residues in Bovine Milk, Bovine Muscle, Bovine Fat, Chicken Muscle, Chicken Skin/fat, Fish, and Eggs

Compound	Regulated Marker	Lowest Global MRL, µg/kg						
		Liquid Bovine Milk	Raw Bovine Muscle	Raw Bovine Fat	Raw Chicken Muscle	Raw Chicken Skin/Fat	Raw Fish	Raw Egg
Abamectin (B1a)			10	10				
Acetylisovaleryltylosin					40	40		
Albendazole	Albendazole sulfone	100	100	100				
Albendazole	Albendazole sulfoxide							
Albendazole	Albendazole 2-aminosulfone							
Albendazole Oxide	Albendazole oxide							
Albendazole Oxide	Albendazole sulfone							
Albendazole Oxide	Albendazole 2-aminosulfone							
Amitraz	sum of metabolites containing 2,4-DMA moiety	10		200				
Amoxicillin		4	10	10	10	10	50	
Ampicillin		4	10	10	10	10	50	
Amprolium			500	2000	500	500		4000
Apramycin			50	50	50	50		
Avilamycin	Dichloroisoeverninic acid				50	50		
Bacitracin (A, B, C)		100	500	500	500	500		500
Baquiloprim		30						
Betamethasone		0.3	0.75	0.75				
Bicozamycin			200	50	50	50		
Buquinolate					100	100		200
Cabergoline		0.1						
Carazolol		1	5	5				
Carprofen	Carprofen		500	1000			12	
Carprofen	Carprofen glucuronide							

VETERINARY DRUGS RESIDUES IN MILK, MUSCLE, FAT, FISH, AND EGGS

Accord. AOAC SMPRs 2018.010

The 2020 ROADMAP toward a WHITE PAPER

GOAL : TO IDENTIFY **MULTI-RESIDUE VET DRUGS METHODS** THAT WOULD MEET THE NEEDS OF GOVERNMENT REGULATORS

In practice

NEEDS ARE DIVERSE

List of relevant Vet Drug substances ?

and

List of relevant Species/Products /Matrices ?

In theory at first

Approaching the concept of MRM ?

A list of tools and criteria to frame the concept and to adjust criteria of performances?

The 2020 ROADMAP toward a WHITE PAPER

Who ? Building the VDR WG : first acting circle of Reg Labs and second circle of any interested people acting their interest participating during NACRW VD Meeting session of Sunday July 21, 2019

When ? Possibly 6 bimonthly Conf Calls for 1st circle of Reg Labs members -

=> Acting Calendar 2019-2020 to be scheduled

Where ? Next face-to-face meeting at NACRW in July 2020

How ? Emailing and/or opening a WG access Forum

=> hosted by NACRW Website …

VETERINARY DRUG RESIDUE NACRW WORKING GROUP

2nd Meeting

56TH NACRW – NAPLES GRANDE BEACH RESORT

SUNDAY JULY 21, 2019 – 2:45 – 4:15