

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

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Agenda Items 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21

CF18/CRD24

June 2025

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEx COMMITTEE ON CONTAMINANTS IN FOODS

18th Session  
23-27 June 2025

#### COMMENTS OF PANAMA

Panama appreciates the work done and the opportunity to participate in this meeting. We value the effort and dedication of all members in preparing the documents and managing the topics discussed. We are committed to advancing regulations that impact the safety and quality of food products, and we hope this meeting will be an opportunity to strengthen our strategies and collaborate in the continuous improvement of international standards.

#### **Agenda Item 2: Matters referred to the Committee by the Codex Alimentarius Commission and/or its subsidiary bodies**

Panama welcomes the decisions taken by the Codex Alimentarius Commission at its 47th session (2024), particularly regarding the adoption of maximum levels for contaminants in food and the progress made in developing codes of practice and sampling plans that strengthen global food safety.

Panama stands out in particular:

- The adoption of maximum levels for lead in spices and for cadmium and lead in quinoa, which represents a firm step toward consumer protection.
- The approval of the Code of Practice to Prevent and Reduce Ciguatera Poisoning, appreciating the CCCF's efforts to complete this work in the short term.
- The ratification of the sampling plan for methylmercury in fish, which reflects a robust technical approach to assessing contaminants in seafood, is particularly relevant for countries that consume and export fish, such as Panama.

Panama also recognizes the strategic advancement represented by the publication of the Codex Manual for Electronic Working Groups (EWGs) and the new Codex Strategic Plan 2026–2031, initiatives that will enable more effective participation by member countries, especially in the Latin American and Caribbean region.

Therefore, Panama reiterates its commitment to the principles and procedures of Codex, supporting the strengthening of participatory mechanisms, technical cooperation, and the adoption of standards based on scientific evidence, in order to promote safe food and fair trade for all.

Panama recognizes the importance of keeping Codex standards up-to-date and technically accurate, and therefore supports the editorial amendment to the General Standard for Contaminants and Toxins (CXS 193-1995), which clarifies the regulatory status of reference levels for radionuclides following radiological emergencies. This update eliminates outdated information and promotes regulatory consistency, contributing to a more efficient regulatory environment for member countries.

Panama also values the continued technical dialogue between the CCMAS and the CCCF regarding the development of sampling plans for heterogeneous materials, including those containing mycotoxins, given that these types of batches represent a common challenge for national food control systems. We recognize that this work will contribute to improving the representativeness of analytical results and, therefore, strengthen evidence-based decision-making in food safety matters.

#### **Agenda Item 3: Matters of interest arising from FAO and WHO including the Joint FAO/WHO Expert Committee on Food Additives**

Panama reaffirms its commitment to constructive participation within the Codex Alimentarius. As a bridge between continents and a regional leader in logistics and agri-food trade, Panama recognizes the importance of harmonized international standards, based on scientific evidence, that support both the protection of public health and the

facilitation of fair trade. In this regard, Panama actively promotes the adoption of inclusive standards that take into account the productive and regulatory realities of developing countries, especially those with agri-food structures in transition.

Likewise, Panama underscores the importance of strengthening Codex scientific governance in the face of the growing challenges associated with emerging contaminants, disruptive technologies, climate change, and geopolitical conflicts affecting food systems. Panama advocates for greater equity in access to technical advice, financing for effective participation, and national capacity development. We reiterate our call for Codex standards to be developed from an inclusive and differentiated perspective, recognizing levels of development, and promoting substantive participation of our region in Codex decision-making processes and in building a more resilient, secure, and fair international food system.

#### **Agenda Item 4: Matters of interest arising from other international organizations**

Panama welcomes the work of the Joint FAO/IAEA Centre for Nuclear Techniques in Food and Agriculture, particularly with regard to the development of advanced analytical methods, technical cooperation, and capacity-building in the control of food contaminants.

We recognize that nuclear and isotopic technologies have proven to be effective tools for the detection and quantification of natural contaminants, such as mycotoxins and cyanotoxins, as well as for improving traceability and food safety verification. Panama notes with interest the progress made by the Joint Center's Food Safety and Control Laboratory (FSCL) in validating rapid and confirmatory methods applicable to agricultural matrices relevant to tropical and developing countries, such as millet, cassava, and peanuts.

From a technical and strategic perspective, Panama recognizes the potential of these developments to strengthen national food surveillance systems, boost the competitiveness of agricultural exports, and respond more effectively to emerging risks and environmental contamination. Therefore, we support the promotion of technical cooperation projects in the region and express our interest in exploring opportunities for collaboration with the Joint Center, particularly on issues related to chemical contaminants, radionuclides, and the development of analytical capacities with a regional focus.

Furthermore, we encourage Codex to continue recognizing and channeling the input of the Joint FAO/IAEA Centre into its normative work, to ensure alignment between applied science, the needs of member countries, and the development of effective, evidence-based international standards.

#### **Agenda Item 5: Maximum levels for lead in certain food categories (at Step 7)**

Panama recognizes the high technical and regulatory value of the work carried out by the Electronic Working Group (EWG) and the Codex Committee on Contaminants in Foods (CCCF), as well as the spirit of scientific and political convergence demonstrated by Member States. We fully support the advancement and consolidation of maximum levels (MLs) for lead in dried bark spices and dried culinary herbs, under the ALARA principles of technical feasibility and effective protection of public health.

##### **1. On dry bark – support for the ML of 3.0 mg/kg (Step 3):**

Panama supports the proposed revision to establish an ML of 3.0 mg/kg for dry bark, replacing the 2.5 mg/kg value adopted at Step 5. This decision is based on the following aspects:

- The refined dataset comprises 768 individual spice bark samples, representing four WHO regions (EURO, PAHO, SEARO, WPRO). The consolidated analysis shows a mean value of 0.68 mg/kg and a P95 of 2.32 mg/kg, with an estimated commercial rejection scenario of 2.6% for the ML of 3.0 mg/kg, well below the technical acceptability threshold of 5%.
- In the specific case of the PAHO region, with the highest P95 value (2.88 mg/kg), an ML of 2.5 mg/kg would exceed the reference rejection rate (6.98%), while an ML of 3.0 mg/kg reduces it to 4.98%, without compromising health protection.
- The recent data from 2024 and 2025, submitted following the latest JECFA request, show no decrease in mean levels or improvement in the statistical distribution, demonstrating the stability of the exposure profiles. Furthermore, data with indicators of economic adulteration, outliers, and inadequate quantification limits were discarded, thus ensuring the validity of the analysis.

##### **2. On dried culinary herbs – support for the ML of 2.0 mg/kg (Step 3):**

Panama strongly supports the establishment of a revised ML of 2.0 mg/kg for dried culinary herbs, replacing the value of 2.5 mg/kg adopted at Step 5, based on:

- A total volume of 2,222 quantifiable samples, with an average value of 0.41 mg/kg and P95 of 1.20 mg/kg, which scientifically supports the new proposed value.
- Simulations of chronic dietary exposure under high consumption scenarios (G09 and G12, with a reference weight of 70 kg) show a projected reduction in lead intake of up to 23% in the PAHO region, without generating rejection rates greater than 5%.
- The proposal reinforces the rationale for a single, harmonized approach for a diverse product category, technologically feasible and statistically supported by a significant number of samples. Data with labeling under "dry weight," irrelevant ingredients (such as stevia), and samples without a defined classification (fresh or dry) were excluded, increasing the technical robustness of the package.

### 3. Observations on the international context:

Panama welcomes the support expressed by countries such as Ghana, Canada, Japan, New Zealand, Kenya, the Philippines, Singapore, Thailand, Chile, Indonesia, and the United Arab Emirates, as well as the critical technical contributions from the United States and the UAE on data quality and comparability. Panama emphasizes that the proposed values:

- They comply with the ALARA principle and are based on data consolidated in harmonized databases (GEMS/Food, GEMS/Food), meeting criteria of representativeness, traceability and statistical sufficiency;
- They strike a balance between effective protection of public health and facilitating fair and predictable international trade, particularly for small exporting economies and agricultural SMEs;
- They are consistent with other ongoing regulatory developments, such as the Codex standard on cinnamon at the CCSCH, ensuring regulatory harmony and avoiding intercommittee conflicts.

### 4. Technical recommendations:

- We reaffirm the need to maintain a technical explanatory note on the applicability of the ML to fresh herbs, in line with the reverse criterion of Annex I of CXS193 for processed derivatives, and in accordance with the technical decision of CAC47.
- We call for strengthening the global data architecture, including training for national laboratories, validation standards, and metadata standardization (physical state, analytical method, LC/LD, geographic origin, and sampling condition).
- Panama encourages FAO/WHO and Codex members to continue promoting capacity building to reduce lead at source, especially in regions with traditional or informal production.

## **Agenda Item 6: Code of practice for the prevention and reduction of cadmium contamination in foods (at Step 4)**

Panama supports the advancement of the Code of Practice (COP) to Step 4, appreciating its comprehensive approach from primary production to consumption, incorporating measures based on Good Agricultural Practices (GAP), Good Manufacturing Practices (GMP), and responsible consumption considerations.

We support the CoP's coordination of actions for all phases of the agri-food chain and its proposal of recommendations applicable to both countries with significant technical capacity and regions requiring practical, scalable, and culturally appropriate guidance.

Panama supports the incorporation and permanence of Annexes I and II, considering that they contain specific, non-redundant recommendations based on scientific evidence and applicable to real productive sectors.

For Annex I, we support maintaining it as a standalone section, and we incorporate recommendations from several members: repeated batch-by-batch analysis, selection of low-accumulation species, monitoring of process and crop water, and validation of post-harvest practices such as brine washing.

For Annex II, we support the adoption of practices adapted to calcareous and non-calcareous soils, the use of low-cadmium varieties, integrated irrigation strategies, and cross-referencing with arsenic mitigation.

Panama supports converting the Code of Practice on Cocoa (CXC 81-2022) into a thematic annex within the general CoP, provided its technical specificity is maintained. We suggest that this task be carried out under the mandate of the EWG and implemented in consultation with producing countries, as part of the Codex documentation consolidation process.

In line with comments from several countries, Panama proposes that the GTE consider the progressive development of new annexes for:

Cereals (wheat, barley, corn)

- Legumes and leafy vegetables (spinach, lettuce, amaranth)
- Dairy products and derivatives from small ruminants, given the potential for bioaccumulation due to the use of algae in animal feed.

Panama supports the following multilateral technical recommendations:

- Establish clear criteria for soil sampling and analysis, especially in areas with known high contamination, without imposing a technical burden on low-risk areas.
  - Include low-cost postharvest practices such as washing, peeling, polishing grains, and cooking with plenty of water to reduce dietary exposure.
  - Promote consumer education campaigns, especially on geophagy, proper vegetable preparation, and consumption of animal organs.
  - Incorporate measures for the management of livestock, aquaculture, and food contact materials, based on their potential as sources of cadmium.
1. Support for the reactivation of the Electronic Working Group (GTE)

Panama strongly supports reestablishing the GTE, with a mandate to:

- Consolidate the final version of the COP and its annexes.
- Prioritize new products and thematic annexes.
- Incorporate regional standards, risk matrices, and advances in soil bioavailability and chemistry.
- Strengthen representation of Latin America and the Caribbean, Africa, and other regions with emerging data.

Panama believes the Code of Practice represents a solid, harmonized, and scientific tool for reducing the risk of exposure to cadmium. We support its progress as a strategic Codex instrument and reiterate our willingness to actively participate in its technical development and national adaptation.

#### **Agenda Item 7: Sampling plans for total aflatoxins and ochratoxin A in certain spices (at Step 7)**

Panama appreciates India's leadership as Chair of the EWG and values the multilateral efforts in developing a harmonized sampling plan and methodological performance criteria for the detection of mycotoxins in spice matrices. We recognize that these contaminants, especially aflatoxins (AFT) and ochratoxin A (OTA), pose a significant risk to public health due to their chronic toxicity and carcinogenic effects. Standardizing sampling and analytical methods helps ensure effective controls throughout the food chain and prevent unnecessary technical barriers to trade.

Panama fully supports the technical and operational structure of the sampling plan contained in Appendix I, which differentiates procedures according to particle size (whole, crushed, powder) and establishes proportional criteria based on lot weight. The subdivision logic, the number of incremental samples (minimum 5, maximum 100), and the total weights (up to 10 kg) are reasonable, technically defensible, and operationally feasible. We particularly value the flexibility that allows for accepting deviations of up to 20% in subplot weight and the progressive adaptation of tables (1–6), which provide instrumental clarity for laboratories and competent authorities.

Regarding powdered spices, we note that Tables 5 and 6 still contain values in brackets (e.g., [40 g], [80 g], [0.24–4.0 kg]), which are currently being validated. Panama considers these figures to be a reasonable starting point and proposes that the EWG continue its study based on empirical evidence, especially in highly homogeneous matrices where sampling presents challenges in terms of analytical sensitivity and humidity control. We also support maintaining the incremental sample weight at 100 g for whole and ground spices, rejecting proposals to increase it to 200 g due to the lack of robust technical justification and its adverse impact on small exporters.

Regarding the performance criteria for analytical methods (Table 7), Panama supports maintaining the agreed parameters: precision  $\leq 44\%$  and recovery between 60 and 115% for most analytes. These values reflect the technical reality in complex matrices and at low concentrations ( $<20 \mu\text{g/kg}$ ) and are supported by Regulation (EC) No. 401/2006 and Codex principles. The proposals to modify precision to  $\leq 20\%$  or recovery to 70–120% are not compatible with the performance of standard methods (e.g., LC-MS/MS, HPLC-FLD) under real-world laboratory conditions and could unjustifiably exclude laboratories with valid expertise.

Panama strongly supports the incorporation of a specific maximum level (ML) of  $15 \mu\text{g/kg}$  for AFB1, given its increased toxicity, its classification as a Type 1 carcinogen by IARC, and its frequent presence in spices. This measure not only aligns Codex with practices already adopted by other jurisdictions, but also offers a more sensitive and targeted risk management tool.

**Agenda Item 8: Maximum level and associated sampling plan for total aflatoxins in ready-to-eat peanuts (at Step 4)**

Panama appreciates the efforts of the Electronic Working Group (EWG), chaired by India and co-chaired by the United States, in developing a technical proposal based on the analysis of occurrence data, health risk, and commercial viability for the establishment of a maximum level (ML) for total aflatoxins (TAT) in ready-to-eat (RTE) peanuts.

Panama considers the adoption of the definition of RTE peanuts under CXS 193 for tree nuts appropriate: peanuts not intended for further treatment capable of reducing aflatoxins. This distinction is essential to properly delimit end-consumer exposure, given that RTE peanuts will not undergo further mitigation processes, unlike further processing peanuts (FFP).

According to the information provided, the analysis of 31,541 data points recorded in the GEMS/Food database reveals a wide dispersion in aflatoxin concentrations by product type, with average levels ranging from 6.06 µg/kg (Thailand) to 44.27 µg/kg (Brazil). Although only three of the main producing countries provided complete data, the remaining sample allows for capturing real variability in products representative of the global market. Panama recognizes that, in this context, the database has limitations in terms of geographical representativeness, but also acknowledges its provisional usefulness as a technical input.

We also appreciate the conclusions of JECFA Report 83, which indicate that setting levels below 15 µg/kg would have a limited impact on overall dietary exposure, while levels that are too low (such as 4 µg/kg) could have disproportionate commercial consequences, such as the rejection of up to 20% of the global RTE peanut market. These conclusions underscore the importance of setting levels that are technically justifiable, proportionate, and based on risk assessment and commercial rejection data.

Within this framework, Panama supports the establishment of a maximum level of 10 µg/kg of total aflatoxins for ready-to-eat peanuts, in line with the limit already adopted for other RTE nuts, as established by CXS 193. We consider this value to be an appropriate technical balance between public health protection and commercial viability, especially for exporting countries with heterogeneous production structures. We also support the recommendation to review this maximum level five years after its adoption, once the CXS 55-2004 Code of Practice has been implemented and new submissions of updated occurrence data are available in GEMS/Food.

Regarding the sampling plan, Panama considers the temporary application of the scheme established in CXS 193-1995 for nuts to be appropriate, until a specific and validated plan is developed for RTE peanuts that responds to their particular properties of homogeneity or heterogeneity, depending on the form of the product (grain, chopped, butter, etc.).

Panama supports CCCF18's recommendation to CAC48 to adopt the maximum level of 10 µg/kg for total aflatoxins in ready-to-eat peanuts and requests that the mandate remain open to update this level based on future evidence. We value the progress of this agenda as a public health measure and also as a way to reduce international regulatory uncertainty.

**Agenda Item 9: Review of the *Code of Practice for the prevention and reduction of aflatoxin contamination in peanuts* (CXC 55-2004) (at Step 4)**

Panama recognizes the solid technical work of the Electronic Working Group (EWG), led by Brazil and India, in the comprehensive revision of the CXC Code of Practice 55-2004, which responds to the need identified by the CCCF and endorsed by the CAC at its 47th session. This update is in response to recent scientific evidence, implementation experiences, and the persistent health and trade challenges linked to aflatoxins, genotoxic and carcinogenic compounds with no identifiable threshold for safe exposure.

Panama welcomes the new text's restructuring of the COP to better articulate it around the stages of production, harvesting, processing, and risk management. We particularly value the inclusion of new sections such as the scientific introduction on aflatoxigenic species, the "related Codex texts," the systematization of harmonized definitions, and the "risk management" chapter based on the principles of the HACCP system. This systemic approach focused on critical control points from pre-harvest to final packaging strengthens prevention throughout the entire chain.

Regarding Good Agricultural Practices (GAP), Panama supports the incorporation of guidelines on crop rotation, varietal selection based on fungal tolerance, water stress monitoring, use of soil amendments (such as gypsum and organic matter), biological control with non-aflatoxigenic strains, and efficient irrigation strategies. We also recognize that timely harvesting during the R8 phase, phenological crop maturation, and progressive drying to critical moisture levels (<8% grain, <10% pod) are key measures to contain colonization by *Aspergillus* spp.

During the harvest and post-harvest phases, Panama supports recommendations regarding careful handling, controlled curing, water activity monitoring, warehouse ventilation, temperature control (<10°C when possible), and batch segregation based on quality. We emphasize the use of modern electronic sorting technologies, infrared, or blanching

and roasting as fundamental steps to reduce aflatoxin loads. Roasting, properly adjusted to avoid sensory deterioration, can reduce toxin content by up to 90%, which is crucial for products intended for direct consumption.

Regarding Good Manufacturing Practices (GMP), we welcome the focus on lot traceability, hygienic transportation and storage conditions, separation of contaminated lots, representative analyses based on CXS 193-1995, and integrated monitoring and record-keeping programs. Panama also supports labeling peanuts according to their condition ("ready for consumption" or "intended for further processing") and strengthening partnerships between buyers, processors, and suppliers to promote compliance with food safety standards.

Finally, Panama strongly supports advancing the revised Code to Step 4 for adoption by the Codex Commission (CAC48). We consider the new document to be technically robust, scientifically up-to-date, and sufficiently operational to serve as a guide for national surveillance and control systems. We support its progressive implementation at the national level, accompanied by training measures, regulatory adaptation, and regional technical cooperation.

**Agenda Item 10: Review of the Code of practice for weed control to prevent and reduce pyrrolizidine alkaloid contamination in food and feed (CXC 74-2014) and Guidance on sampling and analysis performance characteristics for the collection of data for submission to the GEMS/Food database**

Panama appreciates the leadership of Turkey, the United Kingdom, and the Netherlands in coordinating the Electronic Working Group (EWG) on pyrrolizidine alkaloids (PAs), phytotoxic compounds of recognized public health concern due to their hepatotoxic, genotoxic, and carcinogenic potential. We consider it timely and necessary to revise the Code of Practice for Weed Control (CXC 74-2014) based on new toxicological findings and evidence of their occurrence in broader food matrices since its initial adoption.

Panama supports limiting the project document exclusively to the Code of Practice, separating at this stage the development of a separate document on sampling and analysis methods, which can advance in parallel as an auxiliary technical input for JECFA and GEMS/Food. This decision allows efforts to be concentrated on a single, applicable and timely regulatory instrument.

The Republic of Panama fully supports the proposed revision of the "Code of Practice for Weed Control to Prevent and Reduce Contamination of Food and Feed by Pyrrolizidine Alkaloids (PAs)" (CXC 74-2014), submitted by Turkey to the Codex Committee on Contaminants in Foods (CCCCF). This revision is consistent with the toxicological and methodological conclusions of JECFA, which since its 80th meeting has shown that 1,2-unsaturated PAs pose a risk to human health due to their genotoxic and carcinogenic potential, especially when they accumulate through the consumption of certain foods of plant and bee origin.

Risk analyses conducted by international scientific bodies, including JECFA, EFSA, Turkey, and New Zealand, have shown that regular consumption of products such as honey, tea, herbal infusions, culinary herbs, spices, and dietary supplements can lead to elevated exposures to PAs, particularly in vulnerable subgroups such as children. Furthermore, it has been identified that a substantial portion of PAs may originate from contaminated feed, posing an additional challenge for products of animal origin. Given this scenario, Panama emphasizes the need to strengthen prevention frameworks throughout the agri-food chain.

The proposed revision of the CoP should expand its scope beyond weed control in crops, including vegetation management in grasslands, adjacent areas, and fallows, as well as the development of specific best practices for sectors such as beekeeping, wild harvesters, and food establishments. Furthermore, the design of differentiated measures for honey is justified, given the limited possibilities of intervention through traditional weed control strategies in this area and considering its high frequency of PA contamination, resulting from foraging in landscapes rich in polluting species such as Senecio, Echium, Heliotropium, among others.

Panama also considers it a priority to develop a complementary technical guidance on PA sampling and analysis methods, based on validated methodologies such as LC-MS/MS, UHPLC-HRMS, and standardized extraction protocols. This guidance should consider harmonized performance criteria, quantification limits differentiated by matrix type, and selection methods for the broad and retrospective detection of individual and structurally related PAs. Likewise, the characterization and analysis of PAs that exhibit greater co-elution and higher detection frequencies in foods should be promoted, in accordance with Tables 4 and 5 established by the EWG. The application of relative potency factors (RPFs) is a promising approach that should be explored to achieve a more refined risk assessment.

In this context, Panama supports the issuance of a future request for data on the presence of PAs, under harmonized analytical parameters, applying a strategy based on risk analysis. This will allow for adequate input into data systems such as GEMS/Food and support future JECFA evaluations. The highest priority food categories for this survey include teas, infusions, herbal supplements, pollen, spices, salad plants, honey, whole grains, and animal products such as milk and eggs, in accordance with the scientific literature and internationally available occurrence data.

Panama recognizes the urgent need to update CXC 74-2014 and views this new work as a crucial opportunity to

strengthen food risk management systems for PAs. Panama reiterates its willingness to actively collaborate in the preparation of this revision and in the development of methodological guidelines that reflect the productive and ecological diversity of our region. The ultimate goal is to ensure effective consumer protection and offer practical tools for the agri-food sectors facing this silent but significant toxicological threat.

**Agenda Item 11: Review of the *Code of practice for the reduction of acrylamide in foods* (CXC 67-2009)**

Panama reaffirms its unwavering commitment to protecting public health and ensuring food safety, both domestically and in international trade. In this regard, we express our strong support for the revision of the Code of Practice (CoP) for the Reduction of Acrylamide in Foods (CXC 67-2009). This position is based on the consolidated scientific evidence identifying acrylamide as a genotoxic and carcinogenic compound, as well as the prevailing need to incorporate technological advances and new mitigation strategies developed globally. We recognize that, while the current CoP has been a valuable tool, the dynamics of research and innovation in the food industry require constant updating to reflect the best available practices.

The proposed revision is vital for consumer protection, as it will allow for the integration of state-of-the-art mitigation strategies that have been shown to effectively reduce acrylamide formation in various food matrices. This includes the optimization of agronomic practices, such as managing nitrogen levels and selecting crop varieties low in asparagine, a key precursor to acrylamide. Likewise, it is crucial to include advances in manufacturing processes, such as the use of specific enzymes (e.g., asparaginase) that catalyze asparagine hydrolysis, the application of innovative physical treatments (e.g., vacuum frying, pulsed electric fields, ultrasound), and the modification of processing parameters (temperature, humidity, and pH control). These scientifically validated measures are essential to align national practices with the most rigorous international standards, thus promoting the ALARA ("as low as reasonably achievable") principle for this contaminant.

We underscore the importance of the revised CoP not only addressing measures applicable to traditional products such as potatoes and cereals, but also extending its scope to new food categories of significant consumption, including coffee, its substitutes, and foods for infants and young children, adapting to current dietary patterns. Harmonizing standards derived from an updated CoP is essential to facilitate international trade, eliminating potential technical barriers and ensuring that products entering our market meet safety criteria based on the latest science. Furthermore, integrating clear guidelines and including precise definitions will improve understanding and effective implementation of the measures by all actors in the food chain.

We value the global consensus for the revision of the CoP, evidenced by the contributions of various countries and organizations that have shared their knowledge and experiences. We are committed to actively participating in the reestablished Electronic Working Group (EWG), contributing our perspective and technical knowledge to develop a robust, adaptable, and globally relevant Code of Practice. Our goal is to contribute to the creation of a regulatory framework that not only effectively protects the health of Panamanian consumers but also promotes food safety and fairness in international trade.

**Agenda Item 12: Review of the *Code of practice for the reduction of aflatoxin B1 in raw materials and supplemental feeding stuffs for milk-producing animals* (CXC 45-1997)**

Panama reiterates its firm commitment to public health and food safety, as well as to the sustainability of the agri-food chain. In this context, we express our unwavering support for the proposed revision of the Code of Practice (CoP) for Reducing Aflatoxin B1 in Raw Materials and Supplementary Feed for Dairy-Producing Animals (CXC 45-1997). This revision is of paramount importance, given that aflatoxin M1 (AFM1), a carcinogenic and genotoxic metabolite derived from aflatoxin B1 (AFB1), contaminates milk, an essential food in the global diet. The need to update this CoP, which has not been revised since its initial formulation in 1997, is imperative to incorporate the most recent scientific and technological advances in mycotoxin management.

This review is based on a robust scientific and technical evidence base. Since 1997, research has generated a significant amount of new data on the epidemiology of aflatoxins and risk management strategies for AFB1 in animal feed. It is critical that the CoP reflect these innovations, which range from agricultural practices (GAP) to post-harvest, feed storage, and processing (GMP) strategies. This includes optimizing crop management and controlling pest vectors that exacerbate fungal growth of *Aspergillus* spp. It also entails the adoption of advanced feed drying and conditioning methods, the incorporation of mycotoxin-binding agents (e.g., aluminosilicates, inactivated yeasts) and enzymatic detoxifying agents (e.g., aflatoxin-detoxifying enzymes), as well as the implementation of emerging control strategies at the physical, biological, and chemical levels. The integration of these experimentally validated measures is crucial to align with international quality and safety standards, promoting the ALARA (As Low As Reasonably Achievable) principle for aflatoxin exposure.

Panama emphasizes the need for a holistic approach that integrates knowledge from other Codex CoPs related to aflatoxins in cereals (CXC 51-2003), peanuts (CXC 55-2004), and tree nuts (CXC 59-2005). The revision should aim for

inter-documentary harmonization, minimizing redundancies and inconsistencies, and building coherent and understandable guidance for all actors in the value chain. Panama's experience, characterized by tropical climatic conditions of high humidity and temperature, highlights our particular susceptibility to the proliferation of toxigenic fungi and the consequent formation of mycotoxins. This underscores the critical need for management measures to be robust, cost-effective, and adaptable to these specific contexts.

A revised and updated CoP will offer quantifiable benefits by mitigating human exposure to AFM1 in a food staple, directly contributing to reducing the risk of liver cancer associated with this toxin. It will also promote more equitable and efficient international trade by providing standardized guidelines that facilitate compliance with the maximum permissible limits for AFM1 in milk.

Panama values the collaborative process of the Electronic Working Group (EWG) and the consultation with member countries, which allows for a diversity of technical perspectives. We are committed to actively participating in the subsequent development phase of the CoP, contributing our expertise and relevant data, particularly those generated in tropical environments. We support the issuance of a circular letter requesting additional information on risk management practices and analytical data that can further enrich the content of the CoP. We trust that international scientific and technical cooperation is the most effective way to address the global challenge posed by mycotoxins to food safety.

#### **Agenda Item 13: Development of a Code of practice for the prevention and reduction of tropane alkaloids in food and feed**

Panama, aware of the implications for public health and animal welfare, strongly supports the development of a Code of Practice (CoP) to prevent and reduce the presence of tropane alkaloids (TA) in food and feed. Recent scientific evidence, along with global monitoring data, highlights the need to establish proactive measures to mitigate contamination by these compounds, particularly atropine and scopolamine, due to their acute toxicity and potential impact on human and animal health.

We recognize that TAs, although present in several botanical families (e.g., Brassicaceae, Solanaceae), are primarily a source of concern due to accidental contamination with species of the genus *Datura* (thorn apple) in staple crops. This contamination can occur at various stages, from agricultural production (both peasant and extensive) to processing, generating sporadic incidents of high contamination that represent a significant risk.

GEMS/Food analytical data, which revealed detection rates of scopolamine and atropine in food (7.76% and 10.48%, respectively) and animal feed (17.43% and 16.61%, respectively), especially in cereals and derived products, validate the need for a CoP focused on control at the raw material stage. Although current research suggests limited efficacy of conventional processing methods in degrading ATs, this does not undermine the relevance of the CoP; rather, it underscores the critical importance of preventive strategies in the field and during raw material reception.

Panama believes it is appropriate for the CoP to initially focus on weeds of the *Datura* genus, which are the primary source of contamination and the cause of most poisonings. However, it also supports future consideration of expanding the scope to other AT-containing plants (e.g., *Atropa belladonna*), once sufficient research and relevant exposure data become available.

Panama agrees that the CoP should adopt a comprehensive and practical approach to mitigation, encompassing Good Agricultural Practices (GAP) and Harvesting Practices through detailed guidelines for the identification and control of *Datura* weeds in crop fields, including crop rotation, integrated weed management (physical, mechanical, chemical), cleaning of harvesting equipment, and pre-harvest monitoring. In Post-Harvest Management and Processing, emphasis will be placed on rigorous inspection and sorting/cleaning of raw materials to remove contaminants, recognizing that while AT degradation is limited, preventing accidental mixing and cross-contamination is vital, complemented by analytical verification of the final product. For Feed Management, the inclusion of specific provisions is crucial under the "One Health" concept, justifying proactive controls due to the direct impact on animal welfare and productivity. It is recommended that guidelines reference the Code of Practice on Good Animal Feed (CXC 54-2004) to explicitly prevent the inclusion of *Datura* in formulations. Finally, awareness-raising and training for farmers, processors, and consumers is essential, including training in *Datura* plant identification, safe handling and disposal, and awareness of the risks of accidental ingestion.

Panama believes that the proposed structure of the CoP, which integrates references to existing Codex documents and focuses on the most effective measures, is reasonable and provides a solid foundation for future development. We are prepared to actively collaborate in the Electronic Working Group (EWG) to ensure that the resulting CoP is scientifically sound, globally applicable, and effective in mitigating the risks associated with tropane alkaloids.

#### **Agenda Item 14: Guidance on data analysis for the development of maximum levels and for improved data collection**

Panama recognizes and appreciates the extensive work carried out by the Electronic Working Group (EWG), co-chaired



by the European Union, Japan, the Netherlands, and the United States, in developing the "Guide on Data Analysis for the Development of Maximum Levels (MLs) and for Improving Data Collection" (CX/CF 25/18/2015). This initiative is crucial to ensuring consistency and scientific robustness in the process of establishing MLs in the Codex Alimentarius.

Panama strongly supports the endorsement of the main body of the Guidance presented in Appendix I at the 18th Session of the CCCF. We recognize that this document is critical for harmonizing approaches to data analysis and collection, which will result in more informed and defensible decisions on MLs. We understand that the document will be updated as agreed-upon changes to the GEMS/Food database template are implemented and as experience is gained by the GTEs.

It is essential to clarify the roles of JECFA as risk assessor and CCCF as risk manager in calculating dietary exposure reduction rates when considering MLs. Panama considers it pertinent to explore the extent to which preliminary exposure assessments from the target product can be carried out as reference information in the EWGs responsible for recommending MLs, resources permitting. This would optimize decision-making by integrating a risk perspective from the initial stages.

Panama agrees with the need to continue working on the Guide's Annexes. We propose prioritizing the consolidation of Annexes III and V, given that the visualization of occurrence data (graphs and distribution plots) is an essential component of statistical presentation and analysis.

We consider it vital to establish a clear and ambitious timeline for the development of the remaining annexes and for addressing the "Issues Identified for Possible Future Discussion" (Appendix II). This will ensure that the Guide is comprehensive and addresses the complexities that arise in practice.

Panama reiterates the importance of high-quality, nationally representative occurrence data, obtained through statistically based sampling and analysis performed using validated methods in laboratories with quality assurance systems. Clear information on Limits of Quantification (LOQ) and Limits of Detection (LOD) is essential, and we appreciate the efforts to ensure these fields are mandatory where applicable in the GEMS/Food template.

We emphasize the relevance of this guide for developing countries, where data monitoring and analysis capacity may be limited. Clarity in completing the GEMS/Food template and the availability of detailed metadata will be key to ensuring that the data contributed by all members are usable and effectively contribute to the establishment of equitable and evidence-based global MLs.

**Agenda Item 15: Review of numeric performance criteria for methods of analysis for total aflatoxins utilizing the sum of components concept in relevant sampling plans**

Panama recognizes the critical importance of examining numerical performance criteria for total aflatoxin analysis methods, utilizing the sum-of-components concept in relevant sampling plans. This work, led by Brazil, is essential for the harmonization and robustness of food contaminant control methods globally.

We support the proposal to revise the numerical performance criteria for aflatoxins based on the sum-of-components concept (AFB1+AFB2+AFG1+AFG2). This approach is consistent with previous decisions by CCMAS and CAC for cereals and cereal-based products and is crucial for a comprehensive assessment of aflatoxin contamination in products such as peanuts, tree nuts, and dried figs. It is a step forward in more realistically reflecting exposure and risk.

Panama joins Canada's request for a clear and detailed justification on how these criteria were arrived at, particularly in relation to the CCMAS guidance on the "sum of components" concept (paragraph 13 of the CCMAS information document). Understanding the methodology behind LOQ/LOD calculations and applicable ranges is critical to transparency and confidence in the applicability of the criteria.

We consider it important to specify how precision and recovery rates are expected to vary depending on the testing method or equipment used, as suggested by Egypt, to improve the validity of the results in different contexts.

While the proposed criteria are supported, it is critical that a clear and detailed justification be provided for how these criteria were arrived at, particularly in relation to the guidance on the "sum of components" concept issued by relevant agencies. Understanding the methodology behind the calculations of Limits of Quantification (LOQ), Limits of Detection (LOD), and applicable ranges is crucial for transparency and confidence in the applicability of the criteria. It is also important to specify how precision and recovery rates are expected to vary depending on the test method or equipment used, which will improve the validity of the results in different contexts.

Concerns about the feasibility and practicality of implementing these criteria in settings with limited laboratory capacity are underscored. It is vital that the criteria do not impose undue financial or technical burdens on laboratories, particularly those serving small producers and processors. The development of simplified and cost-effective methodologies for routine testing and the implementation of pilot projects to assess their implementation feasibility are suggested. Furthermore, it is essential to provide technical support, training workshops, and knowledge transfer

programs to help countries comply with the new standards.

There is concern about the use of a fixed 1:1:1:1 ratio of AFB1:AFB2:AFG1:AFG2. Scientific evidence and regional surveillance data indicate that the relative prevalence of individual aflatoxin subtypes, particularly AFB1, is highly variable depending on the commodity and environmental conditions. It is recommended that performance criteria allow flexibility in the assumed ratios for method validation or interpretation of results. Method validation should accommodate realistic concentration ranges and prevalence patterns of individual aflatoxins. The guidance should include a clarification that the ratio is not prescriptive and may vary.

Finally, the proposals to establish a Maximum Level (ML) for AFB1 in addition to total aflatoxins are noted, given its greater hazard. While the current document focuses on the sum of components, the discussion of a specific ML for AFB1 merits consideration. The request to clarify the definition of "precision" in the document and to adjust the applicable recovery values and ranges for AFB1 if a separate ML is not established for it is supported. The need to clearly indicate which parts of the General Standard (CXS 193-1995) will be revised and how the existing criteria will be replaced, including correcting inconsistencies in terminology, is agreed upon.

#### **Agenda Item 16: Application of maximum levels to multi-ingredient products**

##### **Position on the Application of Maximum Levels to Products with Multiple Ingredients**

The application of maximum levels (MLs) to products with multiple ingredients represents a significant challenge in international food trade. The variability and frequent lack of information on the proportions of ingredients in these products, especially in spice mixtures, make clear and harmonized guidance imperative.

Additional guidance on the application of MLs to these products is considered essential. The absence of practical and unified guidelines can lead to inconsistencies in risk assessment, create barriers to trade, and complicate compliance verification. This situation most frequently manifests itself in scenarios where ingredient proportions are unknown or variable, as is the case with the aforementioned spice blends, as well as in prepared foods or composite products.

While recognizing the breadth of the problem across all food mixtures, a cautious initial approach is suggested. This would involve focusing the discussion on spice mixtures, given their particular complexity in terms of compositional traceability and the concentrated nature of certain contaminants. Expanding the discussion to all mixtures without a thorough analysis could introduce unanticipated complexities. Furthermore, it is crucial that any approach taken be pragmatic from a compliance and enforcement perspective.

Regarding the form of the guidance, it is considered that an amendment or addition to the current guidance in the General Standard, specifically in the section on establishing maximum levels, would be the most effective method to formally and fully integrate the new guidelines. This would ensure a more comprehensive understanding and consistent application of the standards. However, as a complementary or interim measure, the inclusion of an explanatory note in specific MLs (e.g., for spices) could also provide immediate clarity.

Regarding the criteria for evaluating mixtures with unknown proportions, we support the proposal to apply the lowest ML of the individual ingredients that already have established limits to the total product. This would be a conservative approach for initial screening. If the contaminant concentration analyzed exceeds this conservative ML, additional compositional information may be required for a more precise calculation using weighted averages. It is important to mitigate the risk of intentional economic adulteration or dilution; consumer health protection must be the priority, ensuring that a "relative proportion" factor does not result in an unacceptably high ML for the final mixture.

Precision in the guide's examples is critical. It has been noted that there are discrepancies in some of the proposed examples, so it is crucial that any illustrations included be mathematically correct and faithfully reflect the principle being established. It is suggested that only unambiguous examples that do not cause confusion be included. It is also considered that, for mixture components without an established ML, the contaminant concentration should be calculated as zero or assigned a default limit lower than the lowest specified ML.

The request that the JECFA Secretariat review existing data in the global monitoring database on products labeled as spice mixtures and present an analysis for discussion is supported. This empirical information is vital to determining the need to establish a specific ML for contaminants in spice mixtures. Furthermore, it is recognized that the definition of "spice mixtures" at the regulatory level is not yet established, and it would be beneficial to consult with relevant committees before developing specific guidance.

#### **Agenda Item 17: Analysis of occurrence data of lead in spice mixtures**

In Panama, we recognize the importance of analyzing data on the presence of lead in spice mixtures. This document, prepared by the secretariats of FAO, WHO, and JECFA, not only complements our discussion on the application of maximum levels (MLs) in products with multiple ingredients, but is also crucial for the protection of public health and the facilitation of international trade.

We agree that analyzing lead data in spice blends obtained from the GEMS/Food database is imperative for us. This empirical information is vital for understanding contamination profiles and, based on it, making informed decisions about the need for and appropriate level of ML. The data presented, which cover a wide range of samples and origins, offer us valuable insight into the distribution of lead concentrations in the food categories where spice blends are most likely to be found.

The document highlights that, currently, there are no specific MLs for spice mixtures in the General Standard. This discussion has revealed the complexity of applying MLs for individual ingredients to mixtures, especially when the proportions are unknown. Dietary exposure data are particularly concerning for our childhood population. The contribution of herb and spice mixtures to total dietary lead exposure could reach up to 52% of the Starting Point (TP) for losing one IQ point in children (P95) if an ML is not established. This underscores, for us, the urgency of setting an ML for these product categories.

The data indicate that establishing an ML of 2 mg/kg for lead in spice mixtures would reduce dietary exposure in children from 52% to 18% of the PoL. An ML of 1 mg/kg would further reduce it, to 15%, albeit with an increase in the sample rejection rate (from 1.9% to 5.1%). In Panama, we consider the significant reduction of lead exposure in children a primary factor when evaluating ML scenarios. It is important to weigh this benefit against the commercial impact (rejection rate), but the health of our vulnerable populations is our priority.

JECFA's conclusions are clear: the application of an ML for lead in spice blends would reduce dietary exposure, but potential health risks, particularly neurodevelopmental risks, cannot be completely excluded given the absence of an identified safety threshold for lead effects. This reinforces, for us, the need for a comprehensive consideration of cumulative exposure from all dietary and environmental sources. It is crucial that this document be considered in conjunction with the information and considerations in Agenda Item 16, which addresses the application of MLs to multi-ingredient products. A consistent approach is essential when considering both spice blends and foods in general.

Therefore, Panama urges prioritizing the establishment of a Maximum Level for lead in spice mixtures. Considering the exposure data and potential health risks, especially in children, an ML of 2 mg/kg appears to be a reasonable starting point that achieves a substantial exposure reduction with a manageable rejection rate. However, we believe a more stringent ML should remain open if future risk assessments and analytical capacity permit, always seeking maximum protection for our consumers. While we weigh the implications of rejection rates and the economic impact when choosing between 1 mg/kg and 2 mg/kg, the health of vulnerable populations, such as our children, must be the determining factor.

#### **Agenda Item 18: Analysis of occurrence data of aflatoxins in cereals**

This document, prepared by the secretariats of FAO, WHO, and JECFA, is essential for the review and possible adjustment of maximum levels (MLs) for total aflatoxins in cereals and cereal-based products, including those intended for infants and young children, which is of great interest for the protection of the health of our population and the facilitation of our agricultural trade.

We appreciate the comprehensive collection of data on aflatoxin presence in cereals, which was conducted in response to a previous request to support this review. The availability of 8,196 sample results from various cereal categories, including rice, corn, wheat, and others, provides a solid basis for our discussion. We are pleased to see the inclusion of data from multiple regions, which strengthens the representativeness of the analysis.

The JECFA conclusions, outlined in the document, highlight significant public health concerns, especially in the absence of robust risk management measures. The mention of risks associated with the consumption of corn and rice in various parts of the world, including the possibility of additional cases of liver cancer, alerts us to the need to adopt effective measures. For Panama, where the consumption of these cereals is essential, ensuring safe aflatoxin levels is vital.

We consider the implementation of the existing MLs for aflatoxins in maize (15 µg/kg for maize grains destined for further processing, and 10 µg/kg for refined flour and other derivatives) and rice (20 µg/kg for husked rice and 5 µg/kg for polished rice) to be a positive step, which, according to the analysis, could reduce the risk of aflatoxin-associated liver cancer by a factor of 3. We consider this to be an important step forward in health protection.

However, JECFA's conclusions suggest that up to a ninefold greater risk reduction could be achieved by implementing more stringent MLs. Specifically, we consider of particular interest the proposal to reduce the ML to 10 µg/kg for corn, 15 µg/kg for husked rice, and to establish new MLs of 5 µg/kg for wheat and other cereals. These more stringent levels, while potentially resulting in increased rejection rates for certain samples (e.g., from 5.2% to 6% for corn and from 1.8% to 2.4% for husked rice), offer a substantially greater benefit in terms of health risk reduction.

For Panama, the health of our population is paramount. Therefore, we urge careful consideration of the JECFA recommendations, particularly regarding the possibility of establishing a specific ML of 5 µg/kg for total aflatoxins in cereals other than corn and rice (such as wheat, barley, sorghum, etc., where there is currently no explicit ML), and of

reducing the ML for husked rice from 20 µg/kg to 15 µg/kg. We believe that these measures, supported by the scientific evidence presented, can significantly improve the safety of our food without disproportionately compromising supply or commercial interests.

It is essential that any adjustments to the ML be implemented in a way that provides technical assistance to producers and industry so they can comply with the new standards, thereby minimizing the economic impact and ensuring the continued supply of safe food. We remain committed to adopting international best practices and standards to protect the health of our citizens.

#### **Agenda Item 20: Follow-up work on the outcomes of JECFA evaluations and FAO/WHO expert consultations**

There is widespread interest in the need to review and update regulations on contaminants, especially those more than 15 or 25 years old, which may not reflect current scientific and technological advances. Priority is given to contaminants and foods that pose a significant risk to public health or are of high economic and consumer importance.

In this regard, Panama acknowledges the request to re-evaluate the maximum levels of aflatoxins in key cereals (corn, rice, sorghum, and cereal-based foods for infants and young children), as well as in products such as peanuts and chili peppers. This position aligns with the global concern about the carcinogenicity of aflatoxins and their impact on health, especially in vulnerable populations.

Panama highlights the proposal to review cadmium levels in polished rice, wheat, legumes, and cereals, arguing for changes in agricultural practices and the need to update dietary exposure data. This is considered relevant, given the ubiquity of these foods in the diet.

Regarding other contaminants, the recommendation to review arsenic in edible fats and oils, and in polished rice (together with paddy rice), once the JECFA evaluation is complete, is noted. Updating these MLs, many of which date back to before 1980, is a logical and necessary step.

A recurring point in the comments is the handling of the revision of the sampling plans for the General Standard for Contaminants and Toxins in Food and Feed (CXS 193-1995) to ensure consistency with the revised Guidelines on Sampling (CXG 50-2004). There is agreement that this issue should be addressed within the framework of the current agenda item on the revision of Codex standards.

It is shared belief that integrating the review of sampling plans with the review of relevant maximum levels is the most efficient and consistent approach. This synchronization ensures that sampling plans are aligned with specific MLs and the most recent scientific evidence, avoiding duplication and ensuring scientific and regulatory consistency.

The caution expressed by some members regarding assuming leadership of new working groups due to existing commitments is noted. These limitations are understood, and the willingness to co-lead the review of inorganic arsenic standards in paddy rice once the JECFA evaluation is concluded is appreciated. Collaboration among members is essential to advance the Committee's agenda.

#### **Agenda Item 21: Priority list of contaminants for evaluation by JECFA**

For Panama, the health of our population is our primary consideration. In this regard, we strongly support the re-evaluation of aflatoxins in key cereals (corn, rice, sorghum) and in products for infants and young children. These are staple foods in our diet, and the potential carcinogenicity of aflatoxins represents a significant risk. A new JECFA evaluation, with updated data, will allow us to establish limits that effectively protect our consumers, especially the most vulnerable.

We also view with great interest the proposal to evaluate cadmium and lead in yerba mate. Although it is not consumed in Panama, as it is in other regions, its presence in the market requires us to be vigilant. We understand the complexity involved in the method of consumption (infusion) and the impact on trade. A scientific evaluation by JECFA would provide the basis for adopting realistic and protective limits, while avoiding unnecessary trade barriers for producing countries.

The proposed separate evaluation of ethylene oxide (EtO) and 2-chloroethanol (2-CE) is also of interest to us. Given the uncertainty surrounding their sources of contamination and the impact they have had on international trade, a clear scientific assessment by JECFA is crucial to avoid unjustified trade restrictions and ensure that decisions are based on solid evidence. This is vital for our export and import products.

Panama believes the re-evaluation of Ochratoxin A (OTA) is important. The divergence in maximum limits between countries creates challenges for our exporters and importers. An updated evaluation by JECFA would facilitate global harmonization, benefiting our producers and ensuring the safety of the products reaching our markets.

JECFA evaluations should contribute to the harmonization of international regulations, which in turn facilitates trade and reduces technical barriers. Therefore, we support proposals that seek to resolve regulatory discrepancies, such as

those for Ochratoxin A and Bisphenol A.

The request for a JECFA evaluation of Bisphenol A (BPA), given the marked differences in international risk assessments, is a prudent measure. For Panama, having a comprehensive and updated evaluation of BPA is essential for our own regulations on food contact materials, while protecting the interests of our consumers and industry.

We believe Codex should focus on the contaminants that pose the greatest risk and trade disruption. Therefore, supporting JECFA's evaluations on these priority areas seems to us to be the most appropriate strategy for our country and for the global food system.