Food Safety Standards: Key Aspects, Best Practices, Recommendations and Instruments to Support Governments

Barbados, July 2011

C O D E X A L I M E N T A R I U S

International Food Standards

World Health Organization

Food and Agriculture Organization of the United Nations

Codex Alimentarius Commission
What is it?

- Intergovernmental food standards-setting body, established by FAO and WHO in 1961/63
- Members
  - 184 Member Countries
  - 1 Member Organization (European Union)
- Observers
  - Specialized UN Agencies
  - International intergovernmental organizations
  - International non-governmental organizations

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Codex Alimentarius Commission
Objectives

- Dual objective:
  - Protecting the health of consumers
  - Ensuring fair practices in food trade

  → Facilitation of trade
- Coordination of food standards work with other international governmental and non governmental organizations
- Development and maintenance of the **Codex Alimentarius**

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Codex Standards

- Non-mandatory in nature
- Codex standards and related texts have since 1995 become international benchmarks for harmonization under the WTO/SPS Agreement
- Reference by policy-maker and regulators

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CODEX ALIMENTARIUS COMMISSION

Structure

Subsidiary bodies

- Executive Committee
  - Member for Latin America and the Caribbean: **Jamaica**
- Secretariat
- General committees
- Commodity committees
- Task Forces
- Regional committees
  - Coordinator for Latin American and the Caribbean: **Costa Rica**

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Executive Committee | **Secretariat**

General Committees

WTO SPS - TBT	General Principles (France)
WTO/SPS	Food Additives (China)
WTO/SPS	Food Hygiene (United States of America)
WTO SPS-TBT	Food Labelling (Canada)
WTO SPS-TBT	Methods of Analysis and Sampling (Hungary)
WTO/SPS	**Pesticide Residues (China)**
WTO/SPS	Residues of Veterinary Drugs in Foods (United States of America)
WTO SPS-TBT	Food Import and Export Inspection and Certification Systems (Australia)
WTO SPS-TBT	Nutrition and Food for Special Dietary Uses (Germany)
WTO/SPS	**Food Contaminants (Netherlands)**

Commodity Committees

- Milk and Milk Products (New Zealand) **ADJOURNED *SINE DIE***
- Processed Fruits and Vegetables (United States of America)
- Meat Hygiene (New Zealand) **ADJOURNED *SINE DIE***
- Fish and Fishery Products (Norway)
- **Fresh Fruits and Vegetables (Mexico)**
- Fats and Oils (Malaysia)
- Sugar (Colombia)
- Cereals, Pulses and Legumes (United States of America) **ADJOURNED *SINE DIE***
- Vegetable Proteins (Canada) **ADJOURNED *SINE DIE***
- Natural Mineral Waters (Switzerland) **ADJOURNED *SINE DIE***
- Cocoa and Chololate Productos (Switzerland) **ADJOURNED *SINE DIE***

Task Forces

- Foods from Biotechnology (Japan) **DISSOLVED**
- Fruit & Vegetable Juices (Brazil) **DISSOLVED**
- Quick Frozen Foods (Thailand) **DISSOLVED**
- Animal Feeding (Switzerland)
- Antimicrobial Resistance (Korea)

WTO SPS-TBT

Regional Coordinating Committees

- Africa (Cameroon)
- Asia (Japan)
- Europe (Poland)
- Latin America and the Caribbean (Costa Rica)
- Near East (Lebanon)
- North America and South West Pacific (Papua New Guinea)

WTO SPS-TBT

CODEX ALIMENTARIUS COMMISSION

- Standards development - Elaboration Procedure

Regular

The CAC decides to elaborate a new text based on the proposal of the Committee and the Critical Review of the CCEXEC

STEP 1

The Lead Country develops a proposed draft text

STEP 2

The Codex Secretariat sends the proposed draft text for comments to members and observers

STEP 3

The Committee considers the proposed draft text based on the comments submitted

STEP 4

The CAC adopts the proposed draft text as draft text based on the proposal of the Committee, the comments submitted and the Critical Review of the CCEXEC

STEP 5

The Codex Secretariat sends the draft text for comments to members and observers

STEP 6

The Committee considers the draft text based on the comments submitted

STEP 7

The CAC adopts the draft text as a final text based on the proposal of the Committee, the comments submitted

and the Critical Review of the CCEXEC

STEP 8

Omission → Steps 6 and 7

* Scientific basis
* Economic considerations
* Consensus when possible
* Voting – rare lower acceptance of standards

The CAC adopts the proposed draft text as draft text based on the proposal of the Committee, the comments submitted

and the Critical Review of the CCEXEC

STEP 5/8

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Accelerated

The CAC decides to elaborate a new text based on the proposal of the Committee and the Critical Review of the CCEXEC

STEP 1

The Lead Country develops a proposed draft text

STEP 2

The Codex Secretariat sends the proposed draft text for comments to members and observers

STEP 3

The Committee considers the proposed draft text based on the comments submitted

STEP 4

The CAC adopts the proposed draft text as a final text based on the proposal of the Committee, the comments submitted and the Critical Review of the CCEXEC

STEP 5A

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CODEX ALIMENTARIUS

Outputs

Standards

- Commodity ⇒ quality (+ safety)
- General ⇒ safety (+ quality)

Codes of Practices

- Hygiene (GHP)
- Production Technology (GMP)
  = processing, handling, packaging, storage, transport, etc.

Guidelines

- Labelling
- Inspection/Certification
- Sampling

Principles

- Hygiene
- Inspection/Certification

Databases

- Maximum Residue Limits (MRLs) → pesticides & veterinary drugs
- Maximum Levels (MLs) → food additives & *contaminants* (*coming soon*)

Miscelaneous

- Methods of Analysis

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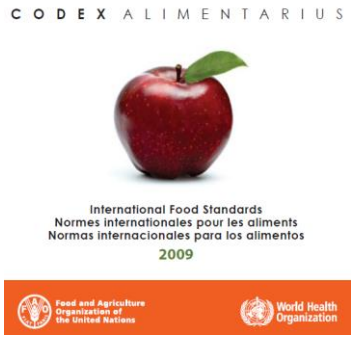
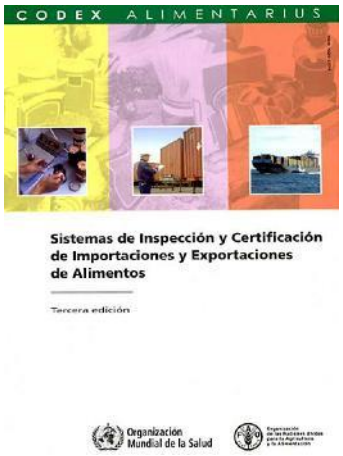
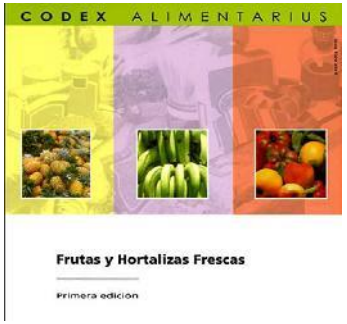
The Result:

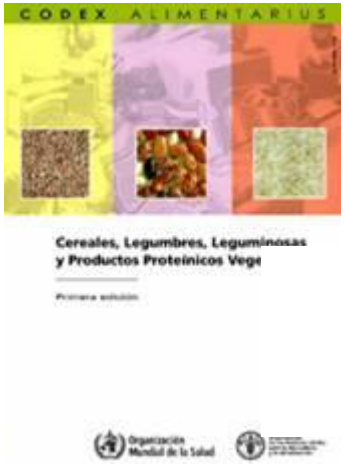
Also available online at:
http://www.codexalimentarius.net

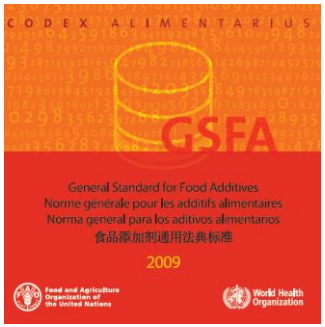
The CODEX ALIMENTARIUS –
a collection of standards, guidelines, principles, codes of practices, etc.











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Delays & Blockages in the Codex standards-setting process

Delays

- Slow discussion of texts → returning drafts to any earlier steps in the procedure
- No [enough] discussion of texts → Time constraints to discuss the item due to workload of the Agenda

Blockages

- No agreement on whether to start work
- Draft standards held at Step 8 (CAC)
- Discontinuation of work

WTO/SPS

Scientific Basis – Safety Factors ⇒ Scientific advice:

- Not available
- Not conclusive
- Different interpretation – uncertainty, precaution
- Application (availability/type of methods of analysis & sampling)

WTO/TBT

Other Legitimate Factors – Non food safety factors ⇒ cultural, economical or other considerations

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WTO/SPS AGREEMENT

Article 5 – Risk Assessment

Appropriate Level of Protection Sanitary/Phytosanitary Measures (ALOPs)

Members ensure sanitary & phytosanitary measures based **risk assessment** developed by international organizations

Factors to be taken into account →

scientific evidence, processes and production methods, inspection/sampling/testing methods, ecological/environmental conditions

economic factors = potential damage – loss of production/sales, cost-effectiveness of alternative approaches to limiting the risk

Determination of ALOP

minimizing negative trade effects = avoiding arbitrary/unjustifiable distinctions in different ALOPs = discrimination or disguised restriction on international trade

Insufficient scientific evidence → precautionary measures (interim basis – reasonable period of time)

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Best Practices to enhance standards development

- Criteria for Establishment of Work Priorities → CCFH
- Codex Step Procedure → CCPR
- Critical Review
- Monitoring of the Standards Development
- Guidelines for the Operation of Electronic/Physical Working Groups
- Guidelines for the Conduct of Meetings
- Guidelines for Chairpersons
- Committee on General Principles: Standards held at Step 8
- Measures to facilitate consensus
- Statements of Principles concerning the Role of Science in the Codex decision-making process and the extent to which other factors are taken into account – Criteria for the Consideration of Other Factors
- Statements of Principle relating to the Role of Food Safety Risk Assessment

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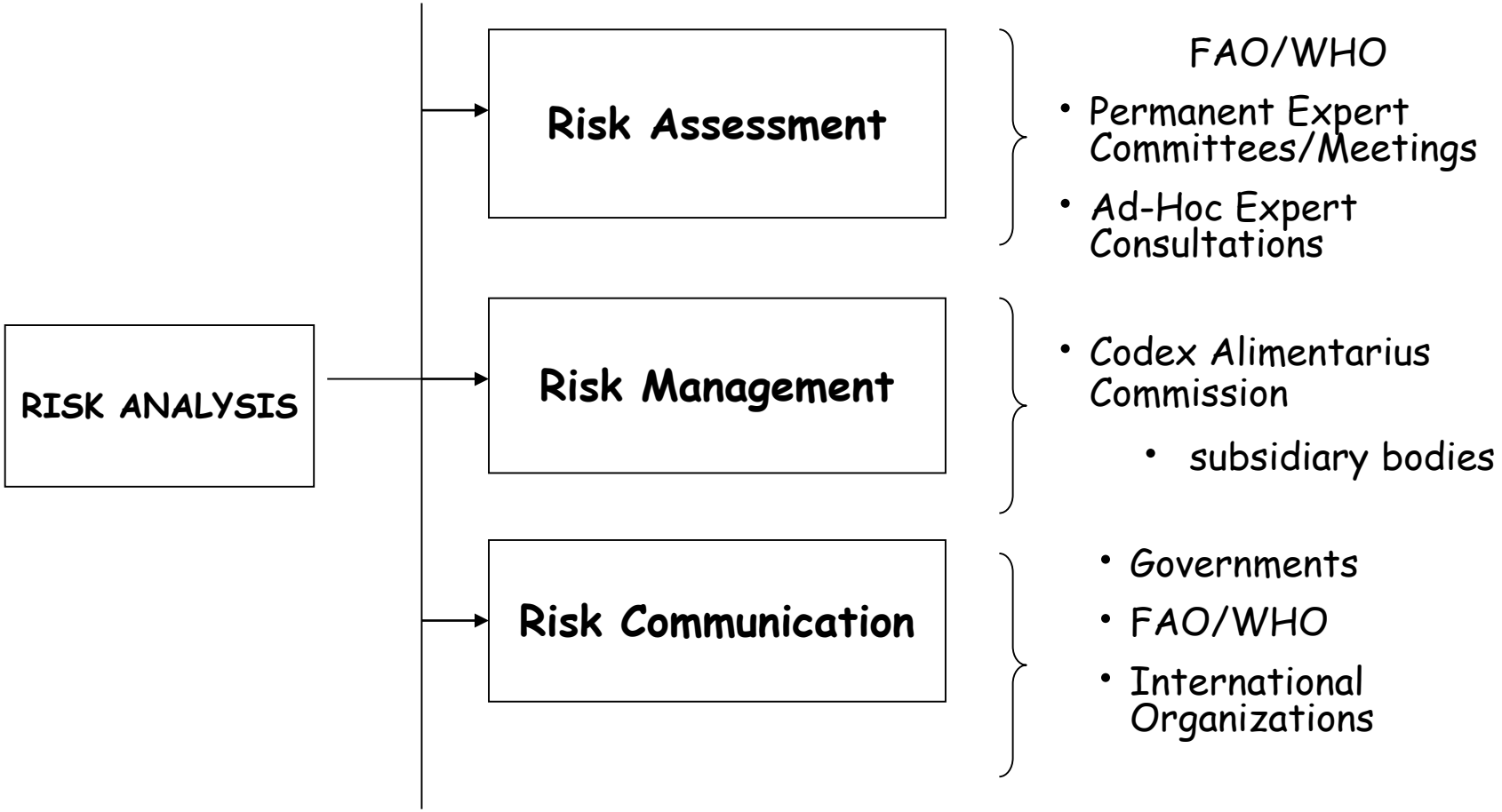
Who does risk analysis – Role Players



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Codex

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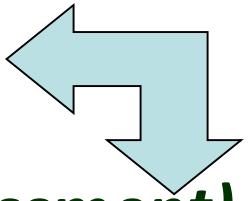
Codex Alimentarius
its scientific basis

Liaison & Separation



Codex ***(Risk management)***

FAO/WHO Expert Bodies ***(Risk assessment)***

- JECFA – food additives, veterinary drug residues, contaminants in food
- JMPR – pesticide residues in food
- JEMRA – microbiological hazards in food
- JEMNU - nutrition (*newly established*)
- *ad hoc* Expert Consultations (for antimicrobial resistance, biotechnology, biotoxin, etc)

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Codex & Expert Committees

Codex Committees on:

- Food Additives
- Contaminants in Food
- Residues of Veterinary Drugs in Food

- Pesticide Residues
- Food Hygiene
- Others
  - Biotechnology
  - Animal Feeding
  - Antimicrobial Resistance

FAO/WHO Expert Committees

- JECFA – Food Additives, Contaminants & Residues of Veterinary Drugs
  JMPR – Pesticide Residues
- JEMRA – Microbiological hazards
- Expert Consultations – Biotechnology, Animal Feeding, Antimicrobial resistance, etc.

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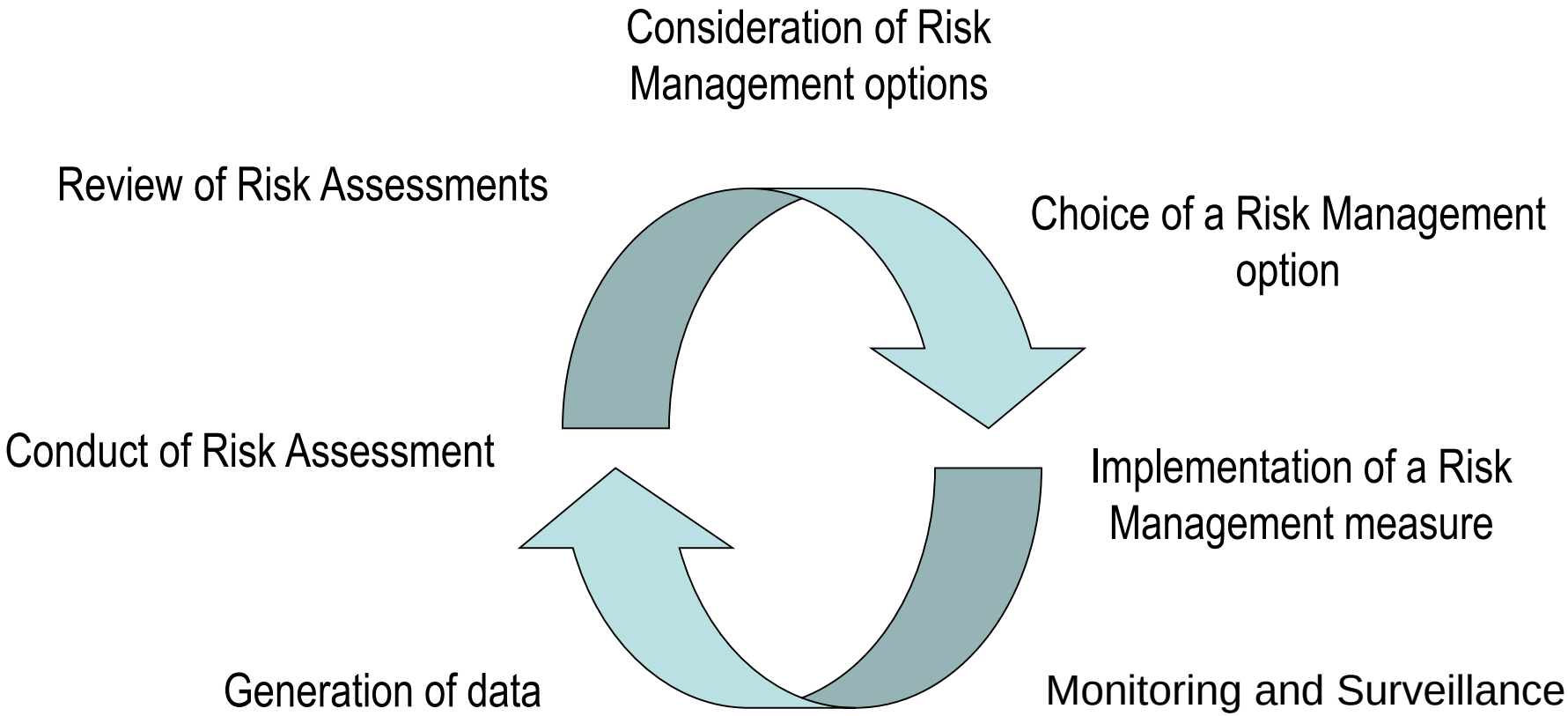
Project Cycle of Risk Analysis



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Challenges – Availability of Scientific Advice

- Getting speedy scientific advice
- Speed of standard development
- Finding consensus in a heterogeneous membership
- Participation of developing countries in the debates
- Implementation of Codex standards

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Challenges – Scientific Advice

- Data generation in developing countries
- Priority Setting at the Codex Committee level
- Funding of FAO/WHO Expert Bodies
- Training of expert in developing countries
- Divergent Risk Assessment Policies
  - e.g. qualitative vs quantitative
- Divergent Risk Management Approaches
  - e.g. use of precaution

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Challenges

- Participation of developing countries:
  - Financial/human resources
  - Regulatory framework
  - Food control infraestructure
  - Coordination at national/regional level – Codex infrastructure (Codex Contact Points, National Codex Committees)

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Instruments to support Governments

FAO/WHO

capacity building associated with:

- participation in standards setting-process:
  - workshops prior to coordinating committees
  - FAO/WHO Trust Fund
    - Objective 1: widen participation in Codex
    - Objective 2: strengthen overall participation in Codex
    - Objective 3: enhance scientific/technical participation in Codex
  - dedicated website CCLAC: http://www.cclac.org/
- implementation of standards –

  strengthening of food control systems

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Key Aspects of Codex Work on Food Safety Issues

Food of Animal Origin

- Fish and Fishery Products
- Poultry Products
- Meat & Meat Products
- Milk and Milk Products
  - CCCF, CCFH, CCRVDF, TFAF, TFAMR, CCFFP

Food of Plan Origin

- Fruit & Vegetables
  - CCFH, CCPR

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Fish and Fishery Products

- Commodity Standards → quality & **safety aspects** ⇒ hygiene & contaminants

- Code of Practice – General Principles for Food Hygiene
- Code of Practice for Fish and Fishery Products → quality & **safety aspects**: Particularly microbial contamination & related toxins

  - biotoxins -

  Also includes requirements for aquaculture
- Guidelines on the Application of General Principles of Food Hygiene to the Control of Pathogenic *Vibrio* Species in Seafood → Annex on Control Measures *Vibrio parahaemolyticus* & *Vibrio vulnificus* in Bivalve Molluscs) → methodology & data collection FAO/WHO

- MLs – Heavy Metals → Standard for Contaminants and Toxins in Food and Feed

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Fish and Fishery Products

CoP/FFP

- This Code applies to the growing, harvesting, handling, production, processing, storage, transportation and retail of fish, shellfish and aquatic invertebrates and products thereof from marine and freshwater sources that are intended for human consumption.
- Fish = Fresh, (Quick) Frozen, Minced Fish, Salted/Dried Fish
- Annex – Hazards associated with fresh fish, shellfish and other aquatic invertebrates: Microbial (Parasites, Bacteria, Viruses) including toxins (Biotoxins), Chemical (heavy metals, residues of pesticides – as contaminants, veterinary drugs – aquaculture) & Physical – bones, glass, etc.

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Fruits and Vegetables

- MRLs/Pesticides
  - Revision of the Risk Analysis Principles applied by the CCPR: Periodic Review Procedure
  - Grouping MRLs for Minor/Specialty Crops

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CCPR
Periodic Review & Deletion of MRLs

- **Periodic Re-evaluation**:
  - 15 years review → "old" chemicals
  - 50% evaluation vs re-evaluations
  - Commitment by the sponsor of the compound to provide supporting data for review with a firm date for submission → Deletion of Codex MRLs

Revision of
Risk Analysis Principles
applied by CCPR
– 44th CCPR -

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Contaminants: ML for Melamine in Food (powdered infant formula and foods other than infant formula) and Feed

ML for melamine in food & feed (2.5 mg/kg)

Note 1: The maximum level applies to levels of melamine resulting from its non intentional and unavoidable presence in feed and food. The maximum level does not apply to feed and food for which it can be proven that the level of melamine higher than 2.5 mg/kg is the consequence of: (i) authorised use of cyromazine as insecticide. The melamine level shall not exceed the level of cyromazine; (ii) Migration from food contact materials taking account of any nationally authorised migration limit.

Note 2: The maximum level does not apply to melamine that could be present in the following feed ingredients / additives: guanidino acetic acid (GAA), urea and biuret, as a result of normal production processes

ML for melamine in infant powdered formula (1 mg/kg)

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Melamine in Food (liquid infant formula)

- 0.15 mg/kg Liquid infant formula (as consumed)
- **Note:** The maximum level does not apply to liquid infant formula for which it can be proven that the level of melamine higher than 0.15 mg/kg is the consequence of migration from food contact materials taking into account any nationally authorized migration limit.
- *0.5 mg/kg (?)*

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Animal Feeding
TFAF - Terms of Reference

- Objectives:

With the aim of ensuring the safety of foods of animal origin, the Task Force should develop science based guidelines or standards specific to the following terms of reference.

- Outputs:

(i) Guidelines on the application of risk assessment methodologies applicable to residues/ contaminants in animal feed; and

(ii) Prioritised list of hazards in feed ingredients, based on clear criteria

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Task Force on Antimicrobial Resistance (1/2)

Draft Guidelines on Risk Analysis of Antimicrobial Resistance - Objectives

- Provide science-based guidance on processes and methodology for risk analysis and its application to foodborne resistance related to non human use of antimicrobial agents
- Assess the risk to human health associated with the presence and transmission of antimicrobial resistance microorganisms and determinants

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Task Force on Antimicrobial Resistance (2/2)

The document provide guidance on activities related to :

- Preliminary risk management (*risk managers*)
- Risk assessment (*risk assess*sors)
- Risk management (*risk managers*)
- Risk communication (*risk managers, risk assessors and other interested parties*)

Does not address issues related to residues, markers genes in recombinant -NA plant and microorganisms, starter culture

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Poultry Products

- Guidelines for the Control of *Campylobacter* and *Salmonella* in Chicken Meat
- Complementary codes: frozen food, hygiene, animal feeding
- Also work on antimicrobial resistance
- MRLs – Veterinary Drugs/Pesticides

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Meat & Meat Products

- Code of Hygienic Practice for Meat
- Also work on animal feeding & antimicrobial resistance
- MRLs – Veterinary Drugs/Pesticide Residues → Codex Databases

Milk & Milk Products

- Code of Hygiene Practice for Milk and Milk Products
- Code of Practice for the Reduction of Aflatoxin B1 in Raw Materials and Supplemental Feedingstuffs for Milk Producing Animals
- Also work on animal feeding & antimicrobial resistance
- MRLs – Veterinary Drugs/Pesticide Residues
- MLs – Micotoxins/Melamine → Standard for Contaminants and Toxins in Food and Feed

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International Food Standards

Thank you for your attention

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