

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
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World Health
Organization

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Comments of the African Union (AU)

AGENDA ITEM 2.2: Matters referred to CCCF by CCNASWP: Request for safety evaluation of scopoletin in fermented noni juice (CX/CF 21/14/2-Add.1)

Position: African Union supports the retention of scopoletin in the priority list awaiting feedback from CCNASWP on whether, based on the findings of the toxicological review, countries from the South West Pacific region could provide the data and studies required to support the evaluation of scopoletin by JECFA.

Rationale:

During 2019 the Codex Secretariat commissioned a consultant to conduct a review of information available in the open scientific literature that would be required for a JECFA assessment and to identify data gaps. This review highlighted the need for additional toxicological data and for more information on the levels of scopoletin in commercial fermented noni juice.

AGENDA ITEM 5: Maximum Level for cadmium in chocolates containing or declaring, <30% total cocoa solids on a dry matter basis (at Step 7). CX/CF/21/14/5.

Position: African Union supports the adoption of proposed draft ML of 0.3mg/kg for cadmium in chocolates containing or declaring <30% total cocoa solids on a dry matter basis.

Issue and Rationale:

JECFA 91 in February 2021 conducted an exposure assessment for cadmium from all food sources particularly cocoa products including chocolate. A total of 6957 records for cocoa and cocoa products was available consisting of cocoa beans (n=108), cocoa beverage (n=20), cocoa butter (n=20), cocoa mass (n=218), cocoa powder (n=2583), chocolate (n=4008). JECFA further evaluated 44 national studies conducted worldwide in 32 countries (including Benin, Cameroon, Mali and Nigeria) and a country grouping. The results showed that the main sources of cadmium exposure were from grain and grain-based products, vegetables, fish and seafood especially molluscs. Of the 44 national studies reviewed, nine reported the contribution of cocoa products to the total mean dietary exposure to cadmium, which ranged from 0.2 to 9%. None of JECFA's evaluations (64th, 73rd, 91st) have identified cocoa products as major contributors to dietary cadmium exposure.

JECFA's evaluation of the data showed that of the 4008 records for chocolates in the GEMS/Food contaminants database, it was only possible to establish percentage cocoa solids for 638 (15.9%). JECFA also assessed rejection rates for the different categories of chocolates using the proposed and already adopted MLs. The number of samples for the different chocolate categories as well as the calculated rejection rates are shown in the Table below:

Table showing potential % rejection for various categories of chocolate

	Chocolates by total Cocoa solids (%)		
	Less than 30%	50 – 70%	Over 70%
ML (mg/kg)	0.3 Proposed	0.8 Adopted	0.9 Adopted
No. of samples	114	251	86
No of samples with cadmium above ML	3	27	4
% Rejection	2.6	10.7	4.7

From the Table, 114 samples of chocolate contained less than 30% total solids on a dry weight basis. Using the proposed ML of 0.3mg/kg, a rejection rate of 2.6% was obtained which is well below the 5% normally accepted in Codex.

Based on the fact that the ML of 0.3mg/kg is health protective of all consumers and the rejection rate of 2.6%, African Union supports adoption of the ML of 0.3mg/kg for cadmium in chocolates containing or declaring <30% total cocoa solids on a dry matter basis.

AGENDA ITEM 6: Maximum Levels for cadmium in chocolates containing or declaring ≥30% to <50% total cocoa solids on a dry matter basis and cocoa powder (100% total cocoa solids on a dry matter basis) (at Step 4). CX/CF/21/14/6.

1. Position on Proposed ML for chocolates containing 30 – 50% total cocoa solids

African Union support an ML of 0.5mg/kg for cadmium in chocolates containing or declaring ≥30% to <50% total cocoa solids on a dry matter basis

Rationale: The EWG based their proposed ML on the combined occurrence data from 2018 and additional data submitted after two WHO (JECFA) Calls for data of 10th July 2019 and 13th August 2020. A total of 924 data sets comprising 599 from 2018, 164 from 2019 and 161 from 2020 were considered. According to the EWG all these data sets were for chocolates containing or declaring ≥30% to <50% total cocoa solids on a dry matter basis.

From Table 3 (Page 7) of document CX/CF 21/14/6 (Scenario with worldwide data) and using the ALARA principle (GSCTFF, CODEX STAN 193-1995) and a 95% cut-off point (a 5% rejection rate):

- the proposed ML should be between 0.7 to 0.8mg/kg to attain the 5% rejection rate on a worldwide basis.
- Unfortunately, an ML of 0.8mg/kg has already been adopted by CAC41 for the category of Chocolate containing 50 to 70% total cocoa solids on a dry matter basis.
- CCCF13 further agreed: “to maintain the adopted ML of 0.8mg/kg for chocolates containing 50 – 70% total solids on a dry matter basis”. It therefore stands to reason that based on the principle of proportionality, both categories (30 to 50%: and 50 to 70%) cannot have the same ML since the MLs are on “total cocoa solids on a dry matter basis”.

The EWG has currently proposed two sets of MLs based on the ALARA principle of a 95% cut-off point (0.6 to 0.7mg/kg) and another set based on the proportionality approach (0.5 to 0.6mg/kg).

From Table 3 (Page7) of document CX/CF21/14/6 (Scenario with world-wide data),

- An ML of 0.5mg/kg gives a rejection rate of 16.2% on a worldwide basis.
- An ML of 0.6mg/kg gives a rejection rate of 10.4% on a worldwide basis.
- An ML of 0.7mg/kg gives a rejection rate of 5.7% on a worldwide basis.

JECFA 91 in February 2021 conducted an exposure assessment for cadmium from all food sources particularly cocoa products including chocolate. A total of 6957 records for cocoa and cocoa products was available consisting of cocoa beans (n=108), cocoa beverage (n=20), cocoa butter (n=20), cocoa mass (n=218), cocoa powder (n=2583), chocolate (n=4008).

JECFA’s evaluation of the data showed that of the 4008 records for chocolates in the GEMS/Food contaminants database, it was only possible to establish percentage cocoa solids for 638 (15.9%) with 187 for chocolates containing 30 to 50% total cocoa solids. JECFA assessed rejection rates for the different categories of chocolates using the proposed and already adopted MLs. The number of samples for the different chocolate categories as well as the calculated rejection rates are shown in the Table below:

Table showing potential % rejection for various categories of chocolate

	Chocolates by total Cocoa solids (%)		
	30 – 50%	50 – 70%	Over 70%
ML (mg/kg)	0.5 Proposed	0.8 Adopted	0.9 Adopted
No. of samples	187	251	86
No of samples with cadmium above ML	4	27	4
% Rejection	2.1	10.7	4.7

From the Table, 187 samples of chocolate contained 30 to 50% total solids on a dry weight basis. Using the proposed ML of 0.5mg/kg, a rejection rate of 2.1% was obtained which is well below the 5% normally accepted in Codex

African Union therefore supports adoption of ML of 0.5mg/kg ML for cadmium in chocolates containing or declaring $\geq 30\%$ to $< 50\%$ total cocoa solids on a dry matter basis, based on the following:

- JECFA's current acceptable rejection rate of 2.1%,
- The Electronic Working Group proposed ML of 0.5 – 0.6mg/kg based on the proportionality approach taking into consideration the already adopted MLs (0.8 mg/kg for the 50 to 70% category and 0.9 mg/kg for chocolates containing over 70% total cocoa solids (CAC41, 2018)
- None of JECFAs evaluations (64th, 73rd, 91st) have identified cocoa products as major contributors to dietary cadmium exposure.

AGENDA ITEM 7: Code of practice for the prevention and reduction of cadmium contamination in cocoa beans (at Step 4) (CX/CF 21/14/7)

Position: African Union supports the adoption (at step 4) of the Code of Practice (COP) for the prevention and reduction of cadmium contamination in cocoa.

Issue & Rationale: Cocoa is a valuable commercial crop that contributes to the economies of several countries including producing countries in Africa such as Cote d'Ivoire, Ghana, Nigeria, Cameroon etc. Cadmium levels in cocoa has attracted attention lately such that Codex is currently in the process of proposing MLs for cadmium in chocolates and cocoa-derived products.

The 11th CCCF (2017) agreed to the development of a discussion paper by an EWG led by Peru for consideration and discussion at the 12th session with the view to commencing new work on this issue. CCCF12 (2018) charged the EWG to prepare a project document on the opportunity to develop the COP and outline the risk mitigation measures available that would support the development of the COP. CCCF13 (2019) submitted the project document to CAC42 (2019) and it was approved.

The draft COP (CX/CF 19/13/12) was prepared however because of the COVID pandemic CCCF14 was postponed from May 2020 to May 2021. A revised version (CX/CF 21/14/7) has been prepared based on comments received in response to Circular Letter CL 2020/20/OCS-CF.

The Code of Practice (COP) provides adequate guidance to countries and the cocoa production industry on the prevention and reduction of cadmium contamination in cocoa beans during production and post-harvest processing: fermentation, drying, storage and including any transportation that might be involved.

AGENDA ITEM 8: Proposed draft MLs for Lead in certain food categories (CX/CF 20/14/8) at Step 4

Position 1: African Union seeks for postponement of the setting of maximum levels for lead in *eggs, culinary herbs, spices, sugars and sugar based candies and food for infants and children* to allow for inclusion of data from Africa and the implementation of the revised CoP on prevention and control of lead in foods.

Issue & Rationale: The work on revision of MLs started as a response to new toxicological evaluation of lead in food conducted by JECFA at its 73rd meeting. The study revealed that exposure to lead is associated with various neurodevelopmental effects making fetuses, infants and children most sensitive to lead poisoning. In order to protect these susceptible groups, it was agreed at the 6th session of CCCF in 2012 that the maximum levels (MLs) for lead in fruit juices, milk and milk products, infant formula, canned fruits and vegetables, fruits, and cereal grains (except buckwheat, cañihua and quinoa) in the General Standard for Contaminants and Toxins in Food and Feed (GSCTFF) be revised. The Committee also agreed to consider consolidating the MLs for canned fruit and vegetable products. The subsequent sessions proposed and approved MLs for various foods.

Subsequent CCCF sessions lowered MLs for lead in the canned berries and small fruit, canned leafy vegetables, canned legume vegetables, jams and jellies and prickled cucumber to 0.1mg/kg. The new MLs are passion fruits and nectars (0.4mg/kg), preserved tomatoes (0.05mg/kg), tomatoes concentrates (0.05mg/kg), table olives (0.4mg/kg) and fungi and mushroom (0.3mg/kg). Other food products that had new MLs include juices and nectars, canned chestnuts and canned chestnut purees, canned berries and small fruits, canned leafy vegetables, canned chestnuts and canned chestnut purees, canned brassica vegetables, and tomatoes concentrates.

Similarly, CCCF 13 recommended and got approval at the 42nd session of CAC in 2019 for lowering of MLs for non-fortified and fortified wines from 0.2mg/kg to 0.1 mg/kg and 0.15 mg/kg, respectively. While MLs for edible offal from cattle, pig and poultry based were also lowered from 0.5mg/kg to 0.2 mg/kg, 0.15mg/kg and 0.1 mg/kg respectively in same sessions. The MLs were adopted without data from Africa.

The current document proposes to establish MLs for fresh and preserved eggs, fresh and dried culinary herbs, and five subclasses of spices, food for infant and young children, and sugar and confectionary excluding cocoa; based on raw data and LOQ-limited dataset from Australia, Brazil, Canada, China, Cuba, European Union, France, Japan, India, Indonesia, Singapore, Thailand, New Zealand, Nigeria, Republic of Korea, Singapore and USA as shown in the table below. The data from Nigeria were subsequently excluded because they were for food categories that were not considered as spices by Codex Committee on Spices and Culinary Herbs (CCSCH). The LOQ-limited dataset used for fresh and preserved eggs were 1257 and 971 respectively while those for culinary herbs were (1877) and spices (3347). The subcategories of spices were fruits and berries, fresh and dried rhizomes, bulbs and roots, bark, floral parts and seeds.

The draft MLs for lead in food for infants and young children, and sugar and confectionary excluding cocoa which was postponed due to inconsistencies of data last year are presented in the current document for consideration. A total of 7,739 results from GEMS/Food databases were used for the draft MLs for lead in sugar and sugar based candies and of this number WHO Africa Region contributed a fraction of 1380 data along with 10 other countries. Of the 8236 data considered for the draft MLs for food for infants and children, absolutely none is from Africa. Meanwhile, there are valid data from Africa on various food products including those currently considered as evident in Table 2 below. The generated information are from studies conducted by WHO, IAEA and research projects of postgraduates students and most meet the EWG's method validation parameters.

According to FAOSTAT (2017), African countries contribute 0.8% of the global export volume and 2.5% of the import values of eggs. South Africa contributed 13,234 tonnes (94%) of Africa's export trade of 17, 592 tonnes in 2017. And this was followed by Nigeria (3.2%), Tunisia (0.8%), Tanzania (0.5%) and Uganda (0.5%). Data on the levels of lead in chicken eggs from various African countries are wide-ranging. Levels reported from Nigeria (range of 0.001 – 0.008, mean of 0.59, range of 0.4 – 1.2, range of 0.03 – 0.07 mg/kg), Egypt (0.441 – 2.24; 0.045 – 1.330) and Sudan (Mean 0.305mg/kg) are mostly above the proposed 0.1 mg/kg for fresh egg.

Rationale for Position on lead in spices

Africa is second to Asia in the global spices trade and concentrations reported for culinary herbs and spices from the continent are generally above the proposed MLs. A mean lead content of green pepper from Algeria was as high as 14.33 mg/kg, lead levels (2.61 - 8.97) in spices such as *Prosopis africana*, *Xylopiya aethiopica*, *Piper gineense*, *Monodora myristica*, and *Capsicum frutescens* in Nigeria, were 8 to 30 times higher than the proposed limits, while levels in spices from Libya had mean concentration Of 1.05mg/kg. A lead concentration range of 2.7 – 4.7 mg/kg was observed in pepper, nutmeg, cloves and melon from Northern Nigeria. Much higher lead concentrations were found in anise (4.55), turmeric (0.85), cloves (5.50), fennel (6.52) and rosemary (4.55) from Ghana. In a study involving 303 samples of 20 different spices and herbs from Egypt, a maximum level of 14.2 mg/kg was observed. Local herbs from South Africa had a mean lead level of 3.15 mg/kg.

On ML for lead in sugar

Africa contributes about 6% of the global sugar export trade. South Africa is the 6th biggest exporter of sugar in the world after Brazil, Thailand, India, Australia and Guatemala. The country exported 1.43 million metric tons in 2019/2020 contributing 2.5% of the global trade which was valued at R14 billion. The other major sugar exporters in the continent are Swaziland, Zambia, Zimbabwe, Kenya, Mauritius, Malawi, Uganda and Egypt. <https://www.statista.com/statistics/273437/exported-amount-of-sugar-in-leading-countries/>. The reported mean concentrations of lead in sugar from Benin, Cameroon, Mali and Nigeria was 0.003 mg/kg which is below the proposed ML of 0.1mg/kg however the values observed in honey, candies and chocolates were mostly above the proposed MLs. The lead content in infant formula from Tanzania will be compliant to the new ML.

In view of the fact that there are data from Africa on lead levels in the food commodities being considered which were not used in this work, coupled with the need to protect Africa's egg, spices, sugar export trade, we recommend that the setting of the MLs be postponed to allow for data from all regions of the globe and implementation of the revised code of practice for prevention and reduction of lead in food. The application of the COP will enable compliance to the proposed limits while inclusion of data from Africa will make the MLs geographically representative.

- a. Whether different rejections rates should be established for different types of products and contaminants other than the already agreed rejection rate of 5% currently being applied.**

It is plausible to have different rejections rates for different products and contaminants because when rejections rates are considered alongside lead intake ($\mu\text{g}/\text{kg}$ body weight) and intake reduction, the most health and trade protective rejection rate might not necessarily be 5% for all products and contaminants.

- b. 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.**

African Union recommends that the ML be established for the dried form of the commodities as spices and culinary herbs are mostly traded in the dried form at local, national and international markets. More so most of the data available are for the dried commodities.

- c. If it should be established at 2.0 mg/kg ML for all dried rhizomes, bulbs and roots.**

Adulteration of turmeric with lead chromate to enhance its brightness which results in high levels of lead in the product is food fraud and such contaminated products should be out rightly eliminated from trade, and need not be considered in setting of MLs. Therefore African Union recommend the establishment of ML at 2.0mg/kg for all dried rhizomes, bulbs and roots including tumeric.

- d. To set an ML for eggs only, considering the lack of occurrence data for eggs products and because there is no harmonized definition for preserved eggs.**

African Union agrees with the decision of the EWG to establish ML for eggs only, because of lack of harmonized definition for preserved eggs neither were there data for egg products. "For preserved eggs it was not possible to clearly identify the kind of process used for each sample or if all samples were the same product. In addition, the EWG considers that it is not necessary to establish MLs for eggs products because it is possible to derive MLs based on egg MLs using processing factors".

- e. To set an ML for cereal-based food for infants and young children "as is" or "as consumed".**

African Union recommends that ML be established for this product "as consumed" because the ML will be more public health protective and globally representative. This decision is based on the fact that the ready to eat cereal-based foods were more contaminated with lead and the origin of the data were globally representative than the "as is" samples. This is also consistent with the CCCF approach of liquid ready-to-eat formula and powder formula.

- f. Whether to set an ML for lead in herbal tea specific for infant and young children or for lead in teas and herbal teas (solid, dried).**

In this document 46 samples of herbal teas were identified as being specific for infant and children. This implies that there are and will continue to be more herbal teas for this category of subjects. In light of the vulnerability of infants and children to lead, African Union recommends that CCCF identifies and issue a call for data on the herbal teas in use by this vulnerable population in national and international *trade with a view to establishing ML for lead in herbal teas for infants and children.*

AGENDA ITEM 9: Proposed Draft Revision of the Code of Practice for the Prevention and Reduction of Lead Contamination in Foods (CXS 56-2004) at step 4

Position: AU supports revisions of the Code of Practice for the Prevention and Reduction of Lead Contamination in foods (CXS 56-2004).

Issue and Rationale: Following the information from the 73rd session of JECFA that lead exposure is associated with neurodevelopmental effects, mortality (mainly due to cardiovascular diseases), impaired renal function, hypertension, impaired fertility, and adverse pregnancy outcomes, JECFA withdrew the previously established provisional tolerable weekly intake (PTWI) of 25 $\mu\text{g}/\text{kg}$ bw and concluded that it was not possible to establish a new PTWI that would be considered health protective. JECFA therefore recommended that measures should be taken to identify major contributing sources and methods to reduce dietary exposure that are commensurate to the level of risk. In line with these recommendations, CCCF12 set up an EWG chaired by USA and co-chaired by UK to prepare this discussion paper, including a project document for a proposal for new work on revision of the existing COP (CXC 56-2004).

General comments on the overall content of the cop

The discussion paper which was submitted at CCCF 13 provided enough additional information available on lead sources and mitigation strategies to justify the revision of the 15 years old COP. The additional sources of exposure to lead and mitigation strategies identified in the document are applicable and achievable in Africa. Invariably, the implementation of the revised COP will be protective of public health and international trade.

Specific comments on paragraphs 14-18 that may require further development

In the current document, additional sources of lead such as lead paint, corrosion of lead pipes, damaged or unused fencing batteries, and consumption of waterfowl that have ingested lead pellets and use of traditional medicines were incorporated in the COP. The additional mitigation strategies against lead exposure proposed in this document include securing fencing and housing for livestock; testing soil if gardens are located in areas with potentially high lead levels; referencing the WHO Guidelines for Drinking-Water Quality; adding an example of an alternative filtration method for juices, wine, and beer; using an alternative water source for food preparation that does not contain lead; and using x-ray detection to identify and facilitate removal of lead shot. The editorial changes made ensured that terminology was consistent through the document, paragraphs addressing same topic were sequentially arranged and language were consistent with that used in discussion paper.

The additional sources of lead, mitigation strategies and editorial changes by the EWG in this document suffices and does not require further development for now.

Adoption of the revised CoP

The revisions are comprehensive enough for the revised CoP to be considered for adoption at step 5/8.

Review of lead specifications for diatomaceous earth, charcoal and bentonite

African Union recommends the need for JECFA to review the lead specifications for diatomaceous earth and charcoal (activated carbon) and evaluate bentonite to determine if available data support development of a lead specification for these filtration aids. Following the discovery by JECFA 73 of the possible adverse impact of lead on developing nervous systems and pregnancy outcomes, the PTWI of 25µg/kg was withdrawn and new lower MLs were established for fruit juices and wines in CCCF12 and 13. Therefore, it is necessary to determine whether the current JECFA specifications for lead in filtration aids (10mg/kg for diatomaceous clay and 5 mg/kg for charcoal) are strict enough to achieve ALARA and the new lower MLs in juices and wines. The warning by FDA in 2016 and other publications on the presence of lead at unacceptable levels in bentonite clay also supports evaluations of the lead specification in the filtration aids.

AGENDA ITEM 10.1: Proposed draft MLs for total aflatoxins in certain cereals and cereal-based products including foods for infants and young children (at Step 4)

Position 1: African Union does not support setting MLs for maize grain or sorghum for further processing.

Rationale: In Africa, a huge proportion of maize and sorghum grain is sold as such for direct human consumption. Some countries in Africa (in particular, the six Partner States of the East African Community have already adopted 10 µg/kg for maize and sorghum grains regardless of whether it is destined for further processing or human consumption. This approach is taken to protect the people in Africa consuming maize or sorghum grains without further processing.

Position 2: African Union supports adoption of the ML 2 µg/kg in cereal-based food for infants and young children, and the deliberation on associated analytical method and sampling plan

Rationale: Most of the countries in Africa have not established a ML or methods for sampling and analysis of aflatoxins in foods for infants and young children. This predisposes infants and young children to aflatoxins exposure. The EWG could not assess the dietary exposure to aflatoxins through the consumption of food for infants and young children due to the unavailability of worldwide consumption data for this group. However, given the high vulnerability of infants and young children to aflatoxin exposure, the EWG decided to assess the impact of hypothetical MLs (1 µg/kg and 2 µg/kg) for total aflatoxins in cereal-based food for infants and young children based on contamination data only. The assessment shows that enforcement of the ML of 2 µg/kg would result in a rejection rate of only 0.2% of samples available at the international trade level. Adoption of the ML of 1 µg/kg would result in a higher rejection rate (7.8%).

Position 3: African Union supports adoption of a ML of 10 µg/kg for all the commodities as shown in the Table 1, and the deliberation on associated analytical methods and sampling plans.

Table 1: Intake reduction and rejection rate upon adoption of the ML of 10 µg/kg proposed for total aflatoxins in cereal and cereal based foods

Food category	Intake reduction (%)	Rejection rate (%)
Maize grain	93.4	5.4
Flour, meal, semolina and flakes derived from maize	88.5	1.5
Husked rice	75.0	3.4
Polished rice	31.6	0.27
Sorghum grain or products derived from sorghum	63.7	2.0

Rationale: The ML of 10 µg/kg is being enforced in some parts of Africa (specifically, the East African community with six Partner States; Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda) for all these range of foods for the general population. It is also observed that the ML of 10 µg/kg is among the hypothetical MLs for which the EWG performed health and trade impact assessments and was found to present considerable reductions in aflatoxin intakes and acceptable rejection rates (Table 1).

Issue: CCCF has been discussing the establishment of maximum levels (MLs) for total aflatoxins (AFs, namely the sum of aflatoxins B1, B2, G1 and G2) in cereals and cereal-based foods since 2013. The aflatoxin dietary exposure assessment performed by JECFA in 2016 and reported in 2017 at the CCCF11 showed that cereal and cereal-based products, maize and maize-based products, rice, sorghum and sorghum-based products and wheat and wheat-based products contribute the most to total AFs exposure, mainly due to high patterns of consumption of these foods in all cluster diets. The dietary exposure to AFs through the consumption of cereals and cereal products was conducted using the GEMS/Food occurrence data and mean consumption data obtained from the 17 Cluster Diets. Specifically, the JECFA report showed that only five food commodities (maize, peanuts, rice, sorghum and wheat) contributed to more than 10% each to international dietary exposure estimation, for more than one GEMS/Food Cluster Diet, for either AFs or AFB1. Based on the information generated, the JECFA recommended that rice, wheat and sorghum should be considered in future risk management activities for aflatoxins.

Following the JECFA recommendations, CCCF11 agreed that a discussion paper on the occurrence of these mycotoxins in cereals (mainly maize, rice, sorghum and wheat) should be prepared and presented at CCCF12 in 2018.

The discussion paper was prepared and presented at CCCF12 (2018). The document showed that maize, rice, wheat and their derived products, contributed the most to total dietary AFs exposure. The discussion paper also showed that the establishment of any MLs for these food categories would greatly reduce AFs exposure worldwide. Thus, CCCF12 agreed to establish the EWG chaired by Brazil and co-chaired by India to present at the CCCF13 a discussion paper on a proposal for establishment of MLs for total aflatoxins in cereals and cereal products, including cereal-based food for infants and young children, and focusing on maize, rice, sorghum, wheat and flours of these cereals.

At the 13th Session of CCCF (CCCF13, 2019) the discussion paper was presented to the Committee. The discussion paper confirmed that the establishment of any MLs for AFs in maize grain, flour, meal, semolina and flakes derived from maize, husked and polished rice, wheat grain, flour, meal, semolina and flakes derived from wheat could greatly reduce total AFs exposure worldwide.

CCCF13, therefore, agreed to establish an Electronic Working Group (EWG) chaired by Brazil and co-chaired by India to propose MLs for total AFs in maize grain destined for further processing, flour, meal, semolina and flakes derived from maize, husked and polished rice (excluding parboiled rice), sorghum, cereal-based food for infants and young children.

The 42nd Session of the Codex Alimentarius Commission (CAC42, 2019) approved the new work on the establishment of MLs for aflatoxins in certain cereals and cereal-based products including foods for infants and young children (i.e. maize grain destined for further processing, flour, meal, semolina and flakes derived from maize, husked and polished rice, sorghum grain destined for further processing and cereal-based food for infants and young children).

The EWG proposed MLs for consideration by CCCF14 as shown in Table 2.

Table 2: MLs proposed for total aflatoxins in cereals and cereal-based products

Food category	Proposal 1			Proposal 2		
	ML($\mu\text{g}/\text{kg}$)	Rejection rate (%)	Intake reduction (%)	ML($\mu\text{g}/\text{kg}$)	Rejection rate (%)	Intake reduction (%)
Maize grain destined for further processing	20	4.5	90.2	15	5.4	93.4
Flour, meal, semolina and flakes derived from maize	15	1.1	85.9	10	1.5	88.5
Husked rice	20	2.1	65.2	15	2.7	70.5
Polished rice	8	0.4	35.0	4	1.2	51.0
Sorghum grain destined for further processing	10	2.0	63.7	8	2.7	72.6
Cereal-based Food for infants and young children ^a	2	0.2	-	1	7.8	-

^a All cereal foods intended for infants (up to 12 months) and young children (12 to 36 months).

The MLs recommended by the EWG present considerable reductions in aflatoxins exposures. It is observed, however, that no aflatoxin contamination data from Africa was used in the exposure assessment.

AGENDA ITEM 10.3: Sampling plans and performance criteria for total aflatoxins in certain cereals and cereal-based products including foods for infants and young children

Position 1: African Union supports the EWG proposal of developing sampling plan for total aflatoxins in maize grain; sorghum grain; polished and husked rice; flour, semolina and flakes derived from maize; and in cereal-based products including foods for infants and young children.

Position 2: African Union supports adoption of the proposed draft sampling plan for total aflatoxins in maize grain; sorghum grain; polished and husked rice; flour, semolina and flakes derived from maize; and in cereal-based products including foods for infants and young children, with modifications as listed below:

1. Replace maize grain or sorghum grain for further processing with maize grain or sorghum grain for direct human consumption.
2. Propose a plan for maximum level of 10 $\mu\text{g}/\text{kg}$ for total aflatoxins in maize grain.
3. Use the same table for sampling plans for grains (maize, sorghum and rice) as the information in the separate tables is essentially the same.
4. Use the same table for aflatoxins in flour, semolina and flakes derived from maize; and in cereal-based products as the information is essentially the same
5. Define weight of aggregate sample for each case
6. Define measurement uncertainty for each test
7. The lowest recovery rate for polished rice and cereal based foods for infants and young children should be 60%.
8. RSDR should be calculated from the Horwitz equation

Issue and Rationale:

Proper enforcement of MLs is dependent on proper sampling and test methods. Most of the countries in Africa have not established clear methods for sampling and analysis of aflatoxins in foods. In Africa ML of 10 µg/kg is applied for both cereal grain and products derived from them. This is because in Africa, the use of maize and sorghum grains is not limited to further processing. Thus, it is essential to set sampling and test methods appropriate to this ML. **AGENDA ITEM 11: Proposed draft ML for total aflatoxins in ready-to-eat peanuts and associated sampling plan (Held at Step 4) (REP18/CF, para 115, Appendix VII and REP19/CF, PARA 80)**

Position: African Union considers the setting of a ML for total aflatoxins in ready-to-eat (RTE) peanuts to be urgently needed. African Union had previously supported a ML of 10 µg/kg.

Issue and rationale: The adoption of this proposed ML of 10 µg/kg would be expected to improve the export potential, while still protecting the health of populations, taking into account the absence of a recognized safe level for this carcinogen. It may also be noted that a ML of 10 µg/kg for total aflatoxin has recently been adopted as a harmonized ML by six countries in the East African Community and is also a current standard in others such as South Africa.

AGENDA ITEM 12: Proposed draft maximum levels for total aflatoxins and ochratoxin A in nutmeg, chili and paprika, ginger, pepper and turmeric and associated sampling plans (at step 4) CL 2018/7-CF

Position: African Union supports following decisions of CCCF 12 and 41st session of CAC (REP18/CF, para. 119 and appendix VIII); and CCCF13 and the 42nd session of CAC (REP19/CF, para. 81) because they are in absolute tandem with our positions on this matter. Refer to positions 1, 2, 3 and 4 below.

REP18/CF, para. 119 & App. VIII

CCCF 12 recommended and got the 41st session of CAC to approve the following

1. to suspend work and to hold the ML of 20/30 µg/kg for AFT and 20 µg/kg for OTA in nutmeg, chili and paprika, ginger, pepper and turmeric, respectively, at Step 4 (Appendix VIII) to give time to countries to implement the *Code of Practice for the prevention and reduction of mycotoxins in spices* (CXC 78-2017);
2. that JECFA would issue a call for data in three-years' time; and
3. that an EWG would be re-established once the data were submitted to prepare a proposal for consideration by a future CCCF.

REP19/CF, para. 81

81. CCCF noted that this agenda item was not for discussion according to the decision of CCCF12 to hold these MLs at Step 4 to ensure the implementation of the *Code of Practice for the Prevention and Reduction of Mycotoxins in Spices* (CXC 78-2017) and to generate data to enable progress in the consideration of the MLs for mycotoxin in spices by a future CCCF.

Comment: The implementation of these decisions is that there will be call for data on AFT and OTA in nutmeg, chili and paprika, ginger, pepper and turmeric by JECFA this year 2020 since the COP has been in operation for three years now. AU-IBAR might have to coordinate collation of these data from African countries and possibly request AU aflatoxin reference laboratories to generate LOQ-limited dataset.

Issue & Rationale: The work on mycotoxins in spices started at CCCF 8 with submission of new work proposals by India and Indonesia for establishment of maximum limits for aflatoxin in spices and nutmeg respectively. Subsequent EWGs established at CCCF 9 and CCCF 10 recommended and were approved that MLs for aflatoxins and ochratoxins A being the commonest mycotoxins in spices; be established in the five most consumed and traded spices, nutmeg, chili and paprika, ginger, pepper and turmeric. Therefore, at CCCF 11, the Committee requested the current EWG chaired by India to harmonize MLs for the total aflatoxin and ochratoxin A in the dried/dehydrated forms of the five spices. The EWG made the following observations during their work:

1. AFT concentrations in dried chili and nutmeg exceed 1000 ppb followed by ginger, turmeric and paprika with levels of up to 350 ppb while pepper has the least contamination with levels of up to 40 ppb.
2. OTA concentration is highest in dried chili and paprika and comparatively low in turmeric, ginger and pepper.
3. Rejection pattern due to AFT contamination is as follows; nutmeg, chili, paprika, ginger and turmeric in decreasing order while the pattern for OTA rejection is paprika, nutmeg, chili, ginger, pepper and turmeric.
4. Dietary exposure to AF due to spice consumption is negligible because consumption of spices all over the world is very low.
5. Forty countries have MLs for AFT in spices or all foods between 1 and 30 ppb while only six countries were captured to have MLs for OTA in spices or OTA of between 10 and 30 ppb.

Based on these observations, MLs that are near the 5% rejection rates or specified levels in any national regulation, the EWG made the following recommendations:

1. Is proposing MLs of 20 or 30 µg/kg for AFT in all the spices and 20µg/kg for OTA in the spices for consideration at CCCF 12.
2. To make the recommended standards acceptable, members of the EWG are advised to submit data to GEMS/Foods database and then request JECFA make impact assessment of the suggested different MLs of AF (10, 15, 20 and 30 µg/kg) and OTA (10, 15, 20 and 30 µg/kg) in the spices
3. Revise the above MLs and possibly establish MLs for specific spices based on available new occurrence data after three years of implementation of the *Code of practice for the prevention and reduction of mycotoxins in spices* (CXC 78-2017) which was adopted at CAC 40 in 2017.
4. Revision of the MLs will be after JECFA evaluates the fresh occurrence data made available after implementation of the COP.

Since the setting of MLs for spices is more of a search for harmonized acceptable limits that will ensure fairness in international trade, it is rationale to support establishment of MLs in spices.

Position 1: AU supports the setting of ML of 30µg/kg for AFT in the five spices

Issue and Rationale: The problem of mycotoxins in spices is not a public health concern but a trade issue and this is because dietary exposure to mycotoxins due to consumption of spices is negligible. The intake of total aflatoxin ng/g bw at ML of 30 µg/kg is 0.039 and has a rejection rate of 0.811%. However, with decrease in MLs to 5µg/kg there is an exposure level of 0.029 and increasing negative trade impact with 3.244% of products removed from trade. It is only appropriate therefore to agree on the recommended higher MLs which will allow more of the commodity in trade with little or no difference in public health impact. More so the contamination data for AFT (5 – 35ppb) from 40 countries including four African countries which were used for decision at CCCF 10 are indicative that the upper MLs will be easily achievable in Africa.

Position 2: AU recommends the postponement of the submission of proposed draft ML for OTA in spices to CCCF 14.

Issue and Rationale: Even though the EWG's estimated OTA daily intake from spices of 0.206 ng/kg bw per day at ML of 30 µg/kg will not exceed the PTWI of 112 ng/kg bw, indicating no adverse effect at that level; and that only 4.350% will be removed from trade at the level coupled with the fact that OTA occurrence data (10 – 30 ppb) show that the limit of ML of 30 will be achievable in Africa, we will not support establishing ML now because like the EWG note, limited data were used to arrive at the decision on OTA.

Position 3: African Union supports the decision that following submission of more occurrence data, CCCF request JECFA make impact assessment of the suggested different MLs of AF (10, 15, 20 and 30 µg/kg) and OTA (10, 15, 20 and 30 µg/kg) in the spices

Issue and Rationale: The data used for this work are from Austria, Canada, India, Indonesia, European Union, Singapore, UK and USA, and the proposed MLs for AFT and OTA are not representative of all regions of the world. Therefore, standards with least negative impact on public health and trade established using occurrence data from all continents will be more acceptable.

Position 4: African Union supports the Revision of MLs and possibly establish MLs for specific spices based on available new occurrence data after three years of implementing of the code of practice.

Issue and Rationale: The code of practice was adopted in 2017. It is premature to set MLs after a year of adopting a COP. Comparative analysis of occurrence data generated before and after the implementation of the COP will not only be an assessment of the effectiveness of the COP but will lead to setting of better health and trade protective limits.

AGENDA ITEM 13: Discussion paper on methylmercury (CX/CF21/14/11)

Position: African Union supports the recommendations for the CCCF to consider:

Maximum levels

- new work on MLs for orange roughy and pink cusk-eel, taking into account the discussion over trade significance (project document is presented in Appendix I, CX/CF21/14/11),
- postpone consideration of Patagonian toothfish for a year to enable further data collection to support setting an ML at a <5% rejection rate and to request JECFA secretariat to issue a call for data,
- discontinue review of MLs for any other additional fish species

Sampling plans

- consider progressing further the development of the sampling plan based upon the approach of length/weight and value to ensure the utility of the sampling as provided in Appendix IV, CX/CF21/14/11

Other risk management measures

- undertake a literature review of risk management measures in order to assess the feasibility to develop guidance for the management of methylmercury in fish, and

re-establish the EWG to continue work on MLs setting, sampling plans and risk management measures as outlined above.

Issue and rationale: An eWG chaired by The Netherlands, and co-chaired by New Zealand and Canada, was established at the 11th Session of the Codex Committee on Contaminants in Foods (CCCF11) (2017) to prepare proposals for MLs for tuna as a group, alfoncino, kingfish/amberjack, marlin, shark, dogfish and swordfish. As part of the recommendations presented to CCCF11 by the previous EWG, other species were identified where further data collection was advised to establish if MLs were needed. Additionally, a recommendation was made that discussion could be commenced on considering MLs for other species in the Global Environment Monitoring System (GEMS) database, with a preliminary analysis presented in the supporting discussion paper.

CCCF12 (2018) agreed that consistent with the approach taken for the establishment of MLs for lead, the methylmercury ML proposal that would be agreed upon would be those based on the next higher ML resulting in a trade rejection rate lower than 5%. CCCF12 agreed upon MLs for tuna species (1.2 mg/kg; REP18/CF, paragraph 75), alfoncino (1.5 mg/kg; REP18/CF, paragraph 77), marlin (1.7 mg/kg; REP18/CF, paragraph 77) and shark (1.6 mg/kg; REP18/CF, paragraph 77). No consensus was achieved for an ML for swordfish and it was agreed to discontinue work on an ML (REP18/CF, paragraph 83). Based on the new dataset used by the EWG it was established that mean and median concentrations of total mercury and methylmercury in amberjack all fell below 0.3 mg/kg, the agreed selection criterion for selecting fish species for setting MLs, and therefore it was agreed to discontinue work on the ML for amberjack (REP18/CF, paragraph 78). Further, CCCF12 also noted that for future ML development, data on both methylmercury and total mercury would need to be available, as it was shown that for certain fish species the ratio of methylmercury to total mercury was very low and for the data analysis it could not always be assumed that total mercury would be mostly present as methylmercury (REP18/CF, paragraph 88).

At CCCF13 (2019), the discussion paper was considered and noted that the limited availability of methylmercury concentration data for additional fish species precluded establishing appropriate MLs. However, several species or taxonomic groups were identified where further data collection would be necessary to confirm ALARA or exceedance of the selection criteria. To that effect, a staggered timeline for ML derivation of species or taxonomic groups identified was considered. JECFA was requested to issue a call for new data to be submitted to GEMS/Food that would support revision of the discussion paper to consider whether it is feasible to proceed with establishment of MLs for additional fish species as well as issues related to sampling plans for methylmercury in fish was also considered.

Following the above agreements at CCCF13, an EWG was established, shared by New Zealand, co-chaired by Canada made recommendations for consideration at the CCCF14. CCCF13 also agreed to consider issues related to sampling plans for methylmercury in fish as part of the re-established EWG examining the feasibility of MLs for additional fishes species.

As CCCF14 (2020) was postponed from May 2020 to May 2021 due to the COVID-19 pandemic, and in view of the additional time at the disposal of the Committee, an interim report of the EWG was published as CX/CF 20/14/11. Comments on recommendations put forward in this paper were requested by means of a circular letter 2 CL 2020/52/OCS-CF issued by the Codex Secretariat for further consideration by the EWG. The comments received in reply to this CL were compiled in CX/CF 20/14/7-Add.1. Further data on species was also submitted through GEMS/Food through calls for data issued by the JECFA Secretariat. The EWG further revised the paper based on comments and information received in reply to this CL and data calls, as well as those from the members of the EWG, and produced a revised document as presented in Appendix I, CX/CF 21/14/11. The full discussion paper on establishing MLs for additional fish species is provided in Appendix III, CX/CF 21/14/11. The full discussion paper on developing a sampling plan is provided in Appendix IV, CX/CF 21/14/11.

Fishes contribute to methylmercury exposure and affects human health. The toxicity of methylmercury may have reproductive consequences. Pregnant woman who eat fish and seafood contaminated with methylmercury may have the increased risk of having a miscarriage, or having a baby with deformities or severe nervous system diseases. Further data including data from Africa will inform our knowledge about safety of the fishes and possibility to start new work on MLs for them

Agenda item 18: 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 (CX/CF 21/14/16).

Position 1: African Union supports the approach recommended by the EWG as follows:

1. Implement Option 2 on a 3-year trial basis as outlined in paragraphs 9 to 13 and to evaluate Option 2 as outlined in paragraphs 14 and 16 of the discussion paper.
2. Adopt the prioritization criteria for identifying Codex standards for review and their priority rankings presented in Appendix I (**with a slight modification as shown below**) and the general application of the priority rankings outlined in paragraph 20 and in consideration of the information presented in paragraphs 21 to 23.

Recommended Modification: *The criterion “recommended for re-evaluation by CCCF, CAC or a member country within a certain period of time or at an unspecified future date” to be considered as a **high priority**. This is necessary to ensure that any recommended ad hoc, or needs-based, review of existing Codex standards would take precedence over the “15-year rule” and “25-year rule”.*

3. If the recommendations presented in paragraphs 24 i) and ii) are accepted, the tracking lists noted in paragraph 9 will be circulated for comment, in the form of a circular letter, in advance of CCCF15 by the Codex Secretariat based on the input provided by Chair of the in-session working group identified as per paragraph 23 of the discussion paper.
4. CCCF14 identifies a Chair of the in-session working group convening on this topic for the first time at CCCF15

Rationale: Adoption of the time-based approach will keep CCCF alert of the need to update existing standards. The recommended option 2 also will safeguard the spirit of addressing ad hoc needs for review of the existing standards. This implies that any recommended ad hoc re-evaluation of existing standards will take precedence over the “15-year rule” and “25-year rule”.

AGENDA ITEM 20.1: Priority list of contaminants for evaluation by JECFA and follow-up to the outcomes of JECFA evaluations (CX/CF 21/14/18)

Position:

- **Priority list:** African Union supports the priority list of contaminants for evaluation by JECFA (Revised based on comments received in reply to CL 2020/24-CF as contained in CX/CF 21/14/18-Add.1).
- **Follow-up to the outcomes of JECFA evaluations:** African Union supports the development of discussion papers to consider development of risk management measures on the following compounds for consideration by CCCF15: Trichothecenes (T2 and HT-2), Marine biotoxins-ciguatoxins and Tropane alkaloids.

Rationale: The naturally occurring chemicals in the priority list (dioxins and dioxin-like PCBs, Arsenic (inorganic and organic arsenic), scopoletin, are relevant to Africa as they occur some African staple foods including cereals and roots (sorghum, rice, maize, cassava) and fresh vegetables. Evaluation of these contaminants and subsequent development of risk management measures will help protect consumers and facilitate trade.