

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



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Agenda Item 7

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON CONTAMINANTS IN FOODS

4th Session
Izmir, Turkey, 26 – 30 April 2010

PROPOSED DRAFT REVISION OF THE CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION OF AFLATOXIN IN TREE NUTS (ADDITIONAL MEASURES FOR BRAZIL NUTS) (N12-2009)

(Prepared by Brazil)

Codex Members and Observers wishing to submit comments at Step 3 on the above matter, including possible implications for their economic interests, should do so in conformity with the *Uniform Procedure for the Elaboration of Codex Standards and Related Texts* (Codex Alimentarius Commission Procedural Manual) before **15 February 2010**. Comments should be directed:

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BACKGROUND

1. A Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts was adopted by the Codex Alimentarius Commission (CAC) at its 28th Session. A specific Appendix, addressing Good Extractivistic Practice for Brazil Nuts was included in the Code of Practice and adopted by the CAC at its 29th Session.
2. A validation of good practices, with respect to the factors causing aflatoxin contamination in the Brazil nut production chain and the methods of control available, has recently been completed in the STDF¹ SafeNut project². The findings from this project indicate a need to update the current code of practice for the prevention and reduction of aflatoxin contamination in tree nuts. The final report of the SafeNut project can be found on the STDF web site¹.

¹ The Standards and Trade Development Facility (STDF) is a global programme in capacity building and technical co-operation established by the Food and Agriculture Organization of the United Nations (FAO), the World Organization for Animal Health (OIE), the World Bank, the World Health Organization (WHO) and the World Trade Organization (WTO).

² <http://stdf-safenutproject.com/> (STDF project 114)

3. The 3rd Session of the Committee agreed to initiate new work on the revision of the Appendix on Additional Measures for the Prevention and Reduction of Aflatoxin Contamination in Brazil Nuts in the Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts subject to approval by the 32nd Session of the Commission. The 32nd Session of CAC approved this new work.
4. The Proposed Draft Revision of the Appendix on Additional Measures for the Prevention and Reduction of Aflatoxin Contamination in Brazil Nuts in the Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts is presented in Annex I with the major changes highlighted for ease of reference.
5. The justification for some of the changes to the text is provided in Annex II.

APPENDIX

PROPOSED DRAFT REVISION OF THE ADDITIONAL MEASURES FOR THE PREVENTION AND REDUCTION OF AFLATOXIN CONTAMINATION IN BRAZIL NUTS

INTRODUCTION

1. The formulation and acceptance of an appendix to the Code of Practice for the Prevention and Reduction of Aflatoxins Contamination in Tree Nuts will provide uniform guidelines for producing countries to consider in attempting to control and manage contamination of Brazil nuts by aflatoxins. In order for these measures to be effective, it will be necessary for collectors, processors and other members of the production chain to consider the general principles established by the Code, while taking into account the fact that Brazil nut tree (*Bertholletia excelsa*) is not cultivated. This specie exists all over the Amazon Region, however the largest concentrations of trees are in the Brazilian Amazon.
2. This appendix applies only to Brazil nuts, given the very specific conditions related to their collection and processing.

RECOMMENDED PRACTICES BASED ON GOOD EXTRACTIVISTIC PRACTICES (GEP)

PRE-COLLECTION

3. **The extractivists should clear the area under the Brazil nut trees, removing residual pods and nuts from the former crop.** Pods left from the last crop season should never be mixed with pods from the present crop season, as they represent a potential source of contamination with *Aspergillus*.

COLLECTION

4. **Collection should proceed continuously as soon as possible after the pods have fallen from the trees.** A certain delay in the collection is expected because during the crop season remaining pods may fall, posing a risk to the lives of the collectors.
5. **Pods should be sorted to remove damaged ones and gathered in piles, if possible, in thin layers, for only a short period of time (preferably less than 5 days) .**

POST COLLECTION

6. Pods should be opened as soon as possible after collection, with the nuts being removed and separated from the pods and placed on clean and dry floor or plastic canvas in good condition, to avoid contact with the soil. During the opening of the pods care should be taken to avoid damage to the nuts as much as possible. **The nuts should be sorted to remove damaged and empty ones.**
7. Initial transportation of the nuts, from the forest to a storage facility, should occur as soon as possible, using containers that are clean, dry and protected against rain and insects, to the greatest extent possible.
8. **To avoid aflatoxin formation the nuts should be dried to a safe moisture level preferentially within 10 days from the collection. Sun-drying is normally not sufficient to reach a safe moisture level due to the high relative humidity in the rain forest environment. This recommendation is particularly important when producing Brazil nuts to be traded as “in-shell” where contaminated nuts are difficult to distinguish from sound nuts without cracking the nut. The nuts should be protected against rain and pests, such as birds, rodents and insects and any other source of contamination.**

9. After drying, the nuts should be placed in a storage facility with a floor at least 50 cm above ground level; protected against rain and pests and that allow good air circulation. For the purpose of identification and traceability, nuts, in bulk or in bags, from different origins and/or days of collection should preferentially be handled separately and kept separated until the final processing and packaging. This recommendation applies specially to the processor level, considering that is very difficult to achieve it at community level.

10. During the transportation of the nuts from the primary storage facility, in bulk or in bags, either to an intermediate location or to a processing facility, the nuts should be separated from other goods, in containers that are clean, dry, protected against humidity and free from insects and visible fungal growth. Conveyances for transporting nuts should be made of material that will permit thorough cleaning and maintenance so as not to constitute a potential source of contamination for the Brazil nuts.

11. If the nuts are stored at an intermediate location, before reaching the processing facility, the storage facility should have the following:

- a) protection from rain and pests;
- b) a washable and impermeable floor;
- c) drainage of ground water;
- d) good air circulation;
- e) sufficient area and proper divisions to allow separation of lots .

This intermediate storage is only recommended if the moisture content of the nuts corresponds to a water activity below 0.70. Otherwise no intermediate storage is recommended, especially for nuts expected to be marketed in-shell.

GENERAL RECOMMENDATIONS

12. National, State and local governments, as well as Non Governmental Organizations – NGOs, trade associations and cooperatives should provide basic education and update information on the hazards associated with aflatoxin contamination to the agents involved in the Brazil nuts production chain.

13. Local people (extractivists) involved in the collection of Brazil nuts should be regularly trained in personal hygienic and sanitary practices that must be implemented at all stages of production including the pre-collection, collection, post-collection and processing.

14. It is recommended that further development and validation of the current quality control system, used in most processing plants, by checking the percentage of “bad” nuts in the incoming lots be undertaken. This method may be used as a tool for decision if a lot can be commercialized as “in-shell” nuts or should be shelled and sorted to eliminate the bad nuts.

Justification for the proposed changes

Recommended Practices Based on Good Extractivistic Practices (GEP)

Pre-Collection

Paragraph 3 - Justification: This step occurs simultaneously to collection. It is important that some pods remain in the forest in order to provide the species propagation.

Collection

Paragraph 4 – The time delay before all pods have fallen from the trees can take several weeks and hence the first pods may rest in the forest for too a long time.

Post Collection

Paragraph 6 – At this stage it is difficult to identify rotten and rancid ones. Furthermore damaged nuts include these nuts.

Paragraph 8 - The sun-drying as it is done presently, does not reduce the initial moisture content of the nuts to a safe moisture level in order to allow primary storage, i.e. in the rain forest area. The SafeNut results show that the aflatoxin-producing fungi infect the nuts early, in the forest. Furthermore, the results show that the main aflatoxin production occurs during the primary storage and that sun-drying, as it is done presently, is not sufficient to reach safe moisture levels (corresponding to water activity below 0.70).

Paragraph 14 - Bad nuts, with yellowish colour of the nut kernel, are likely to contain very high levels of aflatoxins according to the results of the STDF-SafeNut and the ConforCast projects.”