JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Since 1963

Use of Food Safety
Chemical Risk Assessment in Codex

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Food Standards Officer
Codex Secretariat
Codex Alimentarius Commission
Joint FAO/WHO Food Standards Programme

The Hague, Netherlands
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Codex Alimentarius Commission

- Intergovernmental food standards-setting body established by FAO and WHO
  - **Members**: 186 Member countries and 1 Member Organization (EU)
  - **Observers**: 224 IGOs & INGOs including UN Agencies

- **Objective → Development of worldwide food quality and safety standards to:**
  - Protect consumers' health and
  - Ensure fair practices in the food trade

- **Codex food safety standards → benchmark standards under the WTO/SPS Agreement**
CODEX ALIMENTARIUS COMMISSION

Subsidiary Bodies

Worldwide Technical Committees

General Committees → development of horizontal standards applying across food or food groups, mainly dealing with food safety issues →

- Microbiological issues
- Chemical issues
  - Additives
  - Contaminants
  - Pesticides
  - Residues of Veterinary Drugs (CCRVDF)
- Other issues
## Subsidiary Bodies

### Worldwide Technical Committees

#### General Committees → food safety issues:

<table>
<thead>
<tr>
<th>Food Safety Issue</th>
<th>Risk Assessment Body</th>
<th>Risk Management Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiological</td>
<td>JEMRA</td>
<td>CCFH</td>
</tr>
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<td>Additives</td>
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<td>Pesticides</td>
<td>JMPR</td>
<td>CCPR</td>
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<tr>
<td>Other issues</td>
<td>Expert Consultations</td>
<td></td>
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<tr>
<td>Biotechnology</td>
<td></td>
<td>TF/BT</td>
</tr>
<tr>
<td>Animal Feeding</td>
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<td>TF/AF</td>
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</tbody>
</table>

**CODEX ALIMENTARIUS COMMISSION**
Terms of Reference →

Development of Maximum Levels (MLs) for contaminants and toxins in food and feed

Identification of methods of analysis (MA) and development of sampling plans (SP) (for compliance with MLs)

Maximum Level for a contaminant in food or feed → Maximum concentration of the contaminant recommended by the Codex Alimentarius Commission to be legally permitted in a commodity

General Standard for Contaminants and Toxins in Food and Feed (GSCTFF) (CODEX STAN 193-1995) → MLs (may include Performance Criteria (MA) & SP)
General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995) → MLs (may include Performance Criteria (MA) & SP)

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<thead>
<tr>
<th>Contaminant</th>
<th>Commodity</th>
<th>ML</th>
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<tbody>
<tr>
<td>Aflatoxins, Total</td>
<td>Tree nuts (RTE)</td>
<td>10μg/kg</td>
</tr>
<tr>
<td></td>
<td>(almonds, hazelnuts, pistachios, Brazil nuts)</td>
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</tr>
<tr>
<td>Dried figs</td>
<td>Raice, polished</td>
<td>0.2mg/kg</td>
</tr>
<tr>
<td>Inorganic Arsenic</td>
<td>Raice, polished</td>
<td>0.4mg/kg</td>
</tr>
<tr>
<td>Cadmium</td>
<td>Raice, polished</td>
<td>0.02mg/kg</td>
</tr>
<tr>
<td>Lead</td>
<td>Milks</td>
<td>250mg/kg</td>
</tr>
<tr>
<td>Tin</td>
<td>Canned foods</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(other than beverages)</td>
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Request for new work

Identification of a food safety issue at national/regional level

Significant risk to public health

Known or expected problem in international trade

Nomination of New Substances for the Priority List of Contaminants and Naturally Occurring Toxicants for Evaluation by JECFA (if not yet evaluated by JECFA or need re-evaluation / additional evaluation e.g. refinement of exposure assessment ⇒ establishment of new MLs, revision of MLs, additional MLs) → Circular Letter attached to the Report of the CCCF Session

Priority List of Contaminants and Naturally Occurring Toxicants proposed for evaluation by JECFA

Future Work → Based on the outcome of the JECFA risk assessment
Nomination of New Substances for the Priority List of Contaminants and Naturally Occurring Toxicants for Evaluation by JECFA

Priority List of Contaminants and Naturally Occurring Toxicants proposed for evaluation by JECFA

Risk Analysis Principles applied by CCCF → Prioritization Criteria

GSCTFF → Preamble: Principles for the Establishment of MLs in food and feed

Availability of data (quality & quantity) to perform the risk assessment ⇒

Toxicological data

Analytical data

Intake data

Other considerations

Availability of data → At present / In the near future (when?)
Follow-up on JECFA evaluations in CCCF

JECFA → PTWI, PMTDI, ALARA, Other Risk-Benefits Recommendations

PTWI – Provisional Tolerable Weekly Intake
PMTDI – Provisional Maximum Tolerable Daily Intake
ALARA – As Low As Reasonably Achievable

CCCF → ML and/or COP (Code of Practice)

COP → (GAPs/GMPs/etc. – reduce level of contamination)

GAP / GMPs – Good Agricultural / Manufacturing Practices

Development of COP

COP → Alternative / Complementary risk management option

PTWI / PMTDI / ALARA → ML ↓↓ → COP

Fill the gap JECFA – CCCF ⇒ COP

COP/ML – Aflatoxins, dried figs
ML/COP – Inorganic arsenic, rice
Follow-up on JECFA evaluations in CCCF

CCCF → ML < PTWI / PMTDI \( f(\text{data} = \text{contamination} / \text{consumption}) \) but also: availability of / access to analytical methods & technologies (GAPs/GMPs)

- All cluster diets GEMS/Food
- No trade disruption (rejections at inspection point usually at import stage)
- Food Security (exceedance in GEMS/Foods cluster diets)

Fumonisins maize / maize products (staple food – Africa / LAC)
Follow-up on JECFA evaluations in CCCF

CCCF → ML ≅ ALARA $f$(data = contamination / consumption)
but also: availability of / access to analytical methods &
technologies (GAPs/GMPs)

No trade disruption (rejections at inspection point usually at
import stage)

Food Security (exceedance in GEMS/Foods cluster diets)

ALARA → Genotoxic carcinogens (mycotoxins),
Withdrawal of PTWI (arsenic, lead)

Inorganic Arsenic in husked rice (staple food – Asia)
Revision of MLs for lead in commodities in the GSCTFF (widely spread
contamination in foods in general)
Follow-up on JECFA evaluations in CCCF

CCCF/Codex Procedures

Discussion Papers → feasibility to establish ML:
- available data, occurrence in foods, intake levels,
- analytical methods, sampling plans,
- exposure and risk assessment,
- risk management considerations and public health aspects as well as agricultural,
- technological and commercial aspects

Project document → template to provide the rationale for the proposal: assessment against the relevance of the proposal to the work of CCCF, Codex

Step Procedure (Regular Procedure – 8 Steps /
Fast-Track Procedures – 5/8 Step (omission of Steps 6/7)

Adoption by CAC

GSCTFF
General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995) → MLs (may include Performance Criteria (MA) & SP)

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