Importance of International Standards and MRLs and MLs for Accurate Data Analysis

Pisan Pongsapitch

National Bureau of Agricultural Commodity and Food Standards (ACFS), Thailand

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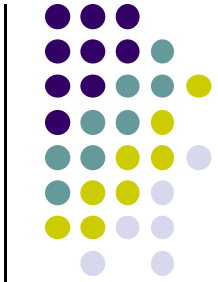
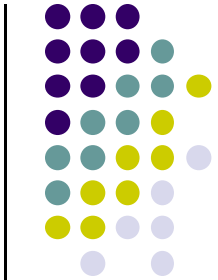


- Importance of Codex
- Codex Food Safety Standards
- Use of Food Safety Standards
- Conclusions

International Agreement : WTO-SPS Agreement

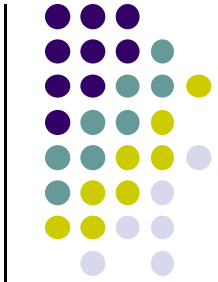


Agreement on the Application of Sanitary and PhytoSanitary Measure

Protecting life or health of

- **human**
- **animals**
- **plants**

SPS Agreement

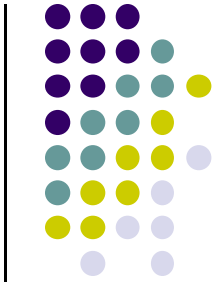


Article 2

(1) Member have the right to take sanitary and phytosanitary measures (SPS) necessary for the protection of human, animal or plant life or health…

(2) SPS Measures applied only to the extent necessary based on scientific principles…

SPS Agreement

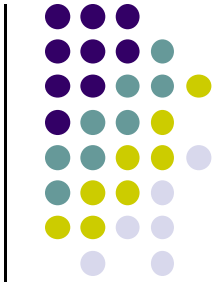


Article 3

(2) SPS Measures which conform to international standard, shall be deemed to be necessary to protect human,…life or health

(3) Members may introduce or maintain SPS measures which result in a higher level or SPS protection than measures based on the relevant international standards, if there is a scientific justification…

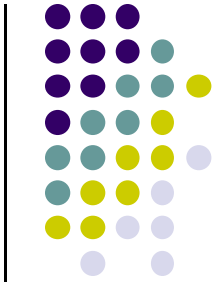
SPS Agreement



Article 3

(1) Members shall ensure that their SPS measures are based on an assessment, as appropriate to the circumstances, of the risks to human…life of health, taking into account risk assessment techniques developed by the relevant international organizations.

International Standards



CODEX >>> human health

(Joint FAO/WHO Food Standards Programme)

IPPC >>> plant health

(International Plant Protection Convention)

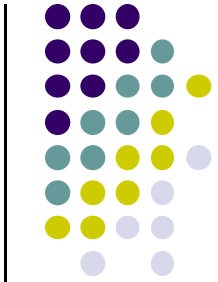
SPS

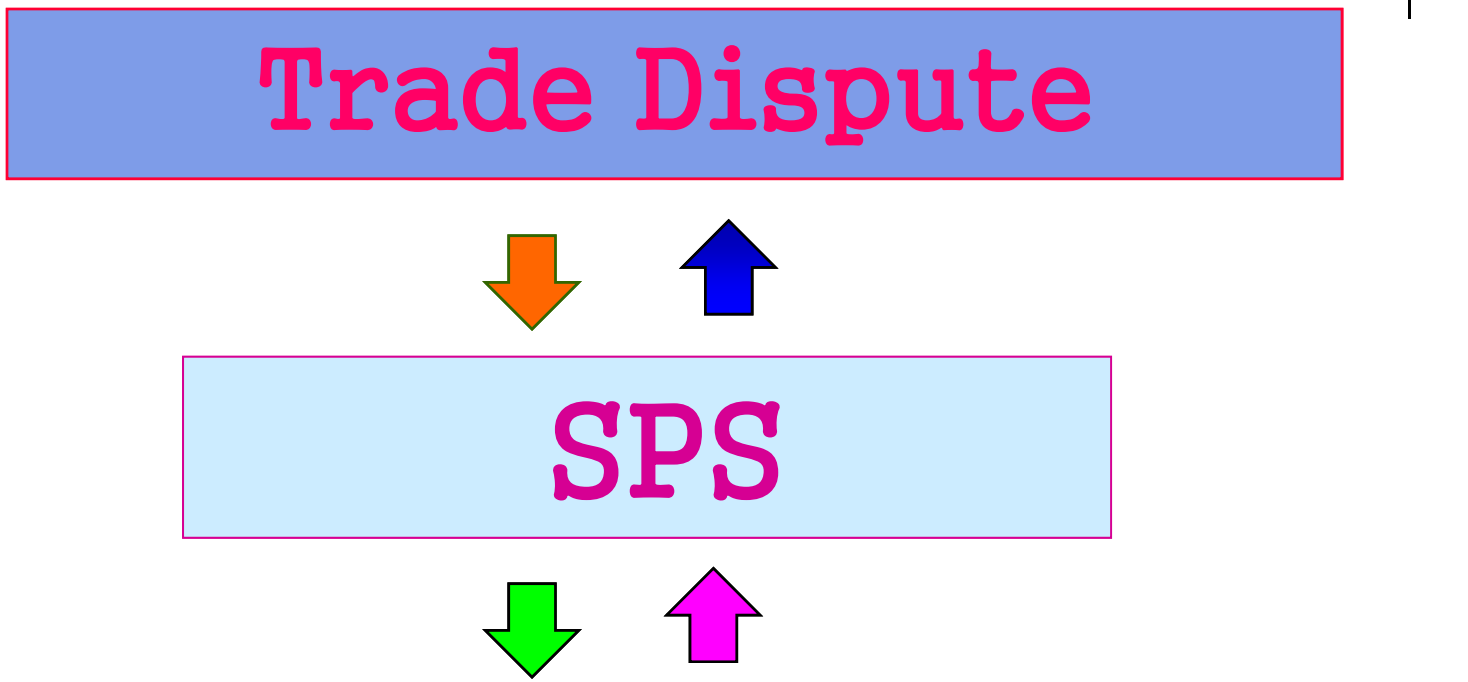
OIE >>> animal health

(The Office International des izooties,

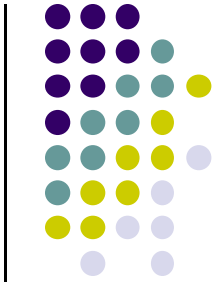
World Organization for Animal Health)

International trade





WTO/SPS Trade Concerns/Disputes



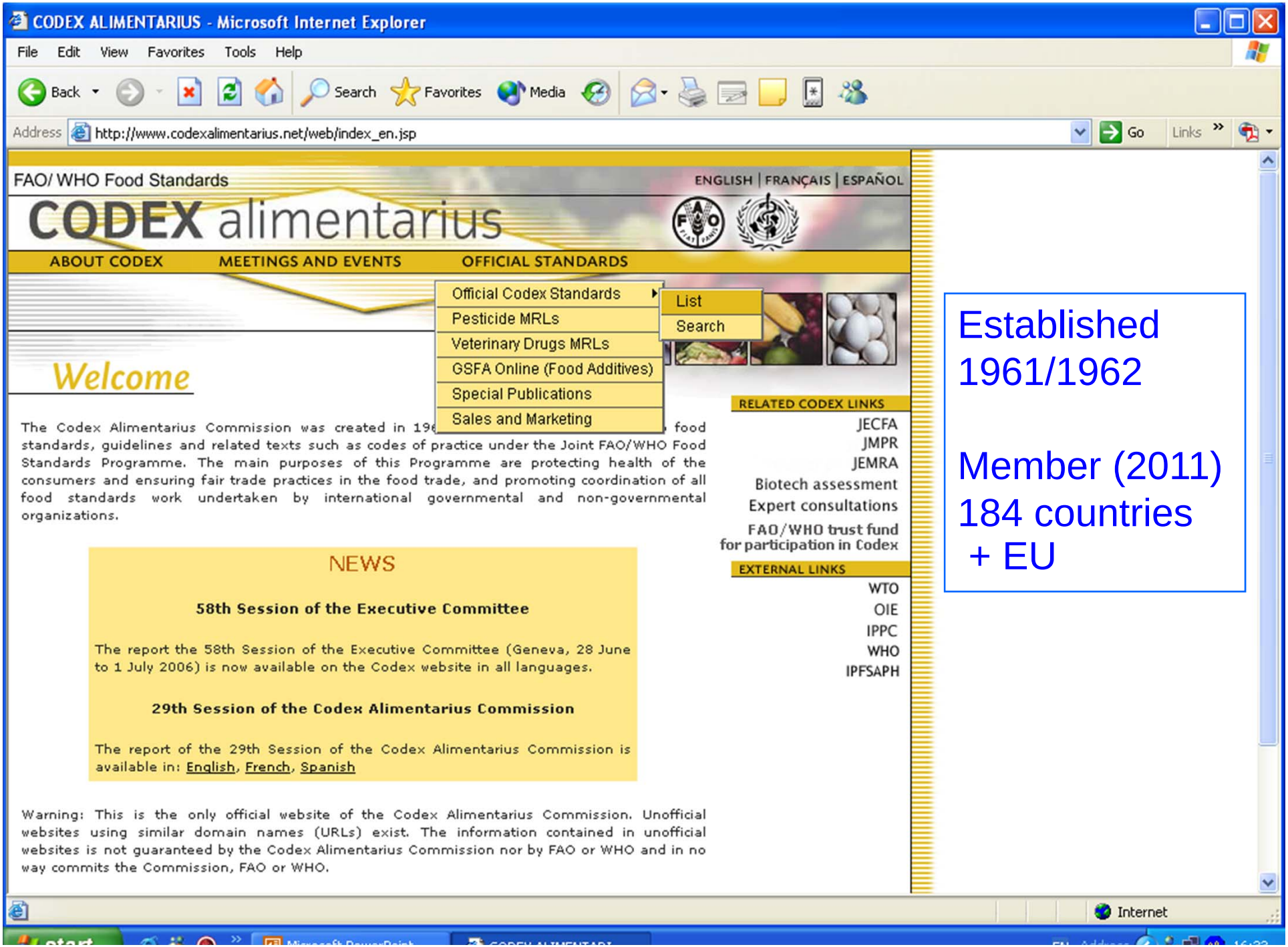
- Specific trade concern – raised by Member(s) to other Member(s) under WTO/SPS Committee
- 312 STCs in 16 years, of which 28% are on food safety
- 22 food standard related STCs raised in 2010-11 SPS Committee on :
  - Chemical (MRLs MLsd) (9), Specific foods(6), Labelling (2)
- 40 SPS trade disputes are in WTO process , of which 15 cases the Dispute Settlement Bodies have been established – only 3 cases related to food safety

Codex : Joint FAO/WHO Food Standards Programme

Objectives

- Protecting health of consumers
- Ensuring fair practices in international food trade

by → Elaboration of international standards & related texts



Established
1961/1962

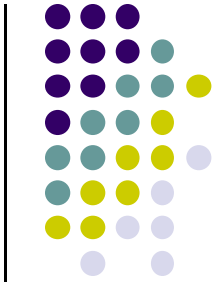
Member (2011)
184 countries
+ EU

Codex Bodies

- Codex Alimentarius Commission (CAC)
- Codex Executive Committee
- Codex Subsidiary bodies - Committee
  - ad hoc Task force
- FAO/WHO Secretariat

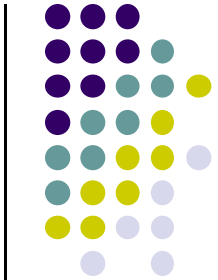
❖ *Expert bodies*

Expert Bodies (under FAO/WHO)



- Joint FAO/WHO Meetings on Pesticide Residues (JMPR)
- Joint FAO/WHO Expert Committee on Food Additives (JECFA) – food additives, contaminants, vet drugs
- Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA)
- Joint FAO/WHO Expert Meetings on Nutrition (JEMNU) (on process of establishment)
- FAO/WHO Expert Consultation on specific issue e.g. Nanotechnology

Codex Standards relating to Food Safety



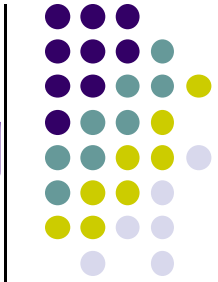
1. Food safety limits

- MRLs (Maximum Residue Limits) – Pesticide residue, Vet drug residue
- MLs (Maximum Levels) - Contaminants
- MLs (Maximum Use Levels) - Food additives
- Microbiological criteria (MC) – Pathogenic microorganisms

2. Code of Hygienic Practices

3. Others e.g. Labelling, Methods of analysis & sampling

MRLs : Pesticide & Veterinary Drug



Residues from the uses of

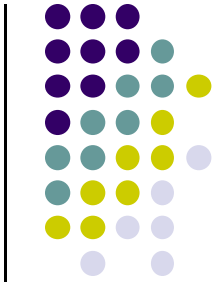
1. Pesticide including :

- Insecticide, Acaricide, Rodenticide
- Fungicide
- Herbicide
- Plant growth regulator

2. Veterinary drug including

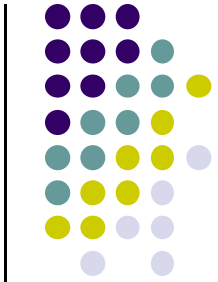
- Substances applied to food producing animal for therapeutic, prophylactic or diagnostic or for modification of physiological functions/behaviour

Codex Standards on Pesticide Residues



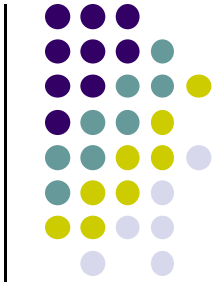
- Pesticides in the system ~ 240
- Pesticides with limits ~ 175
  - MRL 170 pesticides >3000
  - EMRL 5 pesticides ~ 50
- MRL on step process ~ 30

Codex Standards on Residues of Veterinary Drugs



- Veterinary drug residues with limits ~ 50
- Total MRL already established > 500
- Commodities e.g. muscle, fat, milk, egg, liver, kidney including fish & crustaceans

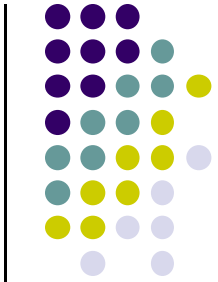
MLs : Contaminants



Contaminant means any substance not intentionally added to food, which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination.

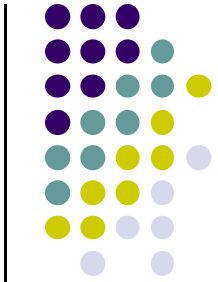
The term does not include insect fragments, rodent hairs and other extraneous matter. (Codex Procedural Manual)

Contaminants



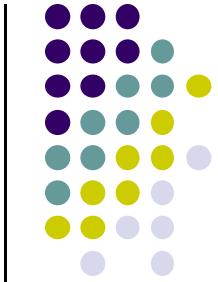
- Environmental contaminants : heavy metals, POPs, PCBs, dioxin
- Industrial contaminants : 3-MCPD, PAH
- Mycotoxins : aflatoxin, ochratoxin A, fumonisin, DON
- Prohibited/Banned substances : melamine
- Codex Maximum Level (ML) = maximum permissible/tolerable level

Food Additives



- intentional added to food for a technological (including organoleptic) purpose
- Codex Maximum Use Level (ML) = maximum level added into food not maximum detectable level
- Codex General Standard on Food Additives (GSFA)
- Not include food ingredients, processing aids, contaminants, pesticides, vet drugs, nutrients,

Pathogens in Foods : MC



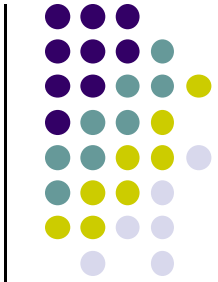
- Microbiological Criterion (MC) :

  - A criterion that defines the accepability of a food lot, based on the absence or presence, or number of microorganisms including parasites and/or quantity of their toxins/metabolites, per unit(s) of mass, volume, area or lot. (CAC/GL 21-1997)

  - A metric which can indicate the acceptability of a food, a food lot, a process or a food process environment at a specific point in the food chain following the outcome of sampling and testing for microorganisms, parasites and/or their toxins/metabolites

  (draft revised CAC/GL 21-1997)

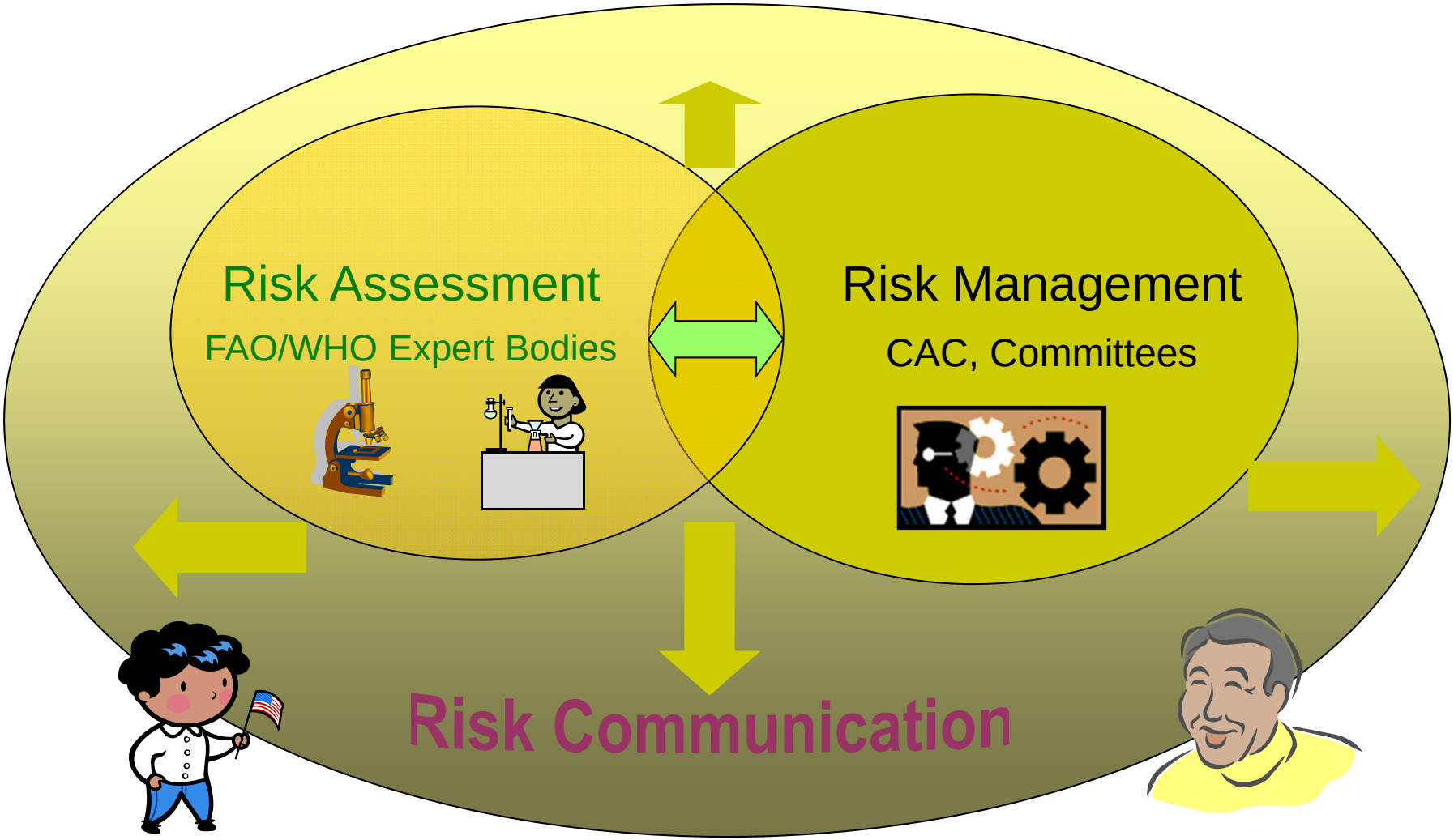
Codex : MC



MC already eslablished by CCFH

- *Enterobacter (Cronobacter) Sakazakii* and *Salmonella spp.* in powdered infant formula (PIF) and *Salmonella spp.* in powdered follow up formula (FUF)
- *Listeria monocytogenes* in ready-to-eat (RTE) food
- MC in Codex standard for natural mineral water

Codex Risk Analysis



Risk Assessment & Management

RM measures e.g. standards

Risk assessment policy

Risk Assessment

Risk assessment result

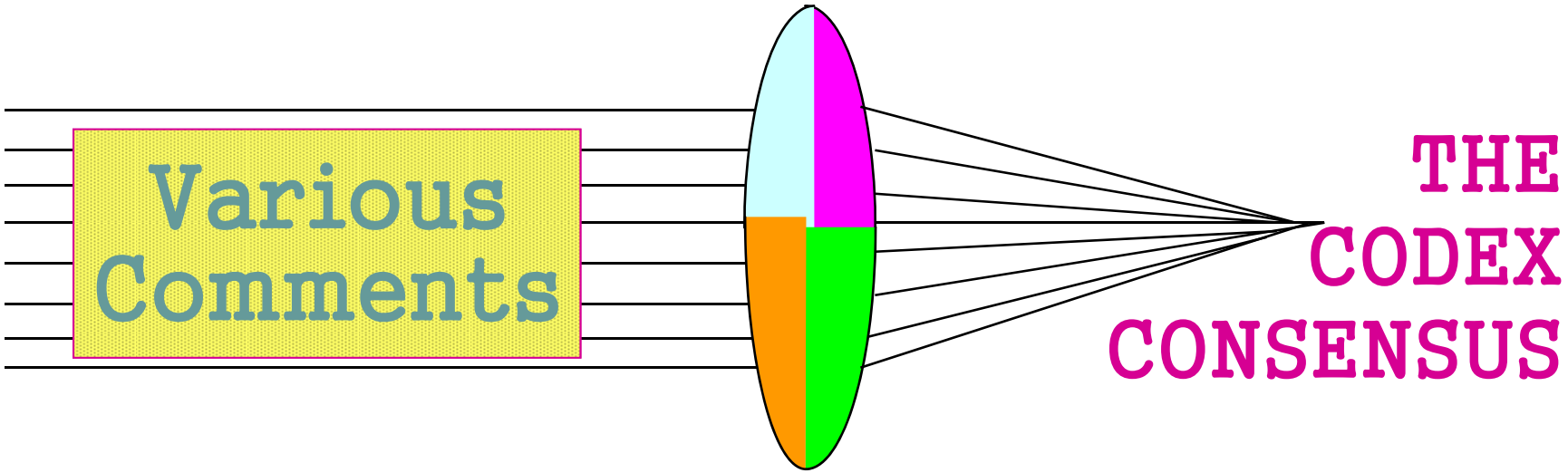
Risk management

Scientific data & information

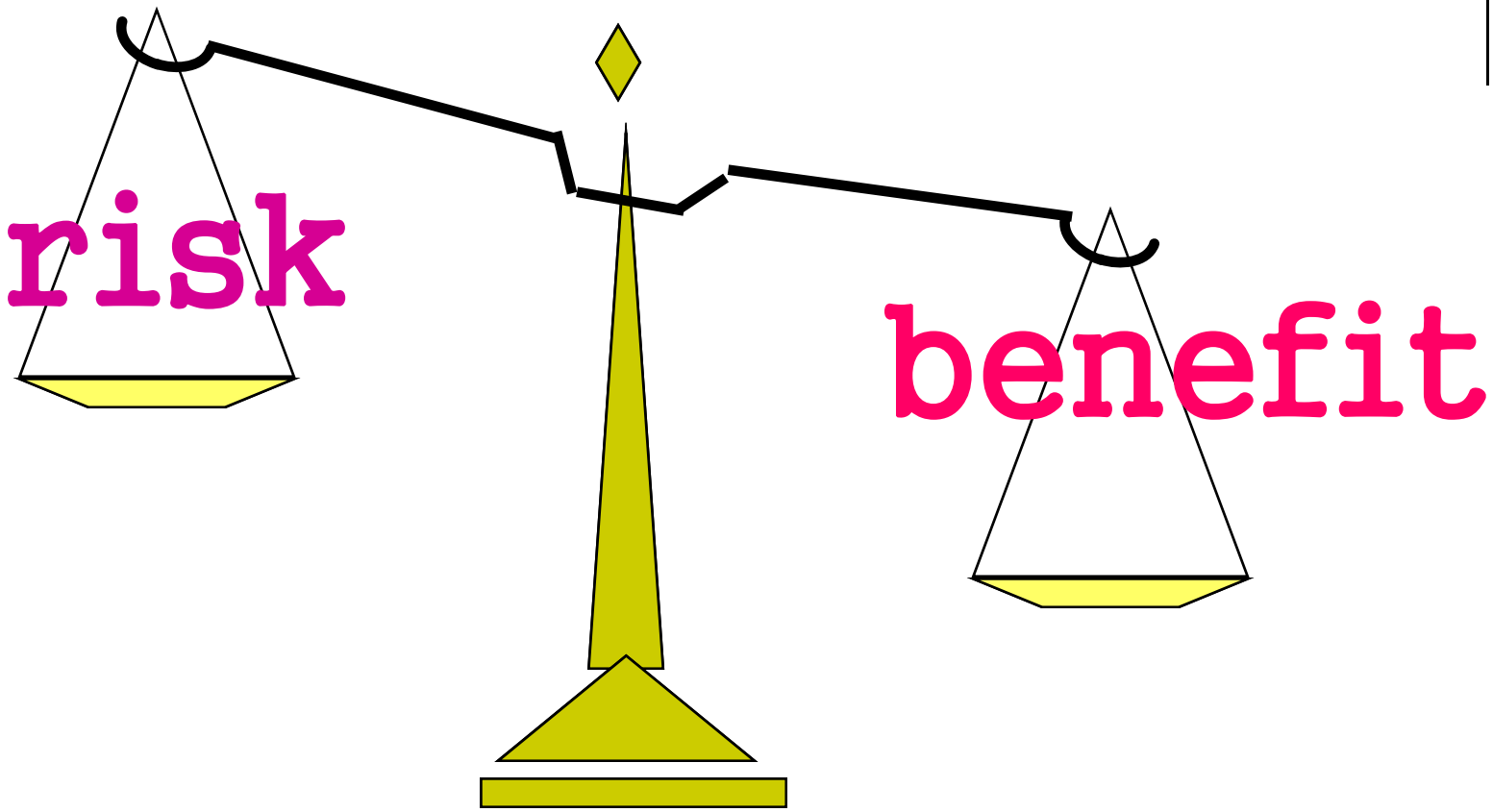
Other legitimate factors

- benefits, economic
- social, cultures
- stakeholders

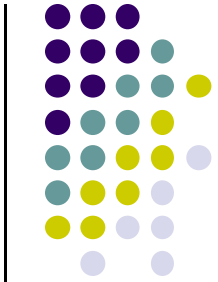
Codex : Standard Setting



Government, Consumer,
Private sectors, Experts...

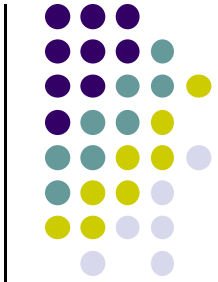

risk
benefit

Codex Pesticide MRL Establishment



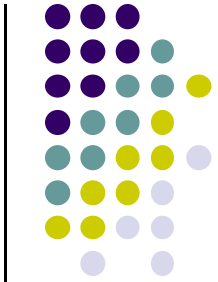
- Foods/Feeds
- Mainly on raw agricultural commodity (RAC)
- Only on some specific cases that MRL established for processes food commodity
- MRL as a trading limit not actually safety limit

Principle for MRL establishment



- Complete data evaluation and MRL recommended by JMPR
- Highest residue from supervised residue trial according to highest/critical GAP
- Provide adequate safety to consumer according to dietary exposure assessment

JMPR Work Process



WHO Panel

FAO Panel

Toxicological + others

Use Patterns = GAP

&

Supervised Trial

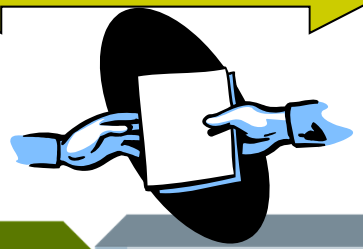
ADI

Exposure assessment

Draft MRL

Codex MRL

JMPR



CCPR

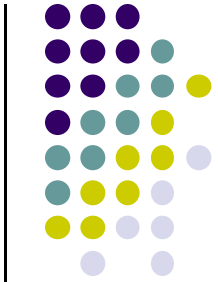
Risk assessor

- Toxico evaluation
- Risk assessment
- MRLrecommendation / propose for withdrawal

Risk Manager

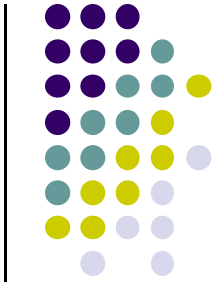
- Priority list for pesticide evaluation by JMPR
- Establish risk assessment policy
- Consider MRL establishment / withdrawal

Key Issues on the Use of Food Safety Limits at National Level



- The basis/portions of food the limit applied to e.g. fresh wt, dry wt, whole commodity, edible portion, raw commodity, processed food
- Level of the limit vs LOQ/detection limit of the method of analysis used
- Default/Uniform limits where no specific limit for a specific chemical/food e.g. refer to Codex standards, LOQ, 0.01 mg/kg or a specific permission/acceptance
- Decision making when found violation of the limit

Conclusions



- National food safety limits should be comparable to Codex standards unless there are reasons based on risk assessment
- Codex standards do not cover all limits needed by all countries so standard harmonization among countries is important
- Violation of food safety limits is not always implied as unsafe food

For more information

www.codexalimentarius.net

Thank you

Pisan Pongsapitch

codex@.acfs.go.th