CODEX ALIMENTARIUS COMMISSION

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World Health Organization

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Agenda Item 8 **CF12/CRD18**

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON CONTAMINANTS IN FOODS

Twelfth Session
Utrecht, The Netherlands, 12 - 16 March 2018

PROPOSED DRAFT REVISION OF THE CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION OF DIOXINS AND DIOXIN-LIKE PCBS IN FOOD AND FEED (CAC/RCP 62-2006) (AT STEP 4)

Comment submitted by Japan

JAPAN

Japan appreciates the efforts by the European Union in leading the electronic working group (EWG) to prepare the proposed draft revision of the Code of Practice (COP). Japan would like to provide the following comments in response to the request for comments at Step 3.

Comments on the "INTRODUCTION"

Japan supports the advancement of the proposed draft revision of the COP presented in APPENDIX I to Step 5 if the following amendments are included.

Generally, a detailed description is not included in the "INTRODUCTION" in most existing Codex COPs, while it provides Members and Observers with useful information for discussion. In view of this, the "INTRODUCTION" needs to be shortened before advancing the draft COP to the Commission for final adoption to include only the information essential for using the COP.

- Paragraphs 11 and 12 on JECFA evaluation under the "General Remarks" should be deleted as they need to be updated every time new evaluation by JECFA on dioxins and PCBs is available in the future.
- In order to make the "INTRODUCTION" shorter, the current description under the "Transfer of dioxins and PCBs in food producing animals" should be simplified and the explanations of the terms TRs and BCFs should be included in ANNEX GLOSARY OF TERMS rather than in the body of the COP. Japan would like to propose the following amendments on Paragraphs 15 to 19:

  15. Dioxins and PCBs accumulate in tissues of food-producing animals, including fish. In addition, they can be excreted in fat-containing products such as milk and eggs. There are clear differences in toxicokinetic behaviour between the various dioxin and PCB congeners. ~~Certain dioxins and PCBs can also specifically accumulate in the liver as shown in laboratory animals which is due to the binding to CYP1A2, rather than accumulation in fat. Since this so-called sequestration process is congener specific, it will lead to differences between the relative congener composition in liver and fat. High concentrations in liver are a particular issue in foraging animals like sheep and deer.~~

  16. For most farm animal species ~~there are data, either from controlled studies or incidents, which give insight into the transfer of dioxins and PCBs.~~**, existing s**~~S~~tudies have shown that dioxins and PCBs are accumulated in body fat and liver, but also excreted into eggs and milk. This excretion contributes to lower accumulation in the body, and decreased levels after termination of the exposure. In growing animals the increase in body fat mass is also an important factor in the tissue levels obtained during exposure, which decreases after termination of the exposure. ~~In addition, metabolism and excretion (e.g. via faeces) are expected to be involved in the accumulation and decrease of dioxins and PCBs in body fat and liver, although no specific data on these processes in farm animals were identified.~~

  17. Factors related to t~~T~~he kinetics of contaminants in the animal ~~may be described by factors~~ like the

  - transfer rate~~s~~ (TR~~s~~) ~~describing the percentage of the ingested contaminant that is excreted in milk or eggs~~ or

  - bioconcentration factor (BCF)~~, describing the ratio between the level in tissues, milk or eggs, and that in the feed. BCFs are more suitable for tissues, since it is more difficult to obtain the information on the total weight of muscle or adipose tissues in the animal required to calculate the TRs.~~

~~18. Both TRs and BCFs will increase with prolonged exposure until a steady state is obtained. At that stage the TRs/BCFs have reached their maximum values. Levels in edible products will be overestimated when applying TRs/BCFs determined at steady state for only a short-term exposure. However, the major increase in the levels occurs during the first week of the exposure.~~

~~When using TRs to estimate the level in milk fat or egg fat for example, it is important to first estimate the intake level by multiplying the level in the feed (or ingredient) with the daily amount ingested. Subsequently, this intake level can be multiplied with the TR to estimate the total amount excreted into eggs or milk. Based on milk or egg production per day and their fat levels, the total amount of egg or milk fat excreted can be estimated. Combining these with absolute amounts excreted will result in an estimate of the level in milk or egg fat.~~

~~In the case of BCFs, the level in the feed can be multiplied with the BCF to obtain the level in the edible product of interest. When detected in an ingredient, the level should be extrapolated to the level in the daily ration. As in the case of TRs it is important to consider whether the BCFs were determined under steady state conditions or after a short-term exposure.~~

~~19. TRs and BCFs~~ differ~~s~~ for each congener but in practice those for the lower chlorinated and more persistent congeners are more relevant because they contribute most to the TEQ, like PeCDD, 2,3,4,7,8-PeCDF, TCDD, TCDF (in the case of chickens) and to a lesser extent the hexachlorinated PCDD/Fs. Only in some cases, like where pentachlorphenol (PCP) is the contamination source, will higher chlorinated congeners like HpCDD make a significant contribution to the TEQ level. In the case of DL-PCBs, PCB-126 and to some extent PCB-169 are the most relevant congeners in terms of contribution to the TEQ levels.

Comments on the "*Cooking practices*"

The main conclusions of the Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption (2011) should be included in the *"Cooking practices"* to more clearly emphasize the importance and the benefit of fish consumption, specifically with fat intake. Japan would like to propose the following amendments on Paragraph 54:

54. Household food preparation and cooking methods such as skinning, trimming the fat, in addition to the disposing of pan drippings and poaching/boiling liquids) are practical approaches to reduce exposure to dioxins and PCBs from fish. Although removal of fat can reduce dioxin and PCB levels significantly, such practices also reduce fat-soluble nutrients and other beneficial compounds (such as the long-chain n-3 polyunsaturated fatty acid ~~omega-3 fatty acids~~). Fish is an important food source of energy, protein and a range of essential nutrients. Consumption by adult of fish, particularly fatty fish, lowers the risk of mortality from coronary heart disease, and consumption by pregnant women of fish lowers the risk of suboptimal neurodevelopment in their offspring. Therefore, it is essential to carefully consider both risks and benefits in any public health message regarding food consumption.