



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
40th Session

CICG, Geneva, Switzerland, 17 - 22 July 2017

COMMUNICATION FROM ISO¹

1. The International Organization for Standardization (ISO) has prepared this information paper as part of ongoing updates and communication between the Codex Alimentarius Commission (CAC) Secretariat and the ISO Central Secretariat. It provides a summary of current work undertaken by ISO that may be of interest to the CAC and is intended to support and enhance dialogue and coordination between the two organizations.
2. Any general information regarding the International Organization for Standardization (ISO) can be found on <http://www.iso.org/>. ISO counts more than 21 470 International Standards, 238 active technical committees and 488 active subcommittees managing some 2 560 working groups.

ISO's international status

3. ISO has a specific status with many UN agencies, including the WHO and FAO. It is also an observer at the WTO Committee on Trade and Environment (CTE), the Committee on Technical Barriers to Trade (WTO TBT) and the Committee on Sanitary and Phytosanitary Measures (SPS).
4. ISO's observer status to the CAC provides an opportunity for the coordination of issues related to a variety of ISO standards that are adopted and used by Codex in its work. ISO methods have been endorsed in the document "*Recommended methods of analysis and sampling*" (CODEX STAN 234-1999) which is updated each year during the CCMAS meeting.

ISO Strategy 2016-2020

5. The ISO Strategy 2016-2020 outlines the ISO priorities for the forthcoming years and focuses on six interlinked strategic directions: ISO will *Develop high-quality standards* through ISO global membership, by ensuring to effectively *Engage stakeholders and partners*. A strong foundation in *People and organization development*, effective *Use of technology*, and a focus on *Communication*, will help to achieve the ultimate objective of *ISO standards used everywhere*.

ISO Academy

6. In 2016, technical assistance and training projects were carried out in line with the ISO Action Plan 2016-2020 to strengthen standardization capacities of ISO members developing countries in various areas. In particular, a three-day workshop on Food safety standards was organized on the occasion of the ISO/TC 34 Plenary meeting in Paris, France, for the benefit of ISO developing country members from French-speaking countries on 4-6 July 2016. The workshop was attended by 26 participants coming from 16 countries: Algeria, Burkina Faso, Burundi, Cameroon, Congo Democratic Republic, Côte d'Ivoire, Haiti, Madagascar, Mali, Mauritius, Mauritania, Morocco, Niger, Senegal, Seychelles and Tunisia.
7. Sponsorships were granted to experts from developing countries to participate in the standardization work of the following committees dealing with food:
 - ISO/TC 34/SC 18 Cocoa (Paris, France, March 2016)
 - ISO/TC 034/SC 17/WG8 Management systems for food safety (Buenos Aires, Argentina, April 2016)
 - ISO/TC 034/SC 05 Milk and milk products (Copenhagen, Denmark, May/June 2016)
 - ISO/TC 034/SC 17/WG 8 Food safety management systems (Copenhagen, Denmark, June 2016)

¹ Document prepared by and under the responsibility of the ISO.

- ISO/TC 034 Food products Plenary meeting (Paris, France, July 2016)
- ISO/TC 034/SC 12 Food products - Sensory analysis (Bern, Switzerland, November 2016)
- ISO/TC 034/SC 06 Meat, poultry, fish, eggs and their products (Beijing, China, December 2016)
- ISO/TC 034/SC 17/WG 8 Management systems for Food Safety (New York, USA, December 2016)

8. A staff member from the Codex Secretariat, Mr Patrick Sekitoleko, attended the ISO Secretaries' week training held at the ISO Central Secretariat in Geneva, Switzerland from 23-27 May 2016.

ISO and developing countries – DEVCO

9. DEVCO, ISO's policy committee on developing country matters, established in 1961, is a unique forum for ISO members from developed and developing countries to discuss standardization and related issues, to exchange experience and best practice, and to identify needs and requirements of developing countries. It is also the role of DEVCO to monitor the implementation of the ISO Action Plan for developing countries.

10. Today, 148 out of the 162 ISO members are members of DEVCO. (Find out more about DEVCO on <http://www.iso.org/iso/home/about/iso-and-developing-countries.htm>)

ISO's conformity assessment committee – CASCO

11. It is this body within ISO that is closest to covering the same subject matter as the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS). To date, CASCO has 135 members.

12. The 32nd CASCO Plenary, associated policy meetings and workshop took place from 26-28 April 2017 in Vancouver, Canada.

13. Topical issues currently being addressed in CASCO:

- CASCO hosted its 1st Stakeholder Forum on the 25th November 2016 in London to explore the role and benefits of standards and conformity assessment in managing risk for the insurance industry.
- CASCO published the 2015 ISO Survey of Management System Standards with a total of 9 standards surveyed.
- CASCO continues to issue its **eNewsletter** on a regular basis with 3-4 issues a year. With a subscription list of just over 2900, CASCO will continue to issue the eNewsletter as needed to update the conformity assessment community. Subscription is freely available from the CASCO Resources page.
- The **IAF-ILAC-ISO Joint Strategic group** met twice in 2016 and continues to monitor the implementation of their strategic plan. The next meeting is scheduled for 2017.

14. During 2016 CASCO published:

- ISO 17034, *General requirements for the competence of reference material producers* was published in November and replaces the ISO Guide 34:2009.
- ISO/IEC TS 17021-9, *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 9: Competence requirements for auditing and certification of anti-bribery management systems*, is a new Technical Specification published in October which complements the existing requirements of ISO/IEC 17021- 1.
- ISO/IEC 17021-2, *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 2: Competence requirements for auditing and certification of environmental management systems*, was published in December and replaces the ISO/IEC TS 17021-2:2012.

The following CASCO standards will be published in the forthcoming months:

- ISO/IEC 17021-3:2017, *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 3: Competence requirements for auditing and certification of quality management systems* (Published in March 2017)
- ISO/IEC 17028, *Conformity assessment — Example of a certification scheme for services* (To be published in Summer 2017)
- ISO/IEC 17011, *Conformity assessment — Requirements for accreditation bodies accrediting conformity assessment bodies* (To be published in May 2017)

15. CASCO's technical projects are progressing and include the development of the following documents:

- **ISO/IEC 17025**, *General requirements for the competence of testing and calibration laboratories* (Revision/DIS, next meeting in July)

- **ISO/IEC TS 17021-10**, *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 10: Competence requirements for auditing and certification of occupational health and safety management systems* (WD 2 completed in January 2017, on hold until ISO 45001 document completes 2nd DIS)
- **ISO/IEC 17029**, *Conformity assessment — General requirements for bodies performing validation and verification activities* (WD1 and next meeting in May)

CASCO is also actively participating in a JWG, under the lead of:

- **COPOLCO**, doing a preliminary research on what was perceived as a lack of consumers' understanding of ethical labels (Experts reviewed existing literature and good practices and drafted a recommendation that will be presented to the CASCO/CPC and COPOLCO Chair's Group respectively in April and May).

A full description of the technical work is available from the [CASCO Committee page](#).

16. External representations and liaisons

CASCO maintains category A liaisons with 21 international organizations and 3 D-liaisons.

More information about the scope, the structure and the membership as well as a quick link to the work programme of ISO/CASCO is available on the [ISO website](#).

Codex and ISO/TC 34, Food products

17. There is a long history of collaboration between the Codex Committees and ISO/TC 34, *Food products*. ISO/TC 34 supports the collaboration between Codex and ISO, in order to enhance the mutual coordination of work and the elimination of duplication and contradictions. This also includes interest to support any joint or collaborative communication on each others' work.

18. Codex and ISO activities are complementary. Codex, as a governmental organization, prepares documents to assist governments in their statutory and regulatory work to protect their citizens from health hazards caused by food consumption. ISO prepares standards in particular on test methods to assist stakeholders along the whole food chain to fulfil both the statutory and regulatory requirements, as well as the requirements of consumers of these products.

19. Since its creation in 1947, ISO/TC 34 has published 840 ISO deliverables (International Standards, Technical Specifications and Technical Reports). Two thirds of these documents are methods of analysis. See [Annex 1](#) for the structure of ISO/TC 34 and a list of projects/publications of interest to Codex:

- Development of methods of analysis for vitamins and nutrients on Infant Formula and Adult Nutritionals, in collaboration with AOAC (SPIFAN project: Stakeholder Panel on Infant Formula and Adult Nutritionals) and IDF.
- Work on a definition for "Natural": project ISO/TS 19657, *Definition of criteria for a food ingredient to be considered as 'natural'*.
- Validation of 15 methods of analysis for food microbiology.
- Publication of ISO/TS 34700, *Animal welfare management — General requirements and guidance for organizations in the food supply chain* (for food-producing animals), **in collaboration with the OIE**.

ISO/TC 34 had its last meeting in July 2016 in Paris, France, with a workshop for French-speaking developing countries dedicated to food safety. The Codex Alimentarius representative gave a presentation on CCFH works.

Concerning the work currently undertaken at the Subcommittees' level, ISO/TC 34/SCs are working on the following main topics.

ISO/TC 34 members approved at the end of April 2017 the creation of a new subcommittee dealing with **Bee products**.

20. ISO/TC 34/SC 2, Oleaginous seeds and fruits and oilseed meals

ISO/TC 34/SC 2 covers standardisation in the field of oilseeds and oilseed residues in particular sampling, methods of test and analysis including physical, physical-chemical and biochemical methods.

The main project of interest for CAC is the current revision of ISO 542:1990, *Oilseeds — Sampling*. ISO/TC 34/SC 2 members plan to replace this standard by two projects

- ISO 21294 on *Oilseeds — Manual or automatic discontinuous sampling* (DIS stage)

- ISO 21293 on *Oilseeds — Automatic continuous sampling* (Preliminary stage only).

The following projects might also be of interest to CAC:

- the project ISO 9167, *Rapeseed and rapeseed meals — Determination of glucosinolates — Method using high performance liquid chromatography* in order to simplify the existing methods, replace a potential toxic chemical (methanol) and group rapeseed and rapeseed meals in only one standard.
- Preliminary project ISO 21296, *Oilseeds and oilseed meal — Randall extraction method* in order to develop an automatic fast method for extraction of oil.

21. ISO/TC 34/SC 4, Cereals and pulses

ISO/TC 34/SC 4 covers standardization in the field of Cereals and Pulses as well as their products, in particular terminology, sampling, methods of test and analysis, product specifications and requirements for packaging, storage and transportation.

In 2016, the following standard of interest to CAC was published:

- ISO 16634-2:2016 *Food products — Determination of the total nitrogen content by combustion according to the Dumas principle and calculation of the crude protein content — Part 2: Cereals, pulses and milled cereal products*.

The following projects under development might be of interest to CAC:

- Revision of ISO 7301, *Rice — Specification* with the aims to generally improve the consistency of some definitions and add two new terms of "Entire kernel" and "Stress crack" which have the extensive use in trade.
- Revision of ISO 15141, *Cereal and cereal products — Determination of ochratoxin A — High performance liquid chromatographic method with immunoaffinity column cleanup and fluorescence detection* with the aims to update with the new technology and provide the precision data derived from ring test.
- Revision of ISO 7305, *Milled cereal products — Determination of fat acidity* with the aim to update the reagents and the procedure in relation to the laboratories practices.
- Revision of ISO 6540:1980, *Maize — Determination of moisture content (on milled grains and on whole grains)* with the aims to provide fidelity data for the validation of the method.

22. ISO/TC 34/SC 5, Milk and milk products

The field of activity of ISO/TC 34/SC 5 covers standardization of methods of analysis and sampling for milk and milk products. ISO/TC 34/SC 5 has a close cooperation with the International Dairy Federation (IDF) since 1961 in preparing standards which are published jointly as ISO-IDF International Standards by ISO since 2001.

Where appropriate, input is provided for ISO/TC 34 and/or IDF/ISO comments to Codex documents:

- Codex Committee on Methods of Analysis and Sampling – receiving documents and attending Inter Agency Meeting, Working Group meetings and CCMAS meetings, providing updates for *CODEX STAN 234-1999* on Recommended Methods of Analysis and Sampling in the area of milk and dairy products
- Codex Committee on Milk and Milk Products (CCMMP)
- Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU)
- Codex Committee on Pesticide Residues (CCPR)

Infant formulas need to provide essential nutrients (including vitamins and minerals) for the adequate growth and development of babies and young children. This is why the nutritional quality of infant formula is laid down in international Codex Alimentarius standards, such as *CODEX STAN 72-1981*, and national regulations. To verify that infant formulas contain all necessary nutrients, accurate analytical test methods are required. Although some methods are listed in *CODEX-STAN 234-1999* and are referenced in *CODEX STAN 72-1981*, part of these methods is outdated, not validated for infant formula specifically, or not globally harmonized. A cooperation between ISO (TC 34/WG 14 and SC 5), IDF and AOAC in the SPIFAN project is addressing these issues. The cooperation is working on the following projects. When finalized, they will be submitted to the Codex procedure for endorsement as international dispute resolution methods that involves CCNFSDU, CCMAS and finally CAC:

- ISO 21422 | IDF (chloride) ;
- ISO 15151 | IDF (minerals and trace elements by ICP-AES);
- ISO 21424 | IDF (minerals and trace elements by ICP-MS);

- ISO 22579 | IDF (FOS/fructans);
- ISO 20635 (vitamin C);
- ISO 20636 (vitamin D);
- ISO 21446 (trans vitamin K₁);
- ISO 21470 (vitamin B₁, B₂, B₃ and B₆);
- ISO 21468 (choline/carnitine).

Method standards for additional nutrients in infant formula are in preparation.

In an ongoing effort to keep the *CODEX STAN 234-1999* list of recommended methods up-to-date, IDF and ISO/TC 34/SC 5 inform CCMAS on changes in their standards portfolio, for example minor or major revisions of existing standards and withdrawal of obsolete standards. IDF and ISO frequently recommend CCMAS to modify *CODEX-STAN 234-1999* accordingly. Furthermore, significant input is being given in the Codex work on sampling, e.g. in the work in the field of practical examples of (statistical) sampling plans.

23. ISO/TC 34/SC 7, Spices, culinary herbs and condiments

This subcommittee (held by India) is engaged in the formulation of International Standards in the field of spices, culinary herbs and condiments since 1961. As per WTO the Codex standards are regarded as the basis for International trade. However, in the absence of Codex standards in the area of spices, culinary herbs and condiments, the International Standards laid down by ISO/TC 34/SC 7 form the baseline for International trade.

ISO/TC 34/SC 7 has been developing 72 standards since more than 40 years and ISO standards for spices, condiments and culinary herbs have been widely used for trade.

Since, the field of activity of ISO and Codex is same, to avoid overlap as much as possible, and to foster cooperation, it is suggested that the vast resources of ISO/TC 34/SC 7 can be used as references for Codex standards in this area.

CCSCH was also informed about the test method standards published by ISO/TC 34/SC 7 which may be referred in the Codex Standards for various parameters. This suggestion was agreed by the Committee and relevant ISO Standards were referred in the drafts being discussed during the CCSCH meeting also.

The collaboration and coordination between ISO/TC 34/SC 7 and CCSCH is easier since secretariats of both these committees are held by India.

24. ISO/TC 34/SC 8, Tea

The activity of ISO/TC 34/SC 8 is focused on tea (*Camellia sinensis*) and is developing standard specifications for products including green tea, black tea, white tea, oolong tea, decaffeinated and instant teas, sensory methods and the vocabulary, sampling, analytical methods and tests, and requirements for packaging, storage and transport. The objectives of ISO/TC 34/SC 8 are to:

- provide validated methods of analysis to support compositional specifications,
- provide guidance and the common understanding for the good manufacturing practices,
- facilitate the international trade in tea,
- ensure that quality expectations for consumers are met.

25. ISO/TC 34/SC 9, Microbiology

The field of activity of ISO/TC 34/SC 9 covers standardization of microbiological analysis of the food chain: from primary production to animal feed and food as end products, including the environment of food production and handling.

The link between ISO/TC 34/SC 9 and Codex Alimentarius is made via Codex Committee on Food Hygiene. The secretary of CCFH is invited at each SC 9 plenary meeting (in 2017: 19-22 June, Tokyo, Japan). At recent meetings, the participation of CCFH secretary has been either in person, by teleconference and/or sending a brief update on current work.

In 2016, the following standards of interest for CCFH were published:

- ISO 16140 parts 1 and 2 *Microbiology of the food chain — Method validation — Part 1: Vocabulary and Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method*;

- ISO 18744, *Microbiology of the food chain — Detection and enumeration of Cryptosporidium and Giardia in fresh leafy green vegetables and berry fruits*

In 2017, the standardization process for reference methods, fully validated with performance characteristics derived from collaborative studies, will be definitively completed, with the publication of 15 reference methods of interest for CCFH:

- detection of *Salmonella* spp. (ISO 6579-1), of *E. coli* O157 (ISO 16654), of *Cronobacter* spp. (ISO 22964), of enteropathogenic *Vibrio* (ISO 21872) and of *Yersinia enterocolitica* (ISO 10273)
- detection and enumeration of *Enterobacteriaceae* (ISO 21528), of *Listeria* spp./*monocytogenes* (ISO 11290), and of *Campylobacter* (ISO 10272);
- quantification of *Bacillus cereus* cereulide toxin (ISO 18465), detection of staphylococcal enterotoxins (ISO 19020), detection and quantification of histamine (ISO 19343);
- detection and quantification of noroviruses and hepatitis A viruses (ISO 15216);

Standardization works will continue on a protocol for the validation of alternative methods for microbiological confirmation, for the validation of in-house methods and for the verification of validated methods

Preliminary works will conduct to draft projects mid-2017 on :

- whole-genome sequencing for food microbial typing and genomic characterization of foodborne microorganisms (link ensured with the FAO works (“Impact of WGS on food safety management within a One Health framework”));
- detection of *Anisakidae* larvae in fish.

26. ISO/TC 34/SC 11, Animal and vegetable fats and oils

This sub-committee is involved with standards concerning animal and vegetable fats and oils, and many member bodies of ISO/TC 34/SC 11 are very active within the Codex Committee on Fats and Oils (**CCFO**).

The Scope of ISO/TC 34/SC 11 has been changed to clearly state that the standards developed by the Committee exclude methods of analysis developed specifically for milk and milk products.

ISO/TC 34/SC 11 has several standards which apply exclusively to Olive and Olive Pomace Oil and is working to ensure that SC 11 methods are exactly the same as those of the International Olive Council.

CCFO agreed to establish an Electronic Working Group (EWG) led by the EU, to review food additive provisions in Standards for fats and oils (except the standard for fish oils) in order to align with the GSFA or propose modifications to the current entries of the GSFA if necessary. ISO/TC 34/SC 11 has been working on revising current standards and developing new standards to determine the concentration of several food additives in oils and fats, particularly anti-oxidants and will continue this work.

Similarly, the EWG would further explore the technological justification for the use of emulsifiers in products covered by FC 02.1.2 and the existing standards for fats and oils. ISO/TC 34/SC 11 has some methods for the determination of emulsifiers which are commonly used in oils and fats and would be willing to investigate other types of emulsifiers if necessary.

The CCFO agreed to forward the draft standard for Fish Oils to CAC 40 for adoption at Step 8. There was discussion on the use of the fatty acid profile of a fish oil to determine its authenticity. While this discussion was essentially on the ability to modify the fatty acid profile by the blending of various oils, it is worth noting the SC 11 is currently revising the standard for the measurement of fatty acids in oils, including marine oils.

CCFO also discussed the determination of *p*-anisidine, noted a proposal of an observer for an additional method for the determination of anisidine, the European Pharmacopeia 2.5.36. Although ISO/TC 34/SC 11 has a method ISO 6885:2016, *Animal and vegetable fats and oils — Determination of anisidine value*, this requirement will be investigated further.

The remainder of the meeting concerned the levels of fatty acids and other fatty components in various oils and their labelling and marketing opportunities which are only on the periphery of the work of ISO/TC 34/SC 11.

27. ISO/TC 34/SC 15, Coffee

ISO/TC 34/SC 15 (held by Colombia) is in charge of standardization in the field of coffee, covering the coffee chain from green coffee to consumption. Standardization includes terminology, sampling, test methods and analysis, product specifications and requirements for packaging, storage and transportation.

ISO/TC 34/SC 15 standards are addressed to support the coffee chain from the production of optimal quality coffee to the product qualification, there are 26 standards. In 2016 ISO/TC 34/SC 15 published ISO 18862, *Coffee and coffee products — Determination of acrylamide — Methods using HPLC-MS/MS and GC-MS after derivatization*.

28. ISO/TC 34/SC 17, Management systems for food safety

ISO/TC 34/SC 17 is in charge of standardization in the field of food safety management systems, covering the food supply chain from primary production to consumption (ISO 22000 series).

ISO/TC 34/SC 17/WG 8 (revision of ISO 22000) met in Buenos Aires, Argentina in April 2016, in Copenhagen in June and in New York City in December 2016.

In 2016, the Draft International Standard (DIS) has been prepared and has been submitted to public enquiry in April 2017.

A key objective that started the first drafting of ISO 22000 and which has also governed the revision process is to consider the **Codex food safety control principles and guidelines**. This includes the HACCP principles and the (public health) risk analysis principles. To achieve this objective, all requirements relating to food hygiene and hazard control are retained within one clause of the draft standard.

Another objective was to incorporate the High Level Structure (HLS) developed by ISO and mandatory when drafting or revising management system standards. The HLS sets a framework for the management system standards, which makes it very easy for organizations to conform to more than one management system standard.

Finally, the users of the current standard have requested a clear description of the differences between CCP, OPRPs and PRPs. The WG 8 experts have been working very dedicated to communicate this clear distinction to the benefit of the users of the standard.

Within ISO/TC 34/SC 17, a new project has been circulated regarding: *Prerequisite programmes on food safety for transport and storage*. This new project is to become a new Technical Specification within the series of the Prerequisite Programmes (ISO/TS 22002-series) to be used together with ISO 22000 and based on a Dutch national standard. The development of this TS will be managed in a new SC 17/WG 10, convened by the Netherlands.

Further, as a consequence of the new version of ISO 22000, the whole ISO 22000 family of documents and handbooks will need a further review and a plan for their revisions will be elaborated.

The next ISO/TC 34/SC 17 and working group meetings are planned for October/November 2017.

29. ISO/TC 34/SC 18, Cocoa

The secretariat of ISO/TC 34/SC 18 is held within a twinning arrangement between the Ghana Standards Authority (GSA) and the Netherlands Standardization Institute (NEN). The chairmanship is shared between the Netherlands and Côte d'Ivoire.

The subcommittee is in charge of standardization in the field of cocoa, including, but not limited to, terminology, sampling, product specifications, test methods and requirements and verification criteria for determination of the sustainability and traceability of cocoa.

ISO/TC 34/SC 18 is currently working in collaboration on the development of the following four parts of a standard for sustainable and traceable cocoa: ISO 34101:

- *Part 1: Requirements for sustainability management systems*
- *Part 2: Requirements for performance (related to economic, social, and environmental aspects)*
- *Part 3: Requirements for traceability*
- *Part 4: Requirements for certification schemes*

In addition to the above, ISO/TC 34/SC 18 is also working on standards for the quality and sampling of cocoa beans:

- ISO/DIS 2292, *Cocoa beans— Sampling*
- ISO/DIS 2451, *Cocoa beans — Specification and quality requirements*

The next meeting of ISO/TC 34/SC 18 and CEN/TC 415 will be in Abidjan (Côte d'Ivoire) from 26 to 30 June 2017.

Further information related to SC 18 can be found on the following website: [link](#) and in the news item: [Big step forward for the cocoa sector with new global standards in the pipeline.](#)

ISO/TC 147, Water quality

30. As water plays an important role in food processing (all kinds of cleaning purposes, preparation of half-finished food products, production of beverages like beer and lemonades), many standards elaborated in ISO/TC 147/SC 2 and SC 4 are or should be taken into account.

Standards in ISO/TC 147/SC 2 range from metal determinations (single or multicomponent methods), anions, cations, to methods for organic substances like plant treatment agents, or methods for ubiquitous pollutants like phthalates or polycyclic hydrocarbons, PAH.

In the investigations on the quality of food products, standards from ISO/TC 147 may be used as basic standards because water is – compared with all food products – the less difficult matrix to be investigated. On the other hand standards for water analysis have to reflect the very low occurrence of microbiological target organisms or chemical contaminants in the sample, especially with samples of drinking water. Therefore standards for water analysis differ from food standards mainly regarding sample preparation and concentration procedures.

It should be stressed as well that all methods from ISO/TC 147/SC 2 have been validated by interlaboratory trials according to ISO 5725-2 *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method* and are only accepted as standards if the results have been found satisfactory.

In addition, standards on analytical quality control are available.

In respect to microbiological methods (ISO/TC 147/SC 4), special importance is given to methods on the investigation of microorganisms by culture, e.g. existing standards on the determination of *Salmonella*, *Campylobacter*, *Coliforms* (*E. coli* and other organisms) and moreover on the determination of *Legionella*. Growing importance is observed concerning standards for quality assurance (e.g. joint work with ISO/TC 34/SC 9 on quality control of media and reagents) as well as adopting molecular methods e.g. quantitative RT-PCR.

ISO/TC 86, Refrigeration and air conditioning

31. The full committee met for the first time since 2005 in Atlanta, GA USA in 2016. That meeting formalized action and the re-assignment of secretariats in SC 4 (China) and SC 7 (Italy) and cover refrigeration and compressor technologies. These SC's had not been very active until now.

32. The committee has revised its business plan to insure alignment with the efforts of the JWG of ISO/TC's 205 (Building design) and 163 (Thermal properties). This effort is to formalize the holistic approach to building energy and design that has arisen out of the 2nd EU mandate for Energy.

Conclusion

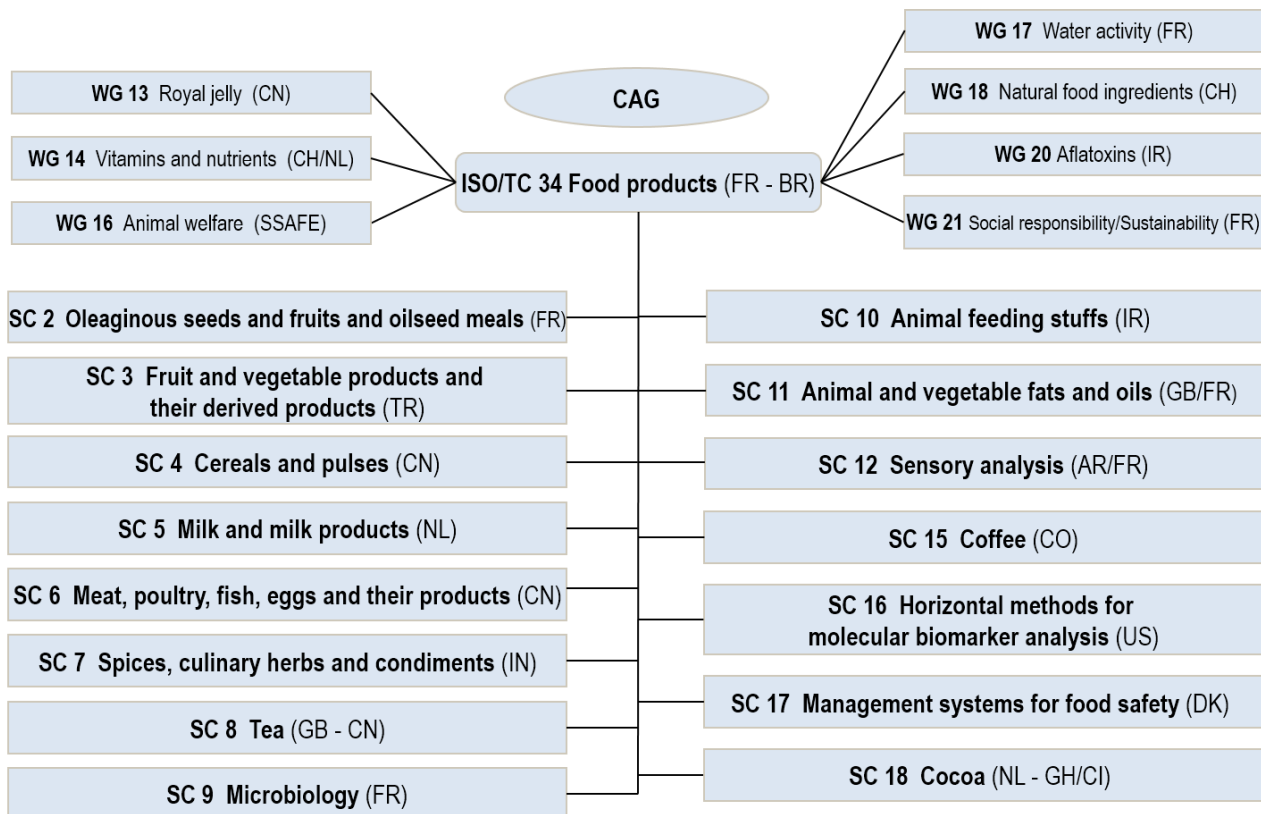
33. It is recognized that the Commission's members, as governments, have the authority to regulate at the national level and that ISO, as a producer of voluntary International Standards, does not. In the framework of good regulatory practice, as promoted at international and regional levels, International Standards and Guides may be considered useful by regulators as effective and efficient tools to achieve important regulatory mandates, manage risk and address market confidence.

34. ISO considers that by using its International Standards, regulatory authorities will achieve their aims in public health and safety at less cost to manufacturers and consumers. Using International Standards also assists countries to meet their WTO TBT and SPS Agreement obligations.

35. For any further information on technical developments within ISO that have been reported in this paper, please do not hesitate to contact Mrs. Marie-Noëlle Bourquin at ISO Central Secretariat (bourquin@iso.org).

Structure of ISO/TC 34, Food products

ISO/TC 34 comprises 74 Participating countries and 64 Observing countries. ISO/TC 34 secretariat is held jointly by France and Brazil (twinning arrangement). ISO/TC 34 has established several substructures as follows:



Selected ISO/TC 34 projects having changed status during the past twelve months (as of May 2017)

Project number	Title	Status
ISO/TS 34700	<i>Animal welfare management — General requirements and guidance for organizations in the food supply chain</i>	Published in 2016
ISO 12824	<i>Royal jelly — Specifications</i>	Published in 2016
ISO/DIS 18787	<i>Foodstuffs — Determination of water activity</i>	Under development
ISO/TS 19657	<i>Definition of criteria for a food ingredient to be considered as natural</i>	Under development
ISO/DIS 22000	<i>Food safety management systems — Requirements for any organization in the food chain</i>	Under revision. Public review since April 2017
ISO/TS 22002-6	<i>Prerequisite programmes on food safety — Part 6: Feed production</i>	Published in 2016
ISO/NP TS 22002-5	<i>Prerequisite programmes on food safety — Part 5: Transport and storage</i>	Early stage of development
ISO 6579-1	<i>Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.</i>	Published in 2017
ISO 10272-1 ISO 10272-2	<i>Microbiology of the food chain — Horizontal method for detection and enumeration of Campylobacter spp. Part 1: Detection method and Part 2: Colony-count technique</i>	Under publication
ISO 10273	<i>Microbiology of the food chain — Horizontal method for the detection of pathogenic Yersinia enterocolitica</i>	Published in 2017
ISO 11290-1 ISO 11290-2	<i>Microbiology of the food chain — Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. — Part 1: Detection method and Part 2: Enumeration method</i>	Under publication
ISO 15216-1	<i>Microbiology of the food chain — Horizontal method for determination of hepatitis A virus and norovirus using real-time RT-PCR — Part 1: Method for quantification</i>	Published in 2017
ISO 16140-1 ISO 16140-2	<i>Microbiology of the food chain — Method validation — Part 1: Vocabulary and Part 2: Protocol for the validation of alternative (proprietary) methods against a reference method</i>	Published in 2016
ISO 16654, Amendment 1	<i>Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157</i>	Published in 2017
ISO 18465	<i>Microbiology of the food chain — Quantitative determination of emetic toxin (cereulide) using LC-MS/MS</i>	Published in 2017
ISO 18744	<i>Microbiology of the food chain — Detection and enumeration of Cryptosporidium and Giardia in fresh leafy green vegetables and berry fruits</i>	Published in 2016
ISO 19020	<i>Microbiology of the food chain — Horizontal method for the immunoenzymatic detection of staphylococcal enterotoxins in foodstuffs</i>	Under publication
ISO 19343	<i>Microbiology of the food chain — Detection and quantification of histamine in fish and fishery products — HPLC method</i>	Under publication
ISO 21528-1 ISO 21528-2	<i>Microbiology of the food chain — Horizontal methods for the detection and enumeration of Enterobacteriaceae — Part 1: Detection of Enterobacteriaceae and Part 2: Colony-count method</i>	Under publication
ISO 21872	<i>Microbiology of the food chain — Horizontal method for the detection of potentially enteropathogenic Vibrio parahaemolyticus, Vibrio cholerae and Vibrio vulnificus</i>	Under publication
ISO 22964	<i>Microbiology of the food chain — Horizontal method for the detection of Cronobacter spp.</i>	Published in 2017
ISO/DIS 20635	<i>Infant formula and adult nutritionals — Determination of vitamin C by (ultra) high performance liquid chromatography with ultraviolet detection ((U)HPLC-UV)</i>	Under development
ISO/CD 20636	<i>Fortified milk powders, infant formula and adult nutritionals — Determination of vitamin D by liquid chromatography-mass spectrometry</i>	Under development
ISO/CD 21446	<i>Infant formula and adult nutritionals — Determination of trans vitamin K1 content by normal phase high performance liquid chromatography (HPLC)</i>	Under development
ISO/CD 21468	<i>Infant formula and adult nutritionals — Determination of total choline and carnitine content by Liquid chromatography and tandem mass spectrometry (LC-MS/MS)</i>	Under development
ISO/CD 21470	<i>Infant formula and adult nutritionals — Determination of vitamin B1, B2, B3 and B6 content by liquid chromatography and tandem mass spectrometry (LC-MS/MS)</i>	Under development
ISO/DIS 2451	<i>Cocoa beans — Specification and quality requirements</i>	Under revision
ISO/DIS 2292	<i>Cocoa beans — Sampling</i>	Under revision
ISO/DIS 34101 series	<i>Sustainable and traceable cocoa beans — Part 1: Requirements for sustainability management systems Part 2: Requirements for performance (related to economic, social, and environmental aspects) Part 3: Requirements for traceability Part 4: Requirements for certification schemes</i>	Under development