

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



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Agenda Item 6

CX/PR 08/40/4
March 2008

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON PESTICIDE RESIDUES

Fortieth Session

Hangzhou, China, 14 - 19 April 2008

PROPOSED DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS AT STEP 3

Prepared by the Netherlands and the USA

This document is being circulated at Step 3 of the Procedure. Governments and interested international organizations are invited to prepare their comments and be ready to consider it at the next 40th Session of the Codex Committee on Pesticide Residues.

Introduction

1. During the 39TH Session of the CCPR in 2007 the Committee agreed to circulate the proposals for the “Bulb Vegetables” and the “Fruiting Vegetables, others than Cucurbits” to circulate them for comments and further discussion at the next session.
2. The Committee agreed to re-establish the Electronic working group led by the Netherlands and the United States, working in English and open to all Members and observers, which should prepare:
 - Revised commodity groups for “Bulb Vegetables” and the “Fruiting Vegetables, others than Cucurbits”, if necessary, taking into account the comments received in response to the Circular Letter;
 - proposals for other commodity groups according to the agreed time table; and
 - a draft document outlining the principles of and guidance on the selection of representative crops for the purpose of extrapolation of MRLs.

The progress made in the last year on these subjects is presented below.

Working documents will be uploaded onto the Codex website:

www.codexalimentarius.net/web/index_en.jsp

Delegates are kindly requested to bring with them to the meeting all documents which have been distributed, as the number of additional copies which can be made available at the session is limited.

Revised commodity groups for “Bulb Vegetables” and the “Fruiting Vegetables, others than Cucurbits”

3. In September 2007 a Circular Letter (CL 2007/36 – PR) was sent to the Codex Contact Points and International Organisations in which comments were requested on the proposals for “Bulb Vegetables” and the “Fruiting Vegetables, others than Cucurbits” with a deadline of 1 November 2007.

4. Comments were received from Australia, Japan, United States of America, Canada, Thailand, Brazil, Costa Rica and the European Community.

5. The proposals are amended according to the received comments and presented in Addendum 1 to CXPR 08/40/4.

The governments of the USA, Canada, Brazil and Costa Rica agreed with the proposals for “Bulb Vegetables” and the “Fruiting Vegetables, others than Cucurbits”.

The Government of Costa Rica made a comment on the difference between Classifications of Food and Animal Feeds and the classification of the portion of commodities to which Codex Maximum Residue Limits (Section 4.1, Volume 2 of Codex Alimentarius) apply and which is analysed.

The Government of Japan send general comments reiterating the primary purpose of the Classification and stated that the Classification is also used for describing MRLs for contaminants. Specific comments is given on the selection of representative crops, for which a separate document on principles and guidance is drafted. These comments will be taken on board after agreement on the principles and guidance on the selection of representative crops.

The Government of Australia re-iterated their comment made at the 38th Session of the CCPR that the drafting group consider carefully the likely impact that any change to existing crop groups will have on existing CXLs and the possible impediments to trade need to be identified and brought to the attention of the Committee, before amendments to the classification are approved. The detailed comments on the “Bulb Vegetables” and the “Fruiting Vegetables, others than Cucurbits” is discussed below.

The European Community did comment on proposed extrapolations, which will be discussed at a later date. Detailed comments on the “Bulb Vegetables” are discussed below.

Received comments on Bulb vegetables

The government of Australia considers the deletion of the entry for fennel bulb from the Bulb vegetables and place it in the group of Stem Vegetables. The impact on trade and the impact on the existing CXLs for fennel in the commodity bulb vegetables must be considered carefully. In respect of “the portion of the Commodity to which the MRL applies and which is analysed” the consistency with the rest of the crop group and associated entries in HH and HS groups (fennel tops and fennel seeds) must be considered.

Australia wonders if Onion, fresh is a type of bunching onion that could be added to the description Onion, bunching fresh? It is recommended to keep the Onion fresh and the Welsh (is an bunching onion separate, because they are two distinct types of onions in Japan and China. See the descriptions below.

Welsh Onion:

The Welsh onion is the principal onion of Japan and China, but of limited importance in the U.S. Plants typically exhibit 5 to 8 leaf blades aligned much like an open fan, and the leaves are swollen in appearance. The bulbs become only slightly enlarged. Plants multiply by tillers from a mother plant, so clusters of plants result from planting a single one. In the Orient, the leaves and leaf bases are often blanched by covering with soil. In the Orient and in the U.S., they are also marketed as green onions. The thick, swollen leaves and leaf bases are harvested. The plump succulent pseudo-stems, as well as young leaves and seedlings are eaten raw, stir-fried or as a condiment. Varieties in Japan (Yagura-negi) produce bulbils at the top of the seed stalk. In China, the growing season is March to August or September in northern regions and from April to July in southern region

Fresh Onion:

The fresh onion is native to western and central China, and grown as an annual/biennial plant. Deep green leaves are long and slender. Different forms of fresh onion are fairly similar to Welsh onion that are short and have a strong tillering habit. The fresh onions plants have leaves that are slender, tubular and end with a small pointed tip. In warm areas, the crop can be planted and harvested all year round. In cool temperature areas, plantings occur in spring, summer and autumn. The cultivar in Japan does not produce seeds but propagates itself from bulbs

The European Community proposes to replace in the definition for bulb vegetables .. , of the genus *Allium* of the lily family (Liliaceae) by "..., of the genera *Allium* of the familia Alliaceae and *Lilium* of the familia Liliaceae. This is amended in the proposal.

The European Community disagrees with the inclusion of *Elegans hosta* in the Bulb vegetables group, because *Elegans hosta* does belong botanical to the genus *Hosta* of the family Agavaceae. Species of this family are without bulbs. In the US classification four commodities are included that are not *Allium* species: the Daylily [*Hemerocallis fulva* (L.) L.], *Elegans hosta*, [*Hosta sieboldiana*], Fritillaria, [*Fritillaria L. fritillary*], and Lily [*Lilium* spp.]. They are very similar to some of the *Allium* species in terms of physical characteristics and cultural practices. These commodities were proposed by Japan to the ICCGCC.

The European Community agreed with the classification of fennel, bulb in the group of Stem Vegetables.

Received comments on Fruiting vegetables, other than Cucurbits

Thailand requested to add Bird chili peppers (*Capsicum Frutencens L.*) with reference to Peppers, chili. This commodity is added to the list.

The government of Australia made comments on sweet corn, which is recommended for inclusion in the cereal grains for which they will make a clear distinction in that group between commodities that are harvested and consumed dry and commodities harvested fresh such as sweet corn. Before amendment of the cereal group the post-harvest uses should be carefully reviewed.

Australia also proposed to make a cross-reference for Tamarillo or tree tomato from group 5 to group 6, because this commodity is incorrectly classified at present. This reference is added in the proposal.

An additional request from the USA is to include Goji berry (*Lycium barbarum L.* in the subgroup 12A Tomatoes. This commodity belongs to the Solanaceae. This commodity is added in the proposal.

Proposals for other commodity groups

6. In the work plan presented in the 2007 CCPR it was scheduled to prepare proposals for the following commodity groups for the CCPR 2008:

Berries and Small Fruits; Edible Fungi; Herbs; Spices; Tree nuts; Oil Seeds; Citrus Fruits; Pome Fruits; Stone Fruits; Leafy Vegetables;

Due to delay of the work by the International Crop Grouping Consulting Committee and the limited resources of the Netherlands and the United States only finished the commodity groups "Berries and Small Fruits" and "Edible Fungi" 7. The draft proposals on "Berries and Small Fruits" and "Edible Fungi" were send to the electronic working group for comments on December 5th 2007 with a deadline for comments January 15, 2008. No comments of the Electronic working group were received. It is recommended to circulate these proposals by means of a circular letter and not to discuss them in the meeting.

8. Work on the groups *Citrus fruits and Oilseeds* has been initiated.

The ICCGCC finalised work on the crop groups Pome fruits and Stone fruits. The Netherlands and the United States will soon start the work on those groups.

For CCPR 2009 we hope to work following the progress made by the ICCGCC.

Draft document outlining the principles of and guidance on the selection of representative commodities for the purpose of extrapolation of MRLs.

9. The Netherlands prepared a first draft proposal and send it to the United States for further finishing of the document. It is send to the Electronic Working Group of Codex for comments with deadline 28 February 2008.

10. Comments were received from Australia and the document was amended accordingly. One discussion point was left. This is on if the guidance document on the selection of representative commodities should be an Appendix of the Codex Classification or a stand-alone document.

11. This draft document is included in Addendum 2 to this document.

Recommendations

12. The delegations of The Netherlands and the USA propose to the Committee to discuss the proposals for the “Bulb Vegetables”, “Fruiting Vegetables, others than Cucurbits”, at Step 4 and propose to advance these proposals for adoption at Step 5.

13. The delegations of The Netherlands and the USA propose to the Committee to circulate the proposals for *Berries and small Fruits* and “*edible Fungi*” for comments.

14. The delegations of the Netherlands and the USA propose to the Committee to re-establish the Electronic working group led by the Netherlands and the United States, working in English and open to all Members and observers, which should prepare proposals for commodity groups according to the progress made by the ICCGCC.

15. The delegations of the Netherlands and the USA propose to the Committee to deal with the recommendations in the document on the selection of representative commodities, principles and guidance.

Addendum I to CX/PR 08/40/4**Draft Proposals for the revision of the commodity groups Bulb vegetables and Fruiting vegetables, other than Cucurbits****DRAFT proposal for the Bulb Vegetables Group****Bulb vegetables****Class A****Type 2 Vegetables Group 009 Group Letter Code VA**

Bulb vegetables are pungent highly flavoured foods derived from fleshy scale bulbs (in some commodities including stem and leaves), of the genera *Allium* of the familia Alliaceae and *Lilium* of the familia Liliaceae.

The subterranean parts of the bulbs and shoots are protected from direct exposure to pesticides during the growing season.

The entire bulb may be consumed after removal of the parchment-like skin. The leaves and stems of some species or cultivars may also be consumed.

Bulb onions are Bulb Vegetables with mature bulbs. The entire bulb may be consumed after removal of the parchment-like skin.

Green onions are bulb vegetables with immature bulbs. Immature bulbs may be consumed and also leaves and stems of some species of cultivars may also be consumed.

Group 009A Bulb onions: Mature bulbs (dry)

Group 009B Green onions: immature bulbs including leaves stems and flowers

Portion of the commodity to which the MRL applies (and which is analysed): **Bulb onions: Whole commodity after removal of roots and adhering soil and whatever parchment skin is easily detached. Green onions: Whole vegetable after removal of roots and adhering soil.**

Group 009 Bulb vegetables

<u>Code No.</u>	<u>Commodity</u>
VA 0035	Bulb vegetables

Group 009A, Bulb onions

<u>Code No.</u>	<u>Commodity</u>
VA -	Bulb Onions
VA -	Daylily
	<i>Hemerocallis fulva</i> (L.) L.
VA -	Fritillaria (bulb)
	<i>Fritillaria camchatcensis</i> (L.) Ker. Gawl.
VA 0381	Garlic
	<i>Allium sativum</i> L.
VA 0382	Garlic, Great-headed
	<i>Allium ampeloprasum</i> L., var. <i>ampeloprasum</i>
VA -	Garlic, Serpent

	<i>Allium sativum</i> var. <i>ophioscorodon</i> (Link) Döll
VA -	Lily
	<i>Lilium</i> spp.
VA 0385	Onion, Bulb
	<i>Allium cepa</i> L. var. <i>cepa</i> , various cultivars
VA 0386	Onion, Chinese
	<i>Allium chinense</i> G. Don.;
	syn: <i>A. bakeri</i> Regel
VA -	Rakkyo , see Onion, Chinese
VA 0388	Shallot
	<i>A. cepa</i> L., var. <i>aggregatum</i> Don.
VA 0390	Silverskin onion
	<i>Allium cepa</i> L.

Group 009B, Green onions

<u>Code No.</u>	<u>Commodity</u>
VA -	Green Onions
VA -	Chives
	<i>Allium schoenoprasum</i> L.
VA -	Chives, Chinese
	<i>Allium tuberosum</i> Rottler ex Spreng.
VA -	Elegans hosta
	<i>Hosta sieboldiana</i> (Hook.) Engl.
VA -	Fritillaria (green)
	<i>Fritillaria camchatcensis</i> (L.) Ker. Gawl.
VA -	Garlic chives
	<i>Allium sativum</i> L. var. <i>sativum</i>
VA -	Japanese bunching onion , see Welsh onion
VA 0383	Kurrat
	<i>Allium kurrat</i> Schweinf. Ex K. Krause
VA -	Lady's leek
	<i>Allium cernuum</i> Roth
VA 0384	Leek
	<i>Allium porrum</i> L.;
	syn: <i>A. ampeloprasum</i> L., var. <i>porrum</i> (L.) Gay
VA -	Multiplying onion , see Onion, Welsh
VA -	Onion, Beltsville bunching
	<i>Allium x proliferum</i> (Moench) Schrad.
	syn: <i>Allium cepa</i> L. x <i>A. fistulosum</i> L.)
VA -	Onion, Egyptian , see Tree onion

VA -	Onion, fresh <i>Allium fistulosum</i> L. var. <i>caespitosum</i> Makino
VA -	Onion, green , see Spring onion
VA -	Onion, macrostem <i>Allium macrostemom</i> Bunge
VA -	Onion, pearl <i>Allium porrum</i> L. var. <i>sectivum</i> Lueder
VA -	Onion, potato <i>Allium cepa</i> var. <i>aggregatum</i> G. Don.
VA 0387	Onion, Welsh <i>Allium fistulosum</i> L.
VA 0389	Spring onion <i>Allium cepa</i> L., various cultivars, a.o. White Lisbon; White Portugal
VA 0391	Tree onion <i>Allium x proliferum</i> (Moench) Schrad. ex Willd. syn: <i>A. cepa</i> var. <i>proliferum</i> (Moench) Regel syn: <i>A. cepa</i> L. var. <i>bulbiferum</i> L.H. Bailey syn: <i>A. cepa</i> L. var. <i>viviparum</i> (Metz.) Alef.
VA -	Wild leek <i>Allium tricoccum</i> Aiton

DRAFT proposal for the Fruiting vegetables, other than Cucurbits Group

Class A

Type 2 Vegetables Group 012 Group Letter Code VO

Group 012 Fruiting vegetables, other than Cucurbits are derived from the immature and mature fruits of various plants, usually annual vines or bushes. Many plants of this group belong to the botanical family Solanaceae.

This group does not include fruits of vegetables of the botanical family Cucurbitaceae or the pods of vegetables of the Leguminosae family.

The vegetables of this group are fully exposed to pesticides applied during the period of fruit development, except those of which the edible portion is covered by husks, such as ground cherries (*Physalis* spp.). The latter fruiting vegetables are protected from most pesticides by the husk except from pesticides with a systemic action.

The entire fruiting vegetable or the edible portion after discarding husks or peels may be consumed in a fresh form or after processing.

Portion of the commodity to which the MRL applies (and which is analysed): Whole commodity after removal of stems.

Group 012 Fruiting vegetables, other than Cucurbits**Code No. Commodity**VO 0050 **Fruiting vegetables, other than Cucurbits****Group 12A Tomatoes****Code No. Commodity**VO - **Tomatoes**VO - **Alkekengi**, see Ground cherries*Physalis alkekengi* L.VO 0451 **Bush tomato***Solanum centrale* BlackVO - **Cape gooseberry**, (Codex Stand. 226 – 2001), see Ground cherries*Physalis peruviana* L.VO - **Cherry tomato**[*Lycopersicon esculentum* var. *cerasiforme* \(Dunal\) A. Gray](#)VO - **Chinese lantern plant**, see Ground cherriesVO - **Cocona***Solanum sessiliflorum* Dunal.VO - **Currant tomato***Lycopersicon pimpinellifolium* (L.) Mill.VO - **Garden huckleberry***Solanum scabrum* Mill.VO - **Goji berry***Lycium barbarum* L.VO - **Golden berry**, see Ground cherries*Physalis peruviana* L.VO 0441 **Ground cherries***Physalis alkekengi* L.; *Ph. ixocarpa* Brot. ex Horn.; *Ph. peruviana* L.VO - **Husk tomato**, see Ground cherriesVO - **Naranjilla**, see Group 006 Assorted tropical and sub-tropical fruits - inedible peel*Solanum quitoense* Lam.VO - **Quito Orange**, see NaranjillaVO - **Strawberry tomato**, see Ground cherriesVO - **Sunberry***Solanum retroflexum* Dunal.VO - **Tomatillo***Physalis philadelphica* Lam.Syn. *Physalis ixocarpa* auct.

- VO 0448 **Tomato**
Lycopersicon esculentum Mill.;
syn: *Solanum lycopersicum* L.
- VO - **Tree tomato**, see Group 06 Assorted tropical and sub-tropical fruits – inedible peel
- Group 12B Peppers**
- VO 0051 **Peppers**
- VO - **Bird chili peppers**, see Peppers, Chili
Capsicum Frutencens L.
- VO - **Cherry pepper**, see Peppers, Chili
Capsicum annuum L., var. *acumimata* Fingerh.
- VO - **Chili peppers**, see Peppers, Chili
- VO - **Cluster pepper**, see Peppers, Chili
Capsicum annuum L., var. *fasciculatum* (Sturt.) Irish
- VO - **Cone pepper**, see Peppers, Chili
- VO - **Lady’s finger**, see Okra
- VO - **Martynia**
Proboscidea louisianica (Mill.) Thell.
- VO 0442 **Okra**
Abelmoschus esculentus (L.) Moench.
- VO - **Paprika**, see Peppers, Sweet
- VO - **Pimento or Pimiento**, see Peppers, Sweet
- VO - **Peppers, bell**, see Peppers, Sweet
- VO 0444 **Peppers, Chili**
Capsicum annuum L.; several pungent cultivars
- VO - **Peppers, Long**, see Peppers, Sweet
Capsicum annuum L., var. *longum* (D. C.) Sendt.
- VO 0445 **Peppers, Sweet** (including pimento or pimiento)
Capsicum annuum, var. *grossum* (L.) Sendt. and var. *longum* (D. C.) Sendt.
- VO 0446 **Roselle**
Hibiscus sabdariffa L., var. *sabdariffa* L.
- Group 12C Eggplants**
- VO - **Eggplants**
- VO - **African Eggplant**
Solanum macrocarpon L.
- VO - **Aubergine**, see Egg plant
- VO 0440 **Eggplant**, various cultivars
Solanum melongena L.
- VO - **Melon pear**, see Pepino
- VO - **Pea Eggplant**

Solanum torvum Swartz

VO 0443

Pepino

Solanum muricatum L.

VO -

Scarlet Eggplant

Solanum aethiopicum L.

VO

Thai eggplant

Solanum undatum Jacq. Non Lam.

VO -

Tree melon, see Pepino

ADDENDUM II TO CX/PR 08/40/4**DRAFT DOCUMENT OUTLINING THE PRINCIPLES OF AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE CROPS FOR THE PURPOSE OF EXTRAPOLATION OF MRLS:****The Selection of Representative Commodities, Principles and Guidance****Introduction and Proposal**

1. Residue extrapolation is the process by which the residue levels on representative commodities in a crop group for which field trials are available, are utilized to estimate residue levels on related commodities in the crop group for which trials have not been conducted. Residue extrapolation is a common consideration utilised by regulators internationally for ensuring that data requirements are only at a level that is scientifically justified in conducting risk assessment and to ensure the regulatory process does not become unnecessarily burdensome. This is considered highly important because it is not always economically attractive for a product manufacturer to conduct trials on the many crops which are produced in relatively small amounts (minor crops) but which may nonetheless be scientifically supported via extrapolation. Residue extrapolation may be used to simply estimate the residue level of a commodity on the basis of data generated for a similar commodity or, as is currently extensively practiced, it may be used in conjunction with established crop groupings to estimate residue levels for an entire crop grouping or subgrouping. The concept of crop grouping has been supported by field research studies and by the comparison of available data (Mestres, 1985; Eun, 2005 and Masahi, 2006).

2. In the project document for new work on the extended revision of the Codex Classification of Foods and Animal Feeds, approved by the CAC 2006, the aspect of residue extrapolation in a harmonized and advanced classification system was included in the scope of work.

3. The CCPR 2007 in Beijing agreed that the Electronic Working Group of the Codex Classification of Foods and Animal Feeds, led by The Netherlands and the United States, should prepare a draft document outlining the principles of and guidance on the selection of representative crops for the purpose of extrapolation of MRLs. It was agreed that the guidance on selection of representative crops should be developed as a separate document to be provided to the JMPR rather than as a part of the Codex Classification itself (ALINORM 07/30/24, paragraphs 142 – 152).

4. The working group concluded that *general* principles and guidance on selection of representative crops could be provided to the JMPR, however, the actual technical work to select representative crops is quite detailed and specific for each case (crop grouping and subgrouping) and should be considered in conjunction with the technical details surrounding the revision of the Codex Classification.

5. In order to accomplish the three goals of (1) completing the technical work in the most credible and efficient manner; (2) separating the selection of representative crops from the Codex Classification itself and (3) providing flexibility on the selection of representative crops, the working group proposes the following:

- As proposals for the revision of the Codex Classification are made and revised crop groupings are developed and provided to the CCPR for their review, proposals on representative crops will be provided in parallel with the respective crop grouping classification revisions.
- As comments are addressed on the revisions of the classification scheme and the proposed representative crops and these are approved by the CCPR and accepted by the CAC, two separate documents will be created and maintained: (1) the revised Codex Classification (without mention of representative crops) and (2) a guidance document on the selection of representative crops.
- The JMPR should be advised, that where practicable, the nominated representative crops be used in developing MRL recommendations.

6. The following provides *general* principles and guidance for the selection of representative commodities in the form of a review of the principles behind the current revision of the Codex Classification; current

practices and positions of the JMPR; and current practices in the US, Europe, and Japan. The conclusion of the work group is that the goal of each of these entities in the selection of representative commodities is the same and that the methods employed are similar. Thus, it is the conclusion of the work group that the principles have been fairly clearly described by others and they provide credible guidance to the JMPR. As noted above, the technical specifics must be reviewed in detail in every case, both for the creation of the crop groupings and the selection of representative commodities.

Revision of the Codex Classification/Crop Grouping

7. The revision of the Codex Classification of Food and Animal Feeds is intended to provide as complete a listing of food commodities in trade as possible and will include food commodities and animal feedstuffs for which Codex maximum residue limits will not necessarily be established. The revision of the classification is also intended to promote harmonisation of the terms used to describe commodities and of the approach to grouping commodities with similar potential for residues for which a common group maximum residue limit can be set.

8. In the revision of the Codex Classification, groups have been developed whose members show similarities in their behaviour with respect to residues and in the nature of the agricultural practices to which they are subjected and, to a certain extent, in their botanical or zoological associations.

9. Thus, the revision of the Codex Classification includes new commodities in international trade and the subgrouping of commodity groups to promote the establishment of (sub) group MRLs.

10. Newly added commodities to the Codex Classification will be verified to ensure they meet the criteria for inclusion in the classification (substantial consumption, trade and potential need to establish MRLs).

11. The recommended commodities in the crop groups will also be reviewed for consistency in the portion of the commodity to which the MRL applies, the scientific names and common names, etc. and the commodity monographs will be updated, as described in detail below.

12. Appropriate crop subgroups will be divided within the crop groups based on the overall consideration of botanical and/or morphological relationships, pesticide use and exposure, edible parts and uses, cultural practices, geographical distribution, feed items, and processed products.

13. The schedule of work on revising commodity groups is dependent upon the progress of the work on the revision of the US crop groups and review and input by the Electronic Working Group of the Codex Classification of Foods and Animal Feeds. During this process input is also solicited from the International Crop Grouping Consulting Committee, a voluntary international association of interested parties coordinated by the US IR4.

14. The following points are addressed in preparing crop group/subgroup proposals as illustrated in the attached monograph for "Almond" and the "Proposal for the Revised CODEX Crop Group 004, Berries and other small fruits". All specific references used in any particular case are included in the monographs.

1. Botany and nomenclature of the commodity

- Sources of information include the USDA Germplasm Resources Information Network (GRIN) web site (<http://www.ars-grin.gov/cgi-bin/npgs/html/genform.pl>) for common name, family name, scientific name and synonyms. This information is in Field 1 in the monographs and in Table 2 in the Codex proposals."

2. Geographical production and distribution of the commodity

- Sources of information on geographical distribution and production include the USDA Germplasm Resources Information Network (GRIN) web site (<http://www.ars-grin.gov/cgi-bin/npgs/html/genform.pl>) and the CENSUS <http://www.agcensus.usda.gov/Publications/2002/index.asp> among other references; the FAOSTAT website (<http://faostat.fao.org/DesktopModules/Admin/Logon.aspx?tabID=0>) is consulted for

- production quantities (tonnes) and area harvested (ha). This information is in Field 4 & 5 in the monographs and in Table 2 in the Codex proposals.
3. International trade in the commodity
 - Data is obtained from the USDA Foreign Agricultural Service (<http://www.fas.usda.gov>) and FAOSTAT website. This information is included in Table 2 in the Codex proposals.
 4. Cultural practices for the commodity
 - This includes, for example, information on planting rate, planting date, whether it is a row or broadcast crop, growing season, growth and development of crop and growth stages, irrigation, worker practices, harvesting practices, and crop rotations. Sources of information include numerous references such as a worldwide literature search for each commodity and scientific journals as well as USDA publications and the FAO. This information is in Field 3 in the monographs.
 5. Commercial importance of the commodity
 - This includes estimates of the current and projected commercial importance of the commodity. This information is included in Table 2 (significance in trade and significance in diet) in the proposals.
 6. Possibilities of genetic improvement for the commodity
 - This includes, for example, cultivars and hybrids. For some crop groups, such as the citrus fruit group, the number of hybrids provides an indication of the potential to create unique new crops. This information is included in Field 2 in the monographs.
 7. Comparison of edible parts of the commodity
 - This includes a description of the fruit/vegetable, what is consumed, when harvested, how harvested, how often harvested, uses of commodity [such as livestock feed, syrup, jelly, production, foods, shampoos, bio diesels, medicines, adhesives], surface area to weight ratio of the commodity, leaf shape and area, type of fruit/vegetable surface [smooth, hairy], weight of fruit/vegetable, and similarities to other commodities. This information is included in Field 7 & 8 in the monographs and in Table 2 in the Codex proposals.
 8. If the commodity is used as a livestock feed item for beef and dairy cattle, poultry and swine
 - This information is included in Field 7 & 8 of the monographs, for example, almond hulls are used as a livestock feed item.
 9. If the commodity is used for processed products and/or fresh market as whole fruit/vegetable
 - This information is included in Field 7 & 8 of the monographs, for example, tomatoes may be processed into juice or paste.
 10. Comparison of pest problems of the commodity
 - This includes identification of the insects, diseases, nematodes, weeds, vertebrates, other pests that affect the commodity. This information is obtained from numerous sources including the internet, books, and other references. It is included in Codex proposals when useful.
 11. Comparison of potential residue levels on the commodity
 - The USDA database (www.mrlatabase.com) is used to obtain the MRLs in a crop group for the US, the EU and Codex. In the future this information may be included as a separate table in Codex proposals.
 12. Existing classification of the commodity
 - Comparison of how the commodity is classified in the US, EU, Japan, FAO and Codex systems is included in Table 1 in the Codex proposals.
 13. Justification for a Crop Group/Subgroup Definition

- The final step in this process is selection of the representative commodities and justification of the selections. Representative crops are selected to cover an entire crop group or to cover a crop subgroup. This is done in consultation with the available experts at IR4, USEPA, the Electronic Working Group of the Codex Classification of Foods and Animal Feeds, and the International Crop Grouping Consulting Committee using all of the information that has been collected. The selection of the representative crops is clearly closely related to the definition of the crop groups and subgroups and based on the same information. Although the work group is proposing to separate them for reporting and record keeping purposes, for review purposes, they must be considered together.

Current Extrapolations by JMPR

15. Currently the JMPR uses representative crops for estimation of MRLs for commodities of minor crops or crop groups on a case-by case basis according to paragraph “Estimation of group maximum residue levels” of the *FAO manual on the submission and evaluation of pesticide residues data for the estimation of residue levels in food and feed*, 2002, page 58. The lack of formal criteria or an agreed mechanism to determine the members of a group for which data are needed before a group MRL can be established at the international level limits the ability of the JMPR to apply extrapolations on a regular basis. Extrapolations to group Codex MRLs have historically been limited to a few groups: citrus fruit, pome fruit, stalk and stem vegetables, cereal grains, and stone fruit (*IR-4/USDA International Crop Grouping Symposium Proceedings*, 2002, page 51).

16. In this paragraph “Estimation of group maximum residue levels” of the FAO manual the JMPR gives their view on general principles and observations on estimating group MRLs. Some relevant listed principles are summarised below:

- The Codex Classification is the basis for recommending MRLs for individual and grouped commodities
- In the absence of sufficient data for one commodity data from a similar crop for which GAP is similar may support the estimation of MRLs
- Data on residues in all or most of the major commodities with the potential for high residues within a group may allow estimates of MRLs to be extrapolated to minor crops in the group.
- In order for a group limit to be proposed, not only must residue levels in the major commodities in the group not to be different, but the physical nature and other characteristics of the crops that might influence residue levels, as well as cultural practices and GAP for the individual commodities, must also be taken into account.

The premise of this approach is that if data are available for representative crops, and if GAP and cultural practises among the individual members are similar, the residue levels will not vary widely and a maximum residue level can be estimated that will suffice for other members of the group for which no data are available.

17. In General Considerations in the JMPR Report 2006, “Updating the principles and methods of risk assessment: MRLs for pesticides and veterinary drugs,” the following is stated:

Recommendation 12. A general principle on recommending Group MRLs in wider circumstances should be considered in an attempt to cover more uses where national authorisations exist.

The JMPR agreed on further principles:

Codex MRLs are used as trade standards. For many commodities, including commodities from minor crops or specialty crops, MRLs as trade standards are now the predominant need.

From a trade perspective, it is better to have an MRL than no MRL if residues are likely to arise from that food commodity. Even if the MRL is set too low (say 20-25% of what it should be) because of the inadequate data it is better than no MRL.

The Meeting [JMPR] agreed that a more liberal extrapolation to group MRLs was needed.

The Meeting [JMPR] recommended that the CCPR consider the following scientific assessment policy for group MRLs.

After dietary intake assessment, commodity group MRLs may be proposed on the following minimum conditions:

- (1) The pesticide is registered or authorised for use on the crop group; and*
- (2) Relevant and adequate residue data are available for at least one major commodity of the group. (However, all relevant data for the commodities of the group should be taken into account.)*

If the recommended group MRL is subsequently found to be inadequate for some commodities and their registered uses, there would be no impediment to submission of further data to amend the group MRL or to propose specific commodity MRLs.

18. The CCPR 2007 agreed with the above recommendations of the JMPR 2006.

Extrapolation Used in Other Countries/Regions

USA

19. In the U.S. extrapolation from one or more major crops in a crop group or more closely related crop subgroup is utilized to establish a group or subgroup MRL. Such extrapolations are based on:

- Similar (but not necessarily identical) use patterns on all commodities. This includes application rate (single and total), retreatment interval, total number of applications, and mode of application, formulation, and preharvest interval. Any differences are evaluated on a case-by-case basis
- Identical formulations (or shown equivalent via side-by-side trials).
- Similar residue levels on the representative crops. Differences are considered on a case-by-case basis
- Residue trials must be available from all major growing regions of the representative crops to cover variable climate, soil, and cultural practices.

20. In addition to the representative crop concept for the establishment of crop group MRLs, the US has certain crops that may be extrapolated to other crops considered to be related for the purpose of estimating residue levels. Less field trial data may be required for these related crops. Some examples are:

- Alfalfa: Alfalfa, Sainfoin, birdsfoot trefoil, and varieties and/or hybrids of these
- Avocado: Avocado; black sapote; canistel; mamey sapote; mango; papaya; sapodilla, & star apple
- Banana: Banana, plantain
- Bean, dry: All beans in dry form
- Bean, succulent: All beans in succulent form
- Cherry: Sweet cherry and tart cherry
- Guava: Guava; feijoa; jaboticaba; wax jambu; starfruit; passionfruit; and acerola
- Lychee: Lychee; longan; Spanish lime; rambutan; and pulasan
- Papaya: Papaya; black sapote; canistel; mamey sapote; mango; sapodilla; and star apple
- Parsley: Parsley, cilantro
- Peach: Peach, nectarine
- Pea, dry: All peas in dry form

- Pea, succulent: All peas in succulent form
- Tomato: Tomato, tomatillo
- Wheat: Wheat, triticale.

Europe

21. In Europe the principle for extrapolation is comparable residue behaviour of the crops and is mainly based on morphology, growth characteristics, and consumption of the crop; and comparability of agricultural practices of the crops. Extrapolation of residue trials is possible if the following is comparable between the crops:

- Conditions of use with regard to the amount of active substance applied, the time of application, the number of applications, and the interval between applications
- Application methods
- Formulation used
- Climatic conditions

22. In general extrapolation takes place from major crops to other major crops or minor crops. Criteria for major crops are defined and also major crops are indicated. Extrapolation within a minor crop group is also possible with a reduced number of residue trials .

23. In Europe four situations are defined for residue extrapolation:

- Last application is after the consumable part of the crop has formed
- Last application is before the consumable part of the crop has formed
- Application is for seed treatment
- Application is for post-harvest uses

For all these situations detailed extrapolation possibilities are listed in tables. In some crop groups extrapolation from one or more major crops is possible to the whole crop group. In other crop groups only some extrapolation from a major to one or more minor crops is possible.

Japan

24. In Japan, for conducting residue trials, 15 crop categories (examples are citrus fruits and legumes) are established for which either representative commodities are identified or instructions are given on selection of commodities.

25. Basic principles for categorization in Japan are as follows:

- Crops belonging to the same category should share similar botanical characteristics. In practice, they should belong to the same family. However, even if a crop does not belong to the family in question but is morphologically similar to those in that family, it can be categorized together with them.
- The edible portion and the portion for which MRLs are set and which should be analyzed should be the same for crops in the same category.
- The behaviour of applied chemicals and their residue levels should be similar due to similarities of the following:
 - shape, surface characteristics (hairy, smooth, etc.) and weight; and
 - agricultural practice and growing condition, and growth stage

26. As for selection of crops from a crop category for residue trials, there are two major cases as follows:

- A crop(s) is identified as a representative crop(s) by the authority for the following reasons:
 - expected to contain the highest residue in the category; and
 - production volume is the highest in the category;
- Two or three crops can be selected from one category by registrant without authority's instruction.

27. In 1992 the number of commodity categories for MRL setting in Japan was expanded from 53 to about 130. Commodities included in the categories were selected as follows:

- Agricultural commodities contained in the Japanese Standard Commodity Classification at the time;
- Commodities identified in the National Nutrition Survey to be consumed at a significant amount;
- Commodities for which Codex MRLs are set or national/regional MRLs are set in countries/regions from which Japan imports them.

Principles and Guidance for the Selection of Representative Crops

Working Group Proposal

28. For the purposes of residue extrapolation, either to a specific crop or to a crop group or subgroup, representative commodities within each Codex Classification crop group and subgroup will be selected and proposed, based on consideration of all available information including the potential residues production/trade significance of the commodity, and significance of the commodity consumption in diets.

29. It is further proposed that representative commodities be selected by the CCPR Electronic Working Group for the Revision of the Classification in parallel with the respective crop grouping classification revisions provided to CCPR at Step 3. These should advance through the CCPR step process for adoption by the CAC in a separate document from the revision of the Classification of Foods and Animal Feeds. It could be considered to maintain this document as an appendix to the Codex classification. This achieves the two goals of maintaining the information separately, while having it readily available to other interested parties (in addition to the JMPR). On the other hand the document could be kept as a stand-alone document to make revisions of extrapolations easier in the future.

30. To facilitate the global use of the crop groups, alternative representative commodities may be selected giving flexibility for use of residue research conducted in different countries or regions that may vary due to regional differences in dietary consumption and/or area of production for certain commodities.

31. The JMPR should be advised to use the representative crops approved by the CCPR and recommended to them. However, JMPR may use other representative crops (including those which may be specifically requested by member nations) on a case-by-case basis. The JMPR will be requested to provide to the CCPR justification for the use of any alternative representative crops such as those described in Paragraph 30 above.

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Monograph of almond:

1. **Almond** [Almond oil, Amandier, Almendro (MARKLE); bitter almond, sweet almond, bian tao, amandier commun, Mandel, Mandelbaum, Bittermandelbaum, amendo, amendoeira, amêndoa-amarga, amêndoa-doce (GRIN)]

Rosaceae

Prunus dulcis (Mill.) D.A. Webb (syn: *P. amygdalus* Batsch; *Amygdalus communis* L.; *Amygdalus dulcis* Mill.; *Prunus communis* (L.) Arcang.,; *Prunus dulcis* var. *amara* (DC.) Buchheim) (GRIN)

2. The almond tree resembles peach, to which it is closely related. It grows to 25 feet, but under cultivation is usually held to under 20 feet by pruning. The leaves are simple, lanceolate and glabrous. The nuts are enclosed in a fleshy husk which becomes dry and fibrous and splits open allowing the nuts to drop out or be easily separated at maturity. The shell is porous to woody, and encloses the oblong, flattened kernel. The latter is up to over an inch long and half as wide. Almonds are marketed both in the shell and as shelled kernels. Oil extracted from almond kernels is non-drying, and is obtained from both the bitter almond, not edible as a nut, and from sweet almond kernels. The oil from the two kinds appears identical. The oil is edible, but is used largely in the manufacture of certain pharmaceuticals. (MARKLE).

3. Crop Data:

- a. Season, bloom to harvest: 5 to 6 months. (Harvesting from August to October) (MARKLE)
- b. Cultivation: In India, trees are raised from seedlings, the seeds usually having a chilling requirement. Seeds are sown in nurseries, the seedlings transplanted after about one year. For special types, as in the U.S., scions are budded or grafted on to bitter or sweet almond, apricot, myrobalan, peach or plum seedlings. Trees are planted 6–8 m apart and irrigated, in spite of their drought tolerance. Application of nitrogenous and/or organic fertilizers is said to improve yield. Trees should be pruned to a modified leader system. All types are self-sterile so cvs or seedlings should be mixed. (PURDUE).
- c. Availability in the marketplace:
- d. Preparation for cooking:
- e. Nutritional aspects:
- f. Medicinal aspects: The seed and/or its oil are used in folk remedies for cancer (esp. bladder, breast, mouth, spleen, and uterus), carcinomata, condylomata, corns, indurations and tumors. Reported to be alterative, astringent, carminative, cyanogenetic, demulcent, discutient, diuretic, emollient, laxative, lithontryptic, nervine, sedative, stimulant and tonic, almond is a folk remedy for asthma, cold, corns, cough, dyspnea, eruptions, gingivitis, heartburn, itch, lungs, prurigo, skin, sores, spasms, stomatitis, and ulcers. The kernels are valued in diet, for peptic ulcers. (PURDUE).

g. Crop photos:

4. Production in U.S.: In the United States, production is concentrated in California with almonds being California's sixth leading agricultural product and top agricultural export. California exported almonds valued at 1.08 billion dollars in 2003 (WIKIPEDIA). Production of almonds, with shell in

- the US in 2006 was 715,623 tonnes (FAOSTAT)
5. Other production regions: Almonds are cultivated & naturalized throughout the Mediterranean region & temperate Asia (GRIN). Top producing countries include Spain (220,000 tonnes), Syria, (119,648 tonnes), Italy (112,796 tonnes), and Iran (108,677 tonnes). In total, 1,766,127 tonnes were produced worldwide in 2006 on 1,760,754 hectares of land.
 6. Use: Direct eating, and in confections.
 7. Part(s) of plant consumed: Inner kernels. Hulls as significant feed item.
 8. Portion analyzed/sampled: Nutmeat and hulls. Shells shall be removed and discarded from nuts before examination for residues.
 9. Classifications:
 - a. Authors Class: Tree nuts
 - b. EPA Crop Group: Crop Group 14: Tree Nuts (Representative crop)
 - c. Codex Group: 022 Tree nuts (TN 0660)
 - d. EPA Crop Definition: None
 10. References: GRIN, CODEX, MAGNESS, RICHE, USDA 1994, US EPA 1995a, US EPA 1995b, US EPA 1994a, WOODROOF (b) (picture), MELNICOE 1996e, IVES, ROSENGARTEN, MARKLE, PURDUE.
 11. Production Map: EPA Crop Production Region 10.
 12. Plant Codes:
 - a. Bayer Code: PRNDU