

# Impact of the Inadvertent MRLs - How to Keep a Happy World?

By **Carmen Tiu**  
Global Residue & MRL Strategy Leader



**2017 MRL Harmonization Workshop**

**May 31 & June 1, 2017**  
**San Francisco, CA**



**Dow AgroSciences**

*Solutions for the Growing World*

# Presentation Outline

---

1. Inadvertent residues/MRLs within the context of other MRLs
2. Current and prospective regulations for inadvertent-MRLs
3. Ways for ag-producers to comply with multiple standards
4. Possible options to further harmonize MRLs
5. How to keep a happy world ?



# 1. Inadvertent residues/MRLs within the context of other MRLs



**Dow AgroSciences**

*Solutions for the Growing World*

# 1. How many type of residue and MRL standards exist?

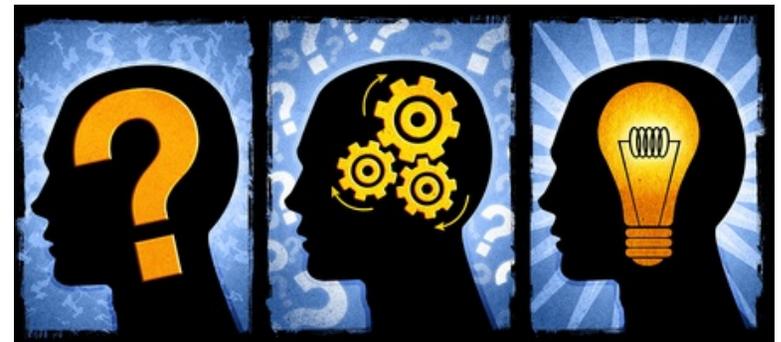
u  
s  
e

- MRL **Domestic** uses (label Good Agricultural Practices - GAP)
- **Import** MRLs (from imported produce, other country's label)
- Codex MRLs (from global critical c-GAP)
- No MRL (tolerance exemption, residues not expected)

I  
n  
d  
i  
r  
e  
c  
t

- **Default** MRLs (at LOQ level)
- **Inadvertent** MRLs (low residues, from previous treated crops)
- Adventitious MRLs (low residues from drift, runoff)
- **Private** standards (lower than MRLs)

## ***HOW TO Meet Requirements?***



## Inadvertent MRL's – Magnitude & Incidence

- From drift, runoff, previous crops, others adventitious sources



**small % of Rate**

- Significantly **lower** residues than from direct use (MRLs)
  - Often residues in rotational studies for registration **<LOQ=0.01 ppm** at commercially representative plant-back intervals (on labels)  
 no MRL is needed
  - In food monitoring programs only ~ 1% are MRL violations, including potential inadvertent residues

## 2. Current and prospective regulations for inadvertent-MRLs



**Dow AgroSciences**

*Solutions for the Growing World*

# Regulations for Inadvertent MRLs

---

- **US EPA OCSP 860.1850 and OCSP 860.1900**
  - Residue measured in successive crops in 2 tiers (confined and field rotational studies, 4 crops, 3 plant-back intervals)
    - Trigger plant back intervals (PBI) on labels (residues < 0.01 ppm)
    - Inadvertent tolerances, if residues >0.01 ppm at commercially relevant PBIs
- **Commission of the European Communities 7524/VI/95 rev.2 22/7/1997 APPENDIX C -Testing of Plant Protection Products in Rotational Crops**
  - Determine safety intervals for plow/plant, or data for MRLs
- **OECD Residue Guidelines 502 and 504, 2007** (global compilation)
  - Guidance document (acceptance criteria, including MRL setting) under review by OECD Residue Chemistry Expert Group (RCEG)
    - Estimated completion, end of 2017

# Regulations for Inadvertent MRLs – Australia & New Zealand

- Agricultural Chemicals & Veterinary Medicine Data Requirements 41, **if**
  - treated crop and/or the residue may accumulate over several seasons; and
  - plant metabolism studies indicate that significant accumulation of residues occur through soil uptake into food or feed commodities.
- Food Standards ANZ proposal P-1027, Oct.2016 – Managing low levels of Ag and Vet chemicals without MRLs
  - Case-by case analyzed 132 of 500 registered actives, 17 had MRLs set on “All other foods except animal commodities”



Figure 1: Percentage contributions of All other foods except animal food commodities to total

### 3. Ways for ag-producers to comply with multiple standards



**Dow AgroSciences**

*Solutions for the Growing World*

## 2. How a farmer/producer can comply with multiple MRLs?

### A. Be aware of MRLs in potential export countries

- Official websites

<http://www.fao.org/fao-who-codexalimentarius/standards/pestres/pesticides/en/> Codex

<http://www.foodsafety.govt.nz/industry/sectors/plant-products/pesticide-mrl/> New Zealand (20 countries)

<http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN> Europe

<http://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php> Canada

<http://www.ffcr.or.jp/zaidan/FFCRHOME.nsf/pages/MRLs-p> Japan

<http://apvma.gov.au/node/10806> Australia

<https://www.epa.gov/pesticide-tolerances> US-EPA

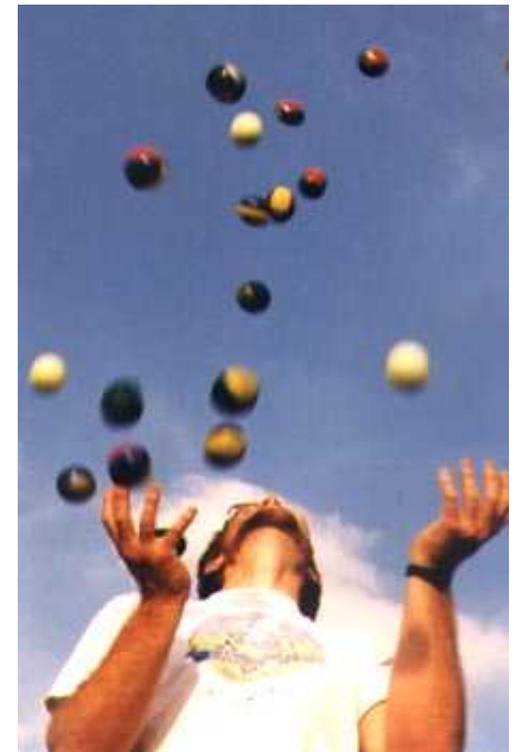
- Private databases

- Global MRL Database (Bryant Christie Inc)

- <http://www.globalmrl.com/>

- Homologa (Agrobase)

- <http://www.homologa.com/>

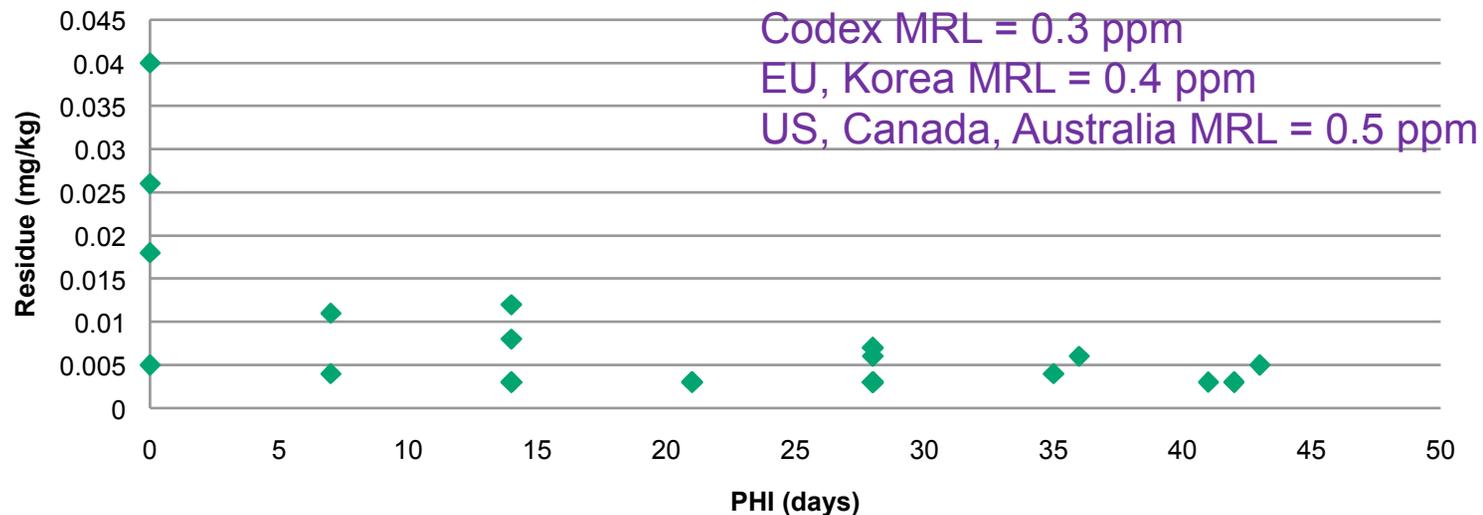


## 2. How a farmer/producer can comply with multiple MRLs?

### B. Balance pesticides use within Integrated Pest Management- IPM tools

- rational use of pesticides to minimize residues (rate, number applications, intervals in between, pre-harvest interval, adjuvants, nozzles, calibration)

C. Select lowest MRL across countries and determine use patterns to comply with it (e.g. PHI, re-treatment intervals, etc)



## 4. Possible options to further harmonize MRLs



**Dow AgroSciences**

*Solutions for the Growing World*

### 3. What is missing for MRL harmonization across countries?

- Requirements for residue studies are fairly harmonized
  - OECD Residue Guidelines 501-509 and Guidance documents
- Countries treat MRLs differently
  - More countries setting Positive Lists, (MRL = LOQ)
  - Positive lists are not the answer (not based on use)
- Import MRL's are needed
  - 65 countries adopt Codex (from 162 members)
  - **Mutual acceptance processes are key**
- Need consistent process and timelines to allow new technology launch
  - Reduce time between MRL for domestic use and import-MRLs
  - Optimize use of CODEX MRLs, acceptance in **all** countries for imports



### 3. What can be done for further harmonization of MRLs?

- Harmonize use practices for pesticide & crop (rate, number of applications, intervals in between, pre-harvest interval), or set MRL for critical c-GAP
- Harmonize criteria for MRL calculation (OECD calculator) and the supporting risk assessment (Codex)
- Import-MRLs based on mutual acceptance of MRL from the country of origin!
  - US-EPA pilot for Import Tolerances (IT)
  - APEC IT Guideline
- Comment to WTO-SPS notifications when new MRLs are proposed by countries and may limit trade from others
  - [https://www.wto.org/english/tratop\\_e/sps\\_e/sps\\_e.htm](https://www.wto.org/english/tratop_e/sps_e/sps_e.htm)



# 5. How to keep a happy world



**Dow AgroSciences**

*Solutions for the Growing World*

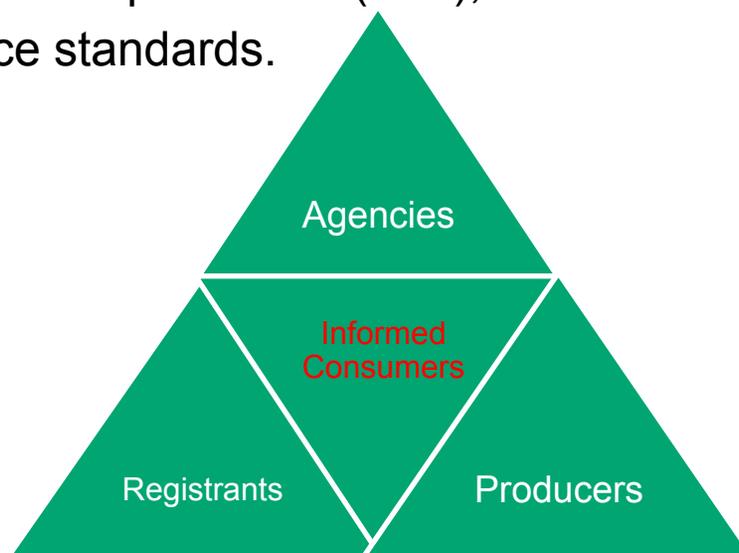
## 5. How to keep a happy world?

---

MRL's are TRADE standards, assess trade analysis and draw a plan

### + INFORM CONSUMERS

- **Registrants**: address and plan needs for Import Tolerance in parallel with new uses, generate MRL data for treated crops, rotated crops (c-GAP)
- **Agencies**: consider greatest MRL from domestic or imported produce at c-GAP (if risk to consumers is acceptable)
- **Producers**: rational use of pesticides (IPM), understand export markets MRLs and compliance standards.



## Conclusion

---

1. Pesticides residues impact food security, safety and trade
2. There are many type of MRLs – understand your export market needs!
3. Further harmonization of MRLs is needed
4. Import Tolerances/MRLs & mutual acceptance are key tools
5. Let's join efforts to keep a happy, healthy, well fed world!



Carmen Tiu  
tcarmen@dow.com

