



INTERNATIONAL COCOA ORGANIZATION

2nd Meeting of the International Steering Committee

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Update on International SPS Legislation and other SPS issues





WORLD COCOA CONFERENCE 2: Food Safety in the Cocoa Sector: how best to help producers comply and influence legislations? – Amsterdam, 9-13 June 2014

Current situation

- There are national, regional and international food safety standards: difficult for cocoa farmers to comply with different rules and regulations
- Food safety is still a foreign “concept” for most cocoa farmers
- Governments in producing countries are **not** proactive in dissemination of information on food safety along the cocoa supply chain (new legislations, practices to mitigate the risk, etc)
- Likewise, the private sector plays a pivotal role in the dissemination of information on food safety! Private sector also need to be **more** proactive in communicating with farmers.



WORLD COCOA CONFERENCE 2: Food Safety in the Cocoa Sector: how best to help producers comply and influence legislations? – Amsterdam, 9-13 June 2014

Food Safety Challenges for the world cocoa sector

- Harmonization of food safety regulations is a BIG challenge and cooperation among major stakeholders is a pre-requisite to improve food safety practices and measures along the cocoa supply chain.
- Poor information flow along the supply chain: the right information needs to reach farmers in a quick and efficient way.
- Many farmers in major cocoa producing countries **don't even know what chocolate is!!!** Let alone what are the food safety regulations concerning their product!!!!
- Overall, countries are not fully prepared to act against food safety threats and take a proactive stance towards finding effective solutions.
- Poor capacity of laboratories in countries to test safety of products.



WORLD COCOA CONFERENCE 2: Food Safety in the Cocoa Sector: how best to help producers comply and influence legislations? – Amsterdam, 9-13 June 2014

Actions to address Food Safety Challenges

- Stakeholders from consuming and producing countries need to join efforts to come up with harmonized food safety legislations.
- Before this, it is important to establish the situation on the ground: what farmers know about food safety?
- Larger focus on the dissemination of information to all farmers: **answering the right question to farmers!!!**
- Inform farmers that actions recommended will not only improve food safety but also contribute to improve farm productivity
- Finally, it is important that all stakeholders involved in food safety programmes assess the impact of their intervention and establish its effectiveness (effective use of resources).



Recent Work on SPS Issues

- During the 29th Meeting of the ICCO Consultative Board (CB) on 15th September 2014, members provided an update on recent work related to SPS issues in cocoa producing countries.
- Complying with International SPS regulations and the application of GAP remain a priority for industry representatives and governments in both producing and consuming countries.
- The four areas of focus described by Members of the CB are:
 1. Mitigation of Cadmium. (Trinidad & Tobago)
 2. Update of Industry Quality Requirements Guide. (Europe)
 3. Mapping and detection of CSSV. (West Africa Region)
 4. Establishment of MRLs for Cadmium in Chocolate and Cocoa-derived Products – Codex Committee on Contaminants in Food. (Ecuador and all cocoa producing countries)
 5. Code of Practice for the Prevention and Reduction of “Ochratoxin A” contamination of Cocoa. (Ghana and all cocoa producing countries)



Update of SPS issues by the European Cocoa Association (ECA)

The EU has four basic principles regarding food safety

- **Precautionary principle** for food safety matters.
- **Compliance with European standards is a prerequisite** for any food produce to enter the European market (European Regulation EC 178/2002).
- The approach applied by the EU is based on the concept **“from the farm to the plate”**
- Adhesion to **international food safety standards**



Update of SPS issues by the European Cocoa Association (ECA)

Food safety priorities for the EU

- **PESTICIDES**

Regulation EC 396/2005 - Harmonizing MRLs on cocoa pesticides

- **PAHS**

Regulation EC 835/2011 - Establishing MRLs from 2013

- **MYCOTOXINS/OTA**

Regulation EC 105/2010 – no limits set for cocoa (yet)

- **HEAVY METALS**

EC Regulations under discussion (limits for cocoa-derived products)



Update of SPS issues by the European Cocoa Association (ECA)

Current Status of SPS issues at EU Level

- **OCHRATOXIN A/OTA**

Since 1999, the EU considered the possibility of introducing MRLs for OTA on food products. Following consultations, the EU agreed **not** to establish MRLs for OTA on the basis of contributing to the formulation of a Code of Practice within *Codex* for the prevention and reduction of OTA in cocoa. The Code of Practices was developed and is now available (since 2013). However, **EU countries may decide to review this position** is necessary. EU countries **may still implement controls/reject cocoa shipments** with high content of OTA, based on **precautionary principle**.

- **POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)**

In August 2011, Regulation EC835/2011 introducing new MRLs for cocoa was published.

- ❖ From April 1, 2013 to 31 March 2015: the limit is set to 5 µg/kg (ppb) for B(a)P and 35 µg/kg PAH4.
- ❖ From 1 April 2015: the limit will be set at 5Mg/kg b (a) P and 30Mg/kg for the pah4.

Pah4 = benzo (a) pyrene, benz (a) anthracene, benzo (b) fluoranthene and pyrene



Update of SPS issues by the European Cocoa Association (ECA)

Current Status of SPS issues at EU Level

• HEAVY METALS

CADMIUM

The following MRLs for Cadmium were adopted by EC (March 2014):

- Milk chocolate with < 30% total dry cocoa solids: 0.10 mg/kg
- Chocolate with < 50% total dry cocoa solids & Milk chocolate with \geq 30% total dry cocoa solids: 0.30 mg/kg
- Chocolate with \geq 50% total dry cocoa solids: 0.80 mg/kg
- Cocoa powder sold to the final consumer or as an ingredient in sweetened cocoa powder sold to the final consumer (drinking chocolate): 0.60 mg/kg

This legislation **will come into force on January 1, 2019**. The industry and cocoa producing countries have a **transitional period of 5 years**.

Work is underway within *Codex Committee* to establish MRLs for Cadmium. Work on this topic will be explained further in the presentation.



Update of SPS issues by the European Cocoa Association (ECA)

Current Status of SPS issues at EU Level

- **HEAVY METALS**

LEAD

Recently, the Rapid Alert System for Food and Feed (RASFF) noted presence of lead. In Addition, comments from EFSA in March 2013 made reference to chocolate and lead content.

ARSENIC

- The provisional tolerable weekly intake (PTWI) is 15 µg/kg of bodyweight laid down by the Expert Committee on Food Additives (JECFA) FAO/WHO is no longer appropriate, according to available data.
- Exposure to inorganic arsenic in the diet must be reduced.
- Data on arsenic separated by type for different food groups is required in order to be able to assess suitable exposure in the diet, also data on the dose-response to any effect on health.



Update of SPS issues by the European Cocoa Association (ECA)

Current Status of SPS issues at EU Level

• PESTICIDES

There are **MRLs set for cocoa beans** (including the shell!!!!) within *Codex Alimentarius Commission*.

➤ SB 0715 (cocoa beans - category ' seeds for beverages and sweets ')

Maximum Residue Limits for Cacao beans				
Pesticide	MRL	Year of Adoption	Symbols	Note
Hydrogen Phosphide	0.01 mg/Kg		Po	
Thiamethoxam	0.02 mg/Kg	2011	(*)	
Clothianidin	0.02 mg/Kg	2011	(*) T	
Endosulfan	0.2 mg/Kg	2007		
Metalaxyl	0.2 mg/Kg	1991		
Methyl Bromide	5 mg/Kg	1999	Po	

(*) At or about the limit of determination.
Po The MRL accommodates post-harvest treatment of the commodity.

➤ AO6001 (cocoa butter)

Maximum Residue Limits for Cocoa products				
Pesticide	MRL	Year of Adoption	Symbols	Note
Methyl Bromide	0.01 mg/Kg	1999	(*) Po	

(*) At or about the limit of determination.
Po The MRL accommodates post-harvest treatment of the commodity.



Update of SPS issues by the European Cocoa Association (ECA)

PESTICIDE ISSUES (JAPAN)

In May 2006, Japan introduced a “Positive List System for Agricultural Chemical Residues in Food”:

<http://www.mhlw.go.jp/english/topics/foodsafety/positivelist060228/index.html>

EU SPS Legislations compared to those of Japan has the following differences:

- MRL to the Japan carried out on 'whole beans' (whole beans)
- MRLs in Europe is determined on 'shelled beans' (beans after removal of shell - confer Regulation EC 178/2006).
- " **Default limit** " is 0,01 mg/kg (10 ppb).
- **CCAJ** (Association Japanese cocoa and chocolate) works tirelessly to **align the Japanese to European regulations regulation** of MRLs (including for methods of determining).

Progress has being achieved in harmonizing both SPS legislation. To date, **five active substances** are now tested on shelled beans (without shell): Bifenthrin, Metalaxyl, Mefenoxam, Chlorantraniliprole, Thiamethoxam and Imidacloprid.



Update of SPS issues by the European Cocoa Association (ECA)

PESTICIDE ISSUES (USA)

The SPS legislation for the United States is less strict than the EU and Japan, nevertheless, it is still applicable. They have a Code of Federal Regulations CFR title 40 Section 180: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=3a873baba38092e5cfd1834bf1faabf3&tpl=/ecfrbrowse/Title40/40cfr180_main_02.tpl

The major difference between this legislation and the EU is the absence of “default limits”. There are few limits specific to cocoa:

Active Ingredient	MRL (ppm)
Chlorothalonil	0.05
Glyphosate	0.2
Oxyfluorfen	0.05
Paraquat	0.05
Pyriproxyfen	0.02
Methyl Bromide	50
Phosphine (Al. phosphide & Mg. phosphide)	0.1
Piperonyl butoxide	8
Propylene Oxide	300
Pyrethrins	11



Update of SPS issues by the European Cocoa Association (ECA)

PESTICIDE ISSUES (EUROPEAN UNION)

- **European legislation is stricter** : reduction of the number of permitted active substances.
- **Regulations EC 396/2005** * on maximum residue levels of pesticides in or on food and feed of plant and animal origin.
- several **active substances** used previously (or even used non-EU) are **banned in the EU**.
- Remember that the MRLs are determined on shelled beans, according to indication in Regulation EC 178/2006.
- "**Default limit**" is 0,01 mg/kg (10 ppb).

** This regulation amends Directive 91/414 / EEC which contains the list of MRLs (maximum limit for residues) for cocoa.*



Joint Cocoa Quality & Productivity Working Group (WG)

- The Joint Cocoa Quality & Productivity WG is formed by three major industry organizations: ECA , CAOBISCO and FCC.
- The WG identified top industry research needs: Cadmium, pests & diseases, soil fertility, improved planting materials and FFA.
- The WG set-up a joint industry fund in 2013.
- The first activity of the WG was to ***select target project***, taking into account other initiatives to avoid duplication of existing efforts.

Project 1: Mitigation of Cadmium

The overall objectives of this project are:

- Better understand cadmium contamination
- Understanding the effectiveness of cadmium mitigation through:
 - Genotypic factors
 - Biological factors
 - Cultural practices
- Define Mitigation techniques.
- The project will be implemented in partnership with the University of the West Indies in T&T. It is estimated that the project will be carried out in 3-5 years. Project activities have started



Projects Selected by the WG

Project 2: Industry Quality Requirements Guide

The overall objectives of this project is to update the 1996 BCCCA booklet to produce “***Chocolate and cocoa industry quality requirements***” Guide.

The updated guide will cover the following topics:

- Quality – Mainstream – General requirements
- Post harvest and GAP
- Quality attributes ONLY
- Food safety (OTA, PAH, etc)

The document is aimed for researchers, certifiers, internal company (process and manufacturer and buyers. It is **NOT** a guide for farmers or farmer training.

Project 3 Mapping and Detection of CSSVD

The overall objectives of this project are:

- To develop a solid detection test as a priority (both for symptomatic and non-symptomatic trees)
- To update the mapping of CSSV spread in Côte d’Ivoire

The expected outcome of this project will contribute to new recommendations to combat the spread of CSSV and improve remedial measures. These recommendations will include new detection tools for use in identifying infected cocoa trees and non-cocoa host plants, suitable barrier crops and design of cocoa plantations. The project will start in 2015 and has a duration of 2 years.



Proposal for the Establishment of MRLs for Cadmium in Chocolate and Cocoa-derived Products within *Codex Alimentarius*

- In 2010, the EU introduced new MRLs for Cadmium content in cocoa and cocoa-derived products (Regulation no. 1881/2006).
- Several cocoa producing countries expressed concerns over the introduction of the new legislation and the impact on cocoa trade and the livelihood of thousands of cocoa producers.
- Various consultations between the EU and a group of cocoa producing countries, with support from the ICCO Secretariat, led to the amendment of the original MRLs, based on data collected by cocoa producing countries and other sources.
- In view of the lack of clarity about the procedure to establish MRLs for Cadmium in cocoa by the EU and the health risk for consumers, producing countries requested inclusion of this topic within the Priority of Contaminants and Naturally Occurring Toxicants Proposed for Evaluation by JECFA within the Codex Committee on Contaminants in Food (CCCF).



Proposal for the Establishment of MRLs for Cadmium in Chocolate and Cocoa-derived Products

- JECFA and *Codex Secretariat* provided guidance and assistance to cocoa producing countries on how to generate and submit information for the evaluations.
- After the submission and assessment of the information, JEFCA “noted that the total cadmium dietary exposure for high consumers of cocoa and products was likely to be overestimated and did not consider it to be a concern” (77th JECFA meeting, Rome, 4-13 June 2013).
- Following the 77th meeting of JECFA in 2013, the Delegation of Ecuador noted that while the evaluations of JECFA showed that the intake of cadmium for high chocolate consumers did not pose a health concern, the lack of MRLs for cadmium in cocoa and its derived products could threaten exports from some cocoa producing countries.
- As a result of all these actions, during the 37th Session of the *Codex Committee*, the it was agreed to initiate a new work on MRLs for Cadmium in chocolate and cocoa-derived products. The Committee agreed to establish an EWG led by Ecuador, co-chaired by Ghana and Brazil, to prepare proposals for MRLs for comments and considerations at the next session of the Committee, subject to approval by the Commission.



Code of Practices for the prevention and reduction of “Ochratoxin A” Contamination of Cocoa

Development of a Code of Practice for OTA

- At the 37th Session of the Codex Committee on Food Additives & Contaminants (37th CCFAC) held in The Hague in April 2005, the European Union proposed the development of a Code of Practice for the Prevention and Reduction of Ochratoxin A (OTA) in Cocoa and Coffee.
- The delegation from Ghana offered to lead an Expert Working Group (EWG) made up of Brazil, Cote d'Ivoire, Nigeria, EU, US, Indonesia, Philippines, Malaysia & India to draft the Discussion Paper for Cocoa only. The EWG was co-chaired by Brazil.
- The process to develop a Code of Practice for OTA involved several evaluations to identify actions to prevent and reduce presence of OTA in cocoa. That work culminated with the official publication of a Code of Practice for OTA by in this COP for cocoa in 2013.



Code of Practices for the prevention and reduction of “Ochratoxin A” Contamination of Cocoa

Methodology

- OTA is determined in cocoa powder using immunoaffinity column clean up with HPLC and fluorescence detection
- The validation was done using naturally contaminated and spiked samples of cocoa powder at levels from 0.2µg/kg and 1.5µ/kg
- The Code of Practice for cocoa was developed along the primary processing chain of cocoa in the following pre and post-harvest operations: pre-harvest, harvesting, pod breaking, fermentation, drying, grading, storage and export

**CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION
OF OCHRATOXIN A CONTAMINATION IN COCOA**

(CAC/RCP 72-2013)

1. INTRODUCTION



Code of Practices for the prevention and reduction of “Ochratoxin A” Contamination of Cocoa

Roadmap for the Prevention and Reduction of OTA in Cocoa in Ghana

- 1) **Adoption** of Code of Practice (COP) as a National Standard
- 2) Development of **Training Manual**
- 3) **Socio-Economic** Studies
- 4) **Cocoa extension** in Ghana
- 5) **PhD candidate thesis** on COP proposed (Codex C'tee)

Roadmap for the Prevention and Reduction of OTA in Cocoa for ALL COUNTRIES

- ALL cocoa producing countries are encouraged to implement the tenets of the COP in next 5-10 yr.
- ALL cocoa producing countries should be armed with DATA awaiting setting of MRLs if it becomes a world IMPERATIVE in future.
- A written request by any interested member country or International Organization to the Commission to set MRLs is all that it takes (subject to agreement by majority of members present at Plenary) to reactivate the race toward setting the limits.
- Request can be made only after 5-10 yrs after producing countries have had sufficient time to reduce or fail to reduce OTA in their countries (Excuses will no longer be valid).



Code of Practices for the prevention and reduction of “Ochratoxin A” Contamination of Cocoa

Conclusions

- The Code of Practice is a set of food safety guidelines on best practices to prevent and reduce OTA in cocoa
- Ochratoxin A is a toxic contaminant of food/feed
- Presence of fungi not equiv. to presence of OTA
- The COP if meticulously implemented would prevent and reduce OTA contamination of cocoa beans
- The COP should be adopted by all cocoa producing (GAP) and consuming(GMP) countries
- The COP would improve livelihoods of farmers
- All cocoa producing countries should generate data on level of OTA contamination to ensure informed decision making on setting of future MRLs in cocoa



Thank you!!!