

# codex alimentarius commission



FOOD AND AGRICULTURE  
ORGANIZATION  
OF THE UNITED NATIONS

WORLD  
HEALTH  
ORGANIZATION



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Agenda Item 17 (d)

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ORIGINAL LANGUAGE ONLY

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS

Thirty-seventh Session

The Hague, the Netherlands, 25 – 29 April 2005

### DRAFT AND PROPOSED DRAFT MAXIMUM LEVELS FOR CADMIUM COMMENTS AT STEP 6 AND AT STEP 3 (IN RESPONSE TO CL 2004/9-FAC AND CL 2004/27-FAC)

The following comments have been received from Cuba, Egypt, European Community and Singapore

#### **Cuba:**

La delegación de Japón propuso un nivel máximo de 0.4 mg/kg de Cd para el arroz pulido debido a las características geológicas del suelo. La Comunidad Europea señaló que con este valor podía ser excedida la ISTP por consumo de arroz, especialmente para niños.

En Cuba, aunque el arroz de producción nacional no alcanza los 0.4 mg/kg de Cd teniendo en cuenta el elevadísimo consumo de arroz y el importante volumen de arroz de importación que se requiere, consideramos que con este valor se corre el riesgo de sobrepasar la ISTP y por ello **Cuba está de acuerdo con mantener un NM de 0.2 mg/kg de Cd en el arroz pulido.**

En el caso de los moluscos, se discute la aprobación de los NM de Cd en moluscos bivalvos (1mg/kg), (Scallops) (1mg/kg), cefalópodos (2mg/kg) y ostras (3mg/kg). El consumo de estas especies no debe representar una contribución considerable a la ISTP (0.007 mg de Cd semanales por kg de peso corporal), por lo que Cuba no considera necesario establecer NM.

#### ***(ENGLISH TRANSLATION)***

The Japanese Delegation proposed a maximum level for Cadmium of 0.4 mg/kg in polished rice due to the geological characteristics of the soil. The European Community pointed out that with this value the PTWI could be exceeded due to the consumption of rice, especially in the case of children.

In Cuba, where the national rice production does not reach 0.4 mg/kg of Cadmium taking into account the huge rice consumption and the significant quantity of rice that needs to be imported, we think that this value implies the risk of exceeding the PTWI and that is the reason why **Cuba agrees to maintaining an ML for Cadmium of 0.2 mg/kg in polished rice.**

As for molluscs, we question the approval of the MLs for Cadmium in bivalve molluscs (1mg/kg), (Scallops) (1mg/kg), cephalopods (2mg/kg) and oysters (3mg/kg). The consumption of these species does not imply a considerable contribution to the PTWI (0.007 mg/week body weight), and therefore Cuba does not think it is necessary to set MLs.

**Egypt:**

The exposure assessment study had been conducted according to Japanese consumption pattern, which is totally different from the Egyptian consumption pattern.

In addition we feel that the suggested levels are relatively high. Such levels can not be accepted as we in Egypt have some health problems related to Cadmium as a causing factor.

A level of 0.2 mg/kg can be accepted.

**European Community:**

In October 2004, the European Community submitted comments on the proposed maximum levels for cadmium (given in Appendix XXIII of ALINORM 04/27/12) as published in document CX/FAC 05/37/29.

However, in view of the recently published draft summary report from the 64<sup>th</sup> session of JECFA which includes an assessment on cadmium, the European Community provides the following additional comments:

1. The assessment by 64<sup>th</sup> JECFA does not address the impact on dietary intake for high level consumers and for groups of the population that are more likely to consume products containing the higher levels of cadmium. The impact on dietary intake by average level consumers, for example eating rice containing average levels of cadmium, is interesting but gives a limited picture. Also, the usefulness of probabilistic modelling is limited without accurate consumption data for the groups of the population that are most likely to consume rice containing cadmium at the higher levels up to 0.4 mg/kg. What are the implications on the dietary intake for high level consumers, high level consumers in regions where rice tends to contain higher levels of cadmium or brand-loyal consumers who may choose to regularly eat a brand with cadmium up to 0.4 mg/kg?
2. The report from the 61<sup>st</sup> meeting of JECFA indicates that toxic effects are possible in humans at the PTWI of 7 µg/kg body weight, with no safety margin. Also, if a high maximum level of 0.4 mg/kg were set this could result in more rice being grown on contaminated soils which would lead to increased dietary intake of cadmium from rice. In view of the large contribution towards the PTWI if rice were to regularly contain levels above 0.2 mg/kg, the EC could not support a maximum level of 0.4 mg/kg.
3. If impact assessments using different maximum level scenarios are requested from JECFA, they should specifically address the population groups that are most likely to be at risk. E.g. if cadmium is high in rice from certain regions then the intake assessments should take into account the consumers of that rice.
4. Guideline levels are set by Codex to apply to foods in international trade, as described in the Codex General Standard for Contaminants and Toxins in Food ('Proposals for MLs in products shall be based on data from at least various countries and sources, encompassing the main production areas/ processes of those products, as far as they are engaged in international trade'). Japan appears to have a regional issue with some rice containing cadmium up to 0.4 mg/kg, being influenced by geological factors. It appears that such rice is not exported, in which case it would be possible to set the original proposed level of 0.2 mg/kg for rice on the basis that this level is achievable for products in international trade.

**Singapore:**

1. With reference to the proposed draft maximum level of 0.4 mg/kg for cadmium in polished rice (Alinorm 04/27/12 and Appendix XXIII) returned to Step 3 for further consideration by 37<sup>th</sup> CCFAC, Singapore would like to reiterate its concerns over the proposed maximum draft level for cadmium raised in the 27<sup>th</sup> CAC.
2. Based on our calculation using cadmium level of 0.4 mg/kg, the provisional tolerable weekly intake (PTWI) of 0.007 mg/kg bw could easily be exceeded by consuming rice alone without taking into account of the other sources of cadmium in the diet. This is particularly critical for the Asian region where rice is a staple food. We have done the following calculation based on GEMS/Food Regional Diet (Far Eastern):

PTWI of cadmium is 0.007 mg/kg body weight. I.e. 0.42 mg/week for a 60 kg adult.

Based on GEMS/Food Regional Diet (Far Eastern) polished rice intake per person per day is 277.5 g. i.e. weekly intake of rice is 1.942.5 g of 1.9425 kg.

If the rice consumed daily contains 0.4 mg/kg cadmium, weekly intake of 1.9425 kg rice alone would contribute 0.777 mg cadmium, or 1.85 times of PTWI of cadmium for the adult.

The 64<sup>th</sup> Session of JECFA in February 2005 concluded that the effect of different maximum levels on overall intake of cadmium would be small. The conclusion was based on the impact assessments of different maximum levels on the mean concentration and mean intakes of cadmium. The average concentrations of cadmium in rice used in the study were low (0.061 mg/kg for rice samples from Japanese and 0.017 mg/kg for rice from other countries). Hence the result of the assessment may not be applicable to consumers with long-term consumption of rice that contains high cadmium levels due to the rice produced in geographical areas with high background cadmium.

If maximum level of 0.4 mg/kg for cadmium in polished rice is accepted unconditionally, it would give an erroneous impression that there is no health risk for people who consume rice with 0.4 mg/kg cadmium over the long term.

3. In view of the significant contribution towards PTWI and the draft maximum level of cadmium from 0.2 mg/kg to 0.4 mg/kg in polished rice.