



UNIVERSITÉ  
LAVAL

Faculty of Agriculture  
and Food Sciences



Food Risk Analysis and Regulatory  
Excellence Platform



## ANALYSIS OF AGENDA ITEMS IN PREPARATION FOR THE 14<sup>th</sup> SESSION OF THE CODEX COMMITTEE ON CONTAMINANTS IN FOOD

*3<sup>rd</sup> – 7<sup>th</sup> and 13<sup>th</sup> MAY 2021 Virtual Meeting*

### **AGENDA ITEMS 8 and 9**

*Lead in Food Commodities – Maximum Levels and Code of Practice*

#### LINKABLE DOCUMENT INDEX

ITEM	SUBJECT MATTER
Objectives	Description of this document's intent
Agenda Item 8	Maximum levels for lead in certain food categories (at Step 4)
Agenda Item 9	Revision of the code of practice for the prevention and reduction of lead contamination in foods (CXC 56-2004) (at step 4)
<i>Annex 1</i>	<i>ANNEX 1: Summary of revision of the code of practice for the prevention and reduction of lead contamination in foods (CXC 56-2004) (for comment at step 3)</i>

*\*It is important to note that experts – members of the Expert Working Group (EWG) – do not represent the organizations and / or jurisdictions to which they are affiliated. The selection and participation in the EWG proceedings is based on each expert's own credentials and experience which should not be misconstrued as the country's / delegation's / organization's position to which they belong.*

## Objectives

This document offers a review and analysis of the agenda items planned for discussion at the 14<sup>th</sup> session of the Codex Committee on Contaminants in Food (CCCF), scheduled to take place virtually from May 3<sup>rd</sup> – 7<sup>th</sup> and 13<sup>th</sup>, 2021. The document is intended for possible use by the Codex communities of practice promoted by [GFORSS](#) and [PARERA](#), as part of their contribution to enhancing awareness and supporting effective participation in international food standard setting meetings (Codex meetings) by representatives from members and observers.

The analysis provided in this document offers a factual review of agenda items, their background and a discussion of some considerations. This analysis is indicative in nature and does not represent an official position of the organizations mentioned above ([PARERA](#) and [GFORSS](#)), their membership or their management.

This analysis is prepared as part of the **Codex Initiative for the Middle East and North Africa: MENA Codex Initiative**, implemented by [PARERA](#) and [GFORSS](#) and funded by the US Codex Office, US Department of Agriculture.

The focus of the analysis, of agenda items 8 and 9 of CCCF14, relates to Lead in food commodities: **establishing maximum levels and the adoption of the Code of Practice on Lead reduction.**

## Agenda Item 8: Maximum levels for lead in certain food categories (at Step 4)

*Documents: [CX/CF21/14/8](#); [CX/CF 21/14/8-Add.1](#) (not available at the time of development of the current draft)*

### Background

At CCCF11 (April 2017) the Committee agreed to expand the work on Lead beyond the current food categories listed in the General Standard for Contaminants and Toxins in Food and Feed (GSCTFF), with the consideration of new Maximum Levels (MLs) for a range of food commodities.

An Electronic Working Group (eWG) chaired by Brazil was established to prepare a discussion paper on a structured approach to prioritize this work (commodities that would be covered by MLs in the GSCTFF).

**At CCCF12 (March 2018)**, the Committee re-established the eWG chaired by Brazil, to prepare a revised discussion paper and a project document for consideration by CCCF13. Prioritization criteria considered availability of exposure data as well as other factors, in selecting commodities requiring interventions in the form of MLs.

**At CCCF13 (April 2019)**, the Committee agreed with the selection and prioritization of criteria with a focus on MLs for food for infants and children (except those already covered in the standard), **spices and aromatic herbs, eggs and sugars and confectionary, excluding Cocoa.**

The Committee also agreed to submit a project document to CAC 42 for approval and to establish an eWG chaired by Brazil, to prepare the proposed draft MLs for comments and consideration at CCCF14 (along with the issuance of the relevant calls for data). CAC 42 approved the new work.

### CCCF is considering:

- A. To establish a ML of 0.1 mg/kg for eggs.



B. To Establish the following **MLs for culinary herbs and spices**:

Food	ML (mg/kg)
Culinary herbs (fresh leaves)	Included in ML for lead in leafy vegetables
Culinary herbs (dried leaves or mixed herbs)	2.0
Dried bulbs, rhizomes, roots spices	2.0
Bark	2.0
Dried fruits and berries spices	0.6
Dried seeds spices	0.6
Dried floral parts spices	0.7

C. To Establish the following MLs for **sugars and sugar-based candies**:

Food	ML (mg/kg)
White and refined sugar	0.1
Raw and brown sugar	0.2
Syrup and molasses	0.1
Honey	0.1 or 0.05
Sugar-based candies (hard candy, soft candy, gummy and jellies, candy powder, marshmallow)	0.2

D. To consider changing the fruit juice categories names already established in CXS 193 for: **fruit juices including for infants and young children**, taking into account the similarity between the proposed MLs for **lead in fruit juices for infants and young children** and the MLs already established in the *General Standard for Contaminants in Food and Feed* (CXS 193- 1995) for fruit juices,

## E. To Establish the following MLs for food for infants and young children:

Food	Proposed ML (mg/kg)
Cereal-based products, expressed as consumed	0.04
Ready-to-eat meals	0.03
Herbal tea	0.6



### Analysis

- ❖ JECFA did not identify a safe level for lead, the risk management approach to propose MLs is based on the **ALARA principle “as low as reasonably achievable”**, considering the occurrence data and other relevant factors.
- ❖ The rationale used to propose the various MLs was based on the previous approach adopted by CCCF, in recent years to accept a maximum rejection rate of 5% (i.e. rejection rates of 5% or less may offer room for reduction of exposure to be implemented), with the caveat that such rate, may lead to higher rejecting rates for some producing countries.
- ❖ The eWG recommended to have the discussions focused **on the following questions at CCCF14:**
  - **Whether different** rejection rates should be established for different types of products and contaminants other than the already agreed rejection rate of 5% currently being applied.
  - If an **ML should be established in dried spices and culinary herbs** or whether to use concentration **factors from the fresh products and assume the same MLs** for lead in leafy vegetables.
  - If an ML of **2.0 mg/kg is suitable for all dried rhizomes, bulbs and roots**.
  - If an ML for eggs only is suitable, considering the lack of occurrence data for eggs products and because there is no harmonized definition for preserved eggs.
  - If an ML should be **set for cereal-based food for infants and young children “as is” or “as consumed”**.
  - If an ML for lead is **suitable to be set in herbal tea specific for infant and young children** or for lead in teas and **herbal teas (solid, dried)**.

### Comments Received to Date

- ❖ Even though new data was made available, as a result of new calls for data that were renewed during 2020, various comments received suggested to postpone the establishment of MLs for Lead in **Sugar and confectionary products, foods for infants and young children, duck eggs, spices and culinary herbs**

### Considerations for the Region

- ❖ The data submitted and included in Appendix II does not seem to contain significant input (if at all) from the MENA region.
- ❖ It would be important to document the possible impacts and in particular the achievability of several MLs on the designated food products from the region
- ❖ It would also be important to document the feed-back from representatives of the Food industry in the region, on the feasibility of these MLs, in particular for importers and processors of the region.
- ❖ Given the number of questions posed, it may be more suitable to focus the discussions on addressing the questions related to the MLs and to enable CCCF’s adoption of the Code of Practice on lead reduction (under agenda item 9), prior to final consideration of additional MLs for Lead in food products.



- ❖ It may be recommended that the MENA region consider:
  - examining monitoring data related to lead in food products sold and produced in the region,
  - reviewing current risk management measures, in particular regulatory measures related to lead in food ingredients and food products in the MENA region,
  - Developing proposed approaches for MLs in lead for possible consideration in the MENA, based on data collected from the region, while Codex is in the process of establishing these new MLs and aim for regional harmonization and alignment with international standards
  - Establishing a regional (MENA) Expert Working Group could be created to examine the above proposal and develop a risk analysis for Lead in food, in the MENA region.

### Conclusion

Given the comments received as to the **limited readiness to adopt these MLs**, CCCF14 is to consider whether to **postpone the discussion of adoption of the proposed MLs** (or at least some of them associated with selected food categories), until the adoption of the Code of Practice for Lead in food products and re-establish the eWG to continue the discussion of the establishment of the MLs.

## Agenda Item 9: Revision of the code of practice for the prevention and reduction of lead contamination in foods (CXC 56-2004) (at step 4)

*Document: CX/CF 21/14/9*

### Background

The 12<sup>th</sup> Session of the Codex Committee on Contaminants in Foods (CCCF12, 2018) agreed to establish an Electronic Working Group (EWG) chaired by the United States of America (USA), co-chaired by the United Kingdom(UK) and Japan, to prepare a discussion paper including a project document for a proposal for new work **on the revision of the Code of Practice (COP) for the Prevention and Reduction of Lead Contamination in Foods (CXC 56-2004)(COP)** for consideration by CCCF13 (2019).

The **purpose and scope of the work** was to reflect new information available on measures to reduce lead during agricultural production and food processing. A revised COP would complement the ongoing work by CCCF on maximum levels (MLs) for lead as well as revised MLs as contained in the General Standard for Contaminants in Food and Feed (CXS 193-1995).

CCCF13 (2019) agreed that there was sufficient additional information **available on lead sources and mitigation measures to justify revision to the COP**, to forward the project document to the 42<sup>nd</sup> Session of the Codex Alimentarius Commission (CAC42, 2019) for approval **as new work and to establish the EWG**, to prepare a revised version of the COP based on the document provided for consideration by CCCF14.

The updated COP would include the new information made available related to the mitigation measures achieved in agricultural production aiming to reduce lead contamination in soil and water, as well in food processing e.g., related



to filtration aids in juice manufacture or efforts to minimize points of introduction through processing equipment or through cooking.

**CAC42 approved the new work.** Completion of work is expected by 2021.

In developing this revised COP, the **EWG considered** comments including:

- ❖ Information on sources of lead;
- ❖ Additional mitigation measures to reduce lead exposure; and
- ❖ Editorial changes making terminology consistent.

### *Analysis*

The Summary of the updated COP is included under [Annex 1](#), appended to this document.

The **current proposal of the COP is quite comprehensive** and offers additional information on sources of Lead that include lead paint, corrosion of lead pipes, damaged or unused fencing batteries, and consumption of waterfowl that have ingested lead pellets.

Some of the additional information focussed on:

- ❖ Securing fencing and housing for livestock,
- ❖ Considering testing soil if gardens are located in areas with potentially high lead levels
- ❖ Referencing the WHO guidelines for Drinking Water quality
- ❖ Adding an example for an alternative filtration method for juices, wine and beer
- ❖ Using an alternative water source for food preparation that does not contain lead
- ❖ Using x-ray detection to identify and facilitate removal of lead shot

### *Comments received on this item*

Most of the comments received are in favour of the advancement of this COP towards adoption at Step 5/8 with some editorial comments to be considered.

### *Conclusion*

Overall, the updated COP offers additional mitigation measures to limit the presence of lead in food production across the supply chain.

**Given the level of support expressed for the updated COP and the inclusive process it went through, to reach such updates, it is advisable that the proposed amendments to the updated COP be considered during the discussions of CCCF14 and that this proposal advances to adoption at step 5/8.**



## ANNEX 1: Summary of revision of the code of practice for the prevention and reduction of lead contamination in foods (CXC 56-2004) (for comment at step 3)

The objective of the proposed revised Code of Practice (COP) is to provide to member states and agricultural producers, food producers and processors new guidance to reduce lead during agricultural production and food processing.

*Recommended practices, based on Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP)*

Emphasis was to be made on the identification of the major sources of contribution and the adequate methods of reducing dietary exposure.

### 1.1 Source directed measures

Implementation of source directed measures to reduce chemical contamination of food (CXC 49-2011).

### 1.2 Agricultural

Reduction of the exposure to lead in farms by:

- ❖ Limiting the various sources of lead in farms (*agricultural equipment, buildings and lands*) such as
  - Prohibiting the use of products that contain lead (*leaded gasoline, lead arsenate pesticides, lead solder and other lead materials*).
  - Protecting water for irrigation farming, crops, livestock and aquaculture from contamination.
  - Using crop plants less vulnerable to atmospheric deposits and lead contamination from the soil.
  - Testing and/or monitor lead levels in soils and other products (milk, water).
  - Complying with the standards established for lead for food.
- ❖ Educating farmers on appropriate practices to prevent lead contamination of agricultural land and aquaculture operations.

### 1.3 Drinking water

- ❖ Establish acceptable lead levels or appropriate treatment techniques to control lead concentrations in drinking water (WHO guideline value of 0.01 mg/L).
- ❖ Recommend that water distribution networks administrators:
  - Adopt water treatment techniques, such as increasing the pH of acidic water and the WHO recommendations<sup>1</sup>, e.g. *adding chloramines or using an anti-corrosion treatment*).
  - Monitor the lead levels when modifying the system.
  - Replace lead pipes and other fixings containing lead.

<sup>1</sup> WHO Quality Guidelines for drinking water



#### 1.4 Food ingredients and processing

The objective is to limit lead in food through:

- ❖ Considering all the potential lead contamination sources along the food chain (*the land used to produce crops, the water supply for food processing, the older piping, metal surfaces that come into contact with food and beverages, lead paint peelings, filtration aids, lead shot (pellets)*).
- ❖ Monitoring and actively attempting to reduce the lead contamination of food (*raw material, ingredients, water supply for food processing and finished products*) including dietary supplements and in particular for ensuring that foods intended for infants and children would be feature lead levels that:
  - Comply with standards for lead for food; or,
  - Do not rise above normal background levels or as low as reasonably achievable through monitoring of selected foods.

#### 1.5 Production and use of packaging and storage products

The objective is to limit or avoid food contamination by lead through the following interventions:

- ❖ Prohibit the use of lead-solder cans or, if not feasible, reduce lead exposure.
- ❖ Apply standards for acceptable levels of lead in material in contact with food and food packaging.
- ❖ Prohibit the use of lead dyes or lead-based printing inks and lead foil capsules.
- ❖ Reduce the loss of metal utensils containing lead and limit their use for decorative purposes.

#### 1.6 Consumer practices in consideration of certain foods

Consumers should be educated about:

- ❖ The hazards of lead, particularly to children; sources of lead; and appropriate practices to reduce lead contamination from food prepared in the home, particularly if it is for infants or children, or food grown in the garden.
- ❖ The concerns surrounding geophagia (*the practice of consuming clay or soil*) that is practiced mainly by children, pregnant and lactating women which should be discouraged.
- ❖ The potential risks of consuming particular foods (*traditional medicines, local specialties, wild foods, meat from game killed with lead shot*).

