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REPORT OF THE IUFOST DELEGATION TO ITS PARTICIPATION IN THE 15TH SESSION OF THE CODEX COMMITTEE ON CONTAMINANTS IN FOODS (CCCF15)

9th – 13th and 24th May 2022 | Virtual Meeting

The 15th session of the Codex Committee on Contaminants in Foods (CCCF15) was organized virtually between the 9th and 13th of May, 2022. The meeting gathered more than 400 delegates from member states and observer organizations.

IUFOST was represented at the meeting through a delegation consisting of: Members of the IUFOST Codex Committee : Prof. Samuel Godefroy and Dr. Amine Kassouf,

As well as

- *Dr. Wiem Guissouma: a representative from the Global Food Regulatory Science Society (GFORSS), a disciplinary organization of IUFOST.*

This document provides a summary of the key conclusions of CCCF15, with relevance for the food science and technology community.

The report is structured to offer comments on the key agenda items discussed.

Agenda Item 5: Maximum levels for cadmium in cocoa powder containing or declaring 100% total cocoa solids on a dry matter basis ready for consumption (at step 4)

Agenda Item 6: Code of practice for the prevention and reduction of cadmium contamination in cocoa beans (at step 7)

Ecuador, as Chair of the electronic working group (EWG), introduced the item to the plenary session and provided a summary of the discussion held at CCCF14, mainly regarding the two scenarios that were presented for cocoa powder (100% total cocoa solids on a dry matter basis), where two sets of MLs were proposed:

- ❖ Scenario (1) – GEMS/Food data: a range of 2.0 – 3.0 mg/kg;
- ❖ Scenario (2) – Proportional approach: a range of 1.3 – 1.5 mg/kg.

CCCF was then invited to consider the proposed MLs for the cocoa powder category (100% total cocoa solids on a dry matter basis) ready for consumption, based on the background information relevant to cocoa powder (**table 1**) and to advance the ML to final adoption by CAC45 (2022).

Table 1: Proposed MLs for the cocoa powder category (100% total cocoa solids on a dry matter basis) ready for consumption.

Cocoa powder	ML (mg/kg)	Levels	% rejection worldwide	% rejection LAC
GEMS/WHO data	2.0 - 3.0	2.0	4.39%	13.03%
		3.0	1.87%	5.08%

Summary of Key Points of Discussion

During its work on this item, the EWG took into consideration submitted comments from member countries and comments made at CCCF14, and considered closely new data for analysis (407 data points).

Taking into account the comments and observations regarding the relevance of non-fat solids for calculations, and following the ALARA principle, it was decided to discuss only the data analysis scenario (**table 1**) and not the proportionality approach.

With JECFA's evaluation concluding that, at a global level, there were no health benefits (i.e. a reduction in dietary exposure to cadmium) gained from putting up an ML on any cocoa containing products, discussions were to focus on options to harmonize efforts of risk management globally.

Based on its own risk assessment, conducted by the European Food Safety Authority (EFSA), and as it was raised in past discussions pertaining to other chocolates categories, the European Union, supported by Norway and Switzerland, expressed their inability to support the proposed ML and their position to support a lower ML of 0.60 mg/kg in order to satisfactorily protect EU consumers, in particular the younger and more vulnerable consumer groups. These delegations also proposed the option to abandon setting an ML for this commodity, indicating that this commodity (i.e., cocoa powder) was of lesser significance for international trade.

Recommendations for MLs (Item 5)

To advance the adoption of the lower values of the proposed intervals of MLs at Step 5/8 at next Codex Alimentarius Commission (CAC45):

- ❖ **2 mg/kg for cocoa powder (100% total cocoa solids on a dry matter basis) ready for consumption.**

Recommendations for Code of Practice (Item 6)

After discussion of the content of the proposed Code of Practice and suggesting some changes to it, CCCF15 recommended the adoption of the COP at Step 8, by CAC45.

Agenda Item 7: Maximum levels for lead in certain food categories (at Step 4)

At CCCF15, the EWG chair presented, to the plenary session, the background of the work and the revised MLs for lead proposed for the selected food categories, considering the remarks of the committee members in response to the circular letter (CL) distributed in this regard. Delegates of member countries held a discussion about all the targeted MLs.

The main discussions and recommendations made by CCCF15 are summarized in **table 2** below.



Table 2: Key discussions and recommendations related to agenda item 7

Food	EWG Proposed ML (mg/kg)	CCCF commentary and recommendation
Fresh eggs	0.25 or not to establish a maximum level (ML).	Discontinue work on MLs for lead in fresh eggs considering its low relevance for international trade and the low occurrence levels observed.
Cereal-based products for infants and young children, expressed “as is”	The data set was further reviewed and samples obtained with methods featuring an LOQ > 0.02 mg/kg were removed. A target of 5% rejection rate was set. A Lower ML equivalent to 0.02 mg/kg was proposed comparing to the first proposal (0.05 mg/kg).	Forward a ML of 0.02 mg/kg for lead in cereal-based foods for infants and young children to CAC45 for adoption at Step 5/8; Clarify that the ML applies to the product “as sold, not reconstituted, or otherwise prepared for consumption”.
Ready-to-eat meals for infants and young children	The data set was further reviewed and samples obtained with methods featuring an LOQ > 0.02 mg/kg were removed. A target of 5% rejection rate was set. A revised ML of 0.02 mg/kg, was proposed instead of the previous value of 0.05 mg/kg.	Forward a ML of 0.02 mg/kg for lead in ready-to-eat meals for infants and young children to CAC45 for adoption at Step 5 and further consideration in the EWG, as per the possible exclusion of certain foods that may not be able to achieve this ML for consideration at CCCF16 (2023).
Culinary herbs (fresh) (except Rosemary)	0.25	Agreed to return the MLs to Step 2/3 and re-establish the EWG, led by Brazil, working in English only, for further consideration, based on a new JECFA call for data.
Rosemary (fresh)	0.5	
Culinary herbs (dried)	2.0	Issue a new call for data to get more (geographically representative) data available to the EWG, with the aim to finalize the MLs following year. Encourage interested Codex members to submit data with clear identification of the dried/fresh state of the samples to GEMS/Foods. Consider proposals for MLs for fresh and dried culinary herbs at CCCF17 (2024) and if no agreement is reached at CCCF17 to discontinue work on this category.



Dried spices Floral parts (cloves, excluding saffron)	2.5	<p>Return the MLs for spices to Step 2/3 and re-establish the EWG, led by Brazil, working in English only, for further consideration based on a new JECFA call for data for dried spices;</p> <p>Encourage interested Codex members to submit data to GEMS/Foods to consider proposals for MLs for dried spices at CCCF17 (2024);</p> <p>Noted the commitment of India to submit data on spices.</p>
Fruits and berries spices (excluding star anise and sumac)	0.8	
Rhizomes, bulbs and roots spice (excluding garlic)	3.5	
Bark	2.5	
Seeds spices (excluding, carom, celery, dill, mahlab, mustard and poppy)	0.8	
Celery seeds	1.5	
Garlic	0.4	Discontinue work on a ML for lead in dried garlic.
Molasses	0.3	Discontinue work on a ML for molasses as there were insufficient data.
Honey	0.06	<p>Forward a ML of 0.1 mg/kg for lead in honey to CAC45 for adoption at Step 5/8;</p> <p>This position was supported by Morocco, Egypt and Syria from the Arab region.</p>
Sugar, white and refined	0.1	Forward a ML of 0.1 mg/kg for lead in white sugar to CAC45 for adoption at Step 5/8.
Sugar, brown and raw	0.1	Re-establish the EWG, led by Brazil, working in English only, to consider the ML for brown and raw sugars based on data available from GEMS/Foods and to submit a proposal for consideration by CCCF16 (2023).
Corn and maple syrups	0.1	Forward a ML of 0.1 mg/kg for lead in corn and maple syrup to CAC45 for adoption at Step 5/8.
Hard candies, Gummy and jellies	0.05	Forward a ML of 0.1 mg/kg lead in sugar-based candies to CAC45 for adoption at Step 5/8.
Soft candies	0.07	
Candy powder	0.2	

Analysis of the CCCF15 recommendations related to MLs for Lead in food and their potential impacts on the Arab region

Taking into account comments raising doubts as to the achievability of the proposed Lead MLs expressed at CCCF15, the Committee proposed a higher ML of 0.1 mg/kg.

❖ Culinary herbs and spices:

Similar concerns as to the achievability of the proposed MLs were raised at CCCF15, which led to the recommendation to return the proposed standards to step 2.

The CCCF15 recommended that the committee postpone the establishment of these MLs and requested from Codex members to submit data to GEMS/Foods for further consideration by the EWG at CCCF17 (2024).

It is important that the food science community contributes to the availability of lead occurrence data and supports efforts to enable more submission of data to the GEMS/Food Database, so that the updated proposed MLs would reflect their national and regional interests.

Agenda Item 8: Maximum levels for methylmercury in certain fish species (orange roughy and pink cusk eel) and associated sampling plan (at step 4).

Agenda Item 13: Discussion paper on methylmercury in fish: Patagonian toothfish and other risk management recommendations for methylmercury in fish.

New Zealand, as Chair of the EWG, introduced item 8, explaining the key points in relation to the proposals of the MLs for Methyl mercury in orange roughy and pink cusk eel, as well as the possible ML for Patagonian toothfish, the sampling plans and the review of risk management measures for methylmercury in fish.

The recommendations of CCCF14 were recalled, where the committee agreed to the following:

- ❖ New work on MLs for Orange roughy and Pink cusk-eel, and examine feasibility of ML for Patagonian toothfish.
- ❖ To discontinue review of MLs for any other additional species.
- ❖ Further work on sampling plan.
- ❖ Literature review on risk management guidance.

The Committee reviewed the process followed until its current deliberations:

- ❖ A call for data was issued for orange roughy, Pink cusk-eel and all toothfish. Data were extracted from GEMS database for total mercury and methylmercury in orange roughy, Pink cusk-eel and all toothfish (sampling years 2000-2021).
- ❖ No new data was found for orange roughy or Pink cusk-eel, while limited new data for Patagonian toothfish was gathered.
- ❖ The EWG requested information on national sampling plans for mercury or other contaminants in fish, and data to support the development of the risk management guidance.

Summary of key points of discussion at CCCF15

- ❖ Orange roughy (*Hoplostethus Atlanticus*)



- 249 total mercury results and 101 methylmercury results.
- Mean concentration methylmercury: 0.43 mg/kg (n=120).
- ❖ Pink cusk-eel (*Genypterus Blacodes*)
 - 234 total mercury results and 120 methylmercury results.
 - Mean concentration of methylmercury: 0.46 mg/kg (n=120).
- ❖ Patagonian toothfish (*Dissostichus Eleginoides*)
 - 189 total mercury results and 16 methylmercury results.
 - Methylmercury data does not meet the 0.3 mg/kg selection criteria.
- ❖ General support, except for two members; for proposed MLs for Orange roughy or Pink cusk-eel.
- ❖ Committee members were split (50/50) as to the position to abandon the development of a ML for Patagonian toothfish, versus another call for data and a continuation of efforts.
- ❖ General support for work on sampling plan was obtained with the emphasis on practicality and the adoption of criteria based on length/weight.
- ❖ Committee members were split (50/50) vis-a-vis the position to postpone the development of the guidance paper for the management of methylmercury levels in fish., versus discontinue such work.

Recommendations – CCCF15 recommended to:

- ❖ Advance MLs for Orange roughy and Pink cusk-eel for final adoption by the Codex Alimentarius Commission:
 - 0.8 mg/kg methylmercury for Orange roughy
 - 1 mg/kg methylmercury for Pink cusk-eel
- ❖ Abandon the elaboration of an ML for Patagonian toothfish as a species and toothfish as a taxonomic group.
- ❖ Progress further development of the sampling plan through an EWG and request through a circular letter/call for data, information on national sampling plans for mercury in fish, or other contaminants in fish.
- ❖ If information is sufficient, consider feasibility of incorporating risk management measures of methylmercury in fish as part of the sampling plan.

Agenda Item 9: Maximum levels for total aflatoxins in certain cereals and cereal-based products including foods for infants and young children and associated sampling plans (at Step 4).

The chair of the EWG, Brazil, started the discussions about this agenda item by presenting the background of this work, and the new MLs to be discussed, as updated after the comments received from members and observers.

All suggested MLs for total aflatoxins (AFT) presented at the CCCF15, were lower than the ones previously shared in working document CX/CF 22/15/9, except for the ML proposed for polished rice, which remained at 5 µg/kg.



The CCCF15 discussion of the proposals of MLs for the six food categories targeted are summarized in **table 3**.

Table 3: Discussions and recommendations related to agenda item 9 of the CCCF15 agenda.

Food category	Suggested ML	Discussions and recommendations
AFT in maize grains destined for further processing	20 µg/kg	<ul style="list-style-type: none"> ▪ The EU expressed its disagreement with the proposed ML of 20 µg/kg and supported a lower ML at 10 µg/kg, supported by its own data and risk assessments. Arab countries such as Egypt, Palestine and Syria supported the position of the EU. It was not clear however the basis of such support (i.e. availability of risk assessments from the region justifying such positions). ▪ Countries from the American continent, expressed their support of ML at 20 µg/kg. ▪ Sudan supported 20 µg/kg for AFT in maize grain destined for further processing and 10 µg/kg for maize destined for direct consumption. ▪ The ML of 15 µg/kg was recommended by the CCCF15 as a compromise, to be revised in 5 years, with the reservation of Kenya, Uganda and Rwanda, which were in support of lower ML. ▪ The Chair encouraged countries to submit more data to GEMS/Food in this regard.
Flour, meal, semolina and flakes derived from maize	10 µg/kg	<ul style="list-style-type: none"> ▪ Interventions expressed interest to accessing much lower levels, for instance, at 4 µg/kg for Egypt and 5 µg/kg for other countries like Singapore, Kazakhstan and the United Kingdom. ▪ The ML of 10 µg/kg was adopted, to be revised in 5 years, with the reservation of the EU, Egypt and Kazakhstan. ▪ The Chair encouraged member countries to submit more data to the GEMS/Food database.
Husked rice	20 µg/kg	<ul style="list-style-type: none"> ▪ EU and Egypt, among other countries, expressed their disagree with the proposed limit, where USA was in support to the proposed ML. Syria supported a much lower limit of 5 µg/kg. ▪ The ML of 20 µg/kg was adopted, to be revised in 5 years, with the encouragement of the Chair to member countries to submit more data to the GEMS/Food database and with the reservation of the EU, Kazakhstan, Kenya, Singapore, Egypt and Sudan, which were in support of a lower limit at 10 µg/kg.
Polished rice	5 µg/kg	<ul style="list-style-type: none"> ▪ The ML of 5 µg/kg was adopted, with the reservation of India.
Sorghum grain, destined for further processing	10 µg/kg	<ul style="list-style-type: none"> ▪ The ML of 10 µg/kg was adopted, to be revised in 5 years, with the encouragement of the Chair to member countries, particularly with high consumption of this commodity, to submit more data to the GEMS/Food database.

<p>Cereal-based Food for infants and young children</p>	<p>5 µg/kg</p>	<ul style="list-style-type: none"> ▪ The majority of interventions expressed positions against the suggested ML, based on the argument that the targeted population is vulnerable. This position was shared by some member countries from the Arab region such as Egypt and Syria. ▪ However, the world food program (WFP) and the UNICEF supported a ML of 10 µg/kg, to avoid influencing the ability of food aid programs to purchase and provide food. ▪ The ML of 5 µg/kg was adopted for AFT in cereal-based Food for infants and young children, excluding food destined for the world food program where a ML of 10 µg/kg would apply, to be re-examined in 5 years, and with the reservation of the EU, Egypt, Singapore, Kazakhstan, Russia, UK, Uganda, Iran.
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The sampling plan related to AFT in cereal and cereal based products was also discussed, and after deliberation, the committee decided to reestablish the EWG to pursue the work on this matter for further discussion during CCCF16.

As a summary, all MLs discussed above and agreed upon at CCCF15, were recommended for adoption by the CAC45 (2022) at step 5/8.

Analysis of the CCCF15 recommendations related to MLs for AFT in cereals and cereal-based products and their potential impacts on the Arab region

Points were made that some MLs may gain to be reduced, because of the potential higher level of achievability (e.g. Maize grain, destined for further processing) or the fact that the commodities are directed to more vulnerable groups (Cereal-based Food for infants and young children). MLs for all targeted food categories were therefore lowered, as part of an in-session proposal.

More efforts need to be deployed by the food science and technology community internationally to contribute to the availability of occurrence data, particularly that the majority of these MLs will be revised in 5 years.

Agenda Item 10: Maximum Level for Total Aflatoxins in Ready-to-Eat peanuts and Associated Sampling Plan (at step 4).

The chair of the EWG, India, started the discussions about this agenda item by a presentation of the background of this work and the suggested ML for the consideration of the plenary session, either 10 or 12 µg/kg.

The discussion was then launched with interventions from several countries, where USA and EU, among others, did not endorse a ML of 10 µg/kg. Canada, China and Sudan supported a ML of 15 µg/kg (same as the ML for peanuts destined for further processing). After several interventions, it was highlighted to the plenary that the EWG was not able to segregate data from GEMS/Food between peanuts destined for further processing and ready-to-eat. Therefore, the Chair asked for a meeting with selected countries on the margin of the plenary session, to further facilitate discussions and support the development of consensus.

In light of the persistent level of divergence of opinions, CCCF15 agreed to return the ML and associated sampling plan to Step 2/3 for further consideration and to re-establish the EWG chaired by India, and co-



chaired by Senegal to prepare a new proposal for a ML for AFT in RTE peanuts; and an associated sampling plan.

It was clearly highlighted that the EWG should carefully consider all the data and take into account all comments submitted, particularly regarding the identification of data specific for RTE peanuts.

Agenda Item 11: Maximum levels for total aflatoxins and ochratoxin A in nutmeg, dried chili and paprika, ginger, pepper and turmeric (at step 4).

India, as chair of the electronic working group, started the discussion of this agenda item by a presentation of the background of this work and the suggested MLs for the consideration of the plenary session. Moreover, it was stated that comments were not considered for this item due to the late publication of the corresponding working document.

After several points made by delegations with no consensus regarding the adoption of a single ML for AFT for all considered categories, it was evident that this item would require more time to explore data and suggest adequate MLs. This opinion was endorsed by the USA and Singapore, among others.

Therefore, the committee agreed to postpone the work on AFT and OTA in dried spices to next year, in order to give enough time for the EWG to prepare a more detailed document based on a more elaborate data analysis.

More efforts are required from the Food Science and Technology Community to enable the availability of more occurrence data related to dried spices from different parts of the world in response to the international calls for data.

General Conclusion

While CCCF15 made important progress in the development of MLs for several priority contaminants in food, the current approach continues to be hampered by the limited availability of data for contaminants in food, representative of such occurrence data for various parts of the World. More awareness needs to be raised as to the need to invest in such data collection initiatives, which should not be limited to food competent authorities, rather become of interest to the rest of the food science and technology community.