Principles for Establishing Maximum Residue Limits for Pesticide Residues in Food in Hong Kong

1 March 2011
Outline

- Key principles for determining Maximum Residue Limits (MRLs) / Extraneous Maximum Residue Limits (EMRLs) for pesticide residues in food in Hong Kong
- An introduction of food classification
- An overview of database of proposed MRLs/EMRLs for pesticide residues in food in Hong Kong
Key Principles

1) Adopt MRLs and EMRLs of individual pesticides recommended by the Codex Alimentarius Commission (Codex) in full as the backbone;

2) Adopt MRLs and EMRLs of the Mainland when there are no corresponding Codex standards; and

3) Supplement MRLs and EMRLs from the USA and then Thailand when there are no corresponding standards from Codex and the Mainland.
(1) Adopt Codex standards in full as the backbone

- Codex standards
  - established by the Food and Agriculture Organization and the World Health Organization of the United Nations in 1960s
  - important international reference point for consumers, food producers, processors, national food control agencies and the international food trade in developing food associated standards.
(2) Adopt standards of the Mainland when there are no corresponding Codex standards

- The Mainland is the largest and most important source of food in Hong Kong
  - 34% of fresh and semi-processed fruits, vegetables and cereals were imported in 2009
- Many of the Mainland standards are applicable locally
  - Application of pesticides in some parts of the Mainland is similar to that in Hong Kong
(3) Supplement related standards from the USA and Thailand when there are no corresponding standards from Codex and the Mainland

- USA and Thailand are our next most important trading partners, after the Mainland, in fresh fruits, vegetables and cereals

- USA
  - Regulatory system is well-established, transparent and science-based

- Thailand
  - MRLs set for cereals and tropical fruits are particularly relevant
Other Related Principles

1) Adopt Codex’s classification of food
2) Adopt Codex’s pesticide residue definitions
3) Adopt the higher MRL/EMRL available when a chemical is used as both pesticide and veterinary drug
4) Not to consider MRLs in individual food supplying countries for import control purpose
(1) Adopt Codex’s classification of food

- Supplement MRLs/EMRLs from the Mainland/USA/Thailand (in order of priority) only if their respective classification of the particular food commodity/subgroup/group fits in the Codex’s classification.
(2) Adopt Codex’s pesticide residue definitions

- The “residue definition of a pesticide” defines the exact combination of the pesticide and its metabolites, derivatives and related compounds to which the MRL/EMRL applies.

- Impossible to compare standards of Codex and those of other countries if the residue definitions are different.

- Adopt related MRLs/EMRLs of a particular pesticide from the Mainland/USA/Thailand (in order of priority) only if the residue definition is the same as that of Codex.
Example of different residue definitions

**Acephate**

![Acephate molecule](image)

**Codex**

Acephate

![Acephate molecule](image)

**USA**

Metabolite, O,S-dimethylphosphuramidothioate
(3) Adopt higher MRL/EMRL available when a chemical is used both as pesticide and veterinary drug

- Codex MRLs/EMRLs for both pesticide and veterinary drug
  - undergone thorough safety assessment
  - adequate to protect public health
(3) **Adopt higher MRL/EMRL available when a chemical is used both as pesticide and veterinary drug**

- Recommended by the JECFA/JMPR Informal Harmonization Meeting held in 1999
- Adopt higher MRL/EMRL available if both JECFA and JMPR have set the MRL/EMRL for the same chemical-food pair
- Risk assessment would be conducted to ensure that the proposed MRLs/EMRLs are adequate to protect public health locally
(4) Not to consider MRLs/EMRLs for import control purpose

 риск If the MRLs/EMRLs of a particular pesticide from the Mainland/USA/Thailand are established solely for import control purpose, that means there is no such registered use in that country, hence not applicable to HK

USA MRL for import control:  
Deltamethrin in lychee & starfruit

Proposed MRL in HK:  
NO – No such registered uses in USA
Food Classification
– An Introduction
**Codex’s Classification of Food (1)**

- Uniform nomenclature among international trade
- Facilitate the adoption of MRLs/EMRLs
- Five classes \( \rightarrow \) 19 types;
  - each type \( \rightarrow \) commodity groups \( \rightarrow \) subgroups \( \rightarrow \) individual commodities
- Each commodity/subgroup/group with an assigned code number
Codex’s Classification of Food (2)

Five classes:
- Class A Primary Food Commodities of Plant Origin
- Class B Primary Food Commodities of Animal Origin
- Class C Primary Animal Feed Commodities
- Class D Processed Foods of Plant Origin
- Class E Processed Foods of Animal Origin
<table>
<thead>
<tr>
<th>Type</th>
<th>No.</th>
<th>Group</th>
<th>Group Letter Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Fruits</td>
<td>001</td>
<td>Citrus fruits</td>
<td>FC</td>
</tr>
<tr>
<td></td>
<td>002</td>
<td>Pome fruits</td>
<td>FP</td>
</tr>
<tr>
<td></td>
<td>003</td>
<td>Stone fruits</td>
<td>FS</td>
</tr>
<tr>
<td></td>
<td>004</td>
<td>Berries and other small fruits</td>
<td>FB</td>
</tr>
<tr>
<td></td>
<td>005</td>
<td>Assorted tropical and sub-tropical fruits – edible peel</td>
<td>FT</td>
</tr>
<tr>
<td></td>
<td>006</td>
<td>Assorted tropical and sub-tropical fruits – inedible peel</td>
<td>FI</td>
</tr>
<tr>
<td>02 Vegetables</td>
<td>009</td>
<td>Bulb vegetables</td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td>010</td>
<td>Brassica (cole or cabbage) vegetables, Head cabbages, Flowerhead cabbages</td>
<td>VB</td>
</tr>
<tr>
<td></td>
<td>011</td>
<td>Fruiting vegetables, Cucurbits</td>
<td>VC</td>
</tr>
<tr>
<td></td>
<td>012</td>
<td>Fruiting vegetables, other than Cucurbits</td>
<td>VO</td>
</tr>
<tr>
<td></td>
<td>013</td>
<td>Leafy vegetables (including Brassica leafy vegetables)</td>
<td>VL</td>
</tr>
<tr>
<td></td>
<td>014</td>
<td>Legume vegetables</td>
<td>VP</td>
</tr>
<tr>
<td></td>
<td>015</td>
<td>Pulses</td>
<td>VR</td>
</tr>
<tr>
<td></td>
<td>016</td>
<td>Root and tuber vegetables</td>
<td>VR</td>
</tr>
<tr>
<td></td>
<td>017</td>
<td>Stalk and stem vegetables</td>
<td>VS</td>
</tr>
<tr>
<td>03 Grasses</td>
<td>020</td>
<td>Cereal grains</td>
<td>GC</td>
</tr>
<tr>
<td></td>
<td>021</td>
<td>Grasses, for sugar or syrup production</td>
<td>GS</td>
</tr>
<tr>
<td>04 Nuts and Seeds</td>
<td>022</td>
<td>Tree nuts</td>
<td>TN</td>
</tr>
<tr>
<td></td>
<td>023</td>
<td>Oilseed</td>
<td>SO</td>
</tr>
<tr>
<td></td>
<td>024</td>
<td>Seed for beverages and sweets</td>
<td>SB</td>
</tr>
<tr>
<td>05 Herbs and Spices</td>
<td>027</td>
<td>Herbs</td>
<td>HH</td>
</tr>
<tr>
<td></td>
<td>028</td>
<td>Spices</td>
<td>HS</td>
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</table>
Database of Proposed Local MRLs / EMRLs – An Overview
Example 1 – Adopt Codex MRLs in full as backbone

- Codex - MRL for individual commodity is available, but not for the whole group;
- Mainland/USA/Thailand – group MRL is available

Codex MRL:
- Cattle liver

USA MRL:
- Cattle, all edible offal

Proposed MRLs in HK:
1. Cattle liver (Codex)
2. Cattle, all edible offal except liver (USA)
Example 2 – Adopt Codex’s food classification

- Cyfluthrin in “root and tuber vegetables”

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Codex</th>
<th>Mainland</th>
<th>USA</th>
<th>Thailand</th>
<th>Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable, tuberous and corm</td>
<td>0.01*</td>
<td>0.01</td>
<td></td>
<td></td>
<td>0.01*</td>
</tr>
<tr>
<td>Potato</td>
<td>0.01*</td>
<td>1.0</td>
<td></td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Radish, root</td>
<td>0.20</td>
<td>1.0</td>
<td></td>
<td>0.20</td>
<td>0.20</td>
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<tr>
<td>Carrot</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>Sugar beet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Codex does not have the subgroup “vegetable, tuber and corm, except potato”
Example 3 – Merging of group MRL and individual commodity MRL

- Buprofezin in citrus fruits

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Codex</th>
<th>Mainland</th>
<th>USA</th>
<th>Thailand</th>
<th>Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus fruits</td>
<td></td>
<td>0.5</td>
<td>2.5</td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Oranges, sweet, sour</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td>--</td>
</tr>
</tbody>
</table>

- Group MRL and individual commodity MRL share the same numerical value
Import MRL and Import Exemption

- Trade facilitation measure in overseas jurisdictions
  - Canada, EU, Japan and USA
- Purpose
  - To cater for pesticide-food pairs or pesticides that have been found to be acceptable from the public health perspective but not yet included in the local legislation
**Import MRL and Import Exemption**

- The proposal:
  - A person may apply to DFEH
  - Pre-requisite –
    - An MRL/exemption is available in Codex or in another jurisdiction
    - Necessary document is provided
  - Application fee will be charged on full-cost recovery basis and is not refundable
Required Documentation for Import MRL/Exemption

- Documents showing that the concerned MRL or exemption is currently in force in another jurisdiction or adopted by Codex;
- Any other information that would be required for processing the application, e.g.,
  - residue definition of the concerned pesticides
  - appropriate laboratory method
  - supervised field trial data
  - results of food processing studies
  - relevant toxicological data, etc.
Import MRL and Import Exemption

- If adopted -
  - DFEH will make announcement in the Gazette
  - Concerned import MRL/exemption will apply as if it is included in the Regulation
  - DFEH will keep a list of import MRLs/exemption currently in force and allow for free public inspection
  - Incorporated into the future legislation in the long run
Conclusion (1)

Key principles

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Conclusion (2)

Other related principles

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Conclusion (3)

❖ To cater for pesticide-food pairs or pesticides that have been found to be acceptable from the public health perspective but not yet included in the local legislation

❖ A person may apply to DFEH for setting an import MRL/exemption
Thank you