Agro-product Safety Management:
Role of PRM and Codex’s requirement

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Codex Alimentarius Commission

An intergovernmental organization to find a consensus on the Codex Alimentarius

Multiple partners characteristic (contact points, ministries, Codex Secretariat, FAO, WHO, NGOs, etc.) in a common project to: Develop and maintain a collection of international food standards (the Codex Alimentarius)

Aimed to protect the health of consumers, and ensure fair international trade in food
186 member countries/organization, and 224 observers (NGOs, IGOs & UN)
# General Subject Committees

- General Principles (France)
- Import and Export Inspection and Certification Systems (Australia)
- Food Additives (China)
- Contaminants in Foods (Netherlands)
- Food Hygiene (United States)
- Methods of Analysis and Sampling (Hungary)

# Pesticide Residues (China)

- Food Labelling (Canada)
- Processed Fruits and Vegetables (United States)
- Fish and Fishery Products (Norway)
- Fresh Fruits and Vegetables (Mexico)
- Fats and Oils (Malaysia)
- Spices and Culinary Herbs (India)

# Ad-hoc intergovernmental task forces

- Antimicrobial Resistance (Republic of Korea)
- Animal Feeding (Denmark)
- Fruit Juices (Brazil)
- Foods derived from Biotechnology (Japan)
- Processing and Handling of Quick Frozen Foods (Thailand)

# FAO/WHO Coordinating Committees

- Africa (Ghana)
- Latin America and the Caribbean (Mexico)
- Asia (Indonesia)
- North America and South West Pacific (Tonga)
- Europe (Poland)
- Near East (Tunisia)

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<thead>
<tr>
<th>Commodity Committees</th>
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<td>Milk and Milk Products (New Zealand)</td>
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<td>Cocoa Products and Chocolate (Switzerland)</td>
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# Secretariat

- Codex Alimentarius Commission
- Executive Committee
- Secretariat

- General Subject Committees
- Commodity Committees
- Ad-hoc intergovernmental task forces
- FAO/WHO Coordinating Committees

**CODEX MRLs (CXLs)**

**International Food Standards on Pesticide Residues**
## Member participation of CCPR sessions

<table>
<thead>
<tr>
<th>CCPR Sessions (year)</th>
<th>members</th>
<th>observers</th>
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<td>39th (2007)</td>
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Flowchart of Codex MRL development

Pesticide R/D | Pesticide Chemistry | Toxicology | Bioactivity | Residue Chemistry | Environment impact
---|---|---|---|---|---

Pesticide Registration by National Authorities

JMPR Evaluation

<table>
<thead>
<tr>
<th>Toxicology</th>
<th>Residue Chemistry</th>
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<tbody>
<tr>
<td>ADI, ARfD</td>
<td>GAP, Supervised Residue Trials, STMR, HR Monitoring data for special products &amp; pesticides</td>
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Dietary Pattern & Exposure assessment

Recommendation: maximum residue level

Codex Procedure: Codex Maximum Residue Limits (CXLs)
**Codex procedure for Standard Setting (8-steps procedure)**

1. **Discussion paper**
2. **Executive Committee (critical review)**
3. **Proposed draft standard**
   - S2 elaboration
   - S3 consultation
   - S4 negotiation
4. **Draft standard**
   - S5 consultation
   - S7 negotiation
5. **Codex standard**

**Committee**
- Discussion paper
- Executive Committee (critical review)
- Commission (adoption)
- Committee

**Endorsement by general committees**

**Codex standard**

**Accelerated step 5/8**
Following the 8-steps procedure, CODEX MRLs (CXLs) are international food safety standards on pesticide residues in food or feed, those are adopted by CCPR before approved by CAC based on 2 basic principles.

1. Science:

Sound scientific analysis and evidence, in order to ensure the quality of the standards. Since 1995 Risk Analysis Principles has been introduced.

For establishment of Codex maximum residue limit (MRL = CXL), CCPR uses the risk assessment mechanism conducted by Joint Meeting on Pesticide Residues (JMPR), as FAO/WHO scientific advice.
The CXLs are decisions based on good agricultural practice (GAP), while at the same time considering the pesticide toxicity and exposure (dietary intake) with a possibly accurate uncertainty.

2. Concensus:

As a subsidiary committee of CAC, CCPR tries making every effort to reach agreement on the adoption or amendment of standards by consensus.
Outputs of CCPR:

---- ca. 3700 CXLs, for ca. 250 pesticides.

---- Risk analysis policy:
  Risk analysis Principles applied by CCPR,
  Periodic review of the Codex CXLs,
  Prioritization of CCPR works.

---- Other related documents:
  Codex classification of foods and animal feeds,
  Guidance on performance criteria for methods of
  analysis for the determination of pesticide residues
### CCPR recommendation of CXLs (2006-2015)

<table>
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Involvement of MRLs in Agro-product safety management

1. Monitoring of products for risk assessment
2. Surveillance on compliance with GAP
3. Safety Quality inspection in food trade
Challenges to CCPR:

1. Speed and Quantity of CXLs
   Ca. 1000 active ingredients of pesticides are registered world wide. Codex has elaborated CXLs only for ¼ of them with ca. 3700 MRLs. These couldn’t obviously meet the demand of international trade in food, especially for developing countries.
Challenges to CCPR:

2. Scientific assessment needs data supports
The CXL recommendation is based on residue data from GAP & Dietary exposure for risk assessment. But the data supplied are often limited.
Some key words about this issues: GAP, cGAP, Data set size, GEMS/Food consumption cluster diets, long & short term dietary exposure assessment, mrl estimation & uncertainty, commodity grouping, etc.
Challenges to CCPR:

3. Difficulties on the way to reach a consensus

As an intergovernmental forum, CCPR makes decisions on a consensus basis. But there is no absolute unanimity. This is reasonably reflecting the interest differentiation of parties of CCPR. Some key words related: Data sharing, level of protection (industrialized/developing, import/export countries), prioritization, national policy of pesticide use, etc..
Expectation to the members and observers

1. Expanding the residue data volume

Residue data set must be big enough for getting an acceptable estimation of real residues in foods. For these reasons, submission of different residue trials data from members are very appreciated. At least, integration of national trials data gained during pesticide registration into the dossier submitted by the sponsor for mrl recommendation are encouraged. JMPR could use these data through the extrapolation and proportionality principles on a case by case basis for accurate estimation of recommended mrls.
Expectation to the members and observers

2. Refining of the dietary consumption data

GEMS/Food consumption cluster diets for dietary exposure assessment are based on international statistics. There are only 17 groups, for example, Cluster C09 for Bangladesh, Cambodia, China, DPRK, Guinea Bissau, Indonesia, Laos, Myanmar, Nepal, Philippines, Sierra Leone, Thailand, Timor Leste, Viet Nam. There must be a false assumption that 15 countries are cooking using one recipe. Large portion data are needed for short term dietary exposure assessment. There are now only data submitted from fewer countries. The representativeness could be questioned therefore.
Expectation to the members and observers

3. Establishment of national food safety standard system with risk analysis principles and capacity building

FAO, WHO and some members strived to do more to help members, especially developing members, to establish their own food safety system, pesticide registration and marketing system. This will build up common basis for MRL harmonization and appropriate level of protection.
Expectation to the members and observers

4. Adoption of CXLs as national MRLs

Adopting CXLs as national food safety standard may be the best way for harmonization of MRLs. But there are always restraints. For example, limited amount of CXLs, differentiated GAP and dietary consumption pattern, that would reduce the common acceptability of CXLs.
Thanks for your attention