JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Forty-first Session
Rome, Italy
2 – 6 July 2018

REPORT OF THE FORTY-NINTH SESSION OF THE
CODEX COMMITTEE ON FOOD HYGIENE

Chicago, Illinois, United States of America
13 – 17 November 2017
# TABLE OF CONTENTS

Summary and Status of Work....................................................................................................................page ii

List of Abbreviations ......................................................................................................................................page iii

Report of the Forty-ninth Session of the Codex Committee on Food Hygiene .................................................page 1

## Paragraphs

Introduction .........................................................................................................................................................1

Opening of the Session .......................................................................................................................................2 - 3

Adoption of the Agenda (Agenda item 1) ...........................................................................................................4

Matters referred by the Codex Alimentarius Commission and/or other Codex subsidiary bodies to the Food Hygiene Committee (Agenda item 2) .................................................................................. 5 - 6

Matters arising from the work of FAO, WHO and other International Intergovernmental Organizations (Agenda item 3):

(a) Progress Report on the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA) and related matters ........................................................................................................ 7 - 15

(b) Information from the World Organisation for Animal Health (OIE) .........................................................16- 18

Proposed Draft Revision of the *General Principles of Food Hygiene* (CXC 1-1969) and its HACCP Annex (Agenda item 4) .......................................................................................................................................................... 19 - 22

Proposed Draft Revision of the *Code of Practice for Fish and Fishery Products* (CXC 52-2003): Guidance for histamine control (Agenda item 5) ........................................................................................................ 23 - 41

Other business and future work (Agenda item 6) .............................................................................................42 -

Date and place of next session (Agenda item 7) ..............................................................................................58

## Appendices

Appendix I - List of Participants ......................................................................................................................8

Appendix II - Proposed Draft Revision of the *Code of Practice for Fish and Fishery Products* (CXC 52-2003): Guidance for histamine control ........................................................................................................... 24

Appendix III - Process by Which the Codex Committee on Food Hygiene (CCFH) will Undertake Its Work .................................................................................................................................................. 35

Appendix IV - CCFH Forward Workplan .......................................................................................................39
## SUMMARY AND STATUS OF WORK

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CCEXEC75 CAC41</td>
<td>Approval</td>
<td>New work on Code of practice on food allergen management for food business operators</td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New work on guidance for the management of (micro)biological foodborne crises/outbreaks</td>
<td></td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>CCEXEC75 CAC41</td>
<td>adoption</td>
<td>Editorial amendments to the Code of Hygienic Practice for Low-Moisture Foods (CXC 75-2015)</td>
<td>CXC 75-2015</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>EWG/PWG (United Kingdom, France, Ghana, India, Mexico, United States of America) CCFH50</td>
<td>Redrafting</td>
<td>Proposed Draft Revision of the General Principles of Food Hygiene and Its HACCP Annex</td>
<td>CXC 1-1969</td>
<td>2/3</td>
<td>21</td>
</tr>
<tr>
<td>EWG (Japan, United States of America) CCFH50</td>
<td>Drafting</td>
<td>The placement for the guidance on histamine control in CXC 52-2003, the amendments of other sections of CXC 52-3002, and the revision of the section on sampling, examination and analyses in standards for fish and fishery products related to histamine food safety</td>
<td>CXC 52-2003</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>EWG (Australia, the United Kingdom, the United States of America) CCFH50</td>
<td>Drafting</td>
<td>Code of practice on food allergen management for food business operators</td>
<td>-</td>
<td>2/3</td>
<td>48</td>
</tr>
<tr>
<td>EWG (Denmark, Chile, the European Union) CCFH50</td>
<td>Drafting</td>
<td>Guidance for the management of (micro)biological foodborne crises/outbreaks</td>
<td>-</td>
<td>2/3</td>
<td>54</td>
</tr>
<tr>
<td>United States of America, Uruguay, Chile CCFH50</td>
<td>Drafting</td>
<td>Discussion paper on future work on Shiga toxin-producing Escherichia coli (STEC)</td>
<td>-</td>
<td>-</td>
<td>56</td>
</tr>
<tr>
<td>Members PWG (United States of America, Panama) CCFH50</td>
<td>Comments/Discussion</td>
<td>New work proposals / Forward Workplan</td>
<td>-</td>
<td>-</td>
<td>57</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAC</td>
<td>Codex Alimentarius Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCFH</td>
<td>Codex Committee on Food Hygiene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCFL</td>
<td>Codex Committee on Food Labelling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCP</td>
<td>Critical Control Point</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRD</td>
<td>Conference Room Document</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EWG</td>
<td>Electronic Working Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHP</td>
<td>Good Hygienic Practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard Analysis and Critical Control Point</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JEMRA</td>
<td>Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OIE</td>
<td>World Organization for Animal Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWG</td>
<td>Physical Working Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFP</td>
<td>Scombrotoxin fish poisoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEC</td>
<td>Shiga toxin-producing <em>Escherichia coli</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VTEC</td>
<td>Verotoxigenic <em>E. coli</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WG</td>
<td>Working Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION
1. The Codex Committee on Food Hygiene (CCFH) held its 49th Session in Chicago, Illinois, the United States of America, from 13 to 17 November 2017, at the kind invitation of the Government of the United States of America. Dr Emilio Esteban of the United States of America Department of Agriculture (USDA), chaired the Session. The Session was attended by participants from 65 member countries, one member organization, 12 observer organizations, and FAO and WHO. The list of participants, including the Secretariats, is contained in Appendix I to this report.

OPENING OF THE SESSION
2. Ms Mary Frances Lowe, U.S. Codex Manager, USDA opened the Session. Mr Ted McKinney, Under Secretary for Trade and Foreign Agricultural Affairs (TFAA), USDA, in his opening remarks, expressed his strong commitment to Codex and highlighted the importance of the science-based approach in the development of Codex standards. Dr Robert Brackett, Vice President and Director, Institute for Food Safety and Health, Illinois Institute of Technology, as keynote speaker, talked about the unique challenges for small and developing economies in addressing food safety.

Division of Competence
3. The Committee noted the division of competence between the European Union (EU) and its Member States, according to paragraph 5, Rule II, of the Rules of Procedure of the Codex Alimentarius Commission.

ADOPTION OF THE AGENDA (Agenda item 1)
4. The Committee adopted the Agenda.

MATTERS REFERRED BY THE CODEX ALIMENTARIUS COMMISSION AND/OR OTHER CODEX SUBSIDIARY BODIES TO THE FOOD HYGIENE COMMITTEE (Agenda item 2)
5. The Committee noted the matters for information and took the following decision.

Relationship between dried aromatic herbs and culinary herbs
6. Noting the clarification provided by CCSCH3, the Committee requested the Secretariat to replace “aromatic herbs” by “culinary herbs” in the Code of Hygienic Practice for Low-Moisture Foods (CXC 75-2015) and for adoption by CAC41.

MATTERS ARISING FROM THE WORK OF FAO, WHO AND OTHER INTERNATIONAL INTERGOVERNMENTAL ORGANIZATIONS (Agenda Item 3)
7. The Representatives of FAO and WHO highlighted key activities since CCFH48. Shiga toxin-producing Escherichia coli (STEC)
8. The Representative of FAO reported on the deliberations and outputs of the second FAO/WHO expert meeting on STEC convened in September 2017. Highlighting the key findings, it was noted that: (i) STEC poses a health burden worldwide as well as an economic burden and also impacts on trade; (ii) results of the source attribution work (based on expert elicitation and outbreak data) indicated beef, vegetables/fruits, dairy (primarily from unpasteurized products), and small ruminants’ meat as the most important sources of foodborne STEC illness; (iii) the use of virulence factors (genes) to predict the risk of severe illness associated with STEC in foods was recommended; and (iv) where STEC is identified as a food safety risk, monitoring should be risk-based, target high-risk foods and be implemented at points in the food chain where effective intervention is possible. The Representative noted the difficulties of having data from all regions and urged countries to provide any data they had on STEC outbreaks and/or case control studies of sporadic cases as soon as possible, for incorporation into the source attribution study to improve its global representativeness.

Conclusion
9. The Committee noted the information (see Item 6).
Water quality

10. The Representative of WHO reported on the preliminary findings of the FAO and WHO meeting of a core expert group established to address the request of CCFH48. She noted the conclusion of the group that there is no universal definition for clean water and highlighted the recommendation to take a risk-based approach with the objective of achieving “fit-for-purpose” water. The Representative noted that this risk-based approach was consistent with the WHO Guidelines for Drinking-Water Quality. It was also highlighted that moving towards this approach may require the Committee to consider how it addresses water safety in its texts in the future.

Conclusion

11. The Committee in general supported the approach being developed by FAO and WHO noting that it would be further developed in the coming months. The Committee noted that once the report was available, it would be possible to make an informed decision on how to address the issue of water safety in the context of Codex texts.

Histamine in fish and fishery products

12. The Representative of FAO reported the key findings of the comprehensive literature review regarding the risk of histamine development in Salmonidae which highlighted that under appropriate time-temperature control, and within the sensory shelf-life of the product, histamine development to the level that would cause scombrotoxin fish poisoning (SFP) was unlikely to occur. She also noted that the epidemiological evidence for histamine related illness linked to Salmonidae is scant and that the available evidence suggest that histamine in Salmonidae is not a significant public health risk.

Conclusion

13. The Committee thanked FAO and WHO for the report and noted that it would be considered under agenda item 5.

Other related issues

14. The Committee was informed on other FAO and WHO activities, including work on: guidance on shellfish sanitation programme; updating the risk assessment methodology; antimicrobial resistance; whole genome sequencing and food safety; good hygienic practices; and risk-based meat inspection.

15. The Committee was also informed on the activities being undertaken and information prepared by FAO, WHO and OIE for the World Antibiotic Awareness Week (13-19 November 2017).

Information from the World Organisation for Animal Health (OIE) (Agenda item 3(b))

16. The Observer from OIE highlighted key activities since CCFH48, including: the decision of the OIE World Assembly of Delegates, at the 2017 General Session, to disband the Working Group on Animal Production Food Safety (APFS) in view of the integration of APFS in the work of OIE and the inclusion of APFS in the FAO/WHO/OIE Tripartite collaboration; the adoption of the two new chapters on Salmonella in pig and bovine production systems, respectively, published in the 2017 edition of the OIE Terrestrial Code; the ongoing work on the review of the Terrestrial Code chapters on the Role of veterinary services in food safety and the Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection.

17. The Observer noted the high level of collaboration between Codex and OIE at the international and national levels and the high priority on food safety related issues in OIE standard setting work. The Observer also noted that the OIE would consider work on STEC when Codex will undertake new work.

Conclusion

18. The Committee thanked OIE for the information and congratulated them for the excellent collaboration.

6 CX/FH 17/49/4; CRD8 (Ghana); CRD 12 (Senegal); CRD13 (African Union)
19. The United Kingdom, as Chair, introduced the report of the PWG (CRD2) and explained that a general agreement had been reached on fundamental starting points on the further development of the ongoing revision.

20. While the Committee supported the points in CRD 2 as fundamental starting points to guide the revision, it noted that point vi regarding hazard analysis, would need further consideration.

**Conclusion**

21. The Committee agreed to:
- consider the points in CRD2 as a basis for the further development of CXC 1-1969;
- establish an EWG, chaired by the United Kingdom and co-chaired by France, Ghana, India, Mexico and United States of America, working in English, French and Spanish to:
  - continue revision of the three parts of the document (Introduction, GHPs, HACCP) taking into account the discussions at CCFH49 and the written comments submitted;
  - clarify the relationship of the three types of control measures: GHPs, control measures essential for safety that are applied at Critical Control Points (CCPs), and control measures essential for safety that are not applied at CCPs, using examples; and
  - clarify how food business operators come to understand the hazards associated with their business and determine the types of control measures needed to control the hazards.
- establish a PWG, chaired by the United Kingdom and co-chaired by France, Ghana, India, Mexico and United States of America, to be held immediately prior to CCFH50 and working in English, French and Spanish, to consider all comments received and to prepare a revised proposal for consideration by the plenary.

22. The Committee noted that the report of the EWG would be made available to the Codex Secretariat at least three months before CCFH50 for circulation for comments at Step 3.

**PROPOSED DRAFT REVISION OF THE CODE OF PRACTICE FOR FISH AND FISHERY PRODUCTS (CXC 52-2003) (Agenda item 5)**

23. Japan, co-chair of the EWG, introduced the item and explained that the draft guidance focused on fishing vessels, which is the critical point for the control of histamine formation. The comments submitted highlighted some outstanding concerns, in particular, the challenge in implementing HACCP principles. The co-chairs had prepared a revised proposal (CRD6) based on all written comments and proposed to use this as a basis for discussion.

**Discussion**

24. The Committee agreed with most of the proposals in CRD6, and in addition made editorial corrections, amendments for flexibility, clarity and consistency with other sections and definitions of the Code (e.g. definition for chilling and relation with the section 18: processing of fish sauce) and made the following comments and decisions.

---

7 CX/FH 17/49/5; CX/FH 17/49/5-Add.1 (Argentina, Australia, Brazil, Canada, Chile, Colombia, Ecuador, Japan, New Zealand, Norway, Paraguay, Philippines, Switzerland, United States of America, Uruguay, FoodDrinkEurope, IAF, SSAFE); CX/FH 17/49/5-Add.2 (El Salvador, European Union, India, Japan, Kenya, Panama, Senegal, Thailand, AU); CRD2 (Report of PWG on HACCP); CRD5 (Australia); CRD8 (Ghana); CRD10 (Mali); CRD11 (Indonesia); CRD14 (Morocco); CRD15 (Dominican Republic); CRD16 (ISO)

8 CX/FH 17/49/6; CX/FH 17/49/6-Add.1 (Argentina, Brazil, Canada, Ecuador, European Union, Kenya, Morocco, New Zealand, Paraguay, USA); CRD6 (Proposed draft guidance for histamine control in the Code of Practice for Fish and Fishery Products (CXC 52-2003), (Revised) - prepared by the EWG Chairs); CRD 8 (Ghana), CRD9 (Republic of Korea); CRD10 (Mali); CRD14 (Morocco); CRD15 (Dominican Republic)
Preamble

25. The Chair of the Committee recalled the decision of CCFH48 to create a table/list based on Table 2.3 of the Joint FAO/WHO Expert Meeting report (2013), in the draft guidance with species associated with histamine formation, but could not agree whether Salmonidae should be included. In view of this, the Committee had agreed to request FAO/WHO to conduct a literature review related to histamine development in fish of the family Salmonidae and provide this information to CCFH49. FAO/WHO did this review and provided its summary and conclusions in CX/FH 17/49/3. He reiterated that the key findings indicated: (i) few confirmed cases of illness over a long period of time; (ii) low levels of histidine; (iii) formation of histamine albeit at levels generally below existing Codex limit; and (iv) a high volume of production and trade with no identified rejections linked to histamine, suggesting that the family Salmonidae do not present a significant risk of histamine poisoning.

26. In considering the inclusion of Salmonidae, the Committee was reminded that, as risk managers, the Committee should make a risk management decision commensurate to the risk, bearing in mind that there is no such thing as zero risk. The options presented to the Committee were whether or not to retain a list and if so, whether the list should include only those species which present the greatest potential for histamine development or include all species identified in the hazard identification table (Table 2.3) of the report of the FAO/WHO Expert meeting. The Committee was further reminded that the table was not a risk-based list, but rather a list of species that represented potential sources of histamine hazard; inclusion of all the species from this table in this guidance on histamine control would not be risk-based and could present an unnecessary burden to both industry and regulators.

27. The Committee first agreed that a list should be included in the guidance as it would enable the user to understand to which species the guidance applied.

28. Different views were expressed regarding the composition of the list. Some delegations were of the opinion that the list should include only those species that presented the highest potential for developing histamine and causing scombrotoxin fish poisoning (SFP), which would mean excluding Salmonidae from the list. This would ensure that risk management measures taken would be proportionate to the risk.

29. Others expressed preference for an exhaustive list with all species identified in the FAO/WHO Expert Meeting report (2013), including Salmonidae, noting that small quantities of histamine could also constitute a risk, particularly for susceptible individuals. They noted that the FAO/WHO Literature Review had confirmed that Salmonidae contains histidine, has been linked to SFP and levels of histamine exceeding current limits had been detected and on this basis, as risk managers, it was necessary to take risk management measures to control histamine in salmon.

30. It was subsequently highlighted that the FAO/WHO Literature Review also noted that: (i) histidine levels in Salmonidae were lower than in other species; (ii) only a small number of cases of SFP were identified in a 40 year period and it was not always clear if the SFP was linked to histamine or other biogenic amines; and (iii) when higher levels of histamine in Salmonidae were detected, the product was at the end of its shelf-life or data on the state or storage condition of the fish were not available. It was further pointed out that the aim of Table 2.3 in the report was for hazard identification, the first step of risk assessment, and not for risk management purposes.

31. The Committee noted that this guidance would be part of the Code of Practice for Fish and Fishery Products (CXC 52-2003) which states that the “Code will assist all those engaged in the handling and production of fish and fishery products or concerned with the storage, distribution, export, import and sale in attaining safe and wholesome products that can be sold on national or international markets and meet the requirements of Codex standards.” The levels set in related standards for safety was 20 mg/100 g. The Committee further noted that in some sections of the Code (e.g. Section 13: Smoked fish, smoke-flavoured fish and smoke-dried fish) and related fish and fishery product standards, reference was made to six families associated with SFP (i.e. Scombridae, Clupeidae, Engraulidae, Coryphaenidae, Pomatomidae, Scomberesocidae) and the Committee thus considered whether to list only these families.

Conclusion

32. In a spirit of compromise, the Committee agreed to list the six families already referenced in CXC 52-2003 and noted that the list could be expanded in future.

33. Morocco and Mauritania expressed their reservation to the non-inclusion of Salmonidae in the list despite the numerous justifications, notably that in their view: (i) the decision was dictated more by economic legitimacy than for public health reasons; (ii) the FAO/WHO Expert Meeting report had confirmed several cases of histamine poisoning caused by salmon; (iii) in the case of scientific uncertainty, the precautionary principle should apply; (iv) and the low content of histamine in any case cannot justify its exclusion from the list of species causing SFP.
Other sections

34. The Committee amended the section on vessel operations to highlight that such operations are primary production and therefore do not need to apply HACCP principles as GMP was sufficient to control histamine. The Committee further recognised that in the absence of information to document on-vessel histamine control then testing at the receiving establishment was appropriate.

35. The guidance was made applicable to all fishing vessels, including artisanal boats, by deletion of reference to HACCP principles with a focus on control measures, such as temperature control, and the need for record keeping and documentation.

36. The Committee noted the importance of having text to emphasise that implementation of histamine control measures was more important for ensuring safety of the product than histamine testing. Histamine testing needed to be statistically meaningful which in turn could be resource intensive.

37. In order to avoid the possible confusion and misuse of the typical histamine level in freshly harvested scombrotxin forming fish and the achievable histamine level by applying HACCP, the Committee agreed to revise section X.2.4.1, including the title, and to include a chapeau which explained the reason for a receiving establishment to set an acceptable histamine level, and highlighted the information that could assist in establishing this level. The levels were moved to a footnote and attributed to the FAO/WHO Expert report.

Further work on histamine

38. The Committee noted that work was still necessary to identify an appropriate place for the guidance in CXC 52-2003, and to consider whether the inclusion of the new guidance would require amendment of other sections of CXC 52-2003, which contain technical guidance on histamine.

39. The Committee recalled that further work was still needed on the revision of sampling, examination and analyses section in standards for fish and fishery products related to histamine food safety (see project document in CX/CAC 16/39/7).

Conclusion

40. The Committee:
   - agreed to establish an EWG, chaired by Japan and co-chaired by the United States of America, working in English, to continue working on the outstanding issues identified in paragraphs 38 and 39;
   - noted the offer of Chile to assist with translation of documents into Spanish and the offer of France to explore the possibility to translate documents into French; and
   - agreed to forward the guidance for adoption by CAC41 at Step 5/8 (Appendix II) and noted that the guidance would be published only once consequential alignment amendments to relevant sections of CXC 52-2003, if any, were finalised and adopted by the Commission.

41. The Committee noted that the report of the EWG would be made available to the Codex Secretariat at least three months before CCFH50.

OTHER BUSINESS AND FUTURE WORK (Agenda item 6)

New Work / Forward Workplan

42. The United States of America, as Chair of the PWG, introduced CRD3 and provided an overview of the discussions and recommendations.

43. The Committee considered the recommendations of the PWG and took the following decisions.

Revision to the Process by Which the Codex Committee on Food Hygiene Will Undertake its Work

44. The Committee agreed with the revised document for posting on the Codex website (Appendix III).

New work

a) Code of practice on food allergen management for food business operators

45. Australia, noted that while the PWG had agreed to develop a discussion paper they were still willing to start the new work as this would still align, as appropriate, with the ongoing discussions on allergen labelling in CCFL.

---

9 CL 2017/68-FH; CX/FH 17/49/7; CRD3 (Report of the PWG on CCFH work priorities); CRD4 (Proposal by the Chair of the PWG on CCFH work priorities); CRD7 (ISO); CRD8 (Ghana); CRD10 (Mali); CRD12 (Senegal); CRD13 (African Union); CRD14 (Morocco); CRD15 (Dominican Republic)
46. The Secretariat noted, that should new work be agreed, then the project document would need to be revised by: i) clarifying the relationship with food labelling; ii) identifying the need for expert scientific advice; iii) completing the information on an assessment against the five criteria applicable to general subjects as requested in the Procedural Manual.

47. Noting the high priority accorded to this work in the Committee's ranking, and that the agenda of the Committee could accommodate new work, the Committee clarified the purpose and scope as follows:

“The purpose of the Code of Practice (CoP) will be to provide guidance to food business operators and governments to manage allergens in food production, including controls to prevent cross-contact. Food allergen management also involves allergen labelling which is addressed by the GSLPF.”

Conclusion

48. In view of the agreement on the scope, the Committee agreed to:

• start new work;
• request Australia and the United States of America to submit the revised project document to the Codex Alimentarius Commission (through the Secretariat) for approval as new work; and
• establish an EWG, chaired by Australia and co-chaired by the United Kingdom and the United States of America, working in English only, to prepare, subject to the approval of the Commission, the proposed draft Code for circulation for comments at Step 3 and consideration at CCFH50.

49. The Committee noted that the report of the EWG would be made available to the Codex Secretariat at least three months before CCFH50 for circulation for comments at Step 3.

b) Guidance for the management of (micro)biological foodborne crises/outbreaks

50. The European Union highlighted that this proposal was also accorded a high priority and clarified that the work, was intended to supplement FAO/WHO guidance and Codex texts, and that the guidance would also be addressed to food business operators. The option of a discussion paper would unnecessarily delay this urgently needed work and proposed that the Committee agree to start new work.

51. The Secretariat noted, that should new work be agreed, then the project document would need to be revised in particular to explain the relation between the proposal and other Codex documents, such as CCFICS and CCFH texts.

52. Delegations in favour of starting the new work were of the view that the guidance would assist the management of crises/outbreaks at national level and should not be delayed, while delegations in support of developing a discussion paper first, indicated that a detailed gap analysis of existing mechanisms (INFOSAN) and FAO, WHO and Codex documents would help defining the need for this work. More information was necessary to take into account the needs for addressing crises/outbreaks management in other regions.

53. Noting the high priority accorded to this work in the Committee’s ranking, and that the agenda of the Committee could accommodate new work, the Committee clarified the purpose and scope as follows:

“The purpose of the new work is to provide guidance to competent authorities on the management of foodborne outbreaks/crises, including the communication between national programmes with INFOSAN. The guidance intends to address preparedness, detection, response and recovery with the intent of limiting the extent of such events. The scope is limited to biological hazards. This guidance intends to provide a supplement and a link to documents developed by FAO/WHO and Codex texts, as appropriate. The document will define the role of competent authorities and collaboration with food business operators and other stakeholders during foodborne outbreaks/crises.”

Conclusion

54. In view of the agreement on the scope, the Committee agreed to:

• start new work;
• request the European Union to submit the revised project document to the Codex Alimentarius Commission (through the Secretariat) for approval as new work; and
• establish an EWG, chaired by Denmark and co-chaired by Chile and the European Union, working in English and Spanish, to prepare, subject to the approval of the Commission, the proposed draft guidance for circulation for comments at Step 3 and consideration at CCFH50.
55. The Committee noted:
   • the request for supporting the participation of francophone countries; and
   • that the report of the EWG would be made available to the Codex Secretariat at least three months before CCFH50 for circulation for comments at Step 3.

Other

Discussion paper on future work on STEC

56. The Committee confirmed the CCFH48 decision that a discussion paper on future work on STEC would be prepared by the United States of America, Uruguay and Chile for consideration at CCFH50. The Committee agreed that the discussion paper should address all categories of foods associated with human STEC illnesses identified as a major risk by the report of the FAO/WHO Expert meeting.

Forward Workplan

57. The Committee agreed to:
   • the forward workplan (Appendix IV);
   • request the Secretariat to issue a Circular Letter requesting proposals for new work; and
   • establish a PWG on CCFH Work Priorities, which will be held in conjunction with CCFH50, working in English, French and Spanish, and chaired by the United States of America and co-chaired by Panama.

DATE AND PLACE OF THE NEXT SESSION (Agenda item 7)

58. The Committee was informed that the next Session was scheduled to be held on 12 to 16 November 2018, and would be co-hosted by Panama, the final arrangements being subject to confirmation by the Secretariats.
LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

CHAIRPERSON - PRÉSIDENT - PRESIDENTE
Dr Jose Emilio Esteban
Executive Associate for Laboratory Services
Food Safety and Inspection Service,
Office of Public Health Science
United States Department of Agriculture
950 College Station Rd.
Athens, GA
United States of America
Tel: +1 (706) 546-3420
Email: Emilio.esteban@fsis.usda.gov

CHAIR'S ASSISTANT - ASSISTANTE DU PRESIDENT - ASISTENTA DEL PRESIDENTE
Ms Marie Maratos
International Issues Analyst
U.S. Codex Office, Food Safety & Inspection Service
U. S. Department of Agriculture
1400 Independence Avenue, SW Room 4861
Washington, DC
United States of America
Tel: +1-202-690-4795
Email: marie.maratos@fsis.usda.gov

MEMBER NATIONS AND MEMBER ORGANIZATIONS
ÉTATS MEMBRES ET ORGANISATIONS MEMBRES
ESTADOS MIEMBROS Y ORGANIZACIONES MIEMBROS

ANGOLA
Mrs Lidia Morais
1ª Secretária Executiva Adjunta do Codex
Serviços de Saúde do EMG-FAA
Codex-Angola/Ministério da Defesa Nacional
Largo António Jacinto-Ministério da Agricultura
Luanda
Angola
Tel: +244 923 31 66 78
Email: codexangola@yahoo.com.br

ARGENTINA - ARGENTINE
Dr María Esther Carullo
Secretary of the CCFH of argentina
SENASA
Paseo Colón 439, 5to piso.
Buenos Aires
Argentina
Tel: +54 11 4121-5325/5326
Email: mcarullo@senasa.gob.ar

Ms Josefina Cabrera
Profesional del Servicio Microbiología
Control y Desarrollo
INAL-ANMAT
Estados Unidos 25
Buenos Aires
Argentina
Tel: 43400800
Email: josefina@anmat.gov.ar

AUSTRALIA - AUSTRALIE
Ms Amanda Hill
Manager, Food Safety and Response
Food Standards Australia New Zealand
PO Box 7186
Canberra ACT
Australia
Tel: +61 2 6271 2632
Email: amanda.hill@foodstandards.gov.au

Ms Patricia Blenman
Senior Food Scientist
Food Standards Australia New Zealand
55 Blackall Street
Barton, ACT
Australia
Tel: +61 2 6271 2626
Email: patricia.blenman@foodstandards.gov.au

Mr Stephen Pahl
Research Scientist
South Australian Research and Development Institute
GPO Box 397
Adelaide, SA
Australia
Tel: +61 8 8303 9333
Email: stephen.pahl@sa.gov.au
AUSTRIA - AUTRICHE
Dr Carolin Krejci
Head of Unit
Department II/B/13 - Food Safety and Consumer Protection: Control, Hygiene and Quality
Federal Ministry of Health and Women’s Affairs
Radetzkystrasse 2
Vienna
Austria
Tel: +43 1 71100/644544
Email: carolin.krejci@bmgf.gv.at

BELGIUM - BELGIQUE - BÉLGICA
Ms Véronique De Bie
Expert
DG Politique de Contrôle
Agence Fédérale pour la Sécurité de la Chaîne Alimentaire
Boulevard du Jardin Botanique, 55
Bruxelles
Belgium
Tel: +3222118634
Email: veronique.debie@afsca.be

BENIN - BÉNIN
Mr Minhahoué Tchoutchou
Chef Service Contrôle des Denrées d’Origine Animale et Aliments pour Animaux
Direction de l’Elevage
Ministère de l’Agriculture de l’Elevage et de la Pêche
BP 2041
Cotonou
Benin
Tel: 0022921330285/ 0022997434046
Email: rtcchoutchou@yahoo.fr

Ms Valérie Christina Amstalden Junqueira
Researcher
Instituto de Tecnologia de Alimentos
São Paulo
Campinas
Brazil
Tel: +55 19 3242 7801
Email: valeriaca@gmail.com

BOLIVIA (PLURINATIONAL STATE OF) - BOLIVIE (ÉTAT PLURINATIONAL DE) - BOLIVIA (ESTADO PLURINACIONAL DE)
Ms Vicky Berusca Aguilar Blanco
Profesional técnico de alimentos complementarios
Unidad de Alimentación y Nutrición
MINISTERIO DE SALUD
Plaza del Estudiante s/n, Ministerio de Salud.
La Paz
Bolivia (Plurinational State of)
Tel: (591)2443957
Email: vberusca@gmail.com

BOTSWANA
Dr Seima Dijeng
Principal Veterinary Services
Department of Veterinary Services
Ministry of Agricultural Development and Food Security
Email: sedijeng@gov.bw

BRAZIL - BRÉSIL - BRASIL
Mrs Ligia Lindner Schreiner
Health Regulation Specialist
Brazilian Health Regulatory Agency - ANVISA
SIA Trecho 5 Área Especial 57, Bloco D, 2
Brasília
Brazil
Tel: +55 61 3462 5399
Email: ligia.schreiner@anvisa.gov.br

Ms Maristela Da Silva Nascimento
Professor
Faculdade de Engenharia de Alimentos
Universidade Estadual de Campinas
Rua Monteiro Lobato Cidade Universitária Campinas - São Paulo
Campinas
Brazil
Tel: 55 19 35213995
Email: mnasci@unicamp.br

Ms Vanessa Lucas Xavier
Health Regulation Specialist
Brazilian Health Regulatory Agency - ANVISA
SIA Trecho 5 Área Especial 57, Bloco D, 2 andar - Brasília
Brazil
Tel: +55 61 3462 5399
Email: Vanessa.xavier@anvisa.gov.br

Mr Cesar Augusto Vandesteen Junior
Official Veterinary Inspector
Ministry of Agriculture, Livestock and Food Supply – MAPA
Brasilia
Brazil
Tel: +55 61 3218 2035
Email: cesar.vandesteen@agricultura.gov.br

Mrs Carolina Vieira
Expert on Regulation and Health Surveillance
Brazilian Health Surveillance Agency - ANVISA
SIA Trecho 5 Área Especial 57, Bloco D, 2 andar Brasilia
Brazil
Tel: 55 61 3462 5377
Email: carolina.vieira@anvisa.gov.br
BULGARIA - BULGARIE
Dr Lora Pastouhova-djuparova
Director
Policies on agri-food chain Directorate
Ministry of Agriculture, Food and Forestry
blvd. "Hristo Botev" 55
Sofia
Bulgaria
Tel: +359 2 985 11 301
Email: LPastuhova@mzh.gov.bg

CAMBODIA - CAMBODGE - CAMBOYA
Dr Chamnan Chhoun
Director
Fishery Administration
Ministry of Agriculture, Forestry and Fishery
Norodom Blv 186, Sangkat Tenlebasak
Phnom Penh
Cambodia
Tel: +855-17353363
Email: chhounchamnan@gmail.com

CAMEROON - CAMEROUN - CAMERÚN
Mr Indongo Yves Laret
Directeur du Développement de la Qualité
Ministère des mines, de l'industrie et du Développement Technologique
Cameroon
Email: indyllaret@gmail.com

CHINA - CHINE
Ms Yingying Guo
Professor Assistant
Yellow Sea Fisheries Research Institute Chinese Academy of Fishery Sciences
No.106 Nanjing Road,Qingdao Shandong
Qingdao
China
Tel: 010-85800152
Email: guoyy@ysfri.ac.cn

Mr Yang Jiao
Director
International Inspection Quarantine Standards and Technical Regulations Research Center, AQSIQ,
No.18 Xibahe Dongli,Chaoyang District
Beijing
China
Tel: 8610-52165490
Email: gych@cfisa.net.cn

Mrs Cathy Breau
Scientific Evaluator
Health Canada
100 Metcalfe Street, Suite 200 AL 4102A Ottawa,
Ontario K1A 0K9
Tel: 613-796-3670
Email: cathy.breau@canada.ca

Dr Jorge Correa
Vice President, Market Access and Technical Affairs
Canadian Meat Council
220 Laurier Av. West
Ottawa
Canada
Tel: +1-613-729-3911 Ext.23
Email: jorge@cmc-cvc.com

Mr Awal Mohamadou
Sous Directeur de la Programmation et d'Homolagation des Normes
Direction Générale
Agence des Normes et de la Qualité
Yaoundé
Cameroon
Tel: (+237) 99 89 77 33
Email: moaawal@yahoo.fr

Mr Medi Moungui
Rome
Italy
Email: medimoungui@yahoo.fr

Mr Mr Pouedogo Pouedogo
Services du Premier Ministre
Tel: (+237) 99 89 77 33
Email: pouedo@yahoo.com

Mr Mrs Nelly Denis
Program and Policy Lead, Domestic Food Safety Systems
Canadian Food Inspection Agency
1400 Merivale Road, Tower 1
Ottawa
Canada
Tel: 613-773-6261
Email: nelly.denis@inspection.gc.ca

Ms Constanza Vergara
Asesor Técnico
Agencia Chilena para la Inocuidad y Calidad Alimentaria, ACHIPIA
Ministerio de Agricultura
Nueva York 17, piso 4
Santiago
Chile
Tel: 56 227979900
Email: constanza.vergara@achipia.gob.cl

Ms Denise MacGillivray
Director, Bureau of Microbial Hazards
Food Directorate, Health Canada
2nd Floor, Room 4102A
100 Metcalfe Street
Ottawa, Ontario K1A 0K9
Tel: (613) 957-0881
Email: denise.macgillivray@canada.ca

Mr Mr Yang Jiao
Director
International Inspection Quarantine Standards and Technical Regulations Research Center, AQSIQ,
No.18 Xibahe Dongli,Chaoyang District
Beijing
China
Tel: 010-84603870
Email: jiaoyang@aqsiq.gov.cn
Mr Tsz Sum Lam
Senior Medical Officer
Food and Environmental Hygiene Department
HKSAR
China
Tel: 85228675602
Email: ftslam@fehd.gov.hk

Mr Huanchen Liu
Assistant Researcher
China National Center for Food Safety Risk Assessment
37 Guangqu Road, Building 2, Chaoyang, Beijing, China
Tel: 8610-52165468
Email: liuhuanchen@cfsa.net.cn

Mr Min Pu
Director
General Administration of Quality Supervision, Inspection and Quarantine of the P. R. China AQSIQ
No. Madian East Rd, Haidian District, Beijing, China
Tel: 010-82262419
Email: hechafankui@aqsiq.gov.cn

Mr Ruochuan Shen
Deputy Director
Wenzhou Entry-Exit Inspection & Quarantine Bureau
NO.315 middle College Road, Zhejiang, Wenzhou, China
Tel: 0577-88373305
Email: src@wz.ziq.gov.cn

Mr Ting Wang
Deputy Sector Chief
Shanghai Entry-Exit Inspection and Quarantine Bureau
No.1208,Minsheng Road Pudong New Area, Shanghai, China
Tel: 8721677027
Email: wangting@shciq.gov.cn

Ms Lianzhu Wang
Professor
Yellow Sea Fisheries Research Institute Chinese Academy of Fishery Sciences
No.106 Nanjing Road, Qingdao Shandong, Qingdao, China
Tel: 010-85821813
Email: wangliz@ysfri.ac.cn

Mr Bohua Yuan
Deputy Director
National Health and Family Planning Comission
Nanlu Xizhimenwai, Xicheng District, 100044, Beijing, China
Email: sspgpc@126.com

Mr Wei Zeng
Associate Consultant
China Food and Drug Administration
Building2, No 26, Xuanwumen West Street, Xicheng District, Beijing, China
Tel: 8601-88331032
Email: zengwei@cfda.gov.cn

Mr Yuguang Zhang
Principal staff member
China Food and Drug Administration
Building2, No 26, Xuanwumen West Street, Xicheng District, Beijing, China
Tel: 8601-88331167
Email: zhangyg@cfda.gov.cn

COLOMBIA - COLOMBIE
Ms Judith Aldana
Food Engineer
Invima
Cra 10 # 64 28, Bogotá, Colombia
Tel: 573202244040
Email: jaldanag@invima.gov.co

DENMARK - DANEMARK - DINAMARCA
Mrs Zanne Dittlau
Special Veterinary Adviser
Danish Veterinary and Food Administration
Ministry of Environment and Food
Stationsparken 31, Glostrup, Denmark
Tel: +45 7227 6567
Email: zadi@fvst.dk

DOMINICAN REPUBLIC - DOMINICAINE, REPUBLIQUE - DOMINICANA, REPUBLICA
Dr Fátima Del Rosario Cabrera T. Encargada Departamento de Alimentos
Dirección General de Medicamentos, Alimentos y Productos Sanitarios
Ministerio de Salud Pública y Asistencia Social (MSP)
Ave. H. Homero Hernández esq. Ave. Tiradentes, Ens. La Fe Santo Domingo, D.N., Dominican Republic
Tel: +18098562151
Email: codex.pccdor@msp.gob.do

ECUADOR - ÉQUATEUR
Mr Borys Mejía
Jefe
Oficina Comercial del Ecuador en Chicago
PRO ECUADOR
875 N. Michigan Ave. Suite 1320, Chicago
United States of America
Email: mejia@proecuador.gob.ec
Mrs Cristina Romero  
Técnico Comercial  
Oficina Comercial del Ecuador en Chicago  
PRO ECUADOR  
875 N. Michigan Ave. Suite 1320  
Chicago  
United States of America  
Email: cromeron@proecuador.gob.ec

ESTONIA - ESTONIE  
Mrs Ingrid Vesmes  
Head of Food Hygiene Office  
Food Safety Department  
Ministry of Rural Affairs  
Lai Str 39/41  
Tallinn  
Estonia  
Tel: +3726256272  
Email: ingrid.vesmes@agri.ee

Ms Piret Priisalu  
adviser  
Food Safety  
Ministry of Rural Affairs  
Lai St 39/ Lai St 41  
Tallinn  
Estonia  
Tel: (+372) 6256210  
Email: piret.priisalu@agri.ee

Ms Outi Tyni  
Policy Officer - Member of the Estonian delegation  
General Secretariat  
Council of the European Union  
Rue de la Loi, 175  
Bruxelles  
Belgium  
Tel: +32 (0)2 281 2770  
Email: outi.tyni@consilium.europa.eu

EUROPEAN UNION - UNION EUROPÉENNE - UNIÓN EUROPEA  
Mr Kris De Smet  
Administrator  
DG SANTE.DDG2.G.4  
European Commission  
Rue Belliard 232 B232 03/010  
Brussels  
Belgium  
Tel: +32 229-84335  
Email: kris.de-smet@ec.europa.eu

Ms Barbara Moretti  
Administrator  
DG SANTE  
European Commission  
Rue Froissart 101  
Brussels  
Belgium  
Tel: +32 229-92362  
Email: barbara.moretti@ec.europa.eu

FINLAND - FINLANDE - FINLANDIA  
Dr Sebastian Hielm  
Director of Food Safety  
Ministry of Agriculture and Forestry  
P.O.Box 30 FI-00023 Government  
Helsinki  
Finland  
Tel: +358 50 524 5761  
Email: sebastian.hielm@mmm.fi

FRANCE - FRANCIA  
Mrs Fany Molin  
Sous-directrice  
Sous-direction de la sécurité sanitaire des aliments  
Direction générale de l'alimentation  
251, rue de Vaugirard  
Paris  
France  
Tel: 0033149558418  
Email: fany.molin@agriculture.gouv.fr

Mrs Célia Azoyan  
Chef de bureau  
DGCCRF  
Ministère de l’économie, de l’industrie et du numérique  
Paris  
France  
Email: celia.azoyan@dgccrf.finances.gouv.fr

Mr Olivier Cerf-dautray  
Expert  
General directorate for food  
ministry of agriculture agrifood and forestry -  
251 rue de Vaugirard  
Paris  
France  
Tel: 33 6 44 11 21 11  
Email: olivier.cerf@gmail.com

GERMANY - ALLEMAGNE - ALEMANIA  
Dr Udo Wiemer  
Desk Officer  
Division 314 - Meat Hygiene, Food Hygiene  
Federal Ministry of Food and Agriculture  
Rochusstr. 1  
Bonn  
Germany  
Tel: +49 228 99529 3888  
Email: udo.wiemer@bmel.bund.de

Dr Lueppo Ellerbroek  
Director and Professor  
Unit Food Hygiene and Virology  
Federal Institute for Risk Assessment (BfR)  
Max-Dohrn-Str. 8-10  
Berlin  
Germany  
Tel: +49 30 18412 2121  
Email: lueppo.ellerbroek@bfr.bund.de

Dr Klaus Lorenz  
Head of Unit  
Federal Office of Consumer Protection and Food Safety  
P.O. Box 110260  
Berlin  
Germany  
Tel: +49 (0) 30 18444 10600  
Email: klaus.lorenz@bvl.bund.de

GHANA  
Mr Edward Worlanyo Archer  
Senior Regulatory Officer  
Food Safety  
Food and Drugs Authority  
P. O. Box Ct 2783 Cantonments  
Accra  
Ghana  
Tel: +233 249 136325  
Email: worlarch@yahoo.com
Mr John Kofi Odame-darkwah  
National Codex Committee Member  
Food Safety  
Corban consult ltd  
P.O.Box AT 588 Achimota  
Accra  
Ghana  
Tel: +233 244 337243  
Email: jodame22@gmail.com

Mrs Harriet Ayebea Ofotiantwi  
Principal Regulatory Officer  
Food Microbiology Unit  
Food and Drugs Authority  
P. O. Box CT 2783 Cantonments, Accra-Ghana  
Accra  
Ghana  
Tel: +233208127849  
Email: hariorgianiantwi@yahoo.com

GREECE - GRÈCE - GRECIA

Mr Yerassimos Lazaris  
Trade Commissioner of Greece in Chicago  
General Consulate of Greece in Chicago  
Email: ecocom-chicago@mfa.gr

Ms Polyxeni Petropoulou  
Consul General of Greece in Chicago  
Consulate General of Greece in Chicago  
Email: grgencon.cic@mfa.gr

GUINEA - GUINÉE

Dr Lamine Camara  
Chef Division Norons et Qualité  
Direction Services Vétérinaires  
Ministère Elevage et des Productions Animales  
Quartier Almamya/ Commune de Kaloum  
Conakry  
Guinea  
Tel: 00 224 628 781157  
Email: lamine3856@gmail.com

Mr Mohamed Lamine Cisse  
Chef de Section  
Ministère de l'Industrie PME Promotion Secteur Prive  
Institut Guinéen de Normalisation et Métrologie  
IGNM Quartier Almamya Commune de Kaloum  
Conakry  
Guinea  
Tel: 00224 628 11 27 39  
Email: molcisse78@gmail.com

INDIA - INDE

Dr A Jayathilak  
Chairman  
Ministry of Commerce & Industry, Govt. of India  
Marine Products Export Development Authority (MPEDA)  
Panampilly Nagar, Kochi, Kerala, India- 682036.  
Kochi  
India  
Tel: +91 484 2311979  
Email: jayathilak@nic.in

Mr Sunil Bakshi  
Advisor (Codex / Regulations)  
Food Safety and Standards Authority of India  
FDA Bhawan, Near Bal Bhawan  
New Delhi  
India  
Tel: +91-11-23237439  
Email: sbakshi@fssai.gov.in

Ms Madhavi Das  
Chief Management Services Officer  
(HR/TCB/PC/Library)  
Food Safety and Standards Authority of India  
FDA Bhawan, Near Bal Bhawan  
New Delhi  
India  
Email: madhavi.das@nic.in

Ms Praveen Gangahar  
Advisor  
National Accreditation Board for Certification Bodies (NABCB)  
Quality Council of India (QCI)  
2nd Floor, Institution of Engineers Building 2, Bahadur Shah Zafar Marg  
New Delhi  
India  
Tel: +91-11-23378057, +91-981010882  
Email: pgangahar@gmail.com

IRELAND - IRLANDE - IRLANDA

Mr Kilian Unger  
Superintending Veterinary Inspector  
Vet. Pigmeat and Poultymeat  
Department of Agriculture, Food and the Marine  
6E Agriculture House Kildare Street Dublin 2  
Dublin  
Ireland  
Tel: +353 1 6072844  
Email: kilian.unger@agriculture.gov.ie

Dr Wayne Anderson  
Director of Food Science and Standards  
Food Safety Authority of Ireland  
Abbey Court Lr. Abbey Street Dublin 1  
Dublin  
Ireland  
Tel: +353 1 8161365  
Email: wanderson@fsai.ie

ISRAEL - ISRAËL

Ms Hanna Markowitz  
Senior Food Engineer  
HACCP & GMP Section  
Ministry of Health  
14 Harba’a Street  
Tel Aviv  
Israel  
Tel: +972506242312  
Email: hanna.markowitz@moh.health.gov.il
ITALY - ITALIE - ITALIA
Mr Ciro Impagnatiello
Codex Contact Point
Department of the European Union and International Policies and of the Rural Development
Ministry of Agricultural Food and Forestry Policies
Via XX Settembre, 20
Rome
Italy
Tel: +39 06 46654058
Email: c.impagnatiello@politicheagricole.it

JAPAN - JAPON - JAPÓN
Dr Kazuko Fukushima
Deputy Director
Office of HACCP promotion, Food Inspection and Safety division,
Ministry of Health, Labour and Welfare
1-2-2 Kasumigaseki, Chiyoda-ku
Tokyo
Japan
Tel: +81 3 3595 2337
Email: codexj@mhlw.go.jp

Ms Mayu Horie
Technical Official
Office of International Food Safety, Policy Planning Division for Environmental Health and Food Safe
Ministry of Health Labour and Welfare
1-2-2 Kasumigaseki, Chiyoda-ku
Tokyo
Japan
Tel: +81 3 3595 2326
Email: codexj@mhlw.go.jp

Ms Miki Moriyoshi
Food Safety Standards and Evaluation Division, Pharmaceutical Safety and Environmental Health Bureau
Ministry of Health, Labour and Welfare
1-2-2 Kasumigaseki, Chiyoda-ku
Tokyo
Japan
Tel: +81 3 3595 2341
Email: codexj@mhlw.go.jp

KENYA
Dr William Kimutai Maritim
Chair-FAO/WHO Coordinator-CCAFAFRICA
Project Coordination-SMAP
Directorate of Veterinary Services
Private Bag 00625 Kagemi
Nairobi
Kenya
Tel: +254722601653
Email: kimutaimaritim@yahoo.co.uk

Ms Margaret Jemutai Rugut
Managing Director
Dairy Board
P.O. 27113
Nairobi
Kenya
Tel: 0722332598
Email: kibogymr@kdb.co.ke

LEBANON - LIBAN - LÍBANO
Ms Mariam Eid
Head of Department
Agro-Industries Department
Codex Alimentarius
Lebanon
Tel: 009613567542
Email: meid@agriculture.gov.lb

MALAYSIA - MALAISIE - MALASIA
Ms Sharizat Ahmad
Deputy of Pre-Market Approval
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Presint 3, No 26, Jalan Persiaran Perdana Precint 3,
Putrajaya
Malaysia
Tel: 603-88850797
Email: sharizat@moh.gov.my

MALI - MALÍ
Dr Diakite Oumou Soumana Maiga
Directrice Générale
Ministère de la Santé et de l'Hygienne Publique
Agence Nationale de la Sécurité Sanitaire des Aliments
Centre Commercial, Quartier du Fleuve BPE :2362
Bamako
Mali
Tel: +223 66741504 /+223 20220747
Email: dkiteoumou24@yahoo.fr

Mrs Aminata Diallo Epouse Arby
Chef de Division par intérim
Ministere de la Sante et de l'Hygiène Publique
Agence Nationale de la Sécurité Sanitaire des Aliments Quartier du Fleuve, Centre Commercial Rue 305,
BPE: 2362
Bamako
Mali
Tel: +223 66723018 /+223 20220754
Email: amit_diallo73@yahoo.fr
**MAURITANIA - MAURITANIE**

Mr Amadou Niang  
Directeur Adjoin  
Office National d'Inspection Sanitaire des produits de la Peche et l'Aquaculture (ONISPA)  
Boulevard Maritime  
Nouadhibou  
Mauritania  
Tel: +22245740512  
Email: amamadouniang@gmail.com

**MEXICO - MEXIQUE - MÉXICO**

Ms Mariana Jimenez Lucas  
Verificador/Dictaminador Sanitario Especializado  
Comisión Federal para la Protección contra Riesgos Sanitarios, COFEPRIS  
Calle Monterrey 33, Cuauhtémoc, C. U. Benito Juárez, 06700 Ciudad de México, CDMX  
Mexico  
Tel: 5080-5200  
Email: mjimenez@cofepris.gob.mx

**MOROCCO - MAROC - MARRUECOS**

Dr Oleya El Hariri  
Veterinarian  
Agriculture  
National Food Safety Office  
Av hadj Ahmed cherkaoui Agdal rabat  
Rabat  
Morocco  
Tel: +212666071289  
Email: oleyafleur@yahoo.fr

**MOZAMBIQUE**

Mrs Hassanate Luiz  
Fish Inspector  
National Institute for Fish Inspection  
Ministry of Sea, Inland Waters and Fisheries  
Street: Bagamoyo nr 143 Postal code: 2040  
Maputo  
Mozambique  
Tel: +258 21315230  
Email: adtimana2004@yahoo.com.br

**NETHERLANDS - PAYS-BAS - PAÍSES BAJOS**

Mr Arie Ottevanger  
Senior Policy Officer  
Ministry of Health, Welfare and Sports  
PO Box 20350  
The Hague  
Netherlands  
Tel: 0031 6 21 50 28 93  
Email: a.ottevanger@minvws.nl

**NEW ZEALAND - NOUVELLE-ZÉLANDE - NUEVA ZELANDIA**

Ms Judi Lee  
Principal Adviser  
Ministry for Primary Industries  
25 The Terrace  
Wellington  
New Zealand  
Email: judi.lee@mpi.govt.nz

**NIGERIA - NIGÉRIA**

Dr Olaniran Alabi  
Deputy Director  
Federal Ministry of Agriculture and Rural Development  
FCDA Secretariat, Area 11, Garki  
Abuja  
Nigeria  
Tel: +2348033148647  
Email: olanlabi@gmail.com

**REPUBLIC OF THE DEVELOPED NATIONS**

Mr Emmanuel Amlai  
Director  
Consumer Protection Council  
Plot 1105, Dar Es-Salam Street, Off Aminu Kano Crescent, Wuse II  
Abuja  
Nigeria  
Tel: +2348099494447, +2340807722470  
Email: emmaamlai@gmail.com

**ROMANIA - ROUMANIE - ROMANIA**

Mr Dodoyi Wariye West  
Deputy Director  
National Agency for Food and Drug Administration and Control (NAFDAC)  
NAFDAC, Wuse Zone 7  
Abuja  
Nigeria  
Tel: +2348033701040  
Email: david.wariye@gmail.com
NORWAY - NORVÈGE - NORUEGA
Mrs Kjersti Nilsen Barkbu
Senior Adviser
Norwegian Food Safety Authority
N-2381 Brumunddal
Norway
Tel: +47 92038018
Email: kinba@mattilsynet.no

PANAMA - PANAMÁ
Dr Yuri Huerta
Administrador
Administración Panameña de Seguridad de Alimentos
Ave. Ricardo J. Alfaro, Sun Tower Mall, Piso 2, local 70
Panama
Panama
Tel: (507) 5220005
Email: yurihuerta@hotmail.com

Mr Bolivar Cañizales
Analista de Relaciones Exteriores
Relaciones Exteriores
Ministerio de Relaciones Exteriores
Calle 3a Este
Panama
Panama
Tel: (507) 5114256
Email: bcanizales@mire.gob.pa

Eng Joseph Gallardo
Coordinador de Planes y Proyectos
Dirección General de Normas y Tecnología Industrial
Ministerio de Comercio e Industrias
Plaza Edison, Sector El Paical, Pisos 3
Panama
Panama
Tel: (507) 5600600 Ext. 5968
Email: jagallardo@mici.gob.pa

Eng Anelys Mendoza
Jefa. Depto. de Registro de Alimentos
Depto. de Registro de Alimentos
Autoridad Panameña de Seguridad de Alimentos
Ave. Ricardo J. Alfaro, Sun Tower Mall, Piso 2, local 70
Panama
Panama
Tel: (507) 5221119
Email: amendoza@aupsa.gob.pa

Mr Marco Pino
Asesor y Asistente Ejecutivo
Autoridad Panameña de Seguridad de Alimentos
Ave. Ricardo J. Alfaro, Sun Tower Mall, Piso 2, local 70
Panama
Panama
Tel: (507) 5220005
Email: mmpino@aupsa.gob.pa

Eng María Tejada
Jefa de la Oficina de Cooperación Técnica Internacional
Autoridad Panameña de Seguridad de Alimentos
Ave. Ricardo J. Alfaro, Sun Tower Mall, Piso 2, local 70
Panama
Panama
Tel: (507) 5220332
Email: mttejada@aupsa.gob.pa

PARAGUAY
Mrs Patricia Maldonado
CCFH Coordinator in Paraguay
Food Surveillance and Control
INAN Paraguay
Paraguay
Email: elpamaga@gmail.com

PHILIPPINES - FILIPINAS
Ms Almueda David
Food Drug Regulation Officer IV
Food and Drug Administration
Department of Health
Civic Drive, Filinvest Corporate City,
Alabang, Muntinlupa
Philippines
Tel Nos.: (032)857-1936, (032)857-1990 Loc. 2061, 2091
Email: acdavid@fda.gov.ph

POLAND - POLOGNE - POLONIA
Mrs Aneta Klusek
Chief Specialist
Department of Food Safety and Veterinary Matters
Ministry of Agriculture and Rural Development
Wspólna Street No. 30, 00-930 Warsaw, Poland
Warsaw
Poland
Tel: +48 22 623 11 98
Email: aneta.klusek@minrol.gov.pl

REPUBLIC OF KOREA - RÉPUBLIQUE DE CORÉE - REPÚBLICA DE COREA
Dr Yonghyun Jung
Deputy Director
Ministry of Food and Drug Safety
Osong Health Technology Administration Complex 187,
Osong-saengmyeong 2-ro, Osong-eup, Heungdeok-gu,
Cheongju-city, Chungcheongbuk-do, 28159
Republic of Korea
Tel: +82 43-719-2422
Email: jyh311@korea.kr
Ms Hyunhwa Ji  
Scientific Researcher  
Food Standard  
Ministry of Food and Drug Safety  
Osong Health Technology Administration Complex 187, Osongsaengmyeong 2-ro, Osong-eup, Heungdeok-gu, Cheongju-st, Chungcheongbuk-do, 28159  
Republic of Korea  
Tel: +82 43-719-2421  
Email: hyun6998@korea.kr

Ms Sujin Jo  
Researcher  
Food Safety and Coordination  
Ministry of Food and Drug Safety  
Osong Health Technology Administration Complex 187, Osongsaengmyeong 2-ro, Osong-eup, Heungdeok-gu, Cheongju-st, Chungcheongbuk-do, 28159  
Republic of Korea  
Tel: +82 43-719-2023  
Email: cleansee54@korea.kr

Ms Sung-youn Kim  
Scientific Researcher  
National Agricultural Products Quality Management Service  
Ministry of Agriculture, Food, and Rural Affairs  
141, Yongjeon-ro, Gimcheon-si, Gyeongsangbuk-do, Republic of Korea  
Tel: 82-54-429-7773  
Email: youn5326@korea.kr

Dr Eunjung Roh  
Scientific Researcher  
National Institute of Agricultural Sciences  
Ministry of Agriculture, Food, and Rural Affairs  
166, Nongsaengmyeong-ro, Iseo-myeon, Wanju-gun, Jeollabuk-do  
Republic of Korea  
Tel: +82-63-238-3406  
Email: rosalia51@korea.kr

SAUDI ARABIA - ARABIE SAOUDITE - ARABIA SAUDITA

Mr Abdulaziz Alqoud  
Senior Food Specialist  
Executive Dept. For Technical Regulations and Standards  
Saudi Food and Drug Authority  
(3292) North Ring Road - Al Nafal Unit (1)  
Riyadh  
Saudi Arabia  
Tel: +96612038222  
Email: CODEX_CP@sFDA.gov.sa

SENegal - SÉNÉGAL

Mrs Mame Diarra Faye  
Point de Contact National CODEX  
Ministere Sante et Action Sociale  
Fann  
Dakar  
Senegal  
Tel: +221 77 520 09 15  
Email: mamediarrafaye@yahoo.fr

Dr Mame Coumba Codou Faye Diouf  
Direction Generale de la Sante  
Ministère de la Santé et de l’Action sociale  
Rue Aimé Césaire - Fann Résidence  
Dakar  
Senegal  
Tel: +221 77 556 64 78  
Email: coumbacodou9@gmail.com

Mr Moustapha Kane  
Chef de Division Education à l’Hygiène  
Service National de l'hygiène  
Ministere Sante et Action Sociale  
Terminus TATA 34 Nord Foire Dakar  
Dakar  
Senegal  
Tel: 00221 77 616 42 72  
Email: mkndbkane@yahoo.fr

Prof Bellancille Musabyemariya  
Enseignante-chercheur  
Ministere Enseignement Superieur  
Ecole Inter-États des Sciences et Médecine  
Vétérinaires de Dakar/UCAD  
B.P 5077 Dakar-Fann Sénégal  
Dakar  
Senegal  
Email: bellacil@hotmail.com

Mrs Lucie Fatime Sarr  
Responsable Qualite  
Ministere Commerce  
Laboratoire National d’Analyses et de Controle  
Rue Parchappe  
Dakar  
Senegal  
Email: luciefatimesarr@hotmail.com

Mrs Maimouna Sow  
Chef de Division  
Ministere Sante et Action Sociale  
Service National de l’Hygiène  
Terminus TATA, 34 Nord Foire Dakar  
Dakar  
Senegal  
Email: maynatacko@yahoo.fr

Prof Amy Gassama Sow  
Responsable  
Laboratoire Sécurité alimentaire et Hygiène de l'Environnement/IPD  
36, Avenue Pasteur  
Dakar  
Senegal  
Tel: 00221 33 839 92 35  
Email: gassama@pasteur.sn

SINGAPORE - SINGAPOUR - SINGAPUR

Mr Teck Heng Phua  
Group Director  
Food Establishment Regulation Group  
Agri-Food & Veterinary Authority  
52, Jurong Gateway Road, #14-01  
Singapore 608550  
Singapore  
Tel: +65 68052733  
Email: Leslie_phua@ava.gov.sg
Mr Sylvester Gabriel Lee  
Executive Manager  
Surveillance & Compliance Department, Food  
Establishment Regulation Group  
Agri-Food & Veterinary Authority  
52, Jurong Gateway Road, #14-01  
Singapore 608550  
Singapore  
Tel: +65 68052714  
Email: Sylvester_lee@ava.gov.sg

SOUTH AFRICA - AFRIQUE DU SUD - SUDÁFRICA
Ms Shirley Parring  
Assistant Director: Food Control  
Directorate: Food Control  
Department of Health  
Private Bag X828  
Pretoria  
South Africa  
Tel: +27123958787  
Email: Shirley.duPlessis@health.gov.za

Mr Deon Jacobs  
Principal Inspector  
National Regulator for Compulsory Specifications  
14B Railway Road, Montague Gardens,  
Cape Town  
South Africa  
Tel: 27 21 526 3412  
Email: Deon.Jacobs@nrcs.org.za

Mr Kudakwashe Magwedere  
State Veterinarian/Technical Specialist  
Directorate Veterinary Public Health  
Department of Agriculture, Forestry and Fisheries  
Private Bag X138  
Pretoria  
South Africa  
Tel: +27 12 319 7650  
Email: KudakwasheM@daff.gov.za

SPAIN - ESPAGNE - ESPAÑA
Mrs Paloma Sanchez Vázquez De Prada  
Veterinary Officer  
AECOSAN  
Ministerio de Sanidad  
C/ Alcalá 56,  
MADRID  
Spain  
Tel: 913380  
Email: psanchezv@msssi.es

Mr Julian Garcia Baena  
Head of Section  
Sub Directorate General for Fisheries Economy  
Ministry of Agriculture, Food and Environment  
C Velázquez, 147, 2ª planta  
Madrid  
Spain  
Email: JGBaena@mapama.es

SWEDEN - SUÈDE - SUECIA
Mrs Viveka Larsson  
Principal Regulatory Officer, DVM  
National Food Agency  
Box 622  
Uppsala  
Sweden  
Tel: +46 709245588  
Email: viveka.larsson@slv.se

SWITZERLAND - SUISSE - SUIZA
Mrs Christina Gut Sjöberg  
Scientific Advisor  
International Affairs  
Federal Food Safety and Veterinary Office FSVO  
Bern  
Switzerland  
Email: christina.gut@blv.admin.ch

THAILAND - THAÎLANDE - TAILANDIA
Mr Pisan Pongsapitch  
Deputy Secretary General  
National Bureau of Agricultural Commodity and Food Standards  
Ministry of Agriculture and Cooperatives  
50 Paholyothin Road, Lad Yao, Chatuchak  
Bangkok  
Thailand  
Tel: +66 2 561 3707  
Email: pisani@acfs.go.th

Ms Pitchaporn Achawawongtip  
Executive Director  
Thai Food Processors’ Association  
170/21-22, 9th Floor, Ocean Tower 1 Building,  
Klongtoey  
Bangkok  
Thailand  
Tel: +662 261 2684-6  
Email: pitchaporn@thaifood.org

Mrs Orawan Laipradit  
Food Technologist  
Department of Fisheries  
Ministry of Agriculture and Cooperatives  
127 Moo 8, Kokkham, Muang Samutsakorn  
Thailand  
Tel: +6634457424  
Email: orawan.l@ dof.mail.go.th

Ms Umaporn Kamolmattayakul  
Representatives of the Federation of Thai Industries  
The Federation of Thai Industries  
60 New Rachadapisek Rd., Klongtoey,  
Bangkok  
Thailand  
Tel: +6626257511  
Email: umaporn@cpf.co.th

Mrs Orawan Laipradit  
Food Technologist  
Department of Fisheries  
Ministry of Agriculture and Cooperatives  
127 Moo 8, Kokkham, Muang Samutsakorn  
Thailand  
Tel: +6634457424  
Email: orawan.l@ dof.mail.go.th

Ms Virachnee Lohachoompol  
Standards Officer  
National Bureau of Agricultural Commodity and Food Standards  
Ministry of Agriculture and Cooperatives  
50 Paholyothin Road, Lad Yao, Chatuchak  
Bangkok  
Thailand  
Tel: +66 2 561 2277 ext 1428  
Email: virachnee@acfs.go.th

Ms Porpanida Poochinda  
Standard Officer  
National Bureau of Agricultural Commodity and Food Standards  
Ministry of Agriculture and Cooperatives  
50 Paholyothin Road, Lad Yao, Chatuchak  
Bangkok  
Thailand  
Tel: 665612277 ext.1254  
Email: poochinda@gmail.com
Ms Tasrun Ratanathusnee  
Scientist, Senior Professional Level  
Department of Agriculture  
Ministry of Agriculture and Cooperatives  
50 Paholyothin Road, Ladyao, Chatuchak  
Bangkok  
Thailand  
Tel: +6629404644  
Email: dear_narak@yahoo.com

Ms Katchaporn Temyord  
Chief of Livestock Standards Section  
Department of Livestock Development  
Ministry of Agriculture and Cooperatives  
69/1 Phayathai Road, Ratchathewi  
Bangkok  
Thailand  
Tel: +66 81 949 3747  
Email: katchapornt@yahoo.com

TRINIDAD AND TOBAGO - TRINITÉ-ET-TOBAGO - TRINIDAD Y TABAGO

Dr Keisha Roberts  
Member  
Trinidad and Tobago  
Email: keishatroberts@hotmail.com

TURKEY - TURQUIE - TURQUÍA

Dr Betul Vazgecer  
Engineer  
Food Establishments and Codex Department  
Ministry of Food Agriculture and Livestock  
Eskisehir Yolu 9.Km Lodumlu  
Ankara  
Turkey  
Tel: +903122587754  
Email: betul.vazgecer@tarim.gov.tr

Mr Ilhami Sahin  
Coordinator for Food Codex  
Department of Food Establishments and Codex  
Ministry of Food, Agriculture and Livestock-General  
Directorate of Food and Control  
Eskisehir yolu 9.Km Lodumlu  
Ankara  
Turkey  
Tel: +903122587757  
Email: ilhamisahin@tarim.gov.tr

Dr Meltem Yilmazlar  
Veterinarian  
ANITEK LTD STI  
Kiliçarslan Mah. Cevre Yolu Cad. No:64/5 Selcuklu  
Konya  
Turkey  
Tel: 009055530006246  
Email: meltemyilmazlar@yahoo.com

UGANDA - OUGANDA

Mr Felix Angeki  
Quality Control Officer  
Soroti Fruit Factory  
Uganda Development Corporation  
5th Floor, Soliz House, Plot 23 Lumumba Avenue, P.O. Box 7042, Kampala  
Kampala  
Uganda  
Tel: +256 774 206338  
Email: angeki62@gmail.com

Mr Denis Alyeia Omodi  
Supervisor  
Public Health and Environment  
Kampala Capital City Authority  
City Hall, Plot 1-3, Apollo Kagwa Road PO BOX 7010  
Kampala  
Uganda  
Tel: +256 794 661080  
Email: domodi@kcca.go.ug

UNITED KINGDOM - ROYAUME-UNI - REINO UNIDO

Mr Steve Cowperthwaite  
Food Standards Agency  
125 Kingsway  
London  
United Kingdom  
Email: steve.cowperthwaite@foodstandards.gsi.gov.uk

Dr Linden Jack  
Food Standards Agency  
125 Kingsway  
London  
United Kingdom  
Tel: +44 (0) 20 7276 8941  
Email: linden.jack@foodstandards.gsi.gov.uk

Mr Mike O'Neill  
Head Codex Policy and Projects  
Food Standards Agency  
Aviation House 125  
London  
United Kingdom  
Tel: +447917213545  
Email: Mike.Oneill@foodstandards.gsi.gov.uk

Mr Geoff Ogle  
Food Standards Scotland  
Email: Geoff.ogle@fss.scot

Mr Carles Orri  
Food Standards Agency  
United Kingdom  
Email: carles.orri@food.gov.uk

Ms Liz Stretton  
Food Standards Agency  
Aviation House 125 Kingsway  
London  
United Kingdom  
Tel: 0207 276 8357  
Email: Liz.Stretton@foodstandards.gsi.gov.uk

Mr Steve Wearne  
Director of Food Policy and Science  
Food Standards Agency  
United Kingdom  
Email: steve.wearne@foodstandards.gsi.gov.uk

UNITED STATES OF AMERICA - ÉTATS-UNIS D’AMÉRIQUE - ESTADOS UNIDOS DE AMÉRICA

Ms Jenny Scott  
Senior Adviser  
U.S. Food and Drug Administration  
Office of Food Safety, CFSA  
5001 Campus Drive HFS-300, Room 3B-014  
College Park, MD  
United States of America  
Tel: +12404022166  
Email: Jenny.scott@fda.hhs.gov
Ms Laura Bachmeier  
Director of Pork Safety  
National Pork Board  
1776 NW 114th Street  
Clive, IA  
United States of America  
Tel: +1(515)-223-2764  
Email: LBachmeier@pork.org

Mr Clarke Beaudry  
Consumer Safety Officer  
Division of Seafood Safety  
U.S. Food and Drug Administration  
5001 Campus Drive  
College Park, Maryland  
United States of America  
Tel: +1 240-402-2503  
Email: clarke.beaudry@fda.hhs.gov

Dr James Dickson  
Professor  
Animal Science  
Iowa State University  
806 Stange Road 2372 Kildee Hall  
Ames, IA  
United States of America  
Tel: +15152944733  
Email: jdickson@iastate.edu

Mrs Mallory Gage  
Founder  
Gage Group Consulting  
3033 Welton Street  
Denver  
United States of America  
Tel: +1 (202) 320-9281  
Email: mallorylgage@gmail.com

Dr Melinda Hayman  
Consumer Safety Officer  
Center for Food Safety and Applied Nutrition, Office of Food Safety HSF 316  
U.S. Food and Drug Administration  
5001 Campus Dr.  
College Park, MD  
United States of America  
Tel: +1-240-402-8995  
Email: Melinda.Hayman@fda.hhs.gov

Ms Courtney Knupp  
Deputy Director of International Trade Policy  
Trade Department  
National Pork Producers Council  
122 C Street, NW., Suite 875  
Washington, DC  
United States of America  
Tel: +1-202-347-3600  
Email: knuppcc@nppc.org

Ms Mary Frances Lowe  
Manager, U.S. Codex  
U.S. Department of Agriculture  
U.S. Codex Office  
Room 4861 - South Building 1400 Independence Avenue  
Washington, D.C.  
United States of America  
Tel: 202 720 2057  
Email: MaryFrances.Lowe@fsis.usda.gov

Mr Kenneth Lowery  
International Issues Analyst  
U.S. Codex Office  
1400 Independence Avenue SW Room 4861-South Building  
Washington DC  
United States of America  
Tel: +1 202 690 4042  
Email: kenneth.lowery@fsis.usda.gov

Mr Ted Mckinney  
Undersecretary for Trade and Foreign Agricultural Affairs  
US Department of Agriculture  
United States of America  
Email: ted.mckinney@osec.usda.gov

Dr William Shaw  
Director, Risk, Innovations, and Management Staff  
FSIS/OPPD  
U.S. Department of Agriculture  
Patriot’s Plaza III Mail Stop 3782 1400 Independence Ave. SW  
Washington, DC  
United States of America  
Tel: +1(301) 504-0852  
Email: William.Shaw@fsis.usda.gov

Mr Donald Smith Cw5, Vc  
Chief, Interagency Liaison Coordination (Food Protection)  
Veterinary Services Branch, Public Health Division  
Defense Health Agency  
7700 Arlington Blvd 3M366B  
Falls Church, VA  
United States of America  
Tel: +1(703) 681-3061  
Email: donald.e.smith154.mil@mail.mil

Ms Caroline Smith Dewaal  
International Food Safety Policy Manager, International Affairs Staff  
Health and Human Services  
U.S. Food and Drug Administration  
5001 Campus Drive  
College Park, MD  
United States of America  
Tel: +1(240) 402-1242  
Email: Caroline.DeWaal@fda.hhs.gov

Ms Karen Stuck  
Principal  
KDS Associates  
148 North Carolina Ave.  
Washington, DC  
United States of America  
Tel: +1-202-544-0395  
Email: karenstuck@comcast.net

Dr Noelia Williams  
Department of Nutrition and Food Science  
College of Agriculture and Natural Resources  
University of Maryland, College Park  
0112 Skinner Building  
College Park, Maryland 20742  
United States of America  
Tel: +1 240 620 8699  
Email: enw@umd.edu
INTERNATIONAL GOVERNMENTAL ORGANIZATIONS - ORGANISATIONS GOUVERNEMENTALES INTERNATIONALES - ORGANIZACIONES GUBERNAMENTALES INTERNACIONALES

AFRICAN UNION (AU)

Prof Ahmed El-Sawalhy
Director of AU-IBAR
Interafrican Bureau for Animal Resources
African Union
Kenindia Business Park, Westlands Road, Nairobi
Kenya
Tel: +254203674338
Email: ahmed.elsawalhy@au-ibar.org

Ms Diana Akullo
Policy Officer
Directorate for Rural Economy and Agriculture
African Union
African Union Old Airport Addis Ababa
Addis Ababa
Ethiopia
Email: AkulloD@africa-union.org

Mr John Oppong-otoo
Food Safety Officer
AU-IBAR
African Union
Kenindia Business Park Westlands Road Nairobi
Kenya
Tel: +254203674338
Email: john.oppong-otoo@au-ibar.org

ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)

Dr Gbêmenou Joselin Benoit Gnonlonfin
Expert of ECOWAS
ECOWAS
Benin
Email: bgonlonfin@yahoo.fr

Mr Ernest Aubee
Head of Agriculture Division
Department of Agriculture Environment and Water Resources
ECOWAS
ECOWAS, Langema Abogo Street, Ecowas building annex 2, Abuja, FCT, Nigeria
Abuja
Nigeria
Email: aubee2008@yahoo.com

ORGANISATION MONDIALE DE LA SANTÉ ANIMALE (OIE)

Dr Gillian Mylrea
Deputy Head
Standards Department
World Organisation for Animal Health
12 rue de prony
Paris
France
Tel: +33144151867
Email: g.mylrea@oie.int
INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS -
ORGANISATIONS NON GOUVERNEMENTALES
INTERNATIONALES -
ORGANIZACIONES INTERNACIONALES NO
GUBERNAMENTALES

INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE (IICA)
Ms Alejandra Díaz Rodríguez
Especialista Internacional en Sanidad Agropecuaria e Inocuidad de Alimentos
Instituto Interamericano de Cooperación para la Agricultura (IICA)
600 metros norte del Cruce Ipís Coronado Apartado 55-2200, San Isidro de Coronado San José, Costa Rica
Costa Rica
Tel: (+506)2216 0222
Email: alejandra.diaz@iica.int

INTERNATIONAL CO-OPERATIVE ALLIANCE (ICA)
Mr Nobutake Uchibori
Manager
Safety Policy Service
Japanese Consumers’ Co-operative Union
CO-OP PLAZA 3-29-8, SHIBUYA, SHIBUYA-KU
Tokyo Japan
Tel: +81-3-5778-8109
Email: nobutake.uchibori@jccu.coop

INTERNATIONAL COUNCIL OF GROCERY MANUFACTURERS ASSOCIATIONS (ICGMA)
Ms Deann Benesh
Regulatory Affairs
3M Food Safety Department
3M
3M Center, Bldg 260-68-01
St. Paul
United States of America
Tel: +1-651-736-3594
Email: dbenesh1@mmm.com

Ms Jacqueline Dillon
Global Regulatory Affairs
PepsiCo
555 West Monroe Street,
chicago
United States of America
Tel: 312.821.1935
Email: Jacqueline.Dillon@pepsico.com

Ms Renee Greenwalt
Senior Manager
Global Food Safety
PepsiCo
617 W. Main St.
Barrington
United States of America
Tel: 847-304-2589
Email: Renee.Greenwalt@pepsico.com

Ms Ai Kataoka
The Grocery Manufacturers Association
1350 I Street, N.W.
Washington, D.C.
United States of America
Email: AKataoka@gmaonline.org

INTERNATIONAL COMMISSION ON MICROBIOLOGICAL SPECIFICATIONS FOR FOODS (ICMSF)
Dr Leon Gorris
Director
Regulatory Affairs
Unilever
Olivier van Noortlaan 120
Vlaardingen
Netherlands
Email: leon.gorris@unilever.com

Mr Bruce Tompkin
Consultant
Email: r.tompkin@comcast.net

INTERNATIONAL DAIRY FEDERATION (IDF/FIL)
Ms Aurélie Dubois Lozier
Technical Manager
International Dairy Federation
Boulevard Auguste Reyers 70 B
Brussels
Belgium
Tel: +17736980355
Email: adubois@fil-idf.org

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
Mr Paul Besseling
ISO/TC 34/SC 17
Postbus 26
BUNNIK
Netherlands
Tel: +31 030 6566010
Email: pbesseling@precon-food.nl

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
Dr Anne Mackenzie
HarvestPlus
Email: a.mackenzie@cgiar.org
SAFE SUPPLY OF AFFORDABLE FOOD EVERYWHERE (SSAFE)

Ms Pamela Wilger
Applied Microbiologist & Food Safety Senior Specialist
Food Safety, Quality & Regulatory - CFSQR
Cargill
15407 McGinty Road West MS 65
Wayzata, MN
United States of America
Tel: +1.952.742.4307
Email: Pamela.Wilger@cargill.com

FAO
Mrs Sarah Cahill
Food Safety Officer
Agriculture and Consumer Protection Department
Food and Agriculture Organization of the U.N.
Viale delle Terme di Caracalla
Rome
Italy
Email: Sarah.Cahill@fao.org

Mr Blaise Ouattara
Food Safety and Quality Officer
Food Safety and Quality Unit
Agriculture and Consumer Protection Department
Food and Agriculture Organization of the U.N.
Viale delle Terme di Caracalla
Rome
Italy
Email: Blaise.Ouattara@fao.org

WHO
Dr Rei Nakagawa
Technical Officer
Department of Food Safety and Zoonoses
World Health Organization
20 Avenue Appia
Geneva
Switzerland
Tel: +41 22 791 3640
Email: nakagawa@who.int

Dr Simone Raszl
Food Safety and Surveillance
Food Safety
PANAFTOSA-PAHO/WHO
Av Gov Leonel de Moura Brizola, 7778 Duque de Caxias
Rio de Janeiro
Brazil
Tel: +5521 3660-9080
Email: raszlsim@paho.org

HOST GOVERNMENT SECRETARIAT - SECRETARIAT DU GOUVERNEMENT HÔTE - SECRETARÍA DEL GOBIERNO ANFITRION

Ms Barbara Mcniff
Senior International Issues Analyst
U.S. Department of Agriculture
U.S. Codex Office
1400 Independence Ave., SW Room 4870 South Building
Washington, D.C.
United States of America
Tel: +1-202-690-4719
Email: Barbara.McNiff@fsis.usda.gov

CODEX SECRETARIAT
Ms Verna Carolissen-Mackay
Food Standards Officer
Joint FAO/WHO Food Standards Programme
Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla
Rome
Italy
Tel: +39 06 5705 5629
Email: verna.carolissen@fao.org

Ms Lingping Zhang
Food Standards Officer
Joint FAO/WHO Food Standards Programme Food and Agriculture Organization of the UN
Viale delle Terme di Caracalla Rome Italy
Rome
Italy
Tel: +39 06570 53218
Email: lingping.zhang@fao.org

Ms Annamaria Bruno
Senior Food Standards Officer
Joint FAO/WHO Food Standards Programme
Viale delle Terme di Caracalla
Rome
Italy
Tel: 39 06570 56254
Email: annamaria.bruno@fao.org
Appendix II

PROPOSED DRAFT REVISION OF THE CODE OF PRACTICE FOR FISH AND FISHERY PRODUCTS
(CXC 52-2003)

(SECTION [X] – HARVESTING, PROCESSING, STORAGE AND DISTRIBUTION OF FISH AND FISHERY PRODUCTS AT RISK FOR SCOMBROTOXIN (HISTAMINE) FORMATION)

(At Step 5/8)

SECTION [X] – HARVESTING, PROCESSING, STORAGE AND DISTRIBUTION OF FISH AND FISHERY PRODUCTS AT RISK FOR SCOMBROTOXIN (HISTAMINE) FORMATION

Preamble

This section complements other sections of the Code by providing detailed control recommendations for the prevention of scombrotoxin fish poisoning (SFP). This section only applies to specific marine finfish species (Scombridae, Clupeidae, Engraulidae, Coryphaenidae, Pomatomidae, Scomberesocidae) that present the greatest potential for developing hazardous levels of histamine. This section contains specific guidelines for preventing SFP; however, within the scope of this Code, it is not possible to provide all the appropriate controls and alternatives that may apply to every operation because these will vary with each particular operation.

SFP is a worldwide food safety challenge that, in some parts of the world, accounts for the largest proportion of fish-borne illness cases. Individuals suffering from SFP may show one or more symptoms including flushing, swelling, rash, itching, headache, heart palpitations, abdominal cramps, diarrhoea, and vomiting. In some cases, exacerbation of asthma and more serious cardiac manifestations may occur. Symptoms typically develop rapidly (from 5 minutes to 2 hours after ingestion of implicated fish), with a usual duration of 8–12 hours, although symptoms may persist for up to several days. SFP is rarely fatal. Scombrotxin poisoning is generally a mild disorder where the symptoms disappear quickly after an anti-histamine treatment and where no known long-term sequelae were reported.

Scombrotxin fish poisoning is caused by the ingestion of certain species of marine fish that have been subjected to conditions that are favourable for the multiplication of bacteria and development of scombrotxin, such as time-temperature abuse. Generally, this takes place at a temperature of more than 25°C over a period of more than six hours or for longer at lower temperatures.

Although detailed components of scombrotxin have not been identified, it is generally accepted that biogenic amines produced by spoilage bacteria, especially histamine, play an important role in the pathogenesis of SFP. Other biogenic amines that are also produced during fish spoilage, such as cadaverine and putrescine, are thought to increase the toxicity of histamine. However, in most epidemiological studies, SFP is associated with high histamine levels in the implicated fish, and the controls used to inhibit histamine-producing bacteria and enzymes are also expected to be effective at preventing the formation of other biogenic amines. Therefore, histamine serves as a useful indicator compound for scombrotxin, and histamine is monitored for scombrotxin control purposes.

Histamine is produced in fish and fishery products by spoilage bacteria that are part of the natural microflora of the skin, gills, and gut of freshly caught fish. After the fish die, these bacteria migrate into the previously sterile fish musculature where they multiply if time and temperature are not controlled. When histamine-producing bacteria multiply in fish flesh, they produce histidine decarboxylase (HDC) enzymes, that convert histidine (naturally present in muscle tissue flesh of at risk fish) into the toxic metabolite histamine.

Rapid multiplication of histamine-producing bacteria can be prevented or delayed by chilling fish immediately after death and maintaining the fish in a chilled, or frozen, state from harvest to consumption. However, once sufficient bacterial multiplication has occurred to produce histidine decarboxylase, enzymatic activity can continue to produce histamine slowly at refrigeration temperatures.

The following subsections contain technical guidance for the control of histamine formation at key steps in the food chain (harvesting, receiving, transportation, and processing operations).

The relevant sections of the guidelines in this section may also apply to aquacultured fish.
**Figure X.1.** Example flow chart for the production of fish at risk of scombrotoxin formation

This flow chart is for illustrative purposes only. A complete and comprehensive flow chart has to be drawn up for each product.

---

**X.1 Harvest vessel operations**

Fishers use many different harvesting methods throughout the world, employing hooks, nets, and traps. In all cases, live retrieval or quick retrieval of dead fish, rapid chilling of the fish in a timely manner, and maintenance of the fish at cold temperatures, are critical to prevent histamine formation.

The fishing vessel and equipment, and the methods used, should be designed or adapted to prevent histamine formation for the catch sizes, fish sizes, fish species, and air and water temperatures encountered. Vessel crews should be trained in hygienic practices and temperature control methods and understand their importance for histamine control. Where HACCP principles are used, persons responsible for developing HACCP documentation should be trained in HACCP principles used to control histamine formation.
Harvest vessel operations are considered primary productions and GMPs are sufficient to control histamine at this level. However, in the absence of information to document on-vessel histamine control, for example, records of temperature, the shore-based receiving establishment should perform histamine testing on each vessel delivery to monitor and to document that the histamine levels in the raw material received are acceptable. If vessel operations provide documented evidence that histamine was controlled on the vessel, then the receiving establishment may choose to examine the vessel monitoring records as an alternative to testing each lot. The control of fish time-temperature exposure on harvest vessels and associated evidence of control provide more reliable consumer protection than testing histamine levels after delivery.

X.1.1 Catching and handling fish before chilling

- Limits should be established for the time period between death of the fish and the start of chilling that will effectively minimize histamine production. The time period may be adjusted according to water and air temperatures, the size and species of fish caught, and other relevant factors of the operation. The types of histamine-producing bacteria present and how rapidly they produce histamine can also change, therefore established limits should take into account the worst-case scenario. The FAO/WHO Expert Report (Section 6.1.1 Chilling)\(^1\) provides examples of time limits from fish death to chilling for medium to large fish.

- Time of death of the fish may be the time slaughtered onboard, or where the actual time of death is not observed or truly known, an estimated time based on an observable event, such as the time of deployment of a longline when some of the fish are landed dead.

- The time period that nets or hooks are left in the water, and the number and rate of fish caught, should be optimized to allow live landing of fish where practical.

- Fish should be removed from nets and hooks as quickly as possible to prevent death or to minimize the period from death until chilling of the fish.

- If captured fish are held in the sea for too long following death, decomposition commences, and histamine can begin to form. The warmer the seawater, the more rapid the decomposition and the greater the risk of histamine formation. Dead fish that exhibit signs of decomposition, consistent with exposure to time-temperature abuse, should not be retained on board the vessel, or, if retained, should be segregated and identified to allow proper disposition when off-loaded. In addition, the harvesting methods should be modified in a way that no dead fish with signs of decomposition will be brought on board in the future.

- The rate or volume of catch should not exceed the ability of the crew to quickly initiate chilling, and should not exceed the capability of the vessel’s chilling system to achieve and maintain established limits.

- Rough handling, overcrowding and over stacking of fish should be avoided where practical because crushing, bruising, and lacerations of the skin accelerate the spread of histamine-producing bacteria from the gut, gills, and skin into the fish muscle.

- Before landing fish, the deck area and equipment should be hygienically cleaned to avoid contamination of fish (see Section 3.4 Hygiene control programme), and the chilling medium should be ready and at the target temperature.

X.1.2 Gutting and gilling (optional)

- Histamine-producing bacteria are universally present in the gut, gills, and skin of fish at the point of capture. Rapid removal of guts and gills, and rinsing of the gut cavity, significantly delays histamine formation in the muscle.

- For large fish, removing the gut aids chilling by allowing chilling media (e.g. ice, refrigerated seawater) access to the visceral cavity, resulting in more rapid chilling of this bacteria-laden part of the fish.

- Care should be taken and hygienic practices should be maintained during gutting and gilling in order to minimize the spread of bacteria from the guts, gills, skin, and other contamination sources, into the muscle.

---

X.1.3 Chilling and/or freezing

Rapid chilling as soon as possible after death is the most crucial aspect of histamine control because bacterial growth and histamine formation accelerate exponentially with time under unrefrigerated conditions. Few prolific histamine-producing bacteria will grow and multiply at refrigeration temperatures, and the growth rates of those that do are much reduced.

- Temperature limits and monitoring frequencies should be established for the onboard chilling/freezing process. For example, limits may be established for maximum loading volumes and rates, and maximum starting temperature for refrigerated seawater (RSW) and/or brine tanks to ensure an adequate chilling environment is maintained for each harvested set\(^2\) of fish.

- Sufficient ice to completely surround the fish, or preferably, ice/seawater slurries or RSW should be used to bring the internal temperature of fish to below 4°C as quickly as possible after death to slow bacterial growth and enzymatic activity. For fish used to produce fish sauce, refer to Section 18.

- Where ice is used, fishing vessels should have sufficient ice for the amount of fish that could be caught and for the potential length of the fishing trip. For further information see FAO Fisheries Technical Paper 436 (The use of ice on small fishing vessels)\(^3\).

- For larger eviscerated fish, the belly cavity should be packed with ice, or other cooling media, for more rapid chilling of this bacteria-laden part of the fish.

- Freezing fish is more effective in preventing histamine formation than chilling and maintaining fish below 4°C. It is good practice to gut the fish before freezing. Freezing to -18 °C, or below, will stop the growth of histamine-producing bacteria and will prevent any preformed histidine decarboxylase enzymes from producing additional histamine.

- Note that freezing does not detoxify preformed histamine, nor does it effectively eliminate histamine-producing bacteria and enzymes, which can become active when temperatures increase again, such as during processing or meal preparation.

- Crew members responsible for chilling should provide feedback to the catching operation to ensure that the rate or volume of incoming fish does not exceed the ability to rapidly chill the fish within established time-temperature limits and maintain the fish in a chilled state.

- Care should be taken to manage the chilling of dead fish to ensure that none are inadvertently left exposed on deck past the time limit established for the temperature conditions.

- Refrigeration and other chilling equipment should be in good repair, and operated in a manner that quickly chills fish without physical damage. For example, fish should be packed loosely in ice slurries and brine tanks to allow good circulation and rapid cooling.

X.1.4 Refrigerated and/or frozen storage (fishing vessel and transfer vessel)

- Refrigerated fish should be stored at a temperature as close as possible to 0°C. The storage temperature should be kept below 4°C until off-loading. Storage at these temperatures will inhibit or slow the growth and enzyme production for most histamine-producing bacteria.

- Ice, where used, should completely surround the stored fish and be regularly monitored throughout the trip and replenished as necessary.

- Refrigerated seawater and/or brine temperature should be regularly monitored throughout the trip and controlled in order to maintain inhibitory storage temperatures.

- Continuous temperature recording devices, or thermometers, should be used in refrigerated and frozen storage compartments to ensure that inadequate holding conditions are identified and appropriate actions taken to minimize consumer risk.

X.1.5 Monitoring records

- Records of histamine control monitoring activities should be maintained in a way that they can be readily retrieved for trace-back to possible causes if elevated levels of histamine are detected later.

- Records should be made available to the receiving establishment that offloads the fish from the vessel to provide evidence that histamine controls were implemented effectively by the vessel.

\(^2\) A "set" means the fish from one set net, or the fish from one set long-line, etc.

\(^3\) FAO Fisheries Technical Paper 436 ("The use of ice on small fishing vessels.") Link: [http://www.fao.org/docrep/006/Y5013E/y5013e00.htm#Contents](http://www.fao.org/docrep/006/Y5013E/y5013e00.htm#Contents)
• Vessel records should include documentation of actual observed activities pertinent to onboard controls for all histamine-forming fish harvested from each fishing set on each fishing trip.

• The records of histamine control monitoring activities depend on the operation and may include:
  - Dates and times of earliest fish death, and times to get fish into appropriate chilling media;
  - Brine, RSW, or storage compartment refrigeration temperature monitoring records or checks for adequacy of ice during the chilling operation and during storage of the fish for the duration of the fishing trip;
  - Water and ambient temperature.

• A responsible crew member should review the monitoring records daily to confirm that limits were met, and that appropriate corrective actions were taken when necessary.

• Where onboard record keeping is impractical, such as for small artisanal day boats, the operation receiving the fish may be able to monitor and record all the parameters necessary to ensure histamine control (e.g. time of departure and return, air and water temperature, adequacy of ice and fish internal temperature, etc.), and avoid the need to test histamine levels at receipt.

• If some of the fish on the vessel are determined based on monitoring records to be at risk for unacceptable histamine levels, then these fish should be segregated and identified in order to allow targeted testing and/or proper disposition at unloading.

X.2 Receiving establishment operations (fish reception)

Fish reception (at the establishment where the fish are offloaded from the fishing or transfer vessel) is an important control point for histamine. This is where 1) fish temperatures, 2) signs of decomposition, and 3) histamine levels and/or vessel records are best monitored.

Reception controls may need to be specific to both the harvest vessels as well as to any collection/transfer vessels that deliver the fish to the receiving establishment.

If deficiencies in vessel controls are found at receiving, feedback should be provided to the vessel operator, and the cause(s) of the problem should be evaluated and corrected before future deliveries from the fishing vessel are considered. In addition, appropriate corrective actions regarding the delivered fish should be taken and recorded.

During offloading of fish from the vessel (and at any point of transfer in the supply chain), care should be taken that the cold chain is maintained. For example, fish should be offloaded quickly, fish totes should not be left exposed to elevated temperatures, and fish should be re-iced or placed under refrigeration in a timely manner. Frozen fish should be maintained in the frozen state.

X.2.1 Temperature monitoring

• Fish internal temperatures should be measured at reception to ensure reception temperature limits are met, and to help provide confidence that fish were properly stored onboard the fishing and transfer vessel.

• For fish stored in ice, the adequacy of ice surrounding the fish should be observed and recorded at the time of offloading the fishing vessel, along with internal temperature measurements. More fish should be monitored when the quantity or distribution of ice appears inadequate. Temperatures near the surface of exposed un-iced portions should be measured, as well as deep core temperatures of the fish, to ensure all edible portions of the fish are taken into consideration in the assessment.

• Sampling should be done randomly throughout the fishing vessel delivery lot. The number of fish temperatures monitored and results recorded should be sufficient to provide reasonable assurance that the temperatures appeared to be controlled by the vessel crew. Variations in species, morphologies, and sizes of fish should be taken into account when taking samples.

• Fish on the vessel should have been stored at a temperature as close as possible to 0°C (4°C or below). If an internal temperature in a sample fish exceeds 4°C (or the established temperature limit based on elapsed time from death) then this indicates a lapse in histamine control. The cause of the deviation should be determined and corrected, and histamine testing of the entire vessel delivery lot performed, or the delivery rejected. For fish used for producing fish sauce, refer to Section 18.
Higher temperatures usually correspond to higher histamine risk; however, higher deep core temperatures may need to be allowed for in larger fish that have been delivered soon after harvest and have not yet chilled to 4°C or below despite implementation of appropriate chilling procedures. Cooling curves based on studies applicable to the specific fishing sector are useful to establish proper fish reception temperatures in these circumstances.

X.2.2 Sensory evaluation

Sensory evaluation of fish at reception is a useful screening method to identify fishing vessel delivery lots that have been mishandled or subjected to time-temperature abuse and, hence, are at risk of elevated histamine levels. Neither histamine formation nor decomposition occurs in the absence of time-temperature abuse. However, the correlation between histamine level and sensory evidence of decomposition is not absolute, and histamine formation often occurs without readily detectable sensory indicators of decomposition. Therefore, sensory evaluation should not be used as the only or final assurance that the histamine level is acceptable, and reliable vessel control records or histamine testing, along with temperature monitoring, should be part of a complete receiving control system.

- Fish for sensory evaluation should be chosen randomly from throughout the vessel delivery lot. Deliveries of multiple species with different compositions, morphologies, and sizes should be taken into account in the sampling plan. It may be appropriate to select more fish from portions of the delivery lot identified by vessel records or temperature examination to be at greater risk for histamine formation.

- The number of fish examined should be sufficient to provide assurance that the vessel crew appears to have been vigilant about time-temperature exposures of the fish. The number of samples taken should be increased when conditions or fishing methods are more likely to introduce variable time-temperature exposures of fish, e.g. longlining, unusually warm weather, unusually large catch size, limited remaining ice, etc.

- Evidence of abuse that may be conducive to histamine formation is indicated when the fish sensory attributes indicate marginal quality, not only when the sensory attributes show advanced decomposition. See FAO “Sensory Assessment of Fish Quality”\(^4\) and Codex “Guidelines for the Sensory Evaluation of Fish and Shellfish in Laboratories”\(^5\) for guidance on sensory evaluation of fish.

- If sensory evidence of decomposition is detected at reception, it indicates that controls on the vessel may have been inadequate and that the entire vessel lot is at risk for elevated histamine. The cause of the decomposition should be determined and the necessary procedural changes, and improvement to facilities or equipment verified. It is justifiable to reject the entire delivery lot based on evidence of inadequate time-temperature control; however, if further evaluation is used to determine if some of the fish are suitable for human consumption, then intensified histamine sampling and testing should be performed on the entire delivery lot. The testing should also include the decomposed fish found to determine if the type of decomposition detected was conducive to histamine formation.

X.2.3 Review of vessel control records (receiving establishment)

If vessel operators monitor and document histamine control, review of vessel histamine control records, when available, is an effective control method at receipt to ensure that appropriate procedures were followed on the vessel to minimize histamine formation in the fish while on the fishing vessel and is more effective than routine histamine testing.

- Refer to Section X.1.5 Monitoring records

- Vessel records applicable to histamine control should be requested and reviewed by the receiving personnel, unless the information is available by other means, to determine if they are complete and reflect appropriate harvest and onboard handling practices, and that all applicable fishing vessel limits were met.

---

\(^4\) FAO/Torry Advisory Note No. 91, “Sensory Assessment of Fish Quality.” Link: http://www.fao.org/wairdocs/tan/x5989e/x5989e00.htm

• If vessel records are reviewed and found to be incomplete and the receiving establishment cannot verify by other means, such as by intensified histamine sampling and testing, that the specific delivery of fish was harvested, handled, and stored in a manner that prevents histamine formation, the delivery should be rejected. (Refer to Section X.2.4 Histamine testing).

• The impact of a limit deviation on the fishing vessel may be minimized if the records clearly show that only part of a delivery was affected (e.g. one brine well or one specific fishing set) and the affected fish were effectively segregated when the vessel was unloaded.

**X.2.4 Histamine testing**

When review of fishing vessel histamine control records is used as one of the histamine controls by a receiving establishment, then histamine testing should be performed periodically as verification that the control system is continuing to work effectively. If verification test results indicate elevated histamine levels, then the vessel control system should be reviewed and corrected, and the frequency of testing should be increased until testing results and other evidence suggest that the vessel control systems are being effectively implemented (e.g. a series of consecutive problem-free deliveries).

When a fishing vessel operation uses GMPs, but has not implemented a histamine control system including monitoring and record keeping that provide documented evidence of control, then histamine testing is an important monitoring procedure at the reception critical control point, rather than a verification procedure, and testing should be applied to every vessel delivery lot. If histamine levels exceed the established critical limit, the vessel should be notified and the cause determined and corrected. In addition, the affected fishing vessel delivery lot should be rejected.

Note that histamine testing can be less reliable than receipt of appropriate vessel control records because histamine may be unevenly distributed within and between fish, and fish with high histamine are difficult to find using limited or small sample sizes. Sampling and testing that is statistically meaningful in terms of appropriate consumer protection can be resource intensive. Histamine testing at fishing vessel reception is therefore best used as verification of the effectiveness of a properly implemented and documented histamine control system on the fishing vessel.

The histamine testing guidance in this subsection can also be applied to intensified sampling or periodic verification of histamine controls throughout the supply chain.

**X.2.4.1 Histamine Levels**

In order to better use the test result, the receiving establishment should establish the acceptable histamine level for incoming fish. To do so, the following information should be taken into account:

• Information on histamine level in freshly harvested fish.

• Elevated histamine levels could indicate poor implementation of hygienic processes and histamine controls during harvest, chilling and/or on-vessel storage, and an elevated risk that some fish in a lot will have unacceptable histamine levels. In addition, they could indicate that histidine decarboxylase enzymes are present that can contribute to histamine formation during exposure to elevated temperatures further along the food chain, even without growth of histamine-forming bacteria.

• Additional increases in histamine levels are likely with time and exposure to non-refrigerated temperatures during further processing and handling.

**X.2.4.2 Histamine testing, sampling strategies**

• Sampling plans for testing histamine levels should be selected based on statistical performance parameters. Statistical tables and computer programs can provide the information needed to design a sampling plan based on the histamine limits, the degree of protection, and the confidence in results desired. The FAO/WHO Histamine Sampling Tool is an example of an application designed for this purpose.

---

6 According to the FAO/WHO Expert Meeting Report 2013, freshly harvested scombrotoxin-forming fish typically have histamine levels below 2 mg/kg, and food business operators that apply HACCP principles can achieve a histamine level lower than 15 mg/kg.

Because histamine is distributed unevenly in lots (has a high standard deviation), hazardous fish are statistically difficult to find using small sample numbers. The FAO/WHO Expert Report (Section 6.2.2.2)\(^8\) suggests using histamine accept/reject levels ("value for m") that are lower than the acceptable limit in order to reduce the number of samples required to achieve a given level of confidence in the testing results.

More sample units should be tested whenever vessel records, sensory analysis, or fish temperatures indicate possible lapses in time-temperature control that could result in elevated histamine.

It is best to sample the raw fish material upon arrival from the fishing vessels, where individual loin sections can be identified for trace back to vessel lots. As the fish get processed into various market forms, or product from different vessel lots gets commingled, assessments of the suitability and safety of the fish from the individual fishing vessels becomes more difficult and less effective.

Samples taken should be representative of the lot.

**X.2.4.3 Histamine testing, analytical methods**

Several reliable test methods exist for determining histamine levels in fish. The FAO/WHO Expert Report (Section 2.5 Analytical methods for histamine)\(^9\) lists some of the available methods.

The testing method used should be properly validated for the detection limits used. The staff responsible for the sampling and for sample analysis should receive training in the procedures used.

The part of the fish selected for testing can significantly affect the test results. Test portions should be cut from the head-end of the lower loin near the gills because that area has the highest probability of elevated histamine in abused raw fish. Sufficient representation of fish muscle should be collected to prepare for analysis (e.g. 100-250 grams). The weight of the representative sample unit may depend on the product and sampling strategy. For smaller fish, in addition to the lower anterior loin portion, the upper anterior loin, and the mid-section of the lower loin, in that order, can also be collected. For very small fish, multiple fish may need to be collected to acquire a representative sample unit. The entire sample unit should be thoroughly blended so that the smaller aliquot used for the analytical method is representative of the entire sample unit.

To screen deliveries more economically, sample units from different fish can be optionally combined (composite sample) to reduce the number of histamine analyses required, provided that the histamine level critical limit is lowered proportionately.

**X.2.5 Monitoring records (receiving establishment)**

Histamine control records should be maintained at the receiving establishment for trace-back to possible causes if elevated histamine level is discovered further along the distribution chain.

Receiving establishment monitoring records may include, but are not limited to:

- Relevant information about vessel delivery lot (e.g. vessel name and type, captain’s name, date/time of offloading, type and volume (weight) of fish off-loaded);
- Sensory evaluation results;
- Internal temperatures at the time of offloading;
- Histamine test results, when applicable;
- Copies of the fishing vessel’s monitoring records reviewed, when applicable.

A responsible person should examine, as a part of verification activity, the monitoring records before product release to confirm that critical limits were maintained, and that appropriate corrective actions were taken when necessary.

---

\(^8\) Joint FAO/WHO Expert Meeting on the Public Health Risks of Histamine and Other Biogenic Amines from Fish and Fishery Products, July 2012, Rome (Section 6.2.2.2 Using the known standard deviation and the derived mean to design a sampling plan.)

\(^9\) Joint FAO/WHO Expert Meeting on the Public Health Risks of Histamine and Other Biogenic Amines from Fish and Fishery Products, July 2012, Rome (Section 2.5 Analytical methods for histamine.)
X.3 Transportation

- Refer to Section 20 (Transportation)
- Refer to Section X.1.4 (Refrigerated and/or frozen storage (fishing vessel and transfer vessel))
- Transport vehicles or vessels should be adequately equipped to keep fish cold by mechanical refrigeration or by completely surrounding the fish with ice or other cooling media.
- Vehicles or vessels should be pre-chilled before loading fish where applicable.
- Refrigerated compartment temperatures, or cooling media such as ice slurries, should be monitored during transportation between locations (e.g. receiving establishment, processing establishment, distributor, market) using continuous temperature recording devices (where practical), and the receiving establishment should review the temperature record from the device. Devices should be periodically calibrated for accuracy.
- At delivery, internal temperatures of a representative sample of fish, and adequacy of ice or other cooling media when applicable, should be monitored by receiving personnel as described in Section X.2.1 Temperature monitoring.
- If established fish reception or vehicle compartment temperature control limits are exceeded, the cause of the problem should be identified and corrected by the operator of the vehicle or vessel. If evidence indicates that temperature abuse leading to elevated histamine could have occurred, the affected lot may be rejected by the receiving personnel, or the receiver may perform intensified histamine analysis on representative fish collected throughout the lot, and the lot rejected if any fish exceed the established histamine limit.

X.4 Processing operations

This section applies to processing on land or at sea (e.g. factory vessel, mother ship)

X.4.1 Reception (processing establishment)

- If fish are delivered directly from the fishing vessel to the processing establishment, then also refer to Section X.2 Receiving establishment operation (fish reception).
- If fish are delivered by transport vehicle or vessel, then also refer to Section X.3 Transportation.
- If the processing establishment is a secondary processor receiving product from a primary processor (e.g. receiving establishment or factory vessel), then the secondary processor should confirm that the primary processor uses a HACCP system designed to prevent formation of unacceptable levels of histamine.
- When it is impractical for the initial receiving establishment to conduct all the necessary histamine controls listed in subsection X.2 (i.e. temperature monitoring, sensory evaluation, vessel records review, and/or histamine testing), then the processing establishment should conduct these activities, and should ensure that, where practical, the controls and decisions are applied to intact fishing vessel lots that are not comingled with other lots. Note, however, that fish internal temperatures (and adequacy of ice, where applicable) should always be monitored at vessel delivery by the receiving personnel, or the vessel personnel may perform intensified histamine analysis on representative fish collected throughout the lot, and all lots rejected if any fish exceed the established histamine limit.

X.4.2 Processing time and temperature control

When fish undergo processing (e.g. thawing, cutting, re-chilling, salting, drying, pickling, cooking, smoking, canning) it is important that they are not subjected to time-temperature conditions where histamine-producing bacteria can grow and produce histamine to unacceptable levels.

- Scientific studies and microbial growth models\(^{10}\) may be used to estimate the exposure times and temperatures that result in elevated histamine levels.
- Histamine formation is quite variable and strongly depends on the previous handling of the raw material and the different species of histamine-producing bacteria that are present; therefore, the worst case scenario should be considered when establishing critical limits.

\(^{10}\) Joint FAO/WHO Expert Meeting on the Public Health Risks of Histamine and Other Biogenic Amines from Fish and Fishery Products, July 2012, Rome (Section 6.1.9 Microbiological modelling.)
• The acceptable maximum histamine level used to establish processing time-temperature critical limits should take into consideration the point in the supply chain and any further handling, processing, storage, and preparation that may lead to further histamine formation before consumption.

• The measure used for time-temperature critical limits should be the cumulative product non-refrigerated time-temperature exposure over all processing steps.

• Processing room temperature should be maintained as cool as practical during processing operations, and product exposure times should be minimized. For example, fish should be iced, or returned to refrigerated storage, during production breaks or production flow slow-downs.

• Controlled product flow and batch monitoring is an effective strategy to ensure product is not subjected to unacceptable time-temperature exposures. For example, periodically measure the ambient temperature and the time for a marked batch to begin and complete the processing step.

• Air thawing of raw material should occur at refrigerated temperatures to prevent excessive warming of the surface of the fish. Immersion in circulating cold water or spraying with cold water may be used to shorten thawing time. For re-chilling and refreezing, see Subsection X.1.3.

• When time-temperature critical limits are exceeded, the cause should be determined and corrected. In addition, intensified histamine testing should be performed (see Section X.2.4.2) before releasing affected product for human consumption. Alternatively, product should be rejected.

X.4.3 Heat processing

• Adequate heat treatment (e.g. cooking, hot smoking) can kill histamine-producing bacteria and inactivate histidine decarboxylase enzymes. Morganella morganii is probably the most heat resistant of the histamine-producing bacteria, and in Arripis trutta at temperatures between 58 and 62°C, the D-values for eliminating these bacteria and their associated HDC enzymes were between 15 and 1.5 minutes (FAO/WHO 2012).

• Once formed, however, histamine itself is heat stable and is not destroyed by heat. Therefore, histamine controls during harvesting, and during other steps prior to thermal processing, are critical to minimize the presence of histamine in the finished product.

• If the product is exposed to bacterial contamination and temperature abuse after initial heating, histamine formation may start again. Thus, for products such as hot smoked fish, care should be taken to avoid contamination after smoking. Additionally, refrigerated storage is essential unless the water activity is reduced sufficiently or some other means is used to prevent bacterial growth.

• For commercially sterile canned or pouch products, the container protects the product from bacterial recontamination, and no further histamine is produced when stored at ambient temperatures. However, once the product package is opened, histamine formation can occur again if the product is recontaminated in the absence of preventative time-temperature controls.

X.4.4 Processing, other technological measures

Time and temperature control is the recommended method for preventing histamine formation in fresh, frozen, and refrigerated processed fish products.

Some products and processes (e.g. fermenting, smoking, salting, drying, pickling, acidifying, preserving, modified atmosphere packaging) introduce other technological factors that may inhibit the introduction and/or growth of histamine-producing bacteria. The interaction of these factors is complex and often unpredictable. For example, increased salt content, or increased acidity, may decrease or increase histamine production, depending on conditions.

Thorough scientific studies, and proper establishment and validation of control parameters for each specific process and product, are imperative to ensure the safe manufacture of foods that incorporate other technological measures as an element of histamine control. (See Guidelines for the Validation of Food Safety Control Measures, (CXG 69-2008))

The success of these treatments is dependent on the rapid chilling and maintenance of chilled temperatures of the raw fish from the time of death until the inhibitory effects from the treatments are achieved. In addition, depending on the treatment, the finished product may need to remain chilled until consumed to ensure safety.
X.4.5 Refrigerated and frozen storage (processing establishment)

- Refer to Section X.1.4 Refrigerated and/or frozen storage (fishing vessel and transfer vessel).
- For products whose preparation does not include a heating step or other means to eliminate histamine-producing bacteria and their enzymes, refrigerated storage will continue to be a critical control point to prevent histamine formation throughout the shelf-life of the products.

X.4.6 Monitoring records (processing establishment)

- Processing establishment monitoring records may include, but are not limited to:
  - Transport vehicle or vessel temperature records or adequacy of ice, and fish internal temperatures;
  - Temperatures and exposure times of product during unrefrigerated processing steps;
  - Critical control point monitoring records for other validated methods used to control histamine formation in processed fish;
  - Refrigerated storage temperature logs.
- A responsible person should examine the monitoring records before product release to confirm that critical limits were maintained, and that appropriate corrective actions were taken when necessary.
- The processing facility should use histamine testing to periodically verify that histamine controls are working properly (Refer to Section X.2.4 Histamine testing).
PROCESS BY WHICH THE CODEX COMMITTEE ON FOOD HYGIENE (CCFH) WILL UNDERTAKE ITS WORK

Purpose
1. The following guidelines are established to assist the CCFH to:
   - Identify, prioritize and efficiently carry out its work; and
   - Interact with FAO/WHO and their scientific bodies as the need arises.

Scope
2. These guidelines apply to all work undertaken by the CCFH and encompass: guidelines and procedures for proposing new work (including the revision of existing codes of hygienic practice); criteria and procedures for considering the priorities for proposed and existing work; procedures for implementing new work; and a process by which CCFH will obtain scientific advice from FAO/WHO.

Proposals for New Work
3. Proposals for new work to be undertaken by CCFH should follow the process outline below. In addition to the provisions applying to proposals for new work in the Procedural Manual, the proposals for new work should include a Risk Profile, as appropriate. The proposals for new work should indicate the specific nature or outcome of the new work being proposed (e.g. new or revised code of hygienic practice, risk management guidance document).
4. The proposals for new work will typically address a food hygiene issue of public health significance. It should describe in as much detail as possible, the scope and impact of the issue and the extent to which it impacts on international trade.
5. The proposal for new work may also:
   - Address an issue that affects progress within CCFH or by other committees, provided it is consistent with the mandate of CCFH;
   - Facilitate risk analysis activities; or
   - Establish or revise general principles or guidance. The need to revise existing CCFH texts may be to reflect current knowledge and/or improve consistency with the General Principles of Food Hygiene (CXC 1-1969) or with other Codes of Practice.

Criteria for Evaluating and Prioritizing New Work
6. In addition to the provisions applying to the proposals for new work contained in the Codex Procedural Manual, the following criteria and associated weighting factors will be used in evaluating new work priorities to assist in determining the priority for new work to be undertaken by CCFH. Standards older than five years or those with duplication or inconsistency with existing codes should also be assessed by the criteria below to determine their need for revision.

---

1 Definition of a risk profile is “the description of the food safety problem and its context” (Codex Alimentarius Commission, Procedural Manual). The elements of a risk profile are provided in the Principles and Guidelines for the Conduct of Microbiological Risk Management (CXG 63-2007).
<table>
<thead>
<tr>
<th>Criterion</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency of Information –</td>
<td></td>
</tr>
<tr>
<td>• Is there new information/data that would justify the need to review the</td>
<td>Yes/No</td>
</tr>
<tr>
<td>existing code(s) or establish a new one?</td>
<td></td>
</tr>
<tr>
<td>• Are there new technologies that would justify the need to review</td>
<td></td>
</tr>
<tr>
<td>existing codes or establish a new one?</td>
<td></td>
</tr>
<tr>
<td>• Is there duplication or inconsistency with existing codes that should</td>
<td></td>
</tr>
<tr>
<td>be addressed?</td>
<td></td>
</tr>
<tr>
<td>Positive impact of new work on public health –</td>
<td>High 20</td>
</tr>
<tr>
<td>• Would new work result in a document that could have a positive impact</td>
<td>Medium 14</td>
</tr>
<tr>
<td>on public health?</td>
<td>Low 8</td>
</tr>
<tr>
<td>• How significant is the impact to public health, e.g. foodborne risk</td>
<td></td>
</tr>
<tr>
<td>to public health?</td>
<td></td>
</tr>
<tr>
<td>Impact of trade due to the public health risk*</td>
<td></td>
</tr>
<tr>
<td>Global Trade Impact, High Consumption: 10</td>
<td></td>
</tr>
<tr>
<td>Regional Trade Impact, High Consumption: 5</td>
<td></td>
</tr>
<tr>
<td>Global Trade Impact, Low Consumption: 4</td>
<td></td>
</tr>
<tr>
<td>Regional Trade Impact, Low Consumption: 2</td>
<td></td>
</tr>
<tr>
<td>No trade impact: 0</td>
<td></td>
</tr>
</tbody>
</table>

*Risk\(^2\) is defined as a function of the probability of an adverse health effect and the severity of that effect, consequential to a hazard in food. The hazard may be a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect.

The criteria are applied in a stepwise manner.

Step 1:
Assess currency of information.

• Is there new information/data that would justify the need to review the existing code(s) or establish a new one?

• Are there new technologies that would justify the need to review existing codes or establish a new one?

• Is there duplication or inconsistency with existing codes that should be addressed?

If the answer is “yes” to any of these questions, proceed with Step 2. If the answer to all these questions is “No,” there is no justification for new work in the area at this time, and no need to apply the remaining criteria for prioritization. Standards older than five years for which there is no new information should be retained in the Forward Workplan (clearly separated within the table) for consideration at a later time.

Step 2:
Assess the public health impact:

Would the proposed new code, or the revisions to an existing code to be revised, result in a document that could have a positive impact on public health? How significant is the public health risk, e.g. foodborne risk to public health? The public health risk should be based on documented convincing or probable scientific evidence of adverse health effects or potential adverse health effects including morbidity and/or mortality due to a biological, chemical or physical agent in, or condition of the food. The Working Principles for Risk Analysis for Application in the Framework of the Codex Alimentarius\(^3\) should be referenced when determining the public health risk.

Apply rating points as follows:

20 – the proposed new code or the proposed revisions to an existing code are likely to have a high public health impact (e.g., the hazard presents a high risk of illness/outbreaks or the provisions to be incorporated are reasonably likely to mitigate the risk from a hazard)

\(^2\) Codex Procedural Manual
\(^3\) Codex Alimentarius Commission, Procedural Manual.
14 – the proposed new code or the proposed revisions to an existing code are likely to have a medium public health impact (e.g., the hazard presents a medium risk (lower probability or severity than other hazards) or the provisions to be incorporated can reduce but not eliminate the risk from a hazard)

8 – the proposed new code or the proposed revisions to an existing code will have little or no impact on public health (e.g., the hazard presents a low risk (low probability and severity), the provisions to be incorporated have minimal impact on the risk from a hazard)

Step 3:
Assess the impact of the work on trade:

Is the food traded globally or only in particular regions? Is the food one that is frequently consumed or is consumption generally low?

In addition to ranking the project based on the criteria, the Forward Workplan should include information on whether the proposal contains a project document or discussion paper (a project document must be submitted to the Codex Alimentarius Commission (CAC) for approval of new work) and whether the project requires FAO/WHO assistance (see “Obtaining Scientific Advice”). The need for FAO/WHO assistance may impact the timing of taking on new work due to FAO/WHO resource constraints.

Process for Considering Proposals for New Work

7. To facilitate the process of managing the work of the Committee, CCFH may establish an ad hoc Working Group for the Establishment of CCFH Work Priorities (“ad hoc Working Group”) at each Session, in accordance with the Guidelines on Physical Working Groups.

8. The Committee on Food Hygiene will, normally, employ the following process for undertaking new work.

i. A request for proposals for new work and/or revision of an existing standard will be issued in the form of a Codex Circular Letter, if required.

ii. Proposals for new work received in response to the Codex Circular Letter will be transmitted to the Host of the ad hoc Working Group as well as the CCFH Host government and Codex Secretariats. Proposals should describe the new work and provide a rationale for taking up the new work. The proposal may include a project document to facilitate sending a request to the CAC for approval; the absence of a project document could delay approval of new work.

iii. The Host of the ad hoc Working Group will collate the proposals for new work in a document that will be distributed by the Codex Secretariat to Codex members and observers for review and comment within a specified time frame.

iv. The ad hoc Working Group will meet as decided by the Committee, normally on the day prior to the plenary session of CCFH, to develop recommendations for consideration by the Committee during the CCFH session. The ad hoc Working Group will review the proposals for new work along with comments submitted. It will verify the completeness and compliance with the prioritization criteria of the proposals for new work and make recommendations to the Committee on whether the proposals for new work should be accepted, denied, or returned for additional information.

v. If accepted, a recommendation will be provided on the priority of the proposal for new work compared to pre-established priorities. The priority of the proposals for new work will be established using the guidelines presented above. Proposals for new work of lower priority may be delayed if resources are limiting. Proposals for new work of lower priority not recommended may be reconsidered at the next CCFH session. If the ad hoc Working Group recommends that a proposal for new work be “denied” or “returned for revision,” a justification for this recommendation will be provided.

vi. At the CCFH session, the ad hoc Working Group Chair will introduce the recommendations of the ad hoc Working Group to the Committee. The CCFH will decide whether a proposal for new work and/or revision of an existing standard is accepted, returned for revision, or denied. If accepted, a project document, which may include amendments agreed upon by the Committee, will be prepared by the CCFH (or, if a project document was submitted with the proposed work, CCFH may recommend revisions) and submitted to the CAC with a request for approval of the proposed new work.

vii. The CCFH Workplan (see below) will be updated at each meeting of the ad hoc Working Group in order to maintain continuity and a historical record of CCFH’s consideration of new work.

---

4 The elements of a project document are described in the Codex Alimentarius Commission, Procedural Manual.
CCFH Workplan

9. CCFH will maintain a forward-looking Workplan that will include new work proposals and, for the purpose of review, existing codes. The Workplan will list work in priority order based upon decisions made by CCFH and using the criteria for evaluating and prioritizing work (see above). The Workplan will be reviewed by the ad-hoc Working Group at each Session of CCFH when prioritizing proposals for new work. CCFH will progressively work down the prioritized list of items contained in the Workplan. CCFH may reassess the priority of each item on the Workplan; where new data or other information is available relating to an item on the Workplan, such data may be submitted for consideration and the priority for the work item reconsidered. It is intended for the Workplan to continue from Session to Session, updated and revised as appropriate based on CCFH’s criteria for undertaking new work. If items are moved forward as new work, each item will require a Project Document and a clear indication of how the work is to be progressed (e.g. nominated delegation to lead work, use of a working group process).

Obtaining Scientific Advice

10. There are instances where progress on the work of the Committee will require an international risk assessment or other expert scientific advice. This advice will be typically be sought through FAO/WHO (e.g., through JEMRA, ad hoc expert consultations), though in certain instances such advice may be requested from other specialized international scientific bodies. When undertaking such work, the Committee should follow the structured approach given in the Principles and Guidelines for the Conduct of Microbiological Risk Management (CXG 63-2007) and the Working Principles for Risk Analysis for Application in the Framework of the Codex Alimentarius.

11. In seeking an international risk assessment to be conducted by FAO/WHO (e.g. through JEMRA), CCFH should consider and seek advice on whether:

i. Sufficient scientific knowledge and data to conduct the needed risk assessment are available or obtainable in a timely manner. (An initial evaluation of available knowledge and data will typically be provided within the Risk Profile.)

ii. There is a reasonable expectation that a risk assessment (if one is needed) will provide results that can assist in reaching risk management decisions related to control of the microbiological hazard without unduly delaying the adoption of the needed microbiological risk management guidance.

iii. Risk assessments performed at the regional, national and multinational levels that can facilitate the conduct of an international risk assessment are available.

12. If the Committee decides to request that a microbiological risk assessment or other scientific advice be developed, the Committee will forward a specific request to FAO/WHO, the risk profile document (where available), a clear statement of the purpose and scope of the work to be undertaken, any time constraints facing the Committee that could impact the work, and, in the case of a risk assessment, the specific risk management questions to be addressed by the risk assessors. The Committee will, as appropriate, also provide FAO/WHO with information relating to the risk assessment policy for the specific risk assessment work to be undertaken. FAO/WHO will evaluate the request according to their criteria and subsequently inform the Committee of its decision on whether or not to carry out such work, together with a scope of work to be undertaken. If FAO/WHO responds favourably, the Committee will encourage its members to submit their relevant scientific data. If a decision is made by FAO/WHO not to perform the requested risk assessment, FAO/WHO will inform the Committee of this fact and the reasons for not undertaking the work (e.g. lack of data, lack of financial resources).

13. The Committee recognizes that an iterative process between risk managers and risk assessors is essential throughout the process described above and for the adequate undertaking of any microbiological risk assessment and the development of any microbiological risk management guidance document or other CCFH document(s).

14. The FAO/WHO will provide the results of the microbiological risk assessment(s) or other expert scientific advice to the Committee in a format and fashion to be determined jointly by the Committee and FAO/WHO. As needed, the FAO/WHO will provide scientific expertise to the Committee, as feasible, to provide guidance on the appropriate interpretation of the risk assessment.

15. Microbiological risk assessments carried out by FAO/WHO (JEMRA) will operate under the framework contained in the Principles and Guidelines for the Conduct of Microbiological Risk Assessment (CXC 30-1999).
### CCFH FORWARD WORKPLAN

<table>
<thead>
<tr>
<th>Title of Work</th>
<th>Last Revision</th>
<th>Information to Update (Yes/No)(^1)</th>
<th>Impact to Public Health (20/14/8)</th>
<th>Trade Impact (10/5/4/ 2/0)</th>
<th>Project document/discussion paper (Yes/No)</th>
<th>FAO/WHO assistance needed? (Yes/No)</th>
<th>Comments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of Shiga toxin-producing <em>E. coli</em></td>
<td>N/A</td>
<td>Yes</td>
<td>20</td>
<td>10</td>
<td>No</td>
<td>Yes</td>
<td>Discussion paper planned for CCFH50</td>
<td>30</td>
</tr>
<tr>
<td>Code of Hygienic Practice for the Storage of Cereals</td>
<td>N/A</td>
<td>Yes</td>
<td>8</td>
<td>5</td>
<td>Yes</td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Code of Practice on Food Allergen Management for Food Business Operators</td>
<td>N/A</td>
<td>Yes</td>
<td>20</td>
<td>10</td>
<td>Yes</td>
<td>No</td>
<td>Project document submitted to CAC41</td>
<td>30</td>
</tr>
<tr>
<td>Guidance for the Management of (Micro)biological Foodborne Crises/ Outbreaks</td>
<td>N/A</td>
<td>Yes</td>
<td>20</td>
<td>10</td>
<td>Yes</td>
<td>No</td>
<td>Project document submitted to CAC41</td>
<td>30</td>
</tr>
<tr>
<td>Principles for the Safe Use of Water in Food Processing</td>
<td>N/A</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Hygienic Practice for Milk and Milk Products (CXC 57-2004)</td>
<td>2009</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Hygienic Practice for Eggs and Egg Products (CXC 15-1976)</td>
<td>2007</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Information to Update (Currency of information): Is there new information/data that would justify the need to review the existing code(s) or establish a new one? Are there new technologies that would justify the need to review existing codes or establish a new one? Is there duplication or inconsistency with existing codes that should be addressed? If there is an existing code in place and a determination is made that the code is sufficient, no new work should proceed.
<table>
<thead>
<tr>
<th>Title of Work</th>
<th>Last Revision</th>
<th>Information to Update (Yes/No)</th>
<th>Impact to Public Health (20/14/8)</th>
<th>Trade Impact (10/5/4/2/0)</th>
<th>Project document/discussion paper (Yes/No)</th>
<th>FAO/WHO assistance needed? (Yes/No)</th>
<th>Comments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code of Hygienic Practice for the Transport of Food in Bulk and Semi-packed Food (CXC 47-2001)</td>
<td>2001</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Hygienic Practice for Low-acid and Acidified Low-acid Canned Foods (CXC 23-1979)</td>
<td>1993</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Hygienic Practice for Aseptically Processed and Packaged Low-acid Foods (CXC 40-1993)</td>
<td>1993</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guideline Procedures for the Visual Inspection of Lots of Canned Foods for Unacceptable Defects (CXG 17-1993)</td>
<td>1993</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Hygienic Practice for Canned Fruit and Vegetable Products (CXC 2-1969)</td>
<td>1969</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Hygienic Practice for Bottled/Packaged Drinking Waters (other than natural mineral waters) (CXC 48-2001)</td>
<td>2001</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>