Asia-Pacific Economic Cooperation

Dialogue on Risk Management in Wine Trade
5-6 November, 2012 - Auckland, New Zealand

Risk Assessment & Management

AGRICHEMICAL RESIDUES – WINE

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Overview

Food safety risks

- How they are assessed and managed

Trade risks

- Trade standards and residue compliance

MRL harmonisation

- Codex and Import MRLs

What role for APEC

Food safety risks

Managed through agrichemical registration

- Pesticide risk assessment before registration
- Efficacy, residues, environmental & OSH risk assessments
- Uses are authorised only if short and long term dietary intake of residues are below toxicological safety limits

Maximum residue limits

- Standards set to enforce authorised uses
- Not primarily food safety standards

Data requirements

Good agricultural practice (GAP)

- Pesticide use that controls the pest or disease while leaving minimum residues at harvest
  - Lowest effective application rate, longest practical pre-harvest interval

Field residue trials

- 4-6 trials, treated according to GAP
  - Covering major growing conditions, measuring all relevant residues

Processing studies

- 3-4 simulated commercial processing studies
  - To measure potential carry-over of residues (including metabolites) into processed foods (e.g. wine)

Residue assessment

Estimate expected residues at harvest

- Includes all toxicologically significant residues in treated raw commodities (e.g. grapes) when a pesticide is used according to GAP
    - Maximum expected residues for short-term intake estimate
    - Mean expected residues for long-term intake estimate

Calculate residue transfer into processed foods

- Generally, less than 50% of residues transfer into wine

Estimate expected residues of component used for GAP-compliance (MRL-setting)

- May not include metabolites

Dietary intake risk assessment

Long-term Intake:

- Calculate the average daily residue intake in all foods over a lifetime
    - Includes 77 ml wine every day
- Total must be below the Acceptable Daily Intake (ADI)

Short-term Intake:

- Calculate the highest daily residue intake (each food)
    - Includes wine: 1 litre (♂), 750 ml (♀), 90 ml (child)
- Each must be below the Acute Reference Dose (ARfD)

Maximum residue limits (MRLs)

Legal pesticide residue limits permitted in food

- Only set if authorised uses result in residue intakes below toxicological 'safety' limits (ADI, ARfD)
- Used mostly as a tool to measure compliance with GAP (authorised use) on food or animal feed crops
- Usually set only on raw commodities (e.g. grapes)

Only MRL-compliant grapes should be used in making wine (Good Manufacturing Practice)

Trade standards

Agrichemical authorisation and MRL-setting procedures are similar in most countries, BUT:-

- Authorised uses differ from country to country
  - Different pests, pesticides, crop management systems
- National MRL enforcement practices differ
  - Grape MRLs can apply to wine
  - MRLs adjusted to account for processing effects

MRLs and residue standards for wine differ from country to country

Trade risks

Wine in international trade must meet trading partner MRLs or lowest MRL if traded globally

- For many agrichemicals, this lowest limit is 'zero'

'Private Standards' also exist, generally at limits lower than the national standards

Compliance with trading partner wine residue standards can be achieved by restricting agrichemical uses on wine grapes

Residue compliance programmes

Adopted in NZ for most export crops and wine

Owned by Industry (with MPI technical advice)

"Insurance Policy" to prevent violations

Four key elements

- Knowledge of market MRLs (MPI Website database)
- Published export spray programmes and export PHIs
- Spray diaries audited against export spray programme
- Residue monitoring to confirm compliance

Similar approach in Australia (AWRI)

Residue compliance tools

MRL Databases

- Australia: http://www.awri.com.au/industry_support/viticulture/
- NZ: http://pxmrl.nzfsa.govt.nz/
- USDA-FAS: http://www.fas.usda.gov/htp/MRL.asp

Information on processing factors

- http://www.bfr.bund.de/cm/349/bfr-compilation-of-processing-factors-for-pesticide-residues.zip

National policies on how MRLs are applied to wine

- Grape MRLs apply directly to wine: Aus, Can, Korea, NZ, USA, ???
- MRLs adjusted for residue reduction in processing : EU, Switzerland ??

MRL harmonisation

Codex Committee on Pesticide Residues -CCPR

- WTO-recognised MRLs for international trade of safe food
  - Not recognised by all countries
  - MRLs only for raw commodities unless residues concentrate (none for wine)
  - MRLs for older (unsupported) pesticides being withdrawn

Import MRLs

- Most countries will set specific Import MRLs to facilitate trade
- Data requirements vary
- Need to be negotiated country-by-country

What role for APEC

Promote MRL harmonisation

- Codex MRLs for key agrichemicals
- Co-ordinate Import MRL activities
- Promote the concept of separate 'domestic' MRLs (national GAP compliance) and 'import' MRLs (trade facilitation)

National residue compliance policies for wine

- Which countries take the effects of processing into account in their residue compliance testing