

10/11/2011

***Ad-Hoc* Intergovernmental Codex Task Force on Animal Feeding  
(6th Session)**

Berne, Switzerland, 20-24 February 2012

**European Union comments on the  
Proposed draft prioritised list of hazards in feed  
(Agenda Item 5, CX/AF 12/6/5)**

*European Union Competence  
European Union Vote*

The European Union (EU) would like to thank Switzerland for preparing this document which forms a good basis for further discussion. The EU would like to submit the following comments:

**(i) General comments**

The document at present does not attempt to develop a prioritised list of hazards, only lists them and provides criteria to carry out the prioritization. This should be clarified.

Although not necessarily directly applicable, the following existing work prioritization criteria within Codex are useful resources when further developing the criteria for prioritisation of hazards:

- Criteria for the Establishment of Work Priorities;
- Guideline on the Application of the Criteria for the Establishment of Work Priorities;
- Prioritization criteria as used for the priority list for JECFA ( i.e. para. 20 of the Risk Analysis Principles Applied by the Codex Committee on Food Additives and the Codex Committee on Contaminants in Foods).

It could be made more clear in the text, in the flowchart and also in the tables, which substances or agents are covered and relevant in the list and which are not. Substances found in feed that are not transferred to animal products should either not be listed or be listed as substances that are known not to be relevant for food safety. If this information is included it could meet the requirement of prioritisation.

There should be a better linkage between the flowchart, the Tables 1, 2 and 3 and the text. In its present form, it is not easy to read the five elements at the same time and to avoid inconsistencies. There is a need to consider if and how Figure 1, the Flowchart and Tables 1 and 2 can be simplified to facilitate reading and understanding.

The draft is rather confusing as regards veterinary drugs – it is not clear whether the hazards listed include the regular use of veterinary drugs as medicated feed. It should be clarified in the paper whether medicated feed should not be included since considerations about it are already addressed in the Codex documents on veterinary drugs. As regards residues of veterinary drugs in feed of animal origin - are there any examples that the concentrations are so high in the “next animal in the food chain” that it can cause any hazard for humans?

Same question relating to pesticides. Can residues of pesticides in feed result in significant residues in food of animal origin? Another question can of course be illegal use or abuse.

The presence of residues of feed additives in food of animal origin could be relevant and should be addressed more clearly in the document.

There is a need to consider including hazards which may enter the food chain via feed such as residues of certain antibiotics used as processing aids and other compounds in co-products and by-products from the biofuel, oleochemical and more in general chemical industries.

Throughout the text the terms minerals, mineral supplements, supplemental minerals are used in several places. While there are in some places some explanations about what is meant, taking into account that there does not seem to be definitions for them at present, it may be good to examine carefully if it is understood to mean the same for all readers of the documents.

The EU comments on Tables 1, 2 and 3 are of a preliminary nature at this stage due to the vast array of subjects mentioned and its complexity, requiring very diverse expertise. Therefore, the EU may later suggest further clarifications and suggestions to the ones included here.

## **(ii) Specific comments**

### *Heading: Background*

Although no comments are requested for the background of the document, the EU wishes to make the following remarks to clarify certain issues.

p. 1: “... including primary production”: It should be clarified if the term "primary production" refers to food or feed or both.

p. 1 could be replaced with the following paragraph:

"1. This prioritised list of hazards provide a structured framework based on existing Codex risk assessment methods to address the risks to human health associated with the presence of hazardous chemical, biological and physical agents in animal feed and their transmission through animal feed to food."

**Justification:** To align it better with the Codex definition of hazard.

p. 3: The text in italics with the mandate should be replaced with the appropriate mandate, following the text from ALINORM 33/10 rep:

*Develop a prioritised list of hazards in feed ingredients and feed additives for governmental use. The list should contain hazards of international relevance that are reasonably likely to occur, and are thus likely to warrant future attention.*

*In doing so, due consideration should be given to the prioritised list of hazards as recommended by the FAO/WHO Expert Meeting on Animal Feed Impact on Food Safety. Clear criteria should be used to prioritise the list of hazards and take account of the potential transfer of contaminants/residues in feed to edible animal products (e.g. meat, fish meat, milk, and eggs).*

Heading: Scope

ps. 4 and 5: Could be mistaken as being definitions. They should be perhaps formulated as in the other document on the draft guidelines.

The same EU comments as submitted in the other document relating to the term hazard are applicable here.

p.7: Physical hazards seem outright excluded. However, there should be a mention of physical hazards such as botanical impurities, which may be of relevance from a food safety point of view, particularly due to the presence of natural inherent toxins, which are chemical hazards. Those physical hazards which do not result in food safety hazards should be mentioned and clearly excluded.

Heading: Definitions

p. 8: Definition of "undesirable substances": not identical to the definition in the Code of Practice on Good Animal Feeding (CAC/RCP 54/2004).

p. 8: Definition of carry over. Same comment as in the other document regarding this definition.

p. 8: Definition of "edible product" should be in fact the definition of an "edible product of animal origin", as proposed also in the comments to the first document.

Heading: Relevance to human health

p. 10: Same comment as on p. 23 of the other document.

Heading: Extent of occurrence

p. 12: Typo: outlines should be replaced with outlining.

p. 15: Reference (footnote 16) for radionuclide contamination is made to the FAO document "Radionuclide contamination of foods: FAO recommended limits". It would be appropriate to also make reference to the Codex guideline levels for radionuclides which have been established in the General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995).

p. 16: It is proposed to delete the word "primary".

Heading FOOD HAZARD LIST

p. 18. The EU suggests amending the first sentence as follows: "The following list of human health hazards potentially associated with animal feed ....".

Heading: Biological hazards

Heading: Bacteria

p. 20: To hyphenate "coefficient" i.e. "co-efficient" in first sentence.

p. 21: The EU is proposing the following amendment:

"21. The primary microbiological hazards in feed that may be transmitted to food and pose a hazard (health risk) to humans are organisms such as *Salmonella* and *Brucella* which may contaminate animal and vegetable protein meals fed directly to animals. They may be introduced into feed from contaminated pasture land, forages and/or meals and during processing, transport, and storage."

p. 23: In the final sentence to delete "be" and replace with "pose".

Heading: Other

p. 24:

Describes the direct contamination of products of animal origin by feces and not feed. However, this direct contamination by feces is not within the scope of the guidelines or the prioritised list. Therefore, the EU would like to suggest focusing this paragraph on feed only.

The EU suggests also that the fourth sentence is amended as follows:

"Spores present in raw milk may survive during processing, and after germination and outgrowth, increase to high levels that may cause spoilage and human disease."

Heading: Endoparasites

p. 27: Delete the word "compound".

Heading: Viruses

p. 28: Last sentence replace "hygienic" with "hygiene".

Heading: Prions

p.29: The EU suggests that the second sentence is amended as follows:

"Prions are responsible for the Transmissible Spongiform Encephalopathies (TSEs) in a variety of mammals, including Bovine Spongiform Encephalopathy (BSE) in cattle and variant Creutzfeldt–Jakob Disease in humans."

Heading: Elements

The EU suggests that the heading is amended to "Chemical elements".

p. 32: Suggestion to amend the first sentence follows:

"A number of elements may present a toxic hazard to humans, depending on their ~~ionic~~ form and ligands."

p. 33: Suggestion to amend the last sentence as follows:

~~"Carry over~~ Transfer of radioiodines to milk, radiostrontium to bone, and radiocaesium to milk, eggs and meat has been demonstrated."

p.34: "lead paints" are not feed. Therefore, either they should not be mentioned or at least this point should be stated. The text could read: "... lead paints (could contaminate feed by leaching of lead to liquid feed or by sprinkling into the feed in a silo), ....".

p. 34: If presence of mercury in terrestrial animals is usually low (presumably when these animals are used as feed) then this should be made clearer and concluded in terms of the result of prioritization.

p. 34: In addition p. 34 is not consistent in its content.

- For arsenic: a number of feed materials are mentioned in which arsenic may occur. It is not clear from the wording if the feed materials are mentioned as examples or being the main feed materials in which arsenic occurs or if the list is aimed to be exhaustive
- For cadmium: a relative comprehensive list of feed materials in which cadmium might occur seems to be provided.
- For lead: besides feed materials in which they might occur also sources of lead contamination are provided. Furthermore, the list of feed materials in which lead occurs is certainly not exhaustive and even the main feed materials are not provided (e.g. forages / grass roughages).
- For mercury: see comment made above.

ps. 36- 40. Replace as follows:

"36. Transfer from feed to food of animal origin has been demonstrated for various mycotoxins including aflatoxin, ochratoxin and zearalenone, of which aflatoxin is the most frequently reported hazard. The significance depends on the rate of transfer.

37. Mycotoxins are produced by fungi which catabolise carbohydrates, and are therefore found in cereals (especially maize), cottonseed, peanut, and copra.

38. There is some evidence that mycotoxins in grain which is fermented for ethanol production may concentrate in Distillers' Dried Grains with Solubles (DDGS).

39. As the *Codex General Standard for Contaminants and Toxins in Food and Feed* (Codex Standard 193-1995) contains further information on mycotoxin contamination it could be made a reference to this document under this point."

p. 40: It is proposed to amend "Distiller's" to "Distillers".

p. 41: Insert colon after "include".

p. 41, third point: Typo "And" should read "and".

Heading: Bacterial toxins

p. 42: If the conclusion is that these hazards are unlikely to result into edible products of animal origin, this should be made clear. Therefore, they should be deleted or have a low rank in terms of prioritisation.

Heading: Terrestrial plant toxins

p. 43: Marine toxins can not only be produced in tropical and subtropical but also in temperate waters.

p. 44: Second sentence is a bit confusing as it refers to "alkaloids" and "pyrrolizidine alkaloids" which are also alkaloids. Therefore, it would be appropriate to first mention pyrrolizidine alkaloids and then mention "other alkaloids".

It would also be appropriate to spell out THC: "tetrahydrocannabinol" and replace "carry-over" with "transfer".

Heading: Marine toxins

p. 46: Delete the words "feed supplements" and eliminate the brackets around "fish meal" as fish meal can be used for several types of animals both as a supplement and as a meal.

p. 47: Marine toxins can not only be produced in tropical and subtropical areas but also in temperate waters.

Heading: Organic chemicals

p. 49: The examples given for dioxins formed during heat processing are not correct:

- The lime used in the contaminated citrus pulp was a by-product of the polyvinylchloride (PVC) production and the lime got contaminated with high levels of dioxins during the PVC production.
- The directly dried bakery waste got contaminated as the fuel used for direct drying, whereby the combustion gases come in direct contact with the material to be dried, was contaminated with PCBs. Therefore, the contamination was not the consequence of heat processing but because of making use of an inappropriate combustion material.
- Also non-dioxin-like PCB's (sum of 6 indicator-PCB's) should be mentioned here. Same comments to table 3, p. 121.

p. 49: The first sentence, namely "Dioxins, dibenzofurans and dioxin-like polychlorinated biphenyls (PCBs) are related groups of compounds and congeners which are more or less toxic to mammals including humans".

should be replaced with:

"49. Dibenzodioxins (PCDD), dibenzofurans (PCDF), dioxin-like polychlorinated biphenyls (DL-PCBs), hereafter referred to as dioxins, and non-dioxin-like polychlorinated biphenyls (NDL-PCBs) are related groups of compounds and congeners which are more or less toxic to mammals including humans."

**Justification:** More accurate terminology.

p. 50: Insert "and are very persistent" after "degree" in the first sentence.

p. 52: Replace current wording with:

"52. Some organic chemicals such as organochlorine pesticides (e.g. aldrin, dieldrin, DDT) are ~~relatively~~ persistent in the environment and the mammalian body, and are still in use in some countries. This can appear in feed and thus result in transfer and accumulation in the fat tissues of food-producing animals."

p. 53: Colourants intended to colour the flesh of salmon or eggs or other foods of animal origin are not processing aids and therefore seem not to be properly covered in this p. 53. They are considered to be feed additives in the EU.

A wording such as "feed additives such as colourants intended to color the flesh of salmon, eggs or other foods of animal origin, other residues of feed additives and certain processing aids are generally within the terms of reference of the Codex Committee on Food Additives."

p. 58: An additional sentence could be added to the end of the paragraph, as follows:

"As regards processing aids, measures should be undertaken to avoid their presence in feed."

p. 59: The reference to unapproved uses may be necessary to be qualified as not all countries and regions may have the same legal status for all veterinary medicines.



p. 61: As regards the risks from acrylamide, the transfer of acrylamide from contaminated feed to eggs appears to be very limited (even if a certain transfer has been demonstrated) and is in any case of little relevance and it would be appropriate to mention this in case acrylamide is kept as example (low in terms of priority).

Heading: Procedure

p. 62: Flowchart.

Overall the flowchart should be made more consistent and simplified. Furthermore, the usefulness of such a flow-chart needs to be demonstrated.

There is no box or indication how to deal with feed additives.

The box "minerals, including trace elements, and binders" should be split into three boxes separating the different concepts: one for mineral feeds in general, another one for nutritional feed additives (trace elements, aminoacids and vitamins) and another one for technological feed additives (binders, emulsifiers) and possibly also sensory additives such as flavourings and colourants. The purpose to address issues relating to feed additives to the relevant other Codex Committees or documents should be made clearer in the text.

The flowchart does not seem to work very well for chemicals added and produced by synthesis as they are not plant derived or animal derived. They would likely fall under the box "Other". However, the outcome of that box can be "yes" or "not" but it is not explained on the basis of what the answer to "Other" can be "yes" or "not".

The box "other" is in general very unclear.

When the outcome in the flowchart in some parts leads to "hazard not covered by these guidelines", it should be indicated which Codex document or Committee would deal with this hazard, as the reason why they are excluded usually is either because they are excluded from the list of hazards, because they are covered already somewhere else, because they are not relevant for food safety or because they are not dealt with at all.

There is only in one case that this is mentioned in the case of the veterinary drugs, pesticide residues where it is mentioned see Codex Standards. There are also Codex standards for mycotoxins in feed, and also Codex standards for other hazards in foods.

It is unclear how the flowchart deals with mycotoxins. Are mycotoxins considered plant derived?

Table 1

p. 69: Consider adding at last column "likely residues of veterinary drugs, pesticides, feed additives and processing aids".

A lot of proposed entries are unclear and require clarification. Hereafter follow some but not exhaustive comments.

p. 70: Query "manure can be spread to land which could contain viruses, endoparasites and prions". Also in last column add "likely residues of pesticides".

ps. 71 to 78: The "-" in the column on organochlorine pesticides should be clarified.

p. 72: The meaning of the + in the column dioxins PCBs should be clarified. It could be probably replaced with (+).

p. 73: The meaning of the "+" in the columns mycotoxins and plant toxins should be explained.

p. 73: The meaning of the "-" in the column "residues of veterinary drugs, pesticides, processing aids" should be explained. May be it should be replaced with a "+", particularly taking into account possibility of residues of veterinary drugs.

p. 77: The meaning of the "-" in columns plant toxins and heavy metals should be clarified. The "-" in the column residues of veterinary drugs, pesticides, processing aids should be replaced by a (+) in order to be in accordance with paragraph 57 of the document (e.g. residues of antibiotics in DDGS).

p. 78: The meaning of the "-" in the columns mycotoxins and plant toxins should be clarified.

p. 79: Mycotoxins in drinking water. Are there data to show that mycotoxins have been detected in drinking water?

### Table 2

### Table 3

In general: Bones as edible tissues should be explained (used for broth).

p. 98: The heading of the 3<sup>rd</sup> column should be completed. Probably it is meant "How to reduce risk".

p. 98: The heading of the 4th columns should be "edible products of animal origin."

p. 100, 4<sup>th</sup> column, "poultry products" should be replaced with "meat and meat products".

p. 104 should be a blank space.

p.106, 1<sup>st</sup> column: the isotope <sup>134</sup>Cs should be added.

p. 106 typo: To amend radiocesium to radiocaesium.

p. 106, 2<sup>nd</sup> column: To delete the word "animal".

p. 109, 4<sup>th</sup> column: edible fungi are no edible products of animal origin and should therefore be deleted.

p. 110, 4<sup>th</sup> column: Bones could only be edible products presumably if consumed in broths. Milk products can contain also lead. Is brain a relevant food to be mentioned as being contaminated by lead?

p. 110: Lead could be reduced by not using lead in paint and plumbing systems.

p. 114, 2<sup>nd</sup> column: Deoxynivalenol is a trichothecene, therefore, it would be appropriate to mention it as follows: e.g. trichothecenes (such as deoxynivalenol)

4<sup>th</sup> column: it would be appropriate to explain what DOM1 stands for. It seems it should be DON1 and then it should be mentioned in full.

p. 118: Fodder is not defined in Codex documents and could be replaced by feed.

In line with comments made on paragraph 44, it would be appropriate to reverse the order between p. 118 and p. 119 and to replace "Alkaloids" by "Other alkaloids".

p.121, 3<sup>rd</sup> column: It is unclear how the description "lipophilic, so assay oil/fat feed component" can be explained as a way to reduce contamination.

p. 121: add "and use uncontaminated batches" in "how to reduce risk" column.

p. 123, 2<sup>nd</sup> column: "Crops treated with pesticides" should be added.

"Nectar of antibiotic-treated fruit trees" – is that relevant? Or reflected in the document? Should processing aids of feed also included?

p. 123, 3<sup>rd</sup> column: The term "wait times" should be replaced with "withdrawal period" or "period of time allowing for elimination of the residue from the edible product of animal origin".

p. 123, 4<sup>th</sup> column: Veal and pork meat should be replaced by "all animal products" or similar.

Taxonomical names should be mentioned in italics throughout the document (such as in ps. 35, *Staphylococcus* and also 100, 101).