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CODEX ALIMENTARIUS COMMISSION

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World Health Organization

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON CONTAMINANTS IN FOODS

14th Session
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DISCUSSION PAPER ON THE APPROACH TO IDENTIFY THE NEED FOR REVISION OF STANDARDS AND RELATED TEXTS DEVELOPED BY THE CODEX COMMITTEE ON CONTAMINANTS IN FOODS

(Prepared by the Electronic Working Group chaired by Canada
and co-chaired by Japan and the United States of America)GB

BACKGROUND

1. At the 11th session of the Codex Committee on Contaminants in Food (CCCF11, 2017), the Codex Secretariat highlighted the need for CCCF to develop a forward work plan to strategically establish or prioritize items within its workload. CCCF11 agreed that the Codex Secretariat and Host Country Secretariat would develop a plan to address this issue and report back at CCCF12.[1]

2. A discussion paper regarding the forward workplan of CCCF was presented at CCCF12 (2018). The WHO Representative underlined the value of longer-term forward planning to identify areas of concern for public health with trade implications, allowing for data gathering well in advance.[2] CCCF12 agreed that a further discussion paper would be prepared by the Codex, JECFA and the Host Country Secretariats with assistance of EU. The paper would focus on whether CCCF covered the main staple foods moving in international trade and the related presence of contaminants being of public health concern.

3. At CCCF13 (2019), a discussion paper was presented to identify areas of work that CCCF could prioritize for future meetings.[3] The focus was on the reduction of health risks resulting from chemical contamination of food. The importance of the identified commodities in trade was to be identified in a later stage. Four key areas were presented in the appendices to the discussion paper. Appendix C focused on the review of existing Codex standards, that is, Maximum Levels (MLs) and Guideline Levels (GLs) in the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995)[4], and Codes of Practice (CoPs)[5].

4. Appendix C of the discussion paper[3] outlined that CCCF, and the Codex Committee on Food Additives and Contaminants (CCFAC) before it, established numerous standards, namely MLs, GLs, and CoPs. Some standards were established long ago and have not been revised since, and for some contaminants CoPs have been established and no MLs have been developed to date. At this time, updates to Codex standards stem from discussions at CCCF, JECFA evaluations, and when new information becomes available. CCCF was invited to consider if a structured approach with criteria on when and why to update/supplement existing standards should be developed and if yes, what this approach should entail.

5. CCCF13 (2019) noted that keeping existing standards up-to-date was important, a work plan would be needed, the proposed approach should not lead to too much administrative burden, and should not preclude ad hoc decisions to revise the existing standards. CCCF13 agreed to establish an electronic working group (eWG), chaired by Canada and co-chaired by Japan and the United States of America (USA), working in English, to prepare a proposal for an approach to identify the need for review of existing CCCF standards for consideration at CCCF14.[6]

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[1] REP 17/CF, paras. 156-157
[2] REP 18/CF, paras. 149-156
[3] CX/CF 19/13/18
[4] http://www.fao.org/fao-who-codexalimentarius/codex-texts/list-standards/en/
[5] http://www.fao.org/fao-who-codexalimentarius/codex-texts/codes-of-practice/en/
[6] REP 19/CF, paras. 170-184

SCOPE

6. The scope of this paper is to discuss whether a structured approach should be developed to identify if the review of existing Codex standards is needed.

7. The following topics are outside the scope of the current discussion document but could be the subject of future work by CCCF:

   i) Developing the actual structured approach that would be implemented and used to review existing Codex standards, and how this could be integrated with processes related to new Codex standard development;

   ii) Proposing a systematic approach on when to establish new MLs and CoPs; this includes proposing new Codex standards for food and contaminant combinations for which an ML(s) is established but no corresponding CoP, and vice versa;

   iii) Proposing a systematic approach on when to add chemicals to the Priority List of Contaminants and Naturally Occurring Toxicants for Evaluation by the Joint FAO/WHO Expert Committee on Food Additives (JECFA); and

   iv) Proposing a systematic approach on when to develop sampling plans for food contaminants for which there are MLs or GLs but no sampling plans.

DEFINITIONS

8. The General Standard for Contaminants and Toxins in Food and Feed (GSCTFF) (CXS 193-1995) defines MLs and GLs for the purposes of contaminants and toxins in food and feed and provides some general information about CoPs (see paragraphs 9 through 11).

9. **A Maximum level (ML)** for a contaminant in a food or feed commodity is the maximum concentration of that substance recommended by the Codex Alimentarius Commission (CAC) to be legally permitted in that commodity.[7]

10. **A Guideline level (GL)** is the maximum level of a substance in a food or feed commodity which is recommended by CAC to be acceptable for commodities moving in international trade. When the GL is exceeded, governments should decide whether and under what circumstances the food should be distributed within their territory or jurisdiction. Because CAC has decided that the preferred format of a Codex standard in food or feed is a ML, the present existing or proposed GLs shall be reviewed for their possible conversion to a ML after a risk assessment performed by JECFA, if appropriate.[8]

11. **A Code of Practice (CoP)** is not expressly defined in the GSCTFF or any other Codex documents. The GSCTFF, however, indicates that a CoP is established to ensure that adequate action is taken to reduce contamination of food and feed. A CoP shall be elaborated comprising source related measures and Good Manufacturing Practices (GMPs) as well as Good Agricultural Practices (GAPs) in relation to the specific contamination problem.[9]

BACKGROUND INFORMATION

12. The Codex Procedural Manual[10] states that when a Codex Committee proposes to elaborate a new standard, CoP or related text within its terms of reference, it should first consider the priorities established by CAC in the Strategic Plan, the relevant outcomes of the Critical Review conducted by the Executive Committee (CCEXEC), and the prospect of completing the work within a reasonable period of time. It should also assess the proposal against the Criteria for the establishment of work priorities (applicable to general subjects) set out in Section II of the Procedural Manual.

[7] GSCTFF, Section 1.2.4
[8] GSCTFF, Section 1.2.4, Footnote 1
[9] GSCTFF, Section 1.3.1
[10] Procedural Manual, Section II

Guideline Levels and Maximum Levels

13. The CAC indicates that the preferred format of a Codex standard in food or feed is an ML and that existing or proposed GLs shall be reviewed for their possible conversion to MLs after a risk assessment performed by JECFA, if appropriate.[11] This approach was taken for the GLs in the GSCTFF for methylmercury in predatory and non-predatory fish, which were revoked by the CAC following the establishment of MLs for methylmercury in tuna, alfonsino, marlin, and shark.[12] JECFA's *Consultation on the Risks and Benefits of Fish Consumption*[13], conducted upon request of CCFAC38 (2006)[14], informed CCCF's review of the methylmercury GLs[15]. CCCF's work to consider establishing MLs for methylmercury in other fish species is ongoing.

14. Certain Codex documents describe the criteria for establishing new MLs for contaminants in food and feed. The GSTCFF states that a Codex ML in food and feed should be set only for those contaminants that present both a significant risk to public health and a known or expected problem in international trade.[16] As well, MLs should be set only for food that is significant for the total exposure of the consumer to the contaminant.[17] Further, MLs should be set in such a way that the consumer is adequately protected.[18] The GSCTFF also provides detailed information on the data and information requirements for ML elaboration; for example, the availability of information on sampling procedures, internationally representative data, a tolerable intake level, exposure estimates, and complete risk assessment.[19]

15. No Codex documents provide guidance on what would trigger a review of existing Codex MLs in the GSTCFF. No existing Codex MLs are currently undergoing review, however, some existing MLs have been reviewed, in the past, as was the case for the lead. At CCCF03 (2009), Member countries requested that lead be added to the JECFA Priority List.[20] The JECFA74 (2011) re-evaluation for lead[21] concluded that the previously established provisional tolerable weekly intake (PTWI) for lead could no longer be considered health protective and was withdrawn. JECFA's updated assessment of lead, general awareness that levels of lead in foods had decreased over time, and that the MLs reflected outdated production practices triggered CCCF to review the existing Codex MLs for lead. The updates to the established lead MLs in the GSCTFF were completed in 2019 by CCCF13.

Codes of Practice

16. The Codex Procedural Manual (Section IV, paragraph 10) provides some general guidance on when a new CoP for a food contaminant would be established. It indicates that when there is evidence that a risk to human health exists but scientific data are insufficient or incomplete, the CAC should not proceed to elaborate a standard but should consider elaborating a related text, such as a CoP, provided that such a text would be supported by the available scientific evidence.

17. The preferred approach of CCCF is to elaborate a CoP before an ML(s) is established for a certain food and contaminant combination. This approach is implied by the GSCTFF, which states that contaminant levels in food and feed shall be as low as reasonably achievable (ALARA) through best practice such as GAPs and GMPs[22], and that, where possible, MLs should be based on GMP and/or GAP considerations in order to achieve contaminant levels that are ALARA.[23] This approach has been demonstrated in the case of aflatoxins in tree nuts, for which the CoP (CXC 59-2005) was finalized in 2005 and the MLs in 2008. Another example is for tin in canned foods; the CoP (CXC 60-2005) was established in 2005 and the MLs for canned beverages and foods in 2007.

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[11] GSCTFF, Section 1.2.4, Footnote 1
[12] REP 18/CAC, Appendix V
[13] Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption, 25-29 January 2010, Rome, Italy. Available from: http://www.fao.org/3/ba0136e/ba0136e00.pdf.
[14] Alinorm 06/29/12; paras. 191, 192
[15] REP11/CF, para. 98; REP12/CF, para. 45
[16] GSTCFF Annex 1; Sections 1.3.1 and 1.3.2
[17] Procedural Manual, Section IV, also with reference to Section 3 of the Policy of the Committee on Contaminants in Foods for Exposure Assessment of Contaminants and Toxins in Foods or Food Groups
[18] GSTCFF Section 1.3.2
[19] GSTCFF, Annex 1
[20] Alinorm 09/32/41, Appendix XI
[21] World Health Organization. 2011. Evaluation of certain food additives and contaminants: seventy-third report of the Joint FAO/WHO Expert Committee on Food Additives. Available from: http://apps.who.int/food-additives-contaminants-jecfa-database/chemical.aspx?chemID=3511
[22] GSTCFF Section 1.3.1
[23] GSTCFF, Annex I

18. Eleven (11) of the 22 CoPs elaborated by CCCF do not have associated MLs (Appendix C). For example, CCFAC25 (2002) agreed that MLs for dioxins and polychlorinated biphenyls (PCBs) should not be elaborated[24] due to the lack of globally representative data, the opinion of Member countries that source-directed measures were the most effective tool to reduce dioxin levels, and the need for economical and practical analytical screening methods. The CoP for dioxins and PCBs (CXC 62-2006) was subsequently elaborated.

19. Despite the preferred approach to establish CoPs before MLs for a given food and contaminant combination, of the 103 individual Codex MLs, 29 do not have an associated CoP (Appendix A). Of the 41 individual Codex GLs, none have an associated CoP (Appendix B).

20. No Codex documents provide guidance on what would trigger a review of an existing CoP. Of the 22 CoPs elaborated by CCCF, 3 have undergone updates.[25] Currently, one CoP, that for lead in foods (CXC 56-2004), is in the process of being updated and no others are scheduled for review or have been raised for new work (Appendix C).

21. When CoPs are updated and when new CoPs are developed, CCCF first determines, through a discussion paper presented at CCCF, if there is sufficient information/new information available on contamination sources and mitigation measures that would warrant such work.[26] For example, the CoP for dioxins and dioxin-like PCBs (CX 62-2006) was updated in 2018 to also include non-dioxin-like PCBs, as their sources in food and feed are similar to dioxin-like PCBs.[27]

EXISTING CODEX STANDARDS: TIMING OF ELABORATION AND UPDATE

Maximum Levels and Guideline Levels in the GSCTFF

22. The GSCTFF was established in 1995, almost 25 years ago. Prior to the GSCTFF being established, Codex MLs and GLs were housed in individual Codex Standard documents for each food and contaminant combination.

23. As of December 31, 2019, there were a total of 103 Codex MLs and 41 Codex GLs for different food and contaminant combinations in the GSTCFF. A summary of the number of years since the establishment, or the most recent review, of Codex MLs and GLs is shown in the Table 1[28] and the complete lists of MLs and GLs in the GSTCFF are provided in Appendices A and B, respectively.

Table 1. Length of time since MLs and GLs in the GSCTFF were established or updated[a]

	Within last 5 years (2015-2019)	> 5 years (2010-2014)	> 10 years (2005-2009)	> 15 years (2000-2004)	> 20 years (1995-1999)	> 25 years (before 1995)
Number of MLs	40	26	22	5	0	10
Number of GLs	-	40 (radionuclides)	-	-	0	1 (vinylchloride monomer)

[a] refers to year the ML was most recently reviewed by CCCF; based on the results of the assessment, the ML value was either retained, as is, or updated in the GSCTFF. The dates of original adoption of Codex MLs and GLs are not listed in the GSCTFF and are not available elsewhere.

Codes of Practice

24. As of December 31, 2019, 22 CoPs have been elaborated by CCCF, and a new CoP for cadmium in cocoa is in development.[29] A summary of the number of years since the establishment or the most recent update (i.e. amendment or revision) of CoPs developed by CCCF is shown in the Table 2 and the complete list of CoPs is provided in Appendix C.

[24] ALINORM 03/12
[25] CXC 51-2003; CXC 56-2004; CXC 59-2005; CX 62-2006
[26] e.g. CXC 51-2003: REP14/CF, para. 98; CXC 56-2004: REP 19/CF, para. 105; CXC 59-2005: ALINORM 09/32/41, para. 121 and ALINORM 10/33/41, para. 77; CXC 78-2017: REP15/CF, para. 140; CXC-##-### (under development): REP 19/CF, para.109
[27] REP17/CF, para. 144; REP18/CF, Appendix V
[28] The dates of original adoption of Codex MLs and GLs are not listed in the GSCTFF and are not available elsewhere.
[29] REP19/CF, para. 112

Table 2. Length of time since CoPs developed by CCCF were established or updated

	Within last 5 years (2015-2019)	> 5 years (2010-2014)	> 10 years (2005-2009)	> 15 years (2000-2004)	> 20 years (1995-1999)	> 25 years (before 1995)
Number of CoPs	3	4	9	5	1	0

Maximum Levels and Codes of Practice Recommended for Re-evaluation

25. As of December 31, 2019, 8 existing MLs (Apppendix D) and 1 existing CoP (Appendix E) have been recommended by either CCCF, CAC, or a Member country for re-evaluation by CCCF following their adoption, either within a certain period of time or at an unspecified future date. In these cases, the review has not been scheduled or raised as new work, despite either the re-evaluation date or a number of years having passed since the recommendation for future review. In other cases, the review date is approaching in 2020 or 2021.

CRITERIA (TRIGGERS) FOR REVIEW OF EXISTING CODEX STANDARDS

26. The Codex Committee on Pesticide Residues (CCPR) uses a two-tiered, time-based approach (i.e. 15 and 25-year rules) to prioritize existing pesticide maximum residue limits (MRLs) for review.[30] It is proposed that a similar approach, as outlined in paragraphs 27 and 28, be used by CCCF to prioritise existing MLs, GLs and CoPs for review.

Criteria for Review of Maximum Levels, Guideline Levels and Codes of Practice

27. **15-year rule:** Codex MLs, GLs and CoPs for food contaminants that have not been reviewed or updated for more than 15 years will be added to the "List of Contaminant Standards Established or Most Recently Updated > 15 Years Ago". Codex standards in this list would be scheduled for review upon nomination by a Member country, based on the availability of adequate new data and scientific information underthe criteria headings, below (paragraphs 31 to 41).

28. **25-year rule:** Codex MLs, GLs and CoPs listed in the "List of Contaminant Standards Established or Most Recently Updated > 15 Years Ago" (as outlined in paragraph 27) for 10 years without nomination by a Member country will be moved to the list of standards > 25 years old and brought to the attention of CCCF.

29. The establishment of a "15-year rule" and "25-year rule", as outlined in paragraphs 27 and 28, respectively, would not preclude ad hoc work to review Codex standards that are deemed to be of high importance from a food chemical safety perspective that may be required in response to, for example, adulteration, natural disasters, or other unforeseen environmental issues.

30. Any new data and scientific information that falls under one of the criteria headings below (paragraphs 31 to 41) would be considered by CCCF for each food and contaminant combination on a case-by-case basis, in the form of a discussion paper to be considered by the Committee. CCCF would determine for which criterion(a) new information is available, the adequacy of such information, and the magnitude or significance[31] of the new information relative to the existing situation/knowledge base. CCCF would also consider, on a case-specific basis, the relative priority of each criterion, if new information is available for several. Criteria that give indications of a public health concern should be given highest priority. CCCF will then determine if there is sufficient adequate new data and/or scientific information to initiate a review of an existing Codex standard.

31. **New occurrence data are available:** Occurrence data identified by CCCF or its Member countries and/or submitted to the GEMS/Food database are significantly different than that used to establish the existing ML or GL. For example, more geographically representative occurrence data are available, contaminant profiles have changed due to environmental issues (e.g. climate change, natural disasters), new plant cultivars that respond differently to contaminants are being used, and/or technological changes have resulted in improvements in agricultural and manufacturing practices.

32. **New dietary exposure data are available:** CCCF, JECFA, or other relevant joint FAO/WHO expert consultations recognized by CCCF develop new dietary exposure estimates or revise existing estimates that are significantly different than the previous estimates that were used to establish the existing ML or GL.

[30] Procedural Manual, Risk Analysis Principles applied by the Codex Committee on Pesticide Residues, Sections 5.2.1 and 5.2.5

[31] The magnitude or significance would be determined on a case-by-case basis by CCCF

33. **A new health-based guidance value (HBGV) is available:** Either JECFA, upon request by CCCF, or other relevant joint FAO/WHO expert consultations recognized by CCCF develop a new HBGV, revise an existing HBGV that is significantly different than the previous HBGV that was used to establish the existing ML or GL, or withdraw an existing HBGV.

34. **A new health risk assessment (HRA) is available:** CCCF, JECFA, or other relevant joint FAO/WHO expert consultations recognized by CCCF present the results of a new HRA or update an existing HRA in which the conclusions are significantly different than the previous evaluation. In cases where public health concerns are identified, a review of the associated Codex standards should be prioritized.

35. **Recommended for re-evaluation:** CCCF, CAC, or a Member country recommends the re-evaluation of Codex standards by CCCF within a specific period of time or at an unspecified future date following their adoption. Any recommended re-evaluation timelines would take precedence over the "15-year rule" and "25-year rule", as outlined in paragraphs 27 and 28, respectively.Codex MLs and CoPs that have been recommended for future re-evaluation are listed in Appendices D and E, respectively.[32]

Additional Criteria for Review of Maximum Levels

36. **Codex Commodity standards:** Significant revisions have been made to the commodity standards for relevant foods or food groups for which MLs are established.

37. ***Codex Classification of Food and Feed*** (CXM 4-1989)**:** Significant revisions have been made to this document for relevant foods or food groups for which MLs are established.

38. **Trade disruptions:** An existing ML for a certain food and contaminant combination is responsible for disruptions in international trade.

Additional Criteria for Review of Codes of Practice

39. **Technological advances and developments:** Significant new information[33] is available on contamination sources or processes, and/or agricultural, production and manufacturing practices related to food contaminant management and control. Information could be submitted by Members or Observers, available from industry or in the scientific literature, and may be described by JECFA in a new or updated contaminant monograph or evaluation.

40. **Expanded scope:** CCCF identifies that the scope of an existing CoP could readily be expanded to include other contaminants or toxins with comparable contamination sources or processes, and/or agricultural, production and manufacturing practices. For example, non-dioxin-like PCBs were included in the CoP for dioxins and dioxin-like PCBs (CXC 62-2006), which was updated to include these chemicals in 2018.[34]

41. **Comparable CoP updated:** Updates to a CoP for a similar food or feed and contaminant combination may be transferable to another CoP or make an existing CoP redundant. In the past, updates to one CoP have not always triggered the review of comparable CoPs. For example, the CoP for aflatoxin B1 in raw materials and feedingstuffs for milk-producing animals (CXC 45-1997) was not reviewed following the updates to the CoP on mycotoxin contamination in cereals (CXC 51-2003) in 2016, which included the addition of an annex on aflatoxins. As well, neither of the above CoPs is referenced in the other. As another example, the CoP for aflatoxins in peanuts (CXC 55-2004) has not been reviewed since it was initially elaborated, yet the CoP for aflatoxins in tree nuts (CXC 59-2005) was updated in 2010 and includes information that could be also be applicable to peanuts.

PROS AND CONS OF DEVELOPING A SYSTEMATIC APPROACH TO DETERMINING THE NEED TO REVIEW EXISTING CODEX STANDARDS

42. The pros and cons associated with establishing an approach to identify if there is a need for review of existing Codex standards are provided in Table 3, in order to help determine if such an approach should be implemented by CCCF.

[32] The eWG is not aware of GLs that have been recommended for future re-evaluation
[33] The magnitude or significance would be determined on a case-by-case basis by CCCF
[34] REP18/CAC, Appendix III

Table 3. Pros and Cons of Implementing a Structured Approach to Codex Standard Review

Pros	Cons
Standards that have been recommended for re-evaluation by CCCF, the CAC, or a Member country within a certain period of time or at an unspecified future date would be tracked and the work could be scheduled, as needed	Significant, ongoing, resource requirements to: i) Maintain the "List of Contaminant Standards Established or Most Recently Updated > 15 Years Ago" and standards that meet the "25-year rule" ii) Maintain a list of Codex standards that have been recommended for re-evaluation by CCCF, the CAC, or a Member country within a certain period of time or at an unspecified future date iii) Maintain a list of adoption dates or the dates of the most recent review of Codex standards iv) Determine the availability and adequacy of new data and scientific information that would justify a full review v) Review and update the standards, as required
Older standards would be considered for updates within a reasonable period of time	Significant amount of initial 'catch-up' work to determine the adequacy of new information and update contaminant standards, as necessary, most recently reviewed or updated > 25 years ago (10 MLs, 1 GL, 0 CoPs) and > 15 year ago (5 MLs, 6 CoPs)
Would establish a proactive versus reactive approach to updating standards and managing food chemical safety	Locking into a certain approach may limit flexibility for ad hoc revisions, unless such flexibility is clearly provided for in the framework and it is understood that ongoing work could be deferred if pressing food safety issues arise

PROPOSED OPTIONS

43. **Option 1 – Status quo:** Existing Codex standards would continue to be reviewed on an ad hoc basis, upon nomination by Member countries and/or CCCF on the basis of new and adequate data and scientific information.

44. **Option 2 – Tracking lists:** Establish tracking lists of Codex standards > 15 and > 25 years old and of standards recommended for re-evaluation by CCCF, CAC, or a Member country. The review of existing Codex standards would continue on a ad hoc basis, as described in paragraph 43.

45. **Option 3 – Tracking & prioritization lists:** Establish tracking lists of Codex standards > 15 and > 25 years old and of standards recommended for re-evaluation by CCCF, CAC, or a Member country. Any Codex standards meeting the "25-year rule" would be prioritized for assessment by a Member country for the availability of adequate new data and scientific information in order to determine if such information is sufficient to warrant a review of the standard. If a Member country does not volunteer for the assessment, the work would be assigned to a Member country by CCCF or Codex Secretariat. Option 3 would help ensure that the availability of new data or scientific information is considered for all Codex MLs, GLs, and CoPs every 25 years, at a minimum. Codex standards could still be reviewed on an ad hoc basis, as described in paragraph 43.

46. Only two eWG Members voted on the proposed options. Both supported Option 2, as described in paragraph 43, as it provides a structure that will help ensure that dated Codex standards are brought to the attention of CCCF while still allowing for the flexibility of ad hoc reviews. Option 2 is preferred over Option 3 as it involves fewer resource requirements and would avoid the potential challenges associated with the assignment of new work by CCCF or Secretariat in the absence of Member country volunteers. One eWG Member suggested that Option 2 could be implemented on a trial basis to determine if it provides benefits over the current ad hoc approach (i.e. Option 1, as described in paragraph 42).

RECOMMENDATIONS

47. CCCF is invited to focus its discussions in the recommendations below taking into account the information and analysis provided in paragraphs 1 - 46. Additional information given in Appendices A-E can further assist Codex members and observers in the consideration of the recommendations below.

48. CCCF is invited to consider implementing Option 2, as described in paragraph 43. It is proposed that Option 2 be implemented for 3 years, after which time its effectiveness could be reviewed and discussed in 2023 by CCCF17.

49. The process by which Option 2 could be implemented and how this could be integrated with the process related to new Codex standard development is outside the scope of this discussion document. However, a possible approach for Option 2 could involve:

    i. Establishing an eWG to generate, and annually maintain, the following lists:

        a) List(s) of contaminant standards established or most recently updated > 15 and > 25 years ago.[35]

        b) List of Codex standards that have been recommended for re-evaluation by CCCF, CAC, or a Member country within a certain period of time or at an unspecified future date.

    ii. The above tracking lists would be shared with CCCF in advance of each meeting. An in-session working group at the annual CCCF meeting could summarize the current review status, if any, and make any recommendations to CCCF for review priorities from the tracking lists. CCCF would then consider how to balance these priorities with new Codex standard development.

    iii. Member countries that nominate existing Codex standards for review or new Codex standards for elaboration would take the item on as new work and present their findings in the form of a discussion paper.

[35] The dates of original adoption of Codex standards could also be included in these lists. However, the original adoption dates of Codex MLs and GLs are not currently listed in the GSCTFF and are not available elsewhere. This information could be researched, as resources permit, and priority given to MLs and GLs that are most heavily referenced by Member countries. For MLs and GLs established before the GSTCFF, Codex commodity standards would have to be consulted for the original adoption dates.

APPENDICES
(For information)

Appendix A: Maximum Levels in the GSTCFF

Contaminant	Food Commodity[a]	Year of Adoption or Review[b]	Corresponding CoP
Established >20 years ago (before 2000)			
Acrylonitrile	Food	Prior to 1995	No
Arsenic, total	Edible fats and oils		No
	Fat spreads and blended spreads		
	Salt, food grade		
Cadmium	Salt, food grade		No
Tin, total	Cooked cured chopped meat		CXC 60-2005 (specific to canned foods)
	Cooked cured ham		
	Cooked cured pork shoulder		
	Corned beef		
	Luncheon meat		
Established >15 years ago (between 2000-2004)			
Aflatoxin M_1	Milks	2001	CXC 45-1997
Cadmium	Cereal grains		No
	Legume vegetables		
	Pulses		
Patulin	Apple juice	2003[36]	CXC 50-2003
Established >10 years ago (between 2005-2009)			
Cadmium	Brassica vegetables	2005	No
	Bulb vegetables		
	Fruiting vegetables		
	Leafy vegetables		
	Root and tuber vegetables		
	Stalk and stem vegetables		
	Wheat		
	Cephalopods	2006	
	Marine bivalve molluscs		
	Rice, polished		
Tin, total	Canned beverages	2007	CXC 60-2005
	Canned food (other than beverages)		
Aflatoxins, total (B_1, B_2, G_1, G_2)	Almonds (destined for further processing)	2008	CXC 59-2005
	Hazelnuts (destined for further processing)		
	Pistachios (destined for further processing)		
	Almonds (ready-to-eat)		
	Hazelnuts (ready-to-eat)		
	Pistachios (ready-to-eat)		
3-MCPD	Liquid condiments with acid-HVP	2008	CXC 64-2008
Ochratoxin A	Barley		CXC 51-2003
	Rye		
	Wheat		

[36] CCFAC 36 (2004) agreed to reconsider the ML by including it on the Priority List for Evaluation by JECFA in 4 years time (i.e. 2007) to allow for the implementation of the related CoP (ALINORM 04/27/12, paras. 130-131). In 2007, CCCF01 agreed to take patulin out of the priority list, noting that there was an existing ML and this topic was no longer considered a high priority (ALINORM 07/30/41, para. 127).

Contaminant	Food Commodity[a]	Year of Adoption or Review[b]	Corresponding CoP
Established >5 years ago (between 2010-2014)			
Aflatoxins, total (B_1, B_2, G_1, G_2)	Brazil nuts (destined for further processing)	2010	CXC 59-2005
	Brazil nuts (ready-to-eat)		
Melamine	Food (other than infant formula) and feed		No
	Powdered infant formula		
Arsenic, total	Natural mineral waters	2011	No
Cadmium	Natural mineral waters		No
Lead	Natural mineral waters		CXC 56-2004 *(update in progress)*
Mercury, total	Natural mineral waters		No
	Salt, food grade		No
Aflatoxins, total (B_1, B_2, G_1, G_2)	Dried figs	2012	CXC 65-2008
Lead	Meat and fat of poultry		CXC 56-2004 *(update in progress)*
	Meat of cattle, pigs, sheep		
Melamine	Liquid infant formula		No
Hydrocyanic acid	Cassava flour	2013	CXC 73-2013
	Gari		
Lead	Cereal grains		CXC 56-2004 *(update in progress)*
	Milks		
Arsenic, inorganic	Rice, polished	2014	CXC 77-2017
Fumonisins (B1, B2)	Maize flour/meal		CXC 51-2003
	Raw maize grain		
Lead	Bulb vegetables		CXC 56-2004 *(update in progress)*
	Fruits		
	Infant formula		
	Leafy vegetables		
	Root and tuber vegetables		
	Secondary milk products		
Established within last 5 years (2015-2019)			
Deoxynivalenol	Wheat maize and barley milling fractions	2015	CXC 51-2003
	Infant cereals		
	Wheat, maize, and barley cereal grains		
Lead	Berries and other small fruits		CXC 56-2004 *(update in progress)*
	Brassica vegetables		
	Canned fruits		
	Canned vegetables		
	Cranberry		
	Currants		
	Elderberry		
	Fruit juices		
	Fruiting vegetables		
	Legume vegetables		
Arsenic, inorganic	Rice, husked	2016	CXC 77-2017

Contaminant	Food Commodity[a]	Year of Adoption or Review[b]	Corresponding CoP
Lead	Pickled cucumbers		CXC 56-2004 *(update in progress)*
	Table olives		
	Canned chestnuts/purée	2017	
	Fish		
	Fruit juices obtained exclusively from berries and other small fruits		
	Jams, jellies and marmalades		
	Preserved tomatoes		
	Pulses		
Aflatoxins, total (B_1, B_2, G_1, G_2)	Peanuts (destined for further processing)	2018	CXC 55-2004
Cadmium	Chocolate (≥70% total cocoa solids)		*In development*
	Chocolate (≥50 to <70% total cocoa solids)		
Lead	Edible fats and oils		CXC 56-2004 *(update in progress)*
	Fat spreads and blended spreads		
	Grape juice		
	Mango chutney		
	Mushrooms		
	Salt, food grade		
Methylmercury	Alfonsino		No
	Marlin		
	Shark		
	Tuna		
Lead	Cattle, edible offal of	2019	CXC 56-2004 *(update in progress)*
	Fortified/liqueur wine		
	Pig, edible offal of		
	Poultry, edible offal of		
	Wine		

a - refer to GSCTFF for specific exclusions and other details; b - refers to year the ML was most recently reviewed by CCCF; based on the results of the assessment, the ML value was either retained, as is, or updated in the GSCTFF

Appendix B: Guideline Levels in the GSCTFF

Contaminant	Food Commodity[a]	Year of Adoption or Review[b]	Corresponding Codex CoP
Established >20 years ago (before 2000)			
Vinyl chloride monomer	Food	Prior to 1995	No
Established >5 years ago (between 2010-2014)			
Radionuclides (Pu-238, Pu-239, Pu-240, Am-241, Sr-90, Ru-106, I-129, I-131, U-235, S-35, Co-60, Sr-89, Ru-103, Cs-134, Cs-137, Ce-144, Ir-192, H-3, C-14, Tc-99)	Infant foods	2013	No
Radionuclides (Pu-238, Pu-239, Pu-240, Am-241, Sr-90, Ru-106, I-129, I-131, U-235, S-35, Co-60, Sr-89, Ru-103, Cs-134, Cs-137, Ce-144, Ir-192, H-3, C-14, Tc-99)	Foods other than infant foods	2013	No

a - refer to GSCTFF for specific exclusions and other details; b - refers to year the ML was most recently reviewed by CCCF; based on the results of the assessment, the ML value was either retained, as is, or updated in the GSCTFF

Appendix C: Codes of Practice Developed by CCCF

Code of Practice	Document No.	Year Established (Updated)	Corresponding Codex ML(s)
Established >20 years ago (before 2000)			
Reduction of Aflatoxin B1 in Raw Materials and Supplemental Feedingstuffs for Milk-Producing Animals	CXC 45-1997	1997	Yes (for aflatoxin M1 in milks)
Established >15 years ago (between 2000-2004)			
Concerning Source Directed Measures to Reduce Contamination of Foods with Chemicals	CXC 49-2001	2001 (2012)	N/A
Prevention and Reduction of Patulin Contamination in Apple Juice and Apple Juice Ingredients in Other Bev.	CXC 50-2003	2003	Yes
Prevention and Reduction of Aflatoxin Contamination in Peanuts	CXC 55-2004	2004	Yes
Prevention and Reduction of Mycotoxin Contamination in Cereals	CXC 51-2003	2003 (2017)	Yes (for some mycotoxins)
Prevention and Reduction of Lead Contamination in Foods	CXC 56-2004	2004 *(updates in progress)*	Yes
Established >10 years ago (between 2005-2009)			
Prevention and Reduction of Inorganic Tin Contamination in Canned Foods	CXC 60-2005	2005	Yes
Prevention and Reduction of Ochratoxin A Contamination in Wine	CXC 63-2007	2007	No
Prevention and Reduction of 3-MCPD during the Production of Acid-HVPs and Products that Contain Acid-HVPs	CXC 64-2008	2008	Yes
Prevention and Reduction of Aflatoxin Contamination in Dried Figs	CXC 65-2008	2008	Yes
Prevention and Reduction of Acrylamide in Foods	CXC 67-2009	2009	No
Prevention and Reduction of Contamination of Food with PAHs from Smoking and Direct Drying Processes	CXC 68-2009	2009	No
Prevention and Reduction of Ochratoxin A Contamination in Coffee	CXC 69-2009	2009	No
Prevention and Reduction of Aflatoxin Contamination in Tree Nuts	CXC 59-2005	2005 (2010)	Yes
Prevention and Reduction of Dioxin, Dioxin-like PCBs and non-Dioxin-like PCBs in Food and Feed	CXC 62-2006	2006 (2018)	No
Established >5 years ago (between 2010-2014)			
Prevention and Reduction of Ethyl Carbamate Contamination in Stone Fruit Distillates	CXC 70-2011	2011	No
Prevention and Reduction of Ochratoxin A Contamination in Cocoa	CXC 72-2013	2013	No
Prevention and Reduction of Hydrocyanic Acid (HCN) in Cassava and Cassava Products	CXC 73-2013	2013	Yes
Prevention and Reduction for Weed Control to Prevent and Reduce Pyrrolizidine Alkaloid Contamination in Food and Feed	CXC 74-2014	2014	No
Established within last 5 years (2015-2019)			
Prevention and Reduction of Arsenic Contamination in Rice	CXC 77-2017	2017	Yes
Prevention and Reduction of Mycotoxins in Spices	CXC 78-2017	2017	No (work is ongoing)
Reduction of 3-MCPDEs and GEs in Refined Oils and Food Products Made with Refined Oils	CXC 79-2019	2019	No

Appendix D: Maximum Levels Recommended for Re-evaluation by CCCF, CAC, or a Member Country where the Re-evaluation is Outstanding or Upcoming

Contaminant	Food	Comments	Reference	Years since ML Established	Year Recommended for Review*
Lead	Milk	CCCF noted that the ML might be reviewed in future when new data became available and might be revised in light of the review of the MLs for milk products	REP13/CF para. 29	6	Not specified
Lead	Cereal grains	CCCF noted that if different MLs would be considered for cereal grains in future, stricter MLs could be applied to certain cereal grains in light of available data	REP13/CF para. 29	6	Not specified
Lead	Table olives	CCCF agreed to lower the ML from 1 mg/kg to 0.4 mg/kg and to re-evaluate in the future when more data became available	REP16/CF para. 77	3	Not specified
Lead	Jams, jellies, marmalades	CCCF agreed to lower the ML to 0.4 mg/kg and to re-evaluate in the future when more data became available	REP17/CF para. 61	2	Not specified
Deoxynivalenol	Cereals and cereal-based products	CCCF decided to proceed with the establishment of MLs and indicated that at CCCF08 (2014) it would consider the extension of the MLs to acetylated derivatives of DON CCCF agreed that when further information became available on occurrence and an internationally validated method, MLs for acetylated derivatives of DON could be considered	REP11/CF para. 41 REP 14/CF paras. 61-62	4	Not specified
Fumonisins	Maize flour & maize meal	CCCF agreed that the ML of 2000 µg/kg for maize flour and maize meal would be advanced for adoption by the CAC with the understanding that an exposure and impact assessment should be undertaken by JECFA within three years for reconsideration of the ML. JECFA83 (2016) updated its exposure assessment and reviewed toxicological and epidemiological studies available since its previous 2011 evaluation. The previously established group PMTDI was retained and limited ne occurrence data were available since 2011 for all regions except Europe. CCCF called upon other reigions (Africa, SE Asia, Eastern Mediterranean) to provide data to GEMS/Food on fumonisin levels in maize.	REP14/CF para. 71 JECFA/83/SC REP17/CF para. 151	6	2017

Contaminant	Food	Comments	Reference	Years since ML Established	Year Recommended for Review*
Inorganic arsenic	Husked rice	CAC adopted the ML for husked rice on the understanding that the ML would be reviewed by CCCF three years after the CoP (CXC 77-2017) was finalized	REP16/CAC paras. 63, 65	3	2020
Methylmercury	Tuna	CAC adopted the proposed MLs and agreed that CCCF could consider revising the ML for tuna in the light of additional data after three years	REP18/CAC para. 39	2	2021

*could represent the year that the item is brought forward for new work to CCCF, and not necessarily the year the review should be initiated

Appendix E: Codes of Practice Recommended for Re-evaluation by CCCF, CAC, or a Member Country where the Re-evaluation is Outstanding or Upcoming

Code of Practice	Comments	Reference	Years since CoP Established	Year Recommended for Review*
Prevention and Reduction of Arsenic Contamination in Rice (CXC 77-2017)	CCCF agreed to continue work on the finalization of the COP and stated that the COP could be reviewed in future when more information and data became available A delegation indicated that results of several studies would be available in 2019 and there would be a need to revise the COP when the results become available	REP16/CF para. 99 REP17/CF para. 102	3	2019

*could represent the year that the item is brought forward for new work to CCCF, and not necessarily the year the review should be initiated

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