

## **CODEX WORK RELATED TO FOOD SAFETY OF COFFEE**

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Noriko Iseki,

Senior Food Standards Officer

Secretariat, Codex Alimentarius Commission

Joint FAO/WHO Food Standards Programme

### **What is “Codex”?**

The Codex Alimentarius Commission, “Codex” for short, was created in 1961/1963 by FAO and WHO to develop international food standards, guidelines and recommendations to protect the health of consumers and to ensure fair practices in the food trade. The mandate of the Codex is also to promote coordination of all food standards work undertaken by international governmental and non-governmental organization, with a view to avoiding duplication of work between Codex and those organizations within the international normative activities. The constituency of the Codex Alimentarius Commission comprises 174 member countries and one member organization (the European Community), as of May 2007.

Codex is an international risk management body that develops food safety and quality standards. Those standards are used by policy-makers and regulators of countries in building a sound national food control system to provide food of adequate quality and safety, and to protect the health of consumers at national level. It has become more important for countries to be involved in the Codex standard-setting process.

The organizational structure of Codex comprises: a) the Commission (which meets annually); b) the Executive Committee; and c) Codex subsidiary bodies (ten general subject committees, eleven commodity committees, six regional coordinating committees, three *ad hoc* intergovernmental task forces. For details, see ANNEX I)<sup>1</sup>. The Secretariat of the Codex Alimentarius Commission is housed in the Headquarters of FAO, in Rome.

### **Codex standards and WTO/SPS Agreement**

The two WTO agreements of most significance for international food trade are the *Agreement on the Application of Sanitary and Phytosanitary Measures* (commonly referred to as the *SPS Agreement*) and the *Agreement on Technical Barriers to Trade* (known as the *TBT Agreement*).

The *SPS Agreement* concerns measures applied to protect human, animal and plant health. The *TBT Agreement* refers to technical regulations and conformity assessment procedures and applies to all commodities, not just food.

While the foods standards, guideline and recommendations adopted by Codex do not have a binding effect on national food legislation, WTO members are encouraged to harmonise national regulations with the international standards. Furthermore, these standards may be used as a reference in case of a food trade dispute. Since the *SPS Agreement* specifically identifies Codex standards, guidelines and recommendations as the international benchmark for food safety, national regulations consistent with Codex standards are deemed to meet the requirement of the SPS Agreement. Codex standards and related texts, including on food labelling, are relevant under the *TBT Agreement*.

Under the *SPS Agreement*, WTO Members are allowed to implement national standards that are more stringent than those of the Codex Alimentarius Commission. In doing so, however, WTO Members must have scientific justification that such stringent sanitary measures are required to achieve their appropriate level of protection, as well as demonstrate that the measure taken is based on an assessment of risk.

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<sup>1</sup> Relevant information on Codex including schedules of forthcoming meetings, their meeting agenda and reports of the meetings held in the past years are available at codex official website (<http://www.codexalimentarius.net>).

For the purpose of the *SPS Agreement*, WTO does not differentiate between standards, guidelines and recommendations elaborated by Codex. They all have the same status under WTO. For food safety, the *SPS Agreement* refers to standards developed by Codex in the following areas:

- codes and guidelines of hygienic practices;
- contaminants;
- food additives;
- methods of analysis and sampling; and
- veterinary drug and pesticide residues

## **Risk analysis in Codex**

### Application of risk analysis principle to the work of Codex

All Codex standards are based on science. The food standards, guidelines and other recommendations of the Codex Alimentarius are based on the principle of sound scientific analysis and evidence, involving a thorough review of all relevant information, in order that the standards assure the quality and safety of the food supply.

Risk analysis is a process of structured approach comprising three distinct components: risk assessment, risk management and risk communication. Risk analysis principles are not only applied by countries, but are also used by Codex to examine and identify potential adverse health effect consequential to a hazard or condition of a food and to recommend appropriate food control measures. The process of risk analysis is fundamental to the scientific basis of Codex standards developed to protect the health of consumers.

Codex has developed the “Working Principles for Risk Analysis Application in the Framework of the Codex Alimentarius”<sup>2</sup> for use by Codex subsidiary bodies in elaborating food safety standards. In these Principles, it is mentioned that: i) *there should be a functional separation of risk assessment and risk management, in order to ensure the scientific integrity of the risk assessment, to avoid confusion over the functions to be performed by risk assessors and risk managers and to reduce any conflict of interest; and ii) However, it is recognized that risk analysis is an iterative process, and interaction between risk managers and risk assessors is essential for practical application.*

In the application of risk analysis principles for the elaboration of Codex standards, the Codex Alimentarius Commission and its subsidiary bodies, acting as risk managers in the context of these Working Principles, have established risk assessment policy in advance of risk assessments, in consultation with risk assessor and all other interested parties. Joint FAO and WHO expert bodies and consultations act as risk assessors, which are independent bodies, not part of the Codex Alimentarius Commission.

### Scientific advice from FAO/WHO expert committees and expert consultations

Codex, in its normative work, relies on the scientific advice provided by expert committees and consultations. These expert committees and consultations are not part of Codex, but independent bodies established by FAO and WHO to provide scientific advice to Codex and to Member governments.

Codex elaborates food safety standards taking into account the expert advice provided by joint expert committees established by FAO and WHO, such as:

- the Joint FAO/WHO Expert Committee on Food Additives (JECFA);
- the Joint FAO/WHO Meeting on Pesticide Residues (JMPR);
- the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA).

The above expert meetings meet regularly to provide expert advice which is used by relevant Codex subsidiary bodies in elaborating standards on food additives, contaminants and toxins, residues of pesticides and veterinary drugs, and microbiological hazards in food.

For emerging issues such as biotechnology, antimicrobial resistance in foodborne micro-organisms, FAO and WHO have convened *ad hoc* expert consultations upon requests from Member States as well as from Codex.

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<sup>2</sup> Codex Procedural Manual ([http://www.codexalimentarius.net/web/procedural\\_manual.jsp](http://www.codexalimentarius.net/web/procedural_manual.jsp))

In the process of selecting experts for the above meetings, FAO and WHO follow an established procedure to ensure the transparency, excellence and independence of the opinion delivered. In addition to scientific and technical excellence, the diversity of viewpoints, complementarity of scientific background and balanced representation from all geographic regions of the world including both developing and developed countries are considered.

All experts invited to the above expert meetings are required to participate only in their individual scientific capacity. No expert shall represent the position of the government of which he or she is a citizen, or of the institution with which he or she is associated.

## **Current Codex work on food safety of coffee beans**

### Pesticide Residues

The Codex Committee on Pesticides Residues (CCPR) has elaborated maximum limits for pesticide residues in specific food items or in groups of food. Maximum Residue Limits (MRLs) in coffee beans for the following 14 pesticides<sup>3</sup> have been adopted by the Codex Alimentarius Commission, based on the risk assessment conducted by the JMPR..

- Aldicarb	- Permethrin
- Carbendazim	- Prochloraz
- Carbofuran	- Propiconazole
- Chlorpyrifos	- Terbufos
- Cypermethrin	- Triadimefon
- Disulfoton	- Triadimenol
- Endosulfan	- Triazophos

The CCPR, at its Thirty-ninth Session in May 2007, agreed that the following MRLs in coffee beans: i) *Endosulfan* (0.2 mg/kg); ii) *Pyraclostrobin* (0.3mg/kg); and iii) *Boscalid* (0.05mg/kg) be forwarded for adoption at Step 5/8 at the Commission in July 2007<sup>4</sup>.

### Contaminants<sup>5</sup>

Within Codex, discussion on the issues of Ochratoxin A (OTA) contamination in coffee has started since 2005, noting that recent exposure assessments had shown that coffee and wine were significant contributors to OTA exposure in the European Community. OTA is a mycotoxin and a known nephrotoxin, carcinogen, teratogen and possibly genotoxic. OTA is produced by the two genera of fungi: *Penicillium* and *Aspergillus*.

The Codex Committee on Contaminants in Foods (CCCF), at its First Session (April 2007), considered a "Discussion Paper on Ochratoxin A (OTA) in Coffee", which was prepared taking into account the outcome of the FAO Coordinated Project "Enhancement of Coffee Quality through the Prevention of Mould Formation" and other relevant information. The Committee agreed that a revised Discussion Paper would be prepared for further consideration at its next session (April 2008), including a project document proposing possibly an outline of the proposed draft Code of Practice for the prevention and reduction of OTA in coffee.

The CCCF has also been elaborating, since 2006, a proposed draft Code of Practice for the Reduction of Acrylamide in Food. Acrylamide is a substance formed in some foods by high cooking temperatures. JECFA evaluation in 2005 concluded that the major contributing food groups were french fries, potato crisps, coffee, biscuits/pastries, bread and rolls/toasted bread<sup>6</sup>.

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<sup>3</sup> Detail information is available from [http://www.codexalimentarius.net/mrls/pestdes/jsp/pest\\_q-e.jsp](http://www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp) and [http://www.codexalimentarius.net/mrls/pestdes/pest\\_ref/pest-e.htm#E10E2](http://www.codexalimentarius.net/mrls/pestdes/pest_ref/pest-e.htm#E10E2).

<sup>4</sup> Detail information is available from [http://www.codexalimentarius.net/download/report/680/al30\\_24e.pdf](http://www.codexalimentarius.net/download/report/680/al30_24e.pdf)

<sup>5</sup> Reports of the relevant Committees are ALINORM 06/28/12. ALINORM 06/29/12 and ALINORM 07/30/41, which are available from <http://www.codexalimentarius.net>.

<sup>6</sup> Report of the 64<sup>th</sup> Meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA). [http://www.who.int/ipcs/food/jecfa/summaries/en/summary\\_report\\_64\\_final.pdf](http://www.who.int/ipcs/food/jecfa/summaries/en/summary_report_64_final.pdf)

## Capacity building

### Technical assistance

The Article 9 of *the SPS Agreement* specifically refers to that Members of WTO agree to facilitate the provision of technical assistance to other Members, especially developing country Members, either bilaterally or through the appropriate international organizations.

In November 2001, the Executive Heads of FAO, WHO, WTO, World Bank and OIE, in a joint statement issued at the occasion of the WTO Ministerial Meeting held in Doha in November 2001, expressed their commitment to strengthening the capacity of developing countries to meet the requirements of the *SPS Agreement*. This led to the creation of the *Standards and Trade Development Facility* (STDF)<sup>7</sup>.

In keeping with these mandates, FAO and WHO also have engaged in diverse activities aimed at assisting developing countries to improve their food safety and plant and animal health systems. Together with other international technical organisations, national governments, international and regional financial institutions and NGOs, various capacity building and technical assistance initiatives have been undertaken.

Specific activities falling within the realm of capacity building are formulated to broaden in-country skills and increase the ability of local governments in implementing comprehensive food control systems, such as:

- training of food control officials and technical staff (food control managers, food inspectors, food analysts) in the form of seminars, workshops and study tours enhancement of food control laboratory capabilities
- preparation of training manuals and guidelines
- support in establishing and strengthening National Codex Committees; and
- policy advice and establishment of regulatory frameworks.

### Implementation of the Global Project on Enhancement of Coffee Quality through the Prevention of Mould Formation<sup>8</sup>

The project was formulated with the collaboration of FAO, the International Coffee Organization (ICO) and the European coffee industry. The Food Quality and Standards Service (AGNS) of FAO, as a Project Executing Agency (PEA), coordinated implementation of the project globally in seven countries and completed it in 2005. The project has brought the following outcome:

- Improved available information on mould and ochratoxin A (OTA) contamination in coffee
- Developed guidelines on *mould prevention in coffee*
- Strengthened capacity for training in hygiene practices in the coffee chain
- Built lab capacity in OTA and mycological analysis
- Increased preparedness for participation in international food safety decision-making

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<sup>7</sup> <http://www.standardsfacility.org/>

<sup>8</sup> <http://www.coffee-ota.org/>

# Codex organizational chart

