



Government
of Canada

Gouvernement
du Canada

International Regulatory and Trade Issues for Drug Residues in Fish and Seafood

Stan Bacler, Canadian Food Inspection Agency

**AOAC Setting Performance Requirements, Inaugural
Meeting, Rockville, MD June 25 – 26, 2008**

Canada

Introduction

- Internationally, different countries deal with misuse or illegal use of substances differently
- Discuss the issues primarily from US, EU and Canadian approaches
- Try to include implications to regulators, importers and exporters

Categories of Agents

- Approved substances
 - Unapproved substances
 - Banned substances
- Not all jurisdictions have the same interpretation of these terms

Approved or Unapproved Substances?

- Tetracycline (US, Canada, EU)
- Florfenicol (US, Canada, EU)
- Sulfonamides (differs US, Canada, EU)
- Emamectin, Erythromycin (approved EU with MRL, provisionally approved Canada with aMRL, unapproved US)
 - **Substances may be approved in one jurisdiction but not another**
 - **For certain species but not fish**

Banned Substances

- Agents that are not approved anywhere for use in food producing animals
 - Agents that are Internationally prohibited nor would ever be considered for use in food producing animals
 - ex. nitrofurans, chloramphenicol
 - Legitimately treated as “Zero Tolerance”?
 - No one should be using these!
 - What about MG and CV?
 - Can it be an environmental contaminant?

What is “Zero Tolerance”?

- It depends on the country
 - Regulatory Agency method LOQ?
 - No tolerance for any detected/confirmed?
- “Chasing Zero” issues
 - Lab or method shopping
- MRPLs in the EU
 - Minimum required performance limit

MRPLs and Zero Tolerance

- EU has MRPLs (minimum required performance limits) for test methods used to detect these residues
 - Nitrofurans 1 ppb
 - Chloramphenicol 0.3 ppb
 - Malachite green 2 ppb

LOQ and “Zero Tolerance”

- Zero as LOQ of the Regulator’s method
 - Zero is defined for the regulator
 - If the regulator is making all compliance decisions...OK
- Residue method performance can vary between labs even with the same method
 - If others are making regulatory decisions....is LOQ OK?
 - “Chasing Zero” or lab/method shopping?

Risk Based Limits

- At some low concentration, exposure may no longer be considered a risk
- How or who can establish that risk?
 - Codex has been asked to consider this for banned substances but within their process they cannot establish an ADI
 - Catch 22.....No amount is acceptable!

Technologies

- Confirmatory methods discussed have all been HPLC/MS/MS
- Regulatory methods may be non-MS type
 - Eg. US FDA has a quantitative MG/CV method based on LC/UV
 - Violative results must be confirmed by MS
 - May be suitable for industry QA
 - Screening methods like ELISA immunoassay
 - Need confirmations but offers affordable and flexible tools to industry or in the field

Closing Comments

- Zero tolerance is a big problem to manage
- Regulators need to have the risks for residues at low levels defined
 - At some level, even banned substances likely do not pose a risk
- Producers and importers need to know the requirements of their own country
- Importers need to know their suppliers and specify to them what is needed

Closing Comments

- Exporters and Importers need to know what are the requirements of the country they are doing business with
- Need better inspection systems and production controls in some overseas countries

Who Needs What?

- Regulators have compliance methods for many of the residues of concern
 - Do they need an AOAC validated Reference Method?
- Industry needs tools to for their own use
 - Does industry want an AOAC validated Reference Method?
 - Does industry want AOAC validated rapid screening methods?

Outcomes

- Confirmed the list of target drugs
 - Chloramphenicol, nitrofurans, fluoroguinilones, quinilones, malachite green, crystal violet and methyltestosterone
- Defined target species
 - Shrimp, tilapia, catfish, salmon
- Defined target tissue as muscle tissue
- Established need for rapid tests and confirmatory methods

Outcomes

- Chloramphenicol target LOQ of 0.3 ppb
- Nitrofurans defined as nitrofurazone, furazolidone, nitrofurantoin and furaltadone....metabolites....1.0 ppb LOQ
- Fluoroquinilone targets are ciprofloxacin, enrofloxacin, sarafloxacin, difloxacin, danofloxacin at an LOQ of 1.0 ppb
- MG/LMG, CV/LCV at an LOQ of 1.0 ppb

Next Steps

- Set up a meeting of the panel to complete the requirements for the remaining residues
- Determine if there are other requirements to be established
- Begin the process to fulfill the needs