CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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REP14/PR

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

37th Session
Geneva, Switzerland, 14 – 18 July 2014

REPORT OF THE 46th SESSION OF THE CODEX COMMITTEE ON PESTICIDE RESIDUES

Nanjing, China, 5 - 10 May 2014

Note: This report includes Codex Circular Letter CL 2014/16-PR.

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CX 4/40.2 **CL 2014/16-PR**
May 2014

To: - Codex Contact Points
- Interested International Organizations

From: Secretariat,
Codex Alimentarius Commission,
Joint FAO/WHO Food Standards Programme,
E-mail: codex@fao.org,
Viale delle Terme di Caracalla,
00153 Rome, Italy

SUBJECT: DISTRIBUTION OF THE REPORT OF THE 46TH SESSION OF THE CODEX COMMITTEE ON PESTICIDE RESIDUES (REP14/PR)

The report of the 46th Session of the Codex Committee on Pesticide Residues will be considered by the 37th Session of the Codex Alimentarius Commission (Geneva, Switzerland, 14 – 18 July 2014).

PART A: MATTERS FOR ADOPTION BY THE 37TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION:

1. **Draft maximum residue limits for pesticides at Step 8** (para 115, Appendix II).

2. **Proposed draft maximum residue limits for pesticides at Step 5/8 (with omission of Steps 6/7)** (para 115, Appendix III).

3. **Proposed draft revision to the *Classification of Food and Feed* at Step 5 – selected vegetable commodity groups (Group 015 - Pulses)** (para 148, Appendix X).

4. **Revised *Risk Analysis Principles applied by the Codex Committee on Pesticide Residues*** (para 163, Appendix XIII).

Governments and international organizations wishing to submit comments on the above matters, should do so in writing, in conformity with the *Procedure for the Elaboration of Codex Standards and Related Texts* (Part 3 – *Uniform Procedure for the Elaboration of Codex Standards and Related Texts*, Procedural Manual of the Codex Alimentarius Commission) by e-mail, to the above address **before 20 June 2014**.

PART B: REQUEST FOR COMMENTS AND INFORMATION ON:

5. **Proposed draft Guidance for performance criteria for methods of analysis for the determination of pesticide residues** (para 155, Appendix XII).

Governments and international organizations wishing to submit comments on the above matters, should do so in writing, in conformity with the *Procedure for the Elaboration of Codex Standards and Related Texts* (Part 3 – *Uniform Procedure for the Elaboration of Codex Standards and Related Texts*, Procedural Manual of the Codex Alimentarius Commission) by e-mail, to the above address **before 31 August 2014**.

6. **Proposed draft revision to the *Classification of Food and Feed* at Step 3 – other selected vegetable commodity groups (Group 011 Fruiting vegetables, cucurbits and Group 014 Legume vegetables)** (paras 146-148, Appendix XI).

Background:

The *Classification of Food and Feed* (CAC/MISC 4-1993) includes food commodities and animal feedstuffs for which Codex maximum residue limits will not necessarily be established. The Classification is intended:

- to be a listing of food commodities in trade as complete as possible, classified into groups on the basis of the commodity's similar potential for pesticide residues;.
- primarily to ensure the use of uniform nomenclature and secondarily to classify foods into groups and/or sub-groups for the purpose of establishing group maximum residue limits for commodities with similar characteristics and residue potential; and.
- to promote harmonization of the terms used to describe commodities which are subject to maximum residue limits and of the approach to grouping commodities with similar potential for residue for which a common group maximum residue limit can be set.

Characteristics for crop grouping are:

1. Commodity's similar potential for pesticide residues;
2. Similar morphology;
3. Similar production practices, growth habits, etc;
4. Edible portion;
5. Similar GAP for pesticide uses;
6. Similar residue behavior;
7. To provide flexibility for setting (sub) group tolerances.

Request for comments:

Governments and international organizations wishing to submit comments on which characteristics to accept for crop grouping of fruit vegetables, cucurbits and legume vegetables should respond with information based on the above listed characteristics to make final determinations by e-mail, to the above address **before 31 August 2014**.

7. Matters related to the 2014 JMPR including concern forms (paras 36 – 114, Appendix XV).

Those countries and observers specified under individual compounds concerning matters related to the 2013 JMPR (e.g. GAP, residue evaluation, intake assessment, etc.) on specific pesticide/commodity(ies) to be considered by 2013 JMPR, including submission of concern forms together with necessary data, are invited to send information or data to: **1)** Ms Yong Zhen YANG, Agricultural Officer and JMPR Secretary, Viale delle Terme di Caracalla, Rome 00153, Italy, Fax:+39 06 57053224, E-mail: YoungZhen.Yang@fao.org; **2)** Dr Philippe VERGER, WHO JMPR Secretary, Appia Avenue 20, 1211 Geneva 27, Switzerland, Fax: +41 22 791 4807, E-mail: vergerp@who.int; **3)** Dr Xiongwu QIAO, Shanxi Academy of Agricultural Sciences, 2 Changfeng Street, Taiyuan, Shanxi Province, 030006, P.R. China, Fax: +86 351 7126215, E-mail: ccpr_qiao@agri.gov.cn, ccpr@agri.gov.cn; and **4)** Secretariat, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, Viale delle Terme di Caracalla, 00153 Rome, Italy; E-mail: codex@fao.org) **before 30 June 2014.**

Those countries and observers specified under individual compounds in REP14/PR, Appendix XV concerning matters related to the future JMPR meetings (GAPs, residue evaluation, intake assessment, etc.) on specific pesticide/commodity(ies) to be considered at subsequent years by JMPR, are invited to send information or data **one year before** JMPR considers these compounds at the addresses indicated above.

SUMMARY AND CONCLUSIONS

The 46th Session of the Codex Committee on Pesticide Residues reached the following conclusions:

MATTERS FOR ADOPTION BY THE 37TH SESSION OF THE COMMISSION

Draft and proposed draft MRLs for pesticides

- Draft and proposed draft MRLs for pesticide at Steps 8 and 5/8 with omission of Steps 6/7 (para 115, Appendices II and III);
- Proposed draft revision to the *Classification of Food and Feed* at Step 5 – selected vegetable commodity groups (Group 015 - Pulses) (para 148, Appendix X).

Other matters for adoption / approval

- Maximum residue limits for pesticides recommended for revocation (para 115, Appendix IV);
- Consequential amendments to MRLs for pesticides for "citrus fruits" and "lemons and limes" (inclusion of kumquats) due to the revision of the *Classification of Food and Feed* as per the fruit commodity groups (para 128, Appendix VIII);
- Revision of the *Risk Analysis Principles applied by the Codex Committee on Pesticide Residues* (para 163, Appendix XIII);
- Codex schedules and priority list of pesticides for evaluation by JMPR (para 188, Appendix XV).

MATTERS OF INTEREST TO THE COMMISSION

The Committee agreed:

- to request the 2014 JMPR to consider a few requirements when estimating MRLs for "citrus fruits" and "lemons and limes"with a view to including kumquats (para 130);
- to retain several draft and proposed draft MRLs for pesticides at Steps 7 and 4 awaiting for JMPR evaluations (paras 36 – 114, Appendices V and VI);
- to withdraw several draft and proposed draft MRLs for pesticides in view of the advancement of corresponding MRLs to Steps 8 and 5/8 (paras 36 - 114, Appendix VII);
- to hold Group 016 – Roots and Tubers at Step 7 pending finalization of the *Classification of Food and Feed* in relation to the vegetable commodity groups (para 135, Appendix IX);
- to further consider crop grouping for Group 015 – Fruiting vegetables, cucurbits and Group 016 – Legume vegetables at its next session (paras 146-148, Appendix XI);
- to continue working on the revision of the *Classification of Food and Feed* through the identification of other commodity groups (para.147);
- to continue to work on examples of selection of representative commodities for vegetable and other commodity groups in parallel with the revision of the *Classification of Food and Feed* for inclusion in the *Principles and Guidance for the Selection of Representative Commodities for the Extrapolation of Maximum Residue Limits for Pesticides to Commodity Groups* (para 150);
- to further consider the proposed draft *Guidance for performance criteria for methods of analysis for the determination of pesticide residues* (para 155, Appendix XII);
- to continue work on guidance to facilitate the establishment of maximum residue limits for pesticides for minor crops / specialty crops; refinement of a limited list of borderline crops; and continue to identify issues and find solutions to facilitate the establishment of MRLs for minor crops / specialty crops based on establishment of Codex schedules and priority lists of pesticides for consideration at its next session (paras 175 - 176);
- to seek feedback from the 2014 JMPR on the appropriateness of the approach taken for the identification of minor crops and the determination of minimum field trials necessary for the establishment of MRLs for pesticides for these commodities (para 174, Appendix XI).

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LIST OF ABBREVIATIONS

(Used in this Report)

ADI	Acceptable Daily Intake
ALARA	As low as reasonably possible
ARfD	Acute Reference Dose
CAC	Codex Alimentarius Commission
CCGP	Codex Committee on General Principles
CCMAS	Codex Committees on Methods of Analysis and Sampling
CCPR	Codex Committee on Pesticide Residues
CCRVDF	Codex Committee on Residues of Veterinary Drugs in Foods
CLI	CropLife International
CRD	Conference Room Document
CXL	Codex Maximum Residue Limit for Pesticide
DIE	Daily Intake Estimate
EFSA	European Food Safety Authority
EMRL	Extraneous Maximum Residue Limit
EU	European Union
EWG	Electronic Working Group
FAO	Food and Agricultural Organization of the United Nations
GAP	Good Agricultural Practice (in the use of pesticides)
GEMS/Food	Global Environment Monitoring System - Food Contamination Monitoring and Assessment Programme
GMUS-2	Second Global Minor Use Summit
HR	Highest residue in edible portion of a commodity found in trials used to estimate a maximum residue level of pesticide(s) in the commodity
IAEA	International Atomic Energy Agency
ICGCC	International Crop Grouping Consulting Committee
IEDI	International Estimated Daily Intake
IESTI	International Estimated of Short-Term Intake
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
LOQ	Limit of Quantification
MRL	Maximum Residue Limit
OECD	Organization for Economic Co-operation and Development
PWG	Physical Working Group
SPS Agreement	Agreement on the Application of Sanitary and Phytosanitary Measures
STDF	Standards and Trade Development Facility
STMR	Supervised Trial Median Residues
TDI	Tolerable Daily Intake
USA	United States of America
WG	Working group
WHO	World Health Organization
WTO	World Trade Organization

INTRODUCTION

1. The Codex Committee on Pesticide Residues (CCPR) held its 46th Session in Nanjing, China, from 5 to 10 May 2014 at the kind invitation of the Government of China. Professor Xiongwu QIAO, Vice-Director of the Shanxi Academy of Agricultural Science chaired the Session, assisted by Dr Hongjun ZHANG, Director of CCPR Secretariat, Institute for Control of Agrochemicals, Ministry of Agriculture of the People's Republic of China. The Session was attended by delegates from 59 Member countries, 1 Member organisation and Observers from 10 international organisations. The list of participants is attached as Appendix I.

OPENING OF THE SESSION

2. The Session was opened by Mr Yande ZENG, Director, Department of Crop Farming Administration, Ministry of Agriculture of the People's Republic of China. Mr ZENG expressed the appreciation of the Chinese Government for the work of the Codex Alimentarius Commission and noted that China, by hosting CCPR, had accumulated management experience, which had contributed to its work on food safety standards. Mr ZENG referred to some recent safety measures taken by the Chinese Government in particular in the area of pesticides, including the promulgation and implementation of the National Food Safety Standard – Maximum Residue Limits of Pesticides in Food (GB2763-2014) in March 2014. Mr ZENG reaffirmed the commitment of China to continue collaborating with the Codex Alimentarius Commission and its Member countries in the development of international standards to protect the health of consumers and promote fair practices in international trade.

3. Mr Jianyong ZHANG, Deputy Director, Jangsu Provincial Commission of Agriculture, also addressed the delegates. Mr ZHANG noted that the Jangsu province was successfully implementing the policy of the Government to promote modernisation of agriculture and rural development. He also noted that the provincial government attached great importance to ensure the quality and safety of agricultural products.

Division of Competence[1]

4. The Committee noted the division of competence between the European Union and its Member States, according to paragraph 5, Rule II of the Procedure of the Codex Alimentarius Commission.

ADOPTION OF THE AGENDA (Agenda Item 1)[2]

5. The Committee adopted the Provisional Agenda as its Agenda for the Session.

6. The Committee agreed to establish the following in-session Working Groups:

- Performance criteria for methods of analysis for the determination of pesticide residues, chaired by the United States of America and co-chaired by China and India (Agenda Item 9);
- *Risk Analysis Principles applied by the Codex Committee on Pesticide Residues*, chaired by the United States of America and co-chaired by Costa Rica and Chile (Agenda Item 10); and
- Establishment of maximum residue limits for pesticides for minor crops / specialty crops, chaired by France and co-chaired by Kenya and Thailand (Agenda Item 11).

7. The Committee agreed that these WGs would consider the comments submitted in order to prepare proposals for consideration by the Plenary.

APPOINTMENT OF RAPPORTEURS (Agenda Item 2)

8. The Committee appointed Mr David Lunn (New Zealand) and Mr Kevin Bodnaruk (Australia) to act as rapporteurs.

MATTERS REFERRED TO THE COMMITTEE BY THE CODEX ALIMENTARIUS COMMISSION AND OTHER SUBSIDIARY BODIES (Agenda Item 3)[3]

9. The Committee noted that matters arising from the Codex Alimentarius Commission and other subsidiary bodies were for information only. In particular, the Committee noted that:

- the work on the guidelines on performance characteristics for multi-residue methods, completed by the Committee on Residues of Veterinary Drugs in Foods (CCRVDF), was relevant to its work on performance criteria for methods of analysis; and
- the Committee on General Principles (CCGP) would consider the consistency of the risk analysis texts across committees in 2016 and therefore, it was imperative to finalise the revision of the *Risk Analysis Principles applied by the Codex Committee on Pesticide Residues*.

1 CRD 1.
2 CX/PR 14/46/1.
3 CX/PR 14/46/2.

10. In regard to the work of the Committee on Methods of Analysis and Sampling (CCMAS) on the development of practical examples on sampling plans related to, amongst others, pesticide residues as an Annex to the *Principles for the use of sampling and testing in international trade* (CAC/GL 83-2013), the Committee noted that work on sampling plans and methods of analysis for the determination of pesticide residues in food and feed was within the remit of CCPR. Therefore, the Committee agreed to request CCMAS to clarify the nature of this work and the potential implications for CCPR.

MATTERS OF INTEREST ARISING FROM FAO AND WHO IN ADDITION TO JMPR (Agenda Item 4a)[4]

11. The Representative of FAO updated the Committee with FAO activities related to pesticide management including new (revised) International Code of Conduct on Pesticide Management, development of pesticide registration toolkit and capacity development for feed safety. The FAO activities were well recognised by the delegations especially by developing countries. They considered that the new Code of Conduct and the registration toolkit were helpful for their work in pesticide management.

12. The JMPR Secretariat informed the Committee about the possibility of organizing two meetings in 2015 in order to reduce the backlog of JMPR. In order to account for time constrains, the JMPR Secretariat recommended the Committee to establish a reserve list of compounds to be possibly evaluated during the supplementary meeting if resources become available. The timing of the call for data (October 2014) as well as the date for publishing the report (January 2015) would remain the same and should cover either one or both meetings.

13. The WHO Representative informed the Committee about the new data collected on individual food consumption data for chronic exposure assessment which were compiled in an FAO/WHO database (CIFOCOss[5]). The Representative urged countries not yet sharing their food consumption data with international organisations to do so.

MATTERS OF INTEREST ARISING FROM OTHER INTERNATIONAL ORGANISATIONS (Agenda Item 4b)[6]

Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture

14. The Representative of the Joint FAO/IAEA Division highlighted the activities of the Joint Division to assist Member countries in addressing their food safety needs and concerns. These activities included: (i) projects to increase capacity for compliance monitoring in food safety and international trade, creation of high skill jobs in participating countries, better use of pest control agents and veterinary drugs and an increased production of safe and nutritious food globally; (ii) the publication of a database of detailed analytical methods for analysis of food contaminants and pesticides (http://nucleus.iaea.org/fcris/Default.aspx), which included several commonly used multi-residue methods and Pesticide Attributes Database (PAD) for food safety/environmental laboratories; and (iii) assistance to CCPR in the development of relevant working papers e.g. discussion paper on performance criteria for suitability assessment of methods of analysis for pesticide residues.

Organisation for Economic Cooperation and Development (OECD)

15. The Committee noted information provided by OECD relevant to the work of CCPR.

REPORT ON ITEMS OF GENERAL CONSIDERATION BY THE 2013 JMPR (Agenda Item 5a)[7]

16. The Committee noted the information contained in Section 2 of the 2013 JMPR namely: (2.1) Guidance document for WHO monographies; 2.2 Hazard assessments in the 21st century – incorporating data from new mechanistic-based approaches in JMPR evaluations; 2.3 Risk assessment of metabolites and degradates of pesticides; 2.4 Review on the need to update the principles and methods for the risk assessment of chemicals in food (EHC 240); 2.5 Identification of pesticides to be included in cumulative assessment groups on the basis of their toxicological profile; 2.6 Guidance for the preparation and processing of large commodities for analysis of pesticide residues; 2.7 Principles for assessing the performance of analytical methods based on few recovery tests; 2.8 Guidance for use of residue trial data from different geographical locations for estimation of pesticide residue levels; 2.9 Guidance for estimating pesticide residue levels for commodity groups; and 2.10 Update GEMS/Food diets for the estimation of the IEDI.

17. In particular, the Committee noted the following comments and remarks:

Items 2.1 - 2.5

18. The Committee took note of the new guidance document prepared by the WHO Core Group which included the JMPR approach to assess the risk of metabolites and degradates of pesticides.

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4 CX/PR 14/46/3; CRD 11 (Comments of Cameroon).
5 FAO/WHO Chronic Individual Food Consumption Database – Summary Statistics.
6 CX/PR 14/46/4; CRD 11 (Comments of Mali).
7 Section 2 of the 2012 JMPR Report (http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Report13/JMPR_2013_Report.pdf 2/JMPR_2013.pdf; CRD 3 (Comments of European Union and African Union); CRD 12 (Comments of China and Mali); CRD 10 (Comments of Australia); CRD 21 (Comments of Nigeria).

19. In reply to a recommendation for JMPR to review the various approaches currently under development worldwide on cumulative risk, the JMPR Secretariat informed the Committee about the ongoing discussions in JMPR for the development of a methodology for cumulative risk assessment. In this regard, the JMPR Secretariat emphasised that the main guidance document for risk assessment of chemicals in food (i.e. EHC 240) should be updated regularly to consolidate these evolving principles and to ensure consistency across international risk assessment bodies.

20. Along these lines, the WHO JMPR Secretariat reminded delegates and other interested parties that, when available, the data from new mechanistic-based approaches should be provided to JMPR according to the Call for Data for 2014. These data should be evaluated in parallel with the results of traditional toxicity testing.

21. The Delegation of the European Union informed the Committee that in the EU discussions on a possible modification of the IESTI equation were currently ongoing and that discussion at international level may also be needed.

Item 2.6

22. The Observer of the African Union acknowledged the importance of the guidance for use by countries of the region. The Delegation of the European Union welcomed the guidance and highlighted the need of avoiding cutting or reducing the size of the sample in the field and of transporting samples at room temperature. Exceptions should only be possible under clearly defined conditions.

Item 2.7

23. The Observer of the African Union welcomed the principles as useful for countries of the region. The Delegation of the European Union did not support the proposed approach as it considered it not acceptable to have weaker performance criteria for incompletely validated methods than for completely validated methods. The Delegation considered that the clear performance criteria laid down in the *Guidelines for Good Laboratory Practices in Pesticide Residues Analysis* (CAC/GL 40-1993) should not be weakened.

24. The FAO JMPR Secretariat clarified that the acceptable CVref had already been agreed and were detailed in the *Guidelines for Good Laboratory Practices in Pesticide Residues Analysis*. The Secretariat noted that sometimes analytical methods were validated in a few representative matrices with less validation data but sufficient to demonstrate fit for purpose for other matrices. The purpose of this general consideration item was to address the variation in replicates encountered by JMPR in the data reviewed and to acknowledge that for some pesticide matrix combinations, the number of determinations (n) that could be used to estimate repeatability was limited and that from a statistical point of view the comparison with reference values which were based on a large number of trials needed to be taken into account.

Item 2.8

25. The Observer of the African Union welcomed the guidance as useful for countries of the region.

26. The Delegation of the European Union indicated that it could not support the guidance laid down in Chapter 2.8 without having further evidence that the data from residue trials combined according to the procedure outline were reliable and comparable and highlighted the need for appropriate statistical analysis. The Delegation also questioned the rationale for the “7 times median range” as well as the proposed step-wise approach. The FAO JMPR Secretariat noted the variable nature of residue trial data and that JMPR previous work indicated that trials conducted in temperate regions were comparable with caveats for some crops. As to the request for clarification of the rationale for the step-wise approach, the primary aim was to ensure the workload of JMPR could be managed while it might be desirable to explore the possible use of global datasets in every case to improve the size of the datasets.

27. The Delegation of Australia suggested that JMPR gave further explanation and clarification through practical examples on application of the step-wise approach in the next JMPR report.

Item 2.9

28. The Observer of the African Union welcomed the guidance as useful to countries of the region.

29. The Delegation of the European Union did not support the proposed approach for grouping MRLs as it considered that in line with the ALARA principle, MRLs should always be derived for individual commodities where sufficient data were available. The Delegation also questioned the scientific basis for the “5 times median range” and requested further information on the uncertainties related to it.

30. The FAO JMPR Secretariat clarified that group MRLs were only considered when there were national use patterns (for the group) that required an MRL. It was often the case that residue data was only available for one or a few representative crops and that national governments had extrapolated data from the available one or few crops to whole crop groups. This was a pragmatic decision and was usually based on experience with residues typically found on different members of crop groups when treated at the same (or very similar) GAP. The CCPR had agreed to these MRLs and in essence the elaboration provided by the 2013 JMPR represented a tightening of the approach. The Secretariat further explained that data would be evaluated on a case-by-case basis with deviations from the general outline provided in JMPR reports and that JMPR would further refine and elaborate the principles upon gaining sufficient experience in the estimation of group MRLs.

31. The Delegation of Australia informed the Committee that Australia provided a CRD on a review of recent group MRLs set by CCPR up to 2013 (= 2012 JMPR) and confirmed that in 16% of the cases the difference in individual members of a group was more than five-fold.

Item 2.10

32. The FAO JMPR Secretariat informed the Committee that the 17 Cluster diets had been incorporated in the IEDI and ready for use at the 2014 JMPR meeting.

33. The Delegation of the European Union supported the JMPR initiative to collect further consumption data in order to better match the 17 Cluster diets with the *Classification of Food and Feed* with a view to getting more refined exposure estimates. This view was supported by the Observer of the African Union.

Item 2.11

34. The JMPR Secretariat informed the Committee that JMPR started using the revised fruit commodity groups in the Classification to carry out its work. Since the Classification had significant impact on the estimation of MRLs, JMPR was interested in the CCPR work on the revision of the Classification for other commodities and look forward to the completion of this work by CCPR.

REPORT ON 2013 JMPR RESPONSES TO SPECIFIC CONCERNS RAISED BY CCPR (Agenda Item 5b)[8]

35. The Committee noted that specific concerns raised by CCPR would be addressed when discussing the relevant compounds under Agenda Item 6.

DRAFT AND PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES IN FOOD AND FEED AT STEPS 7 AND 4 (Agenda Item 6)[9]

General remarks

36. The Delegation of the European Union advised the Committee that they would be introducing reservations for a number of proposed draft and draft MRLs during the discussions on the individual compounds and that the reasons for these reservation were outlined in CRDs 3 and 4.

37. The Committee agreed that these reservations, where relevant, would be noted in the report.

38. The Delegation of the European Union further noted that it was current EU policy to align EU MRLs with Codex MRLs (CXLs) in cases where no reservations were made.

DIQUAT (31)

39. The Committee decided to advance the proposed draft MRL for peas (dry); potato; rape seed; soya bean (dry); sunflower seed; banana; cajou (pseudofruit); cashew apple; cashew nut; citrus fruits; coffee beans; fruiting vegetables other than cucurbit (except sweetcorn, fungi and mushrooms); pea hay or pea fodder (dry); pome fruits; stone fruits; and strawberry for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, noting the reservation of the Delegations of the European Union and Norway on the proposed draft MRLs for soya bean (dry), peas (dry) and potato because of the different chronic intake risk assessment approaches used by JMPR and in the EU.

40. The Committee decided to maintain the CXLs for bean (dry); and lentil (dry), under the 4 year rule awaiting data from Canada and noted that the concern form regarding the revocation of these CXLs by the 2013 JMPR was no longer relevant. The Committee also decided to maintain the CXLs for barley; oats; and wheat under the 4 year rule awaiting data from Australia, and maintain the proposed draft MRLs for beans (dry), edible offal (mammalian); eggs; meat (from mammals other than marine mammals); milks; poultry meat; and poultry, edible offal of at Step 4.

41. The Committee decided to recommend revocation of the CXLs for alfalfa fodder; maize; rice; rice, husked; rice, polished; and sorghum as recommended by the 2013 JMPR.

MALATHION (49)

42. The Committee decided to advance the proposed draft MRL for cherries for adoption at Step 5/8. The Delegations of the European Union and Norway expressed a reservation related to the higher toxicity of the metabolites malaoxon, DMM, MMCA and MDCA compared with the parent compound.

43. The JMPR Secretariat advised that the 1999 JMPR decided that the residue definition for compliance and dietary intake purposes should be malathion only and recommended that should delegations consider there was a health concern they could seek to have the compound scheduled for periodic re-evaluation.

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8 Section 3 of the 2013 JMPR Report (http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Report13/JMPR_2013_Report.pdf); CRD 3 (Comments of European Union and African Union); CRD 12 (Comments of Mali); CRD 21 (Comments of Nigeria).

9 CX/PR 14/46/5; CX/PR 14/46/5-Add.1 (Comments of Australia, Canada, Iran, Kenya, United States of America and African Union); CRD 4 (Comments of Cameroon and European Union); CRD 10 (Comments of Australia); CRD 13 (Comments of Cameroon, China, Indonesia and Mali); CRD 21 (Comments of Nigeria).

CHLORPYRIFOS-METHYL (90)

44. The Committee noted the concern form submitted by Australia, that labels from Australia were not fully interpreted with respect to use on rice. The Committee decided to maintain all the proposed draft and draft MRLs at Steps 4 and7, waiting for the 2014 JMPR re-assessment of the Australian GAP.

45. The Delegations of the European Union and Norway expressed a reservation related to the draft MRLs for cereals, except maize and rice; and rice, husked based on the different policies on extrapolation and livestock dietary burden estimation used by JMPR and in the EU, and noted that a chronic risk for European consumers could not be excluded.

46. In addition, the Committee noted the reservation expressed by the Delegation of Kenya, with respect to chronic dietary intake estimation and the consequent advancement of the proposed MRLs for cereals. In this regard, the Delegation referred to the written comments submitted by the African Union and noted that the highest percentage of the ADI (110%) was found in the Cluster Diet J, which included several African countries, for which 95% of the IEDI was from consumption of millet and sorghum, including raw grain, flour and beer for both commodities. There was therefore a need to revisit the conclusion made by JMPR in assuming that there may be no public health concern based on the assumption that residues would decrease during processing including cooking grain in water.

TRIAZOPHOS (143)

47. The Committee decided to advance the proposed draft MRL for rice, polished for adoption at Step 5/8 and subsequent revocation of the associated cereal grain CXL, and to also withdraw the proposed draft MRLs for rice, husked as recommended by the 2013 JMPR.

48. The Delegations of the European Union and Norway expressed a reservation related to advancement of the proposed draft MRL for rice polished because of the different policies on acute intake risk assessment used by JMPR and in the EU.

GLYPHOSATE (158)

49. The Committee decided to advance the proposed draft MRL for rape seed for adoption at Step 5/8, with the subsequent deletion of the associated CXL, noting the reservation of the Delegations of the European Union and Norway that a lower MRL could be defined applying the same residue definition and same GAP as used by JMPR.

PROPICONAZOLE (160)

50. The Committee agreed to advance the proposed draft MRLs for oranges, sweet, sour (including orange-like hybrids): several cultivars; peach; plums (including prunes); tomato for adoption at Step 5/8.

51. The Delegations of the European Union and Norway expressed a reservation on the advancement of the proposed draft MRL for plums (including prunes) because of the different policies used by JMPR and in the EU for combining data on post-harvest treatments.

BENTAZONE (172)

52. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

53. The Committee agreed to recommend revocation of the CXL for meat (from mammals other than marine mammals) as recommended by the 2013 JMPR, and agreed to maintain the CXL for field pea (dry) under the 4 year rule, awaiting data from the United States of America.

54. The Committee noted the reservation of the Delegations of the European Union and Norway on the advancement of the proposed draft MRLs for beans (dry); beans, except broad bean and soybean; beans, shelled (succulent immature seeds); cereal grains; eggs; herbs; linseed; milks; onion, bulb; peanut; peas (pods and succulent=immature seeds); potato; poultry meat (fat); poultry, edible offal of; soya bean (dry); spring onion; sweet corn (corn-on-the-cob) because of the different residue definitions established by JMPR and in the EU.

BUPROFEZIN (173)

55. The Committee noted that the Delegation of the United States of America had submitted a second concern form this year seeking clarification for the changing reason on why an MRL for coffee beans was not recommended by JMPR based on data available.

56. The JMPR Secretariat advised that while the cultivation practices in the trials conducted in Hawaii and those in Brazil were similar, the processing methods to produce green coffee beans were significantly different and may have impacted on residue concentrations in the processed beans. The JMPR therefore concluded that it was not appropriate to combine the data sets to derive an MRL for coffee beans.

57. The Committee noted that the new processing information had been provided for consideration by the 2014 JMPR.

GLUFOSINATE-AMMONIUM (175)

58. The Committee noted that the response from the 2013 JMPR to a request from CCPR on the possible use of relative toxic potencies of glufosinate-ammonium and its metabolite to enable a refinement of the dietary risk assessment.

59. The JMPR Secretariat advised that JMPR had considered the relative toxicity of glufosinate-ammonium and metabolites NAG, MPP and MPA and concluded that the metabolites were 10 times less toxic than the parent compound. The JMPR recommended to compare both the ADI and the ARfD with the sum of dietary exposure to glufosinate-ammonium + 0.1 x (dietary exposure to metabolites NAG + MPP + MPA).

60. The Committee noted that data needed to conduct both acute and chronic dietary risk assessment for exposure to glufosinate-ammonium + 0.1 x (dietary exposure to metabolites NAG + MPP + MPA) would be provided to JMPR.

61. The Committee decided to advance the proposed draft MRLs for banana; edible offal (mammalian); kiwifruit; lettuce, leaf; for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

62. The Committee agreed to hold the proposed draft MRL for soya bean (dry) at Step 4, awaiting re-evaluation by the 2014 JMPR.

DITHIANON (180)

63. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

64. The Committee noted the general reservation of the Delegations of the European Union and Norway relating to their chronic dietary intake concern and a specific reservation on the proposed group MRL for stone fruits due to the different extrapolation policies used by JMPR and in the EU.

65. The Delegation of Uganda expressed reservation on the withdrawal of the CXLs for mandarin and shaddocks or pomelos. The Committee agreed to retain the CXLs for mandarin and shaddocks or pomelos under the 4 year rule awaiting the submission of data, but noted that additional data would not be available from the manufacturer.

FENPYROXIMATE (193)

66. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

67. The Delegations of the European Union and Norway expressed a reservation on the advancement of the proposed draft MRLs for edible offal (mammalian) and meat (from mammals other than marine mammals) because of differing residue definitions established by JMPR and in the EU. The JMPR Secretariat advised that the residue definition was last reviewed by JMPR in 1999 and suggested that it could be reviewed when fenpyroximate was scheduled for periodic evaluation.

68. The Delegations of the European Union and Norway also made a reservation on the advancement of the proposed draft MRL for stone fruits due to the different policies on extrapolation used by JMPR and in the EU.

FENBUCONAZOLE (197)

69. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8.

70. The Delegations of the European Union and Norway expressed a reservation on the advancement of the proposed draft MRLs for citrus fruits due to their chronic risk concern because of the different chronic intake risk assessment policies used by JMPR and in the EU.

FLUTOLANIL (205)

71. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

72. The Delegations of the European Union and Norway expressed a reservation on the advancement of proposed draft MRLs for brassica leafy vegetables due to the different policies on extrapolation used by JMPR and in the EU.

CYPRODINIL (207)

73. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, noting the reservation of the Delegations of the European Union and Norway on the advancement of the proposed MRLs for berries and other small fruits (except grapes), brassica leafy vegetables, fruiting vegetables other than cucurbits and leafy vegetables (except brassica leafy vegetables), arising from different policies on extrapolation used by JMPR and in the EU, and for edible offal (mammalian) because of differing residue definitions for animal commodities.

74. In response to the concern over the residue definition, the JMPR Secretariat suggested that this could be re-evaluated when the compound was scheduled for periodic review.

FLUDIOXONIL (211)

75. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, noting the reservation of the Delegations of the European Union and Norway on the advancement of the proposed draft MRLs for pepper chili, dried and fruiting vegetables, cucurbits, because of the different data combination polices used by JMPR and in the EU.

METALAXYL-M (212)

76. The Committee noted the concern form submitted by Cameroon, relating to the proposed reduction in the draft MRL for cocoa beans. The JMPR Secretariat advised that the advancement of the draft MRLs for metalaxyl-M was dependent on the outcome of the metalaxyl periodic review in 2015. The Committee agreed to retain all draft MRLs for metalaxyl-M at Step 7 awaiting this review and to apply the 4 year rule for metalaxyl awaiting data on cocoa beans from Cameroon.

INDOXACARB (216)

77. The Committee decided to advance the proposed draft MRL for tea, green, black (black, fermented and dried) for adoption at Step 5/8.

DIFENOCONAZOLE (224)

78. The Committee decided to retain the draft MRL for papaya at Step 7, awaiting information on authorised GAP to be submitted by Kenya for the 2015 JMPR follow-up evaluation.

79. The Committee agreed to advance all the remaining proposed draft MRLs for adoption at Step 5/8 with the subsequent revocation of the associated CXLs, noting the reservation of the Delegations of the European Union and Norway on brassica (cole or cabbage) vegetables, head cabbage, flower head brassicas; melons, except watermelon and fruiting vegetables other than cucurbits (different extrapolation policies); edible offal (mammalian); eggs; meat (from mammals other than marine mammals) and milks (different residue definitions for animal commodities); and potato (different acute intake risk assessment).

PYRIMETHANIL (226)

80. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

AZOXYSTROBIN (229)

81. The Committee decided to advance all proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

CHLORANTRANILIPROLE (230)

82. The Committee decided to advance all proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

83. The Delegations of the European Union and Norway expressed reservations related to the advancement of the proposed draft MRLs for eggs (because of different livestock dietary burden policies used by JMPR and in the EU); peas (pods and succulent = immature seeds); coffee beans; hops, dry; beans, except broad bean and soya bean and peas, shelled because of the different policies on extrapolation used by JMPR and in the EU.

MANDIPROPAMID (231)

84. The Committee decided to advance the proposed draft MRL for hops, dry for adoption at Step 5/8.

SPIROTETRAMAT (234)

85. The Committee noted the concern form submitted by the United States of America that MRLs were not proposed by JMPR for pomegranate and pineapples because they did not comply with the 2013 FAO guidance which was issued after the data were developed

86. The JMPR Secretariat advised that there was concern that degradation would impact on residues and therefore impact on estimated MRLs, and that the recent JMPR guidance was an attempt to address this concern.

87. The Committee decided to advance the proposed draft MRLs for artichoke, globe; bush berries; and cranberry for adoption at Step 5/8, noting that information on potential degradation during sub-sampling would be considered by JMPR in 2014.

88. The Delegations of the European Union and Norway expressed a reservation on the advancement of the proposed draft MRLs for bush berries because of differing policies on the use of extrapolation used by JMPR and in the EU.

CLOTHIANIDIN (238) / THIAMETHOXAM (245)

89. The Committee decided to advance the draft MRL for root and tuber vegetables for adoption at Step 8.

90. While noting the 2013 JMPR response to their concern form, the Delegations of the European Union and Norway maintained their reservation on the advancement of the draft MRL because of the different extrapolation policies used by JMPR and in the EU.

CYPROCONAZOLE (239)

91. The Committee decided to advance the proposed draft MRLs for coffee beans; coffee beans, roasted for adoption at Step 5/8.

DICAMBA (240)

92. The Committee decided to advance the proposed draft MRL for soya bean (dry) for adoption at Step 5/8, with the subsequent withdrawal of the associated draft MRL at Step 4 for soya bean (dry).

PROPYLENE OXIDE (250)

93. The Committee noted the response from the 2013 JMPR to a concern form submitted by the United States of America. The JMPR Secretariat advised that the 2013 JMPR confirmed the establishment of the ARfD at the upper bound of the ADI due to an inadequate developmental toxicity study, leading to the use of a 1 000-fold safety factor. Regarding metabolites, for PCH JMPR confirmed that it was possible to establish neither an ADI nor an ARfD in the absence of any reliable data to characterise the hazard to fetuses. For PBH JMPR also confirmed that it was possible to establish neither an ADI nor an ARfD. Moreover, because this compound had been shown to be genotoxic in vitro and had not been tested in vivo, the exposure was shown to be significantly above the threshold of toxicological concern.

SULFOXALOR (252)

94. The Committee decided to advance the proposed draft MRL for beans (dry); carrot; for adoption at Step 5/8, noting the general reservation of the Delegations of the European Union and Norway on the advancement of these draft MRLs pending the outcome of their evaluation.

95. The Committee agreed to maintain the proposed draft MRL for citrus fruits; pome fruits; stone fruits; tree nuts at Step 4, awaiting a review of GAP by the 2014 JMPR.

PENTHIOPYRAD (253)

96. The Committee agreed to retain the proposed draft MRLs for mustard greens at Step 4 in light of the acute intake risk identified by JMPR in 2012 and await advice on the availability of an alternative GAP.

97. The Committee agreed to advance all other proposed draft MRLs for adoption at Step 5/8, and to withdraw the associated proposed draft MRLs at Step 4.

98. The Delegations of the European Union and Norway expressed a reservation on the advancement of the proposed draft MRLs for animal commodities because of the different residue definitions for enforcement established by JMPR and in the EU.

CHLORFENAPYR (254)

99. The JMPR Secretariat advised that in 2012 JMPR established an ADI and an ARfD for chlorfenapyr but was not able to propose MRLs due to the significant occurrence of tralopyril, a chlorfenapyr metabolite. The 2013 JMPR reviewed the toxicity of tralopyril and concluded that this compound was 10 times more potent than chlorfenapyr.

100. The Committee noted that data needed to conduct both acute and chronic dietary risk assessment for exposure to chlorfenapyr + (10 x tralopyril) would be available for the 2018 review.

PICOXYSTROBIN (258)

101. The JMPR Secretariat advised that in 2012 JMPR established an ADI and an ARfD for picoxystrobin but was not able to propose MRLs due to the significant occurrence of 2 metabolites (IN-H8612 and 2-(2-formylphenyl)-2-oxoacetic acid). In 2013 JMPR reviewed new data submitted for IN-H8612 and concluded that there was no concern for dietary exposure to this compound. Regarding 2-(2-formylphenyl)-2-oxoacetic acid, no new data were submitted. The JMPR concluded that in the absence of genotoxicity testing for 2-(2-formylphenyl)-2-oxoacetic acid, it was not possible for JMPR to propose MRLs for picoxystrobin.

BENZOVINDIFLUPYR (261)

102. The Committee was informed that the new ADI and ARfD established by the 2013 JMPR for benzovindiflupyr were 0-0.05 mg/kg bw and 0.1 mg/kg bw, respectively.

BIXAFEN (262)

103. The Committee was informed that the new ADI and ARfD established by the 2013 JMPR for bixafen were 0-0.02 mg/kg bw and 0.2 mg/kg bw, respectively.

CYANTRANILIPROLE (263)

104. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8, noting the reservation of the Delegations of the European Union and Norway with respect to the advancement of the proposed draft MRLs for leafy vegetables (except lettuce, Head) and fruiting vegetables other than cucurbits (except mushrooms & sweet corn) because of the different policies on extrapolation used by JMPR and in the EU.

FENAMIDONE (264)

105. The Committee was informed that the new ADI and ARfD established by the 2013 JMPR for fenamidone were 0-0.03 mg/kg bw and 1 mg/kg bw, respectively.

FLUENSULFONE (265)

106. The Committee noted that the 2013 JMPR had established on ADI of 0-0.01 mg/kg bw and on ARfD of 0.3 mg/kg bw for fluensulfone.

IMAZAPIC (266)

107. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, noting the reservation of the Delegations of the European Union and Norway on the advancement of the proposed draft MRLs for mammalian products (including milks) because of the different policies on livestock dietary burden calculations used by JMPR and in the EU.

IMAZAPYR (267)

108. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8.

ISOXAFLUTOLE (268)

109. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8.

TOLFENPYRAD (269)

110. The Committee noted that the Delegation of the United States of America had submitted a concern form about the point of departure used by JMPR to calculate the ARfD. The JMPR Secretariat advised that in 2013, the JMPR discussed at some length the possibility that the effects in the dog were due to local irritation but concluded that the evidence was against this. Moreover whilst the body weight gain decrement observed in the developmental study occurred over a three-day time period, there was no information on whether this could have occurred after a single day and hence in line with normal practice, it was assumed that this was possible.

111. In response to the concern form the JMPR Secretariat organised a virtual expert meeting in order to provide clarification as soon as possible. The virtual meeting concluded that the 2013 Meeting followed the guidance on establishing an ARfD in reaching its decision, and that there was no scientific justification to revise the established ARfD for tolfenpyrad. The JMPR Secretariat advised that a full response to the concern form would be included in the 2014 JMPR report.

112. The Committee decided to advance the proposed draft MRL for tea, green for adoption at Step 5/8, noting the reservation of the Delegations of the European Union and Norway, on the advancement of this draft MRL because of the different number of trials required by JMPR and in the EU for green tea and the absence of hydrolytic processing study.

TRIFLUMIZOLE (270)

113. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, noting the reservation of the Delegations of the European Union and Norway because of the different residue definitions established by JMPR and in the EU for all commodities, including cucumber and mammalian products (including milks) and because of the different policies on the assessment of metabolism studies (cherries; hops, dry; papaya; and grapes) and on acute intake risk assessment (grapes only).

TRINEXAPAC-ETHYL (271)

114. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, noting the reservation of the Delegations of the European Union and Norway on the advancement of the proposed draft MRL for edible offal (mammalian) because of the different livestock dietary burden calculations conducted by JMPR and in the EU.

STATUS OF THE MAXIMUM RESIDUE LIMITS FOR PESTICIDES

115. The Committee agreed to forward to the 37th Session of the Commission:

- Draft and proposed draft MRLs for adoption at Steps 8 and 5/8 (Appendices II and III);
- Codex MRLs for revocation (Appendix IV).

116. The Committee noted that:

- Draft and proposed draft MRLs retained at Steps 7 and 4 are attached as Appendices V and VI;
- Draft and proposed draft MRLs withdrawn are attached as Appendix VII.

DISCUSSION PAPER ON THE APPLICABILITY OF CODEX MAXIMUM RESIDUE LIMITS FOR CITRUS FRUITS TO KUMQUATS (Agenda Item 7)[10]

117. The Delegation of Japan introduced the item and presented the findings of the short-term dietary exposure assessment carried out to determine whether the inclusion of kumquats in the MRLs for citrus fruits for those pesticides listed in Tables 1 and 2 of CX/PR 14/46/6 would pose a dietary intake concern.

118. The Delegation explained that the estimation of the acute dietary exposure assessment followed the procedure established in the FAO Manual on the Submission and Evaluation of Pesticide Residues Data for the Estimation of Maximum Residue Levels in Food and Feed. In this regard, as unit weight for kumquats were below 25 g, Case 1 was applied for the conduct of the acute dietary exposure assessment. In addition, as kumquats were eaten with the peel, the edible portion was the whole fruit and for each pesticide the HR in composite sample of the whole commodity of citrus fruits was derived from supervised trials contained in the respective JMPR evaluations.

119. The Delegation further explained that only national consumption data were used in the calculation of the IESTI, assuming that these data represented the global worst-case scenario, as data submitted by other countries and regions provided no or only a few consumption data on kumquats. National consumption data were obtained on large portion consumption (97.5th percentile of consumers) and the mean body weight for the general population (over 1 year old) consuming raw kumquats. For children (1 - 6 years old) it was not appropriate to derive the IESTI due to the lack of relevant consumption data. However, as the flesh of kumquats was bitter and tart, it was unlikely that consumption of kumquats by children would be comparable to adults.

120. Based on these considerations, the Delegation indicated that the percentage of the ARfD found in the acute dietary risk assessment of kumquats for the general population represented 0-16% of the ARfD for those pesticides listed in Table 1 (except dimethoate which represented 53% of the ARfD) and 0-1% of the ARfD for those pesticides listed in Table 2. In the case of dimethoate, the Delegation noted that although the safety margin for kumquat was low, the situation might not be similar for citrus fruits in general as the 2003 JMPR Evaluation did not provide information on the calculation of the IESTI for citrus fruits for this pesticide since it seemed the STMR instead of the HR was mistakenly entered into the corresponding column of the IESTI spreadsheet.

Discussion

121. The Committee considered the recommendations put forward in paragraph 15 of CX/PR 14/46/6 and noted the following:

122. Recommendations proposed in CX/PR 14/46/6 were in line with the *Classification of Food and Feed* (CAC/MISC 4-1993). The HR of 4.4 for dimethoate was derived from residues in the whole citrus fruit while the HR of 1.4 mg/kg was based on the residues in the citrus fruit pulp.

123. Delegations in support of the retention of the reference "excluding kumquats" in the MRLs for citrus fruits indicated that a further refinement of the IESTI should be carried by JMPR for those pesticides listed in Tables 1 and 2 before the inclusion of kumquats in the MRLs for citrus fruits as kumquats were eaten with the peel as opposed to citrus fruits, differences in GAPs, and the lack of consumption data on vulnerable groups such as children may lead to an underestimate the contribution of kumquats to dietary exposure. They proposed that the extension of the MRLs for citrus fruits to kumquats should be done on a case-by-case basis, citing specific concerns on carbaryl, methomyl and prochloraz in relation to short-term intake.

124. An alternative proposal was to apply the MRLs for citrus fruits to kumquats with the exception of dimethoate awaiting the periodic review (toxicology and residues) by JMPR in 2019.

125. Delegations in support of the lifting of the reference "excluding kumquats" from the MRLs for citrus fruits indicated that the acute exposure assessment described in CX/PR 14/46/6 for the pesticides listed in Tables 1 and 2 showed no dietary intake concerns in relation to the inclusion of kumquats in the group MRLs. In addition, data from other countries / regions supported the inclusion of kumquats in the MRLs for citrus fruits with the exception of dimethoate. These delegations noted that this was a pragmatic approach for the extension of group MRLs to minor crops like kumquats.

126. The JMPR Secretariat expressed concern on the extrapolation of group MRLs to additional commodities based on national consumption data, without residue trial data, noting that residues for additional commodities might be significantly different to the commodities in the original group. The JMPR Secretariat further noted that consideration of group MRLs on a case-by-case basis with a view to their application to other commodities would not be feasible but should be integrated in the periodic review of a compound to ensure the efficient use of resources. In this regard, the JMPR Secretariat recalled the decision of the 45th Session of CCPR that no changes would be made to group MRLs as a consequence of the revision of the Classification until such a time JMPR would revise the group MRLs following the procedures in place for the establishment of Codex schedules and priority list of pesticides[11]. The Secretariat urged Codex members to submit relevant data, in particular large portion data, to GEMS/Foods for the estimation of IESTI for kumquats and similar commodities for the establishment of group MRLs in the future.

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10 CX/PR 14/46/6; CRD 5 (Comments of Canada, European Union, Kenya and African Union); CRD 10 (Comments of Australia); CRD 14 (Comments of Cameroon, China and Mali); CRD 25 (Comments of Cameroon).

11 REP13/PR, para 109.

Conclusion

127. The Committee agreed to remove the term "excluding kumquats" from the MRLs for "citrus fruits" and "lemons and limes" in the Codex Database for Pesticide Residues with the exception of the group MRL for dimethoate awaiting the periodic review of this pesticide (toxicology and residues) by JMPR in 2019 (Recommendations i-ii). The Committee further agreed that the group MRLs for diquat (citrus fruits), fenbuconazole (lemons and limes) and difenoconazole (citrus fruits) arising from the 2013 JMPR Evaluation would also apply to kumquats (Recommendation iii). The Delegation of Nigeria expressed its reservation to this decision.

128. The Committee agreed to forward the revised group MRLs for "citrus fruits" and "lemons and limes" for the pesticides listed in Appendix VIII to the Codex Alimentarius Commission for adoption. The Committee noted that these were consequential amendments to the revision of the fruit commodity groups in the Classification.

129. The Committee agreed that, unless otherwise specified, group MRLs for "citrus fruits" and "lemons and limes" would also encompass kumquats.

130. The Committee endorsed Recommendation iv and agreed to request JMPR to:

i) Calculate IESTI for kumquats when estimating MRLs for "citrus fruits" and "lemons and limes"; and

ii) Consider the appropriateness to use large portion data on kumquats and HR of citrus fruits in whole fruits for the estimation of the group MRLs.

131. The Committee noted that the JMPR Secretariat would raise uncertainties associated with consumption data from only one or few countries.

DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED: SELECTED VEGETABLE COMMODITY GROUPS (Agenda Item 8a)[12]

132. The Delegation of the Netherlands, as the Chair of the EWG on the Classification, introduced the item and indicated that the Committee had received a large number of comments on commodities covered by Agenda Items 8a-8c. In view of this, the Delegation had prepared revised versions of documents belonging to these Agenda Items which considered all written comments submitted at this Session. The EWG Chair noted that proposals for addition of new commodities which did not belong to this Group would be considered, such as the inclusion of *Morinda oleifera* (CRD 15), at a future session of the Committee.

133. The Committee agreed to use the revised version as the basis of the discussion. In addition to editorial adjustments, the Committee made the following comments and amendments.

Group 16(b) Tuberous and corn vegetables

134. The Committee noted that:

- Ginger was included in the group of spices and currently at Step 7; therefore, the inclusion of additional synonyms to this commodity would be considered at a later stage;
- It was not necessary to specify colours of sweet potato (VR 0508); therefore, following the same approach taken for carrot, all references to colour were removed;
- It was not possible to include "Ibo Coco" and "Cocoyam" as additional common names of *Colocasia esculenta* and *Xanthosoma sagittifolium* because the first it was not an English name and the second could create confusion as it referred to both Tanya and Taro.

STATUS OF THE DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED: SELECTED VEGETABLE COMMODITY GROUPS

135. The Committee agreed to hold commodity Group 016 Root and Tuber Vegetables at Step 7 awaiting finalisation of the revision of the Classification of all vegetable commodity groups (Appendix IX).

PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED: OTHER SELECTED COMMODITY GROUPS (Agenda Item 8b)[13]

136. The Committee considered this Group based on revised commodities (see Agenda Item 8a) and made the following comments and amendments in addition to editorial changes.

Group 011 Fruiting vegetables, Cucurbits

137. The Committee discussed the proposal of the EWG to divide the Group in three new subgroups:

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12 CX/PR 14/46/7; CX/PR 14/46/7-Add.1 (Comments of Canada, China, El Salvador, European Union, Kenya and African Union); CRD 6 (Comments of Australia, Thailand and Republic of Korea); CRD 10 (Comments of Australia); CRD 15 (Comments of Cameroon, Ghana and Mali); CRD 20 (Revised Classification, Items 8 a,b,c); CRD 21 (Comments of Nigeria).

13 CX/PR 14/46/8; CX/PR 14/46/8-Add.1 (Comments of Canada, China, El Salvador, European Union, Kenya, United States of America and African Union); CRD 6 (Comments of Australia, Thailand and Republic of Korea); CRD 10 (Comments of Australia); CRD 15 (Comments of Cameroon, Ghana, India, Japan and Mali); CRD 20 (Revised Classification, Items 8 a,b,c); CRD 21 (Comments of Nigeria); CRD 26 (Criteria for commodity grouping in the *Classification of Food and Feed*).

- 11A Fruiting vegetables, Cucurbits – Cucumber and Summer Squashes;
- 11B Fruiting vegetables, Cucurbits – Melons;
- 11C Fruiting vegetables, Cucurbits – Winter squashes.

138. Several delegations asked for the rationale of the three subgroups and proposed to reconsider the classification of Group 011. These delegations noted that in a number of countries this Group only included two subgroups (i.e. cucurbits with edible and with inedible peel); that rationale should be provided for diverging from other classification systems in particular the International Crop Grouping Consulting Committee (ICGCC) to ensure an international harmonised crop grouping system; and that the establishment of subgroups based on the edibility of the peel might not be applicable worldwide as dependent on dietary habits. They further noted that crop grouping was closely related to the selection of representative commodities and the setting of group MRLs, and therefore harmonisation of commodity groups in the Classification, would impact on the harmonisation of pesticide legislation across Codex members.

139. The EWG Chair clarified that the classification into the three subgroups was not only based on the edibility of the commodities but was taking into account other criteria such as agriculture practices.

140. Other delegations supported the division in three subgroups which allowed to separate cucurbits with edible peel (subgroup 11A) from the other two subgroups with inedible peel: mainly consumed as fruits (subgroup 11B) and mainly consumed as vegetables (subgroup 11C).

141. The JMPR Secretariat clarified that there were significant differences in the risk assessment for peeled and unpeeled products and that differences in exposure assessment might also depend on culinary habits and data generated by countries.

142. Based on the above considerations, the Committee agreed to continue working on the revision of Group 011 taking into account, among others, representativeness of the subgroups, residue potentials, impact on future work on group MRLs and harmonisation with other existing classification schemes in particular the ICGCC.

Group 014 Legume vegetables

143. The Committee noted different opinions as to the division of the Group into two (i.e. legume vegetables with or without pods) or four subgroups (i.e. beans with pods; peas with pods; succulent beans without pods; and succulent peas without pods). In view of this the Committee agreed to collect more data and information in support of the division of the Group into two or four subgroups and to continue discussion at the next Session. A question was made on the need to have separate commodities between beans (*Phaselous* spp.) and beans (*Vigna* spp.) since this separation affected the existing Codex MRLs (CXLs) for beans.

Group 015 Pulses

144. The Committee agreed to the proposed revision as presented in the revised version.

Conclusion

145. In view of the above discussion, the Committee agreed that it was not possible to make progress in the grouping of commodities in Groups 011 and 014.

146. In order to make a decision at its next Session, the Committee agreed to request comments from Codex members on which characteristics to accept for crop grouping of fruiting vegetables, cucurbits and legumes vegetables. In this regard the Committee recalled the parameters which constituted the basis for grouping commodities in the *Classification of Food and Feed* for the commodities namely: (i) commodity's similar potential for pesticide residues; (ii) similar commodity morphology; (iii) similar production practices, growth habits, etc.; (iv) edible portion; (v) similar GAP for pesticide uses; (vi) similar residue behaviour; and (vii) flexibility for setting (sub) group tolerances.

Future work

147. The Committee agreed to reconvene the EWG on the Classification, led by the Netherlands and the United States of America and working in English, to: (i) prepare revised proposals for Group 011 Fruiting vegetables, cucurbits and Group 014 Legume vegetables on the basis of comments received in reply to the above question; and (ii) proceed with the elaboration of additional commodity groups for consideration at the next Session.

STATUS OF THE DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED: OTHER SELECTED VEGETABLE COMMODITY GROUPS

148. The Committee agreed to forward the proposed draft revision of the Classification - Group 015 Pulses to the 37th Session of the Commission for adoption at Step 5 (Appendix X) and to request comments at Step 3 on the proposed draft revision of the Classification: Group 011 Fruiting vegetables, Cucurbits and Group 014 Legume vegetables (Appendix XI) for consideration by the EWG on the Classification in order to provide a revised version for circulation for further comments and consideration at the next session of the Committee.

PROPOSED DRAFT TABLE 2 - EXAMPLES OF SELECTION OF REPRESENTATIVE COMMODITIES (VEGETABLE COMMODITY GROUPS) (FOR INCLUSION IN THE *PRINCIPLES AND GUIDANCE FOR THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES TO COMMODITY GROUPS*) (Agenda Item 8c)[14]

149. The Committee agreed that it was more appropriate to wait for the outcome of the discussion related to Group 011 Fruiting vegetables, cucurbits and Group 014 Legume vegetables and to consider the proposed draft Table 2 at its next Session.

STATUS OF PROPOSED DRAFT TABLE 2: EXAMPLES OF SELECTION OF REPRESENTATIVE COMMODITIES (VEGETABLE COMMODITY GROUPS) (FOR INCLUSION IN THE *PRINCIPLES AND GUIDANCE FOR THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES TO COMMODITY GROUPS*)

150. The Committee agreed to return the proposed draft Table 2 to Step 2/3 for redrafting by EWG on the Classification for comments and consideration at its next Session.

PROPOSED DRAFT GUIDANCE ON PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR THE DETERMINATION OF PESTICIDE RESIDUES (Agenda Item 9)[15]

151. The Delegation of the United States of America, as Chair of the in-session Working Group, introduced the revised guidance and explained that the Working Group had prepared a revised version of the Guidance and reached consensus on several parts of the document while others needed additional work, feedback and consultation at country level.

152. The Committee in general supported the structure and content of the revised Guidance and noted suggestions to reconsider the order of the sections e.g. “scope” and “definitions” and alignment of terminology e.g. feedingstuff vis-à-vis animal feed.

Conclusion

153. The Committee noted that additional work was still necessary on some areas of the document and therefore agreed to re-establish the electronic Working Group, led by the United States of America and co-chaired by China and India, to further revise the Guidance taking into consideration relevant CCRVDF and CCMAS documents. The EWG would be working in English only.

154. The Committee noted that it was important that members of the EWG actively participate and contribute to the revision of the document in order to make progress with the finalisation of the document at the next session of CCPR.

STATUS OF THE PROPOSED DRAFT GUIDANCE ON PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR THE DETERMINATION OF PESTICIDES RESIDUES

155. The Committee agreed to request comments at Step 3 on the proposed draft Guidance (Appendix XII) for consideration by the EWG in order to provide a revised version for circulation for further comments and consideration at the next session of the Committee.

REVISION OF THE RISK ANALYSIS PRINCIPLES APPLIED BY THE CODEX COMMITTEE ON PESTICIDE RESIDUES (Agenda Item 10)[16]

156. The Delegation of the United States of America, as Chair of the in-session WG, introduced the revised Risk analysis principles and explained that the WG had focused its work on sections where comments had been submitted in addition to few editorial adjustments.

Discussion

157. The Committee considered the document section by section. In addition to few changes to improve clarity, flow, readability and minor adjustments to ensure consistent use of terminology, the Committee made the following comments and amendments:

Dietary Intake

158. The JMPR Secretariat clarified that it was not possible to include a specific percentile consumption level for acute exposure calculation as this would depend on the quality of data submitted; and that the JMPR practice of looking to alternative GAP when the IESTI exceeded the ARfD was explained in the FAO Manual and needed not be included in this higher level risk analysis principles document.

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14 CX/PR 14/46/9; CX/PR 14/46/9-Add.1 (Comments of Canada, European Union, Kenya and African Union); CRD 6 (Comments of Australia and Thailand); CRD 10 (Comments of Australia); CRD 15 (Comments of Cameroon, Ghana, Japan and Mali); CRD 20 (Revised Classification, Items 8 a,b,c).

15 CX/PR 14/46/10; CX/PR 14/46/10-Add.1 (Comments of El Salvador, European Union, Kenya and African Union); CRD 7 (Comments of Argentina); CRD 16 (Comments of Cameroon, China, Chile, Ghana, Indonesia and Mali); CRD 21 (Comments of Nigeria); CRD 23 (Report of the in-session Working Group on Methods of Analysis).

16 CX/PR 14/46/11; CX/PR 14/46/11-Add.1 (Comments of Argentina, European Union and CropLife International); CRD 17 (Comments of Cameroon, China, Japan, Mali and Thailand); CRD 24 (Report of the in-session Working Group on Risk Analysis).

Commitment to support pesticide or existing CXL or new proposed MRL

159. The Committee noted that the WG had removed all detailed information on the data requirements to support a periodic review, as this information was already included in the FAO Manual. However it was noted that not all relevant guidance was included in the FAO Manual and in EHC 240[17], and that guidance on information needed to support the periodic review of pesticide no longer supported by the original sponsor was only available in the 2012 JMPR General Considerations (Section 2.1).

160. The JMPR Secretariat informed the Committee that the FAO Manual was regularly updated to reflect the JMPR general considerations and that the 2012 JMPR general consideration would be introduced in the FAO Manual in due course.

161. The Committee agreed that the key requirements related to GAP information, field trials and other relevant studies required when some pesticide uses were no longer supported by the original sponsor would be included in the Risk Analysis Principles until they were incorporated in the FAO Manual.

Annex C – Principles and guidance for the application of the proportionality concept for estimation of maximum residue limits for pesticides

162. The Committee noted editorial amendments to the *Principles and guidance for the application of the proportionality for the estimation of MRLs for pesticides* but agreed to retain the text as adopted by the 36th CAC to avoid possible misinterpretations as to when and under which conditions the proportionality approach could be used.

Conclusion

163. The Committee agreed to forward the revised *Risk Analysis Principles applied by the Committee on Pesticide Residues* to the 37th Session of the Commission for adoption and inclusion in the Procedural Manual (Appendix XIII).

164. The delegations from the Latin America and Caribbean (LAC) region who took part in the 46th CCPR Session, namely Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Honduras, Jamaica, Mexico and Paraguay, stated that they supported the document, noting that since the document revision was requested in 2007, much work had been done to reach agreement and this was greatly appreciated by the delegations. However, these delegations had deep concern that the new periodic review procedure still did not prevent the pesticide Codex MRLs (CXLs) from being revoked even when there was no scientific evidence that they could damage health and that this was inconsistent with the *Working Principles for Risk Analysis for Application in the framework of the Codex Alimentarius* and the risk analysis principles developed by other Codex committees.

DISCUSSION PAPER ON GUIDANCE TO FACILITATE THE ESTABLISHMENT OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES FOR MINOR CROPS / SPECIALTY CROPS (Agenda Item 11)[18]

165. The Delegation of France, as Chair of the in-session Working Group, introduced the item and referred to the report of the in-session WG that summarised the discussion and recommendations for consideration by the Committee (CRD 22).

166. The EWG Chair recalled that the key points of discussion in the Committee for the past four sessions referred to the definition and identification of minor crops and the minimum number of residue field trials necessary to support the establishment of MRLs for these commodities.

167. The EWG Chair also recalled that, in view of the difficulties in defining what minor crop is, the Committee had decided in 2012 that it would be more appropriate to focus its work on the development of criteria to determine the minimum number of field trials to support the establishment of MRLs for minor crops. Following this decision, the Committee had agreed on a set of criteria based on global consumption data (FAOSTAT Food Supply Quantity) and regional consumption data (GEMS/Foods cluster diets). The EWG Chair explained that selection of consumption data (rather than production area) was selected as the most reliable and complete source of information currently available to identify minor crops at international level and that the use of the regional consumption data adequately addressed those commodities, like yams or cassava, which could be a major crop in terms of consumption and/or production and/or cultivation area at a local level.

168. The EWG Chair explained that based on these consumption criteria the EWG had identified those crops where % consumption was less than 0.5% globally and that these were listed in Table 2 of CRD 22.

169. The EWG Chair informed the Committee that a minimum number of field trials had been proposed for each category and that these trial numbers related to the establishment of MRLs for single commodities and not Group MRLs.

170. The EWG Chair recalled the EWG refined a limited list of crops with national consumption data and other criteria (e.g. seasonal consumption) upon request from members.

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17 FAO/WHO. Principles and methods for the risk assessment of chemicals in food. Geneva, Switzerland, World Health Organisation, 2009 (Environmental Health Criteria, No. 240).

18 CX/PR 14/46/12; CRD 8 (Comments of Argentina, El Salvador, European Union, Thailand and African Union); CRD 18 (Comments of Cameroon, China, Indonesia, Japan and Mali); CRD 22 (Report of the in session Working Group on Minor Crops).

Discussion

171. The Committee noted concerns in relation to commodities currently considered as minor crops (e.g. lemon and kiwi) which became major crops following these additional recommendations and agreed that further work should be done in relation to this issue.

172. The Committee also noted that for spices, monitoring data could be provided as an alternative to submitting field residue trials. The EWG Chair explained that dealing with monitoring data was not in the scope of the EWG mandate.

Conclusion

173. The Committee agreed that the issue of use of official letters[19], from regulatory agencies, containing information on authorised crops and GAP as an alternative to registered labels for MRL setting should be examined by the EWG when considering the guidance to facilitate the establishment of MRLs for pesticides for minor crops.

174. The Committee agreed to seek feedback from the 2014 JMPR on whether the proposed approach could be used as a starting point in determining the number of trials considered necessary in the setting of MRLs for minor crops (Appendix XIV).

175. The Committee agreed to establish an EWG, led by France and co-chaired by India, Kenya and Thailand, and working in English only, to refine the list of commodities in Tables 1 and 2 (CRD 22) for a limited set of borderline crops and to finalise the guidance document. The Committee noted that there was already ongoing work in the EWG on this issue, as shown in point 2 of CX/PR 14/46/12 (Rev) and in the last paragraph of CRD 22.

176. The Committee further agreed that the EWG would continue to identify issues and find solutions to facilitate the establishment of MRLs for minor crops based on establishment of Codex schedules and priority lists of pesticides.

177. With regard to the establishment of a "Minor Crops Interest Group", the Committee noted that in Codex there were no procedures for operation of such a group and that working groups should work within the mandate given by CCPR and, as such, only report back to Committee. However, the Committee noted that the task proposed for this group i.e. identification of issues and solutions to facilitate the establishment of MRLs for minor crops could be carried out by the CCPR EWG on minor crops.

ESTABLISHMENT OF CODEX SCHEDULES AND PRIORITY LISTS OF PESTICIDES (Agenda Item 12)[20]

178. The Delegation of Australia, as Chair of the EWG on Priorities, introduced the revised Schedules and Priority Lists of Pesticides (CRD 2).

2015 Schedule for JMPR evaluations

179. The EWG Chair provided the list of new compounds to be scheduled for JMPR evaluation and indicated that lufenuron and phosphorus acid had been given a reserve status.

180. The Committee confirmed the Schedule of new use and other evaluations with minor amendments.

181. The proposed 2015 Schedule of Periodic Reviews was confirmed with chlormequat and penconazole remaining with a reserve status.

182. The EWG Chair advised the Committee that the 2015 Schedule for JMPR evaluations was closed for the addition of new compounds but remained open for the addition of commodities to those listed.

Possible second JMPR meeting

183. The Committee noted comments on a possible second meeting of JMPR. The Committee noted that the reserves for the 2015 Schedule could be included for that meeting. In addition, at least two pesticides listed in the 2016 priority list (spiromesifen and oxathiapiprolin) could be given a "reserve status".

Lindane

184. The Committee noted that lindane was currently listed in Annex A of the Stockholm Convention by which Parties must take measures to eliminate the production and use of the chemicals listed under this Annex. The Committee recalled that this compound had been re-evaluated by JMPR in 2002 (for toxicological) and 2003 (for residues) and that, in compliance with the 15 year rule for periodic review, it should be eligible for re-evaluation in 2017/18.

185. The EWG Chair requested advice on potential support to retain the Codex MRLs (CXLs) for this pesticide. As none was identified, the EWG Chair confirmed that there were no existing national registrations for lindane uses and subsequently requested residue monitoring data relevant to existing CXLs, which cover sweet corn, cereals, eggs, poultry and meats, for periodic review in 2015 to convert the CXLs into EMRLs. The Delegations of Australia, European Union and India indicated preparedness to forward relevant data in response to the JMPR Call for Data by December 2014.

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19 ALINORM 10/33/24, paras 157-159.

20 CX/PR 14/46/13; CRD 2 (Revised Schedules and Priority Lists of Pesticides); CRD 9 (Comments of Argentina, European Union, Kenya and African Union); CRD 19 (Comments of Cameroon, China, India and Mali); CRD 21 (Comments of Nigeria).

Unsupported pesticides listed in Table 2A and 2B

186. The EWG Chair emphasised the need for all Member countries to review the compounds in Tables 2A and 2B for which support was either unknown or not provided by a manufacturer. In light with earlier interventions, the EWG Chair recommended Members to approach manufacturers or potential sponsors with a view to developing required data packages for those pesticides which had relevant use patterns.

Fenbutatin oxide

187. The EWG Chair requested advice on a potential supporter for this pesticide. As none was identified, the EWG Chair informed the Committee that all fenbutatin oxide CXLs would be recommended for revocation at the next Session of CCPR.

Conclusion

188. The Committee agreed to forward the Schedule and Priority Lists of Pesticides for the 2015 JMPR to the 37th Session of the Commission for approval (Appendix XV).

189. The Committee further agreed to re-convene the EWG on Priorities under the chairmanship of Australia and working in English to provide a report on the schedule and priority lists for consideration at its next Session.

OTHER BUSINESS AND FUTURE WORK (Agenda Item 13)

190. The Committee noted that no other business was proposed.

DATE AND PLACE OF THE NEXT SESSION (Agenda Item 14)

191. The Committee was informed that its 47th Session was tentatively scheduled to be held in China, in one year time, the final arrangements being subject to confirmation by the Host Country and the Codex Secretariats.

SUMMARY STATUS OF WORK

Subject	Step	Action by	Reference REP14/PR
Draft MRLs for pesticides	8	Governments 37th CAC	para 115 Appendix II
Proposed draft MRLs for pesticides	5/8	Governments 37th CAC	para 115 Appendix III
Draft MRLs for pesticides	7	47th CCPR (JMPR)	para 116 Appendix V
Draft revision to the *Classification of Food and Feed* (vegetable commodity groups: Group 016 - Roots and tubers)	7	47th CCPR	para 135 Appendix IX
Proposed draft revision to the *Classification of Food and Feed* (vegetable commodity groups: Group 015 - Pulses)	5	Governments 37th CAC Governments EWG (The Netherlands and USA) Governments 47th CCPR	para 148 Appendix X
Proposed draft MRLs for pesticides	4	47th CCPR (JMPR)	para 116 Appendix VI
Proposed draft Guidance on performance criteria for methods of analysis for the determination of pesticide residues	3/2/3	Governments EWG (USA) Governments 47th CCPR	para 155 Appendix XII
Proposed draft revision to the *Classification of Food and Feed* (vegetable commodity groups: Group 011 Fruiting vegetables, cucurbits and Group 014 Legume vegetables)	3/2/3	Governments EWG (The Netherlands and USA) Governments 47th CCPR	paras 146 - 148 Appendix XI
Proposed draft revision to the *Classification of Food and Feed* – other commodity groups	2/3	EWG (The Netherlands and USA) Governments 47th CCPR	para 147
Proposed draft Table 2: Examples of Selection of Representative Commodities – Vegetable commodity groups and other commodity groups (*Principles and Guidance for the Selection of Representative Commodities for the Extrapolation of Maximum Residue Limits for Pesticides to Commodity Groups*)	2/3	EWG (The Netherlands and USA) Governments 47th CCPR	para 150

Subject	Step	Action by	Reference REP14/PR
Establishment of Codex schedules and priority list of pesticides for evaluation by JMPR	1/2/3	37th CAC Governments EWG on Priorities (Australia) 47th CCPR	para 188 Appendix XV
MRLs for pesticides recommended for revocation	For approval	37th CAC	para 115 Appendix IV
Consequential amendments to MRLs for pesticides for "citrus fruits" and "lemons or limes" (inclusion of kumquats) due to the revision of the *Classification of Food and Feed* as per the fruit commodity groups	For adoption	37th CAC	para 128 Appendix VIII
Revision of the *Risk Analysis Principles applied by the Codex Committee on Pesticide Residues*	For adoption	37th CAC	para 163 Appendix XIII
Discussion paper on guidance to facilitate the establishment of maximum residue limits for pesticides for minor crops / specialty crops	---	2014 JMPR EWG (France) 47th CCPR	paras 174-175 Appendix XIV

APPENDIX I

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APPENDIX II

DRAFT MAXIMUM RESIDUE LIMITES FOR PESTICIDES

(At Step 8)

	Commodity	MRL (mg/kg)	Step	Note
238	**Clothianidin**			
	VR 0075 Root and tuber vegetables	0.2	8	

APPENDIX III

PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(At Step 5/8)

	Commodity		MRL (mg/kg)		Step	Note
31	**Diquat**					
	FI 0327	Banana	0.02 (*)		5/8	
	FT 2352	Cajou (pseudofruit)	0.02 (*)		5/8	
	FT 0292	Cashew apple	0.02 (*)		5/8	
	TN 0295	Cashew nut	0.02 (*)		5/8	
♣	FC 0001	Citrus fruits	0.02 (*)		5/8	
	SB 0716	Coffee beans	0.02 (*)		5/8	
	VO 0050	Fruiting vegetables other than cucurbits	0.01 (*)		5/8	(except sweetcorn, fungi and mushrooms)
	AL 0072	Pea hay or pea fodder (dry)	50		5/8	
	VD 0072	Peas (dry)	0.3		5/8	
	FP 0009	Pome fruits	0.02 (*)		5/8	
	VR 0589	Potato	0.1		5/8	
	SO 0495	Rape seed	1.5		5/8	
	VD 0541	Soya bean (dry)	0.3		5/8	
	FS 0012	Stone fruits	0.02 (*)		5/8	
	FB 0275	Strawberry	0.05 (*)		5/8	
	SO 0702	Sunflower seed	0.9		5/8	
49	**Malathion**					
	FS 0013	Cherries	3		5/8	
143	**Triazophos**					
	CM 1205	Rice, Polished	0.6		5/8	
158	**Glyphosate**					
	SO 0495	Rape seed	30		5/8	
160	**Propiconazole**					
	FC 0004	Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	9	Po	5/8	
	FS 0247	Peach	5	Po	5/8	
	FS 0014	Plums (including prunes)	0.6	Po	5/8	
	VO 0448	Tomato	3	Po	5/8	
172	**Bentazone**					
	AL 1020	Alfalfa fodder	0.5		5/8	
	AS 0640	Barley straw and fodder, Dry	0.3		5/8	
	VD 0071	Beans (dry)	0.04		5/8	

♣ Codex Secretariat's Note: As for discussion of 46th CCPR this group MRL also applies to Kumquats

	Commodity		MRL (mg/kg)		Step	Note
	VP 0061	Beans, except broad bean and soya bean	0.01 (*)		5/8	(green pods and immature seeds)
	VP 0062	Beans, Shelled	0.01 (*)		5/8	(succulent=immature seeds)
	GC 0080	Cereal grains	0.01 (*)		5/8	
	PE 0112	Eggs	0.01 (*)		5/8	
	AS 0162	Hay or fodder (dry) of grasses	2		5/8	
	HH 0092	Herbs	0.1		5/8	
	SO 0693	Linseed	0.02 (*)		5/8	
	AS 0645	Maize fodder (dry)	0.4		5/8	
	ML 0106	Milks	0.01 (*)		5/8	
	AS 0646	Millet fodder, dry	0.3		5/8	
	AS 0647	Oat straw and fodder, Dry	0.3		5/8	
	VA 0385	Onion, Bulb	0.04		5/8	
	SO 0697	Peanut	0.05 (*)		5/8	
	VP 0063	Peas (pods and succulent=immature seeds)	1.5		5/8	
	VR 0589	Potato	0.1		5/8	
	PM 0110	Poultry meat	0.03	(fat)	5/8	
	PO 0111	Poultry, Edible offal of	0.07		5/8	
	AS 0650	Rye straw and fodder, Dry	0.3		5/8	
	VD 0541	Soya bean (dry)	0.01 (*)		5/8	
	VA 0389	Spring Onion	0.08		5/8	
	VO 0447	Sweet corn (corn-on-the-cob)	0.01 (*)		5/8	
	AS 0653	Triticale straw and fodder, Dry	0.3		5/8	
	AS 0654	Wheat straw and fodder, Dry	0.3		5/8	
175	**Glufosinate-Ammonium**					
	FI 0327	Banana	0.2		5/8	
	MO 0105	Edible offal (mammalian)	3		5/8	
	FI 0341	Kiwifruit	0.6		5/8	
	VL 0483	Lettuce, Leaf	0.4		5/8	
180	**Dithianon**					
	TN 0660	Almonds	0.05 (*)		5/8	
	FB 0021	Currants, Black, Red, White	2		5/8	
	DF 0269	Dried grapes (=currants, raisins and sultanas)	3.5		5/8	
	MO 0105	Edible offal (mammalian)	0.01 (*)		5/8	
	PE 0112	Eggs	0.01 (*)		5/8	
	DH 1100	Hops, Dry	300		5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.01 (*)		5/8	
	ML 0106	Milks	0.01 (*)		5/8	
	FP 0009	Pome fruits	1		5/8	

	Commodity		MRL (mg/kg)		Step	Note
	PM 0110	Poultry meat	0.01 (*)		5/8	
	PO 0111	Poultry, Edible offal of	0.01 (*)		5/8	
	FS 0012	Stone fruits	2		5/8	
	FB 1235	Table-grapes	2		5/8	
	FB 1236	Wine-grapes	5		5/8	
193	**Fenpyroximate**					
	FI 0326	Avocado	0.2		5/8	
	FS 0013	Cherries	2		5/8	
	VP 0526	Common bean (pods and/or immature seeds)	0.4		5/8	
	VC 0424	Cucumber	0.3		5/8	
	MO 0105	Edible offal (mammalian)	0.02		5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.2	(fat)	5/8	
	ML 0106	Milks	0.01 (*)		5/8	
	VR 0589	Potato	0.05		5/8	
	DF 0014	Prunes	0.7		5/8	
	FS 0012	Stone fruits	0.4		5/8	(except cherries)
	FB 0275	Strawberry	0.8		5/8	
197	**Fenbuconazole**					
♣	FC 0001	Citrus fruits	0.5		5/8	(except lemons and limes)
	OR 0001	Citrus oil, edible	30		5/8	(except lemons and limes)
	As 0001	Citrus pulp, Dry	4		5/8	
	FC 0002	Lemons and limes	1		5/8	
	OR 0002	Lemons and limes, edible oil refined	60		5/8	
205	**Flutolanil**					
	VB 0040	Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	0.05 (*)		5/8	
	VL 0054	Brassica leafy vegetables	0.07		5/8	
	MO 0105	Edible offal (mammalian)	0.5		5/8	
207	**Cyprodinil**					
	FI 0326	Avocado	1		5/8	
	VD 0071	Beans (dry)	0.2		5/8	
	VP 0061	Beans, except broad bean and soya bean	0.7		5/8	(green pods and immature seeds)
	VP 0062	Beans, Shelled	0.06		5/8	
	FB 0018	Berries and other small fruits	10		5/8	(except grapes)
	VL 0054	Brassica leafy vegetables	15		5/8	

	Commodity		MRL (mg/kg)		Step	Note
	VB 0041	Cabbages, Head	0.7		5/8	
	VR 0577	Carrot	0.7		5/8	
	DH 0170	Dried herbs	300		5/8	(except hops, dry)
	MO 0105	Edible offal (mammalian)	0.01		5/8	
	VB 0042	Flowerhead brassicas (includes Broccoli: Broccoli, Chinese and Cauliflower)	2		5/8	
	VO 0050	Fruiting vegetables other than cucurbits	2		5/8	(except sweet corn and mushroom)
	VC 0045	Fruiting vegetables, Cucurbits	0.5		5/8	
	HH 0092	Herbs	40		5/8	
	VL 0053	Leafy vegetables	50		5/8	(except brassica leafy vegetables)
	VR 0588	Parsnip	0.7		5/8	
	HS 0444	Peppers Chili, dried	9		5/8	
	FP 0009	Pome fruits	2		5/8	
	VR 0494	Radish	0.3		5/8	
211	**Fludioxonil**					
	FI 0326	Avocado	0.4		5/8	
	VD 0071	Beans (dry)	0.5		5/8	
	VP 0061	Beans, except broad bean and soya bean	0.6		5/8	(green pods and immature seeds)
	VP 0062	Beans, Shelled	0.4		5/8	
	DH 0170	Dried herbs	60		5/8	
	PE 0112	Eggs	0.01	(*)	5/8	
	VC 0045	Fruiting vegetables, Cucurbits	0.5		5/8	
	VR 0604	Ginseng	4		5/8	
	HH 0092	Herbs	9		5/8	
	VL 0483	Lettuce, Leaf	40		5/8	
	VO 0051	Peppers	1		5/8	
	HS 0444	Peppers Chili, dried	4		5/8	
	VR 0589	Potato	5	Po	5/8	
	PM 0110	Poultry meat	0.01	(*)	5/8	
	PO 0111	Poultry, Edible offal of	0.05	(*)	5/8	
	VR 0494	Radish	0.3		5/8	
	VL 0494	Radish leaves (including radish tops)	20		5/8	
	VP 4453	Snap bean (young pods)	0.6		5/8	
	VL 0502	Spinach	30		5/8	
	VO 0448	Tomato	3	Po	5/8	
216	**Indoxacarb**					
	DT 1114	Tea, Green, Black (black, fermented and dried)	5		5/8	

	Commodity		MRL (mg/kg)		Step	Note
224	**Difenoconazole**					
	VB 0040	Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	2		5/8	
♣	FC 0001	Citrus fruits	0.6		5/8	
	VC 0424	Cucumber	0.2		5/8	
	DF 0269	Dried grapes (=currants, raisins and sultanas)	6		5/8	
	MO 0105	Edible offal (mammalian)	1.5		5/8	
	PE 0112	Eggs	0.03		5/8	
	VO 0050	Fruiting vegetables other than cucurbits	0.6		5/8	(except sweet corn and mushroom)
	VC 0425	Gherkin	0.2		5/8	
	VR 0604	Ginseng	0.08		5/8	
	DV 0604	Ginseng, dried including red ginseng	0.2		5/8	
	DM 0604	Ginseng, extracts	0.6		5/8	
	FB 0269	Grapes	3		5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.2	(fat)	5/8	
	VC 0046	Melons, except watermelon	0.7		5/8	
	ML 0106	Milks	0.02		5/8	
	VA 0385	Onion, Bulb	0.1		5/8	
	HS 0444	Peppers Chili, dried	5		5/8	
	FP 0009	Pome fruits	0.8		5/8	
	VR 0589	Potato	4	Po	5/8	
	VA 0389	Spring Onion	9		5/8	
	VC 0431	Squash, summer	0.2		5/8	
226	**Pyrimethanil**					
	DV 0604	Ginseng, dried including red ginseng	1.5		5/8	
	FB 2009	Low growing berries	3		5/8	
	FP 0009	Pome fruits	15	Po	5/8	
229	**Azoxystrobin**					
	GC 0640	Barley	1.5		5/8	
	SB 0716	Coffee beans	0.03		5/8	
	GC 0647	Oats	1.5		5/8	
	AL 0072	Pea hay or pea fodder (dry)	20		5/8	
	VR 0589	Potato	7	Po	5/8	
	VD 0070	Pulses	0.07		5/8	(except soya beans)
	VR 0075	Root and tuber vegetables	1		5/8	(except potato)

	Commodity		MRL (mg/kg)		Step	Note
	GC 0651	Sorghum	10		5/8	
	AS 0651	Sorghum straw and fodder, Dry	30		5/8	
	AS 0081	Straw and fodder (dry) of cereal grains	15		5/8	(except maize and sorghum)
230	**Chlorantraniliprole**					
	VS 0620	Artichoke, Globe	2		5/8	
	VP 0061	Beans, except broad bean and soya bean	0.8		5/8	(green pods and immature seeds)
	VR 0577	Carrot	0.08		5/8	
	GC 0080	Cereal grains	0.02		5/8	(except rice)
	SB 0716	Coffee beans	0.05		5/8	
	PE 0112	Eggs	0.2		5/8	
	DH 1100	Hops, Dry	40		5/8	
	VL 0053	Leafy vegetables	20		5/8	(except radish leaves)
	VP 0063	Peas (pods and succulent=immature seeds)	2		5/8	
	VP 0064	Peas, Shelled (succulent seeds)	0.05		5/8	
	FI 0355	Pomegranate	0.4		5/8	
	PM 0110	Poultry meat	0.01	(*) (fat)	5/8	
	PO 0111	Poultry, Edible offal of	0.01	(*)	5/8	
	VR 0494	Radish	0.5		5/8	
	VL 0494	Radish leaves (including radish tops)	40		5/8	
	SO 0495	Rape seed	2		5/8	
	GC 0649	Rice	0.4		5/8	
	CM 1205	Rice, Polished	0.04		5/8	
	VR 0075	Root and tuber vegetables	0.02		5/8	(except carrot and radish)
	SO 0702	Sunflower seed	2		5/8	
231	**Mandipropamid**					
	DH 1100	Hops, Dry	90		5/8	
234	**Spirotetramate**					
	VS 0620	Artichoke, Globe	1		5/8	
	FB 2006	Bush berries	1.5		5/8	
	FB 0265	Cranberry	0.2		5/8	
239	**Cyproconazole**					
	SB 0716	Coffee beans	0.07		5/8	
	SM 0716	Coffee beans, Roasted	0.1		5/8	
240	**Dicamba**					
	VD 0541	Soya bean (dry)	10		5/8	
252	**Sulfoxaflor**					
	VD 0071	Beans (dry)	0.3		5/8	
	VR 0577	Carrot	0.05		5/8	

	Commodity		MRL (mg/kg)		Step	Note
253	**Penthiopyrad**					
	AL 1020	Alfalfa fodder	20	(DM)	5/8	
	AM 0660	Almond hulls	6	(DM)	5/8	
	GC 0640	Barley	0.2		5/8	
	AS 0640	Barley straw and fodder, Dry	80	(DM)	5/8	
	VB 0041	Cabbages, Head	4		5/8	
	AB 1204	Cotton gin trash	20	(DM)	5/8	
	SO 0691	Cotton seed	0.5		5/8	
	MO 0105	Edible offal (mammalian)	0.08		5/8	
	PE 0112	Eggs	0.03		5/8	
	GC 0645	Maize	0.01		5/8	
	CF 1255	Maize flour	0.05		5/8	
	OC 0645	Maize oil, Crude	0.15		5/8	
	MF 0100	Mammalian fats (except milk fats)	0.05		5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.04		5/8	
	ML 0106	Milks	0.04		5/8	
	GC 0646	Millet (Including Barnyard Millet, Bulrush Millet, Common Millet, Finger Millet, Foxtail Millet, Little Millet)	0.8		5/8	
	AS 0646	Millet fodder, dry	10	(DM)	5/8	
	AS 0647	Oat straw and fodder, Dry	80	(DM)	5/8	
	GC 0647	Oats	0.2		5/8	
	AL 0072	Pea hay or pea fodder (dry)	60	(DM)	5/8	
	SO 0697	Peanut	0.05		5/8	
	AL 0697	Peanut fodder	30	(DM)	5/8	
	OR 0697	Peanut oil, Edible	0.5		5/8	
	FP 0009	Pome fruits	0.4		5/8	
	PF 0111	Poultry fats	0.03		5/8	
	PM 0110	Poultry meat	0.03		5/8	
	PO 0111	Poultry, Edible offal of	0.03		5/8	
	SO 0495	Rape seed	0.5		5/8	
	OC 0495	Rape seed oil, Crude	1		5/8	
	OR 0495	Rapeseed oil, Edible	1		5/8	
	GC 0650	Rye	0.1		5/8	
	AS 0650	Rye straw and fodder, Dry	80	(DM)	5/8	
	GC 0651	Sorghum	0.8		5/8	
	AS 0651	Sorghum straw and fodder, Dry	10	(DM)	5/8	
	VD 0541	Soya bean (dry)	0.3		5/8	
	AL 0541	Soya bean fodder	200	(DM)	5/8	
	VR 0596	Sugar beet	0.5		5/8	

	Commodity		MRL (mg/kg)		Step	Note
	SO 0702	Sunflower seed	1.5		5/8	
	GC 0653	Triticale	0.1		5/8	
	AS 0653	Triticale straw and fodder, Dry	80	(DM)	5/8	
	GC 0654	Wheat	0.1		5/8	
	CF 0654	Wheat bran, Processed	0.1		5/8	
	CM 0654	Wheat bran, Unprocessed	0.2		5/8	
	CF 1210	Wheat germ	0.2		5/8	
	AS 0654	Wheat straw and fodder, Dry	80	(DM)	5/8	
263	**Cyantraniliprole**					
	VB 0040	Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	2		5/8	
	FB 2006	Bush berries	4		5/8	
	VS 0624	Celery	15		5/8	
	FS 0013	Cherries	6		5/8	
	SB 0716	Coffee beans	0.03		5/8	
	MO 0105	Edible offal (mammalian)	0.05		5/8	
	PE 0112	Eggs	0.015		5/8	
	AM 1051	Fodder beet	0.02		5/8	
	VO 0050	Fruiting vegetables other than cucurbits	0.5		5/8	(except mushrooms & sweet corn)
	VC 0045	Fruiting vegetables, Cucurbits	0.3		5/8	
	VA 0381	Garlic	0.05		5/8	
	VL 0053	Leafy vegetables	20		5/8	(except Lettuce, Head)
	AL 0157	Legume animal feeds	0.8		5/8	
	VL 0482	Lettuce, Head	5		5/8	
	MF 0100	Mammalian fats (except milk fats)	0.01		5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.01		5/8	
	ML 0106	Milks	0.02		5/8	
	VA 0385	Onion, Bulb	0.05		5/8	
	VA 0387	Onion, Welsh	8		5/8	
	FS 0247	Peach	1.5		5/8	
	HS 0444	Peppers Chili, dried	5		5/8	
	FS 0014	Plums (including prunes)	0.5		5/8	
	FP 0009	Pome fruits	0.8		5/8	
	VR 0589	Potato	0.05		5/8	
	PF 0111	Poultry fats	0.01		5/8	
	PM 0110	Poultry meat	0.01		5/8	
	PO 0111	Poultry, Edible offal of	0.01		5/8	
	DF 0014	Prunes	0.8		5/8	
	VR 0075	Root and tuber vegetables	0.05		5/8	(except potato)

	Commodity		MRL (mg/kg)	Step	Note
	VA 0388	Shallot	0.05	5/8	
	VA 0389	Spring Onion	8	5/8	
	AS 0161	Straw, fodder (dry) and hay of cereal grains and other grass-like plants	0.2	5/8	
	AM 0506	Turnip fodder	0.02	5/8	
266	**Imazapic**				
	MO 0105	Edible offal (mammalian)	1	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	AS 0162	Hay or fodder (dry) of grasses	3	5/8	
	GC 0645	Maize	0.01 (*)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.1	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.1	5/8	
	ML 0106	Milks	0.1	5/8	
	SO 0697	Peanut	0.05 (*)	5/8	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, Edible offal of	0.01 (*)	5/8	
	SO 0495	Rape seed	0.05 (*)	5/8	
	GC 0649	Rice	0.05 (*)	5/8	
	GS 0659	Sugar cane	0.01 (*)	5/8	
	GC 0654	Wheat	0.05 (*)	5/8	
	AS 0654	Wheat straw and fodder, Dry	0.05 (*)	5/8	
267	**Imazapyr**				
	MO 0105	Edible offal (mammalian)	0.05 (*)	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	VD 0533	Lentil (dry)	0.3	5/8	
	GC 0645	Maize	0.05 (*)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.05 (*)	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.05 (*)	5/8	
	ML 0106	Milks	0.01 (*)	5/8	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, Edible offal of	0.01 (*)	5/8	
	SO 0495	Rape seed	0.05 (*)	5/8	
	SO 0702	Sunflower seed	0.08	5/8	
	GC 0654	Wheat	0.05 (*)	5/8	
	AS 0654	Wheat straw and fodder, Dry	0.05 (*)	5/8	
268	**Isoxaflutole**				
	VD 0524	Chick-pea (dry)	0.01 (*)	5/8	

	Commodity		MRL (mg/kg)		Step	Note
	AL 0524	Chick-pea fodder	0.01	(*)	5/8	
	MO 0105	Edible offal (mammalian)	0.1		5/8	
	PE 0112	Eggs	0.01	(*)	5/8	
	GC 0645	Maize	0.02	(*)	5/8	
	AS 0645	Maize fodder (dry)	0.02	(*)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.01	(*)	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.01	(*)	5/8	
	ML 0106	Milks	0.01	(*)	5/8	
	SO 0698	Poppy seed	0.02	(*)	5/8	
	PF 0111	Poultry fats	0.01	(*)	5/8	
	PM 0110	Poultry meat	0.01	(*)	5/8	
	PO 0111	Poultry, Edible offal of	0.2		5/8	
	GS 0659	Sugar cane	0.01	(*)	5/8	
	AM 0659	Sugar cane fodder	0.01	(*)	5/8	
	VO 0447	Sweet corn (corn-on-the-cob)	0.02	(*)	5/8	
269	**Tolfenpyrad**					
	DT 1116	Tea, green	30		5/8	
270	**Triflumizole**					
	FS 0013	Cherries	4		5/8	
	VC 0424	Cucumber	0.5		5/8	
	MO 0105	Edible offal (mammalian)	0.1		5/8	
	FB 0269	Grapes	3		5/8	
	DH 1100	Hops, Dry	30		5/8	
	MF 0100	Mammalian fats (except milk fats)	0.02		5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.03	(fat)	5/8	
	ML 0106	Milks	0.02	(*)	5/8	
	FI 0350	Papaya	2		5/8	
271	**Trinexapac-ethyl**					
	GC 0640	Barley	3		5/8	
	CF 0640	Barley bran, processed	6		5/8	
	AS 0640	Barley straw and fodder, Dry	0.9		5/8	
	MO 0105	Edible offal (mammalian)	0.1		5/8	
	PE 0112	Eggs	0.01	(*)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.01	(*)	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.01	(*)	5/8	
	ML 0106	Milks	0.005	(*)	5/8	
	AS 0647	Oat straw and fodder, Dry	0.9		5/8	
	GC 0647	Oats	3		5/8	
	PF 0111	Poultry fats	0.01	(*)	5/8	

Commodity		MRL (mg/kg)	Step	Note
PM 0110	Poultry meat	0.01 (*)	5/8	
PO 0111	Poultry, Edible offal of	0.05	5/8	
SO 0495	Rape seed	1.5	5/8	
GS 0659	Sugar cane	0.5	5/8	
GC 0653	Triticale	3	5/8	
AS 0653	Triticale straw and fodder, Dry	0.9	5/8	
GC 0654	Wheat	3	5/8	
CM 0654	Wheat bran, Unprocessed	8	5/8	
AS 0654	Wheat straw and fodder, Dry	0.9	5/8	

APPENDIX IV

MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(For Revocation)

	Commodity		MRL (mg/kg)		Step	Note
31	**Diquat**					
	AL 1020	Alfalfa fodder	100		CXL-D	
	GC 0645	Maize	0.05	(*)	CXL-D	
	VD 0072	Peas (dry)	0.2		CXL-D	
	VR 0589	Potato	0.05		CXL-D	
	SO 0495	Rape seed	2		CXL-D	
	GC 0649	Rice	10		CXL-D	
	CM 0649	Rice, Husked	1		CXL-D	
	CM 1205	Rice, Polished	0.2		CXL-D	
	GC 0651	Sorghum	2		CXL-D	
	VD 0541	Soya bean (dry)	0.2		CXL-D	
	SO 0702	Sunflower seed	1		CXL-D	
	OC 0172	Vegetable oils, Crude	0.05	(*)	CXL-D	
	AO1 0002	Vegetables (except as otherwise listed)	0.05	(*)	CXL-D	
143	**Triazophos**					
	GC 0080	Cereal grains	0.05	(*)	CXL-D	
158	**Glyphosate**					
	SO 0495	Rape seed	20		CXL-D	
172	**Bentazone**					
	GC 0640	Barley	0.1		CXL-D	
	VD 0071	Beans (dry)	0.05	(*)	CXL-D	
	VD 0523	Broad bean (dry)	0.05	(*)	CXL-D	
	VP 0526	Common bean (pods and/or immature seeds)	0.2		CXL-D	
	PE 0112	Eggs	0.05	(*)	CXL-D	
	VP 0528	Garden pea (young pods)(=succulent, immature seeds)	0.2		CXL-D	
	VP 0534	Lima bean (young pods and/or immature beans)	0.05		CXL-D	
	SO 0693	Linseed	0.1		CXL-D	
	GC 0645	Maize	0.2		CXL-D	
	AS 0645	Maize fodder (dry)	0.2		CXL-D	
	MM	Meat (from mammals other than marine mammals)	0.05	(*)	CXL-D	
	ML 0106	Milks	0.05	(*)	CXL-D	
	GC 0647	Oats	0.1		CXL-D	
	VA 0385	Onion, Bulb	0.1		CXL-D	
	SO 0697	Peanut	0.05		CXL-D	

	Commodity		MRL (mg/kg)			Step	Note
	VR 0589	Potato	0.1			CXL-D	
	GC 0649	Rice	0.1			CXL-D	
	GC 0650	Rye	0.1			CXL-D	
	GC 0651	Sorghum	0.1			CXL-D	
	VD 0541	Soya bean (dry)	0.1			CXL-D	
	GC 0654	Wheat	0.1			CXL-D	
175	**Glufosinate-Ammonium**						
	FI 0327	Banana	0.2			CXL-D	
	MO 0105	Edible offal (mammalian)	0.1	(*)		CXL-D	
180	**Dithianon**						
	FS 0013	Cherries	5			CXL-D	
	FB 0269	Grapes	3			CXL-D	
	DH 1100	Hops, Dry	100			CXL-D	
	FP 0009	Pome fruits	5			CXL-D	
193	**Fenpyroximate**						
	MO 1280	Cattle kidney	0.01	(*)		CXL-D	
	MO 1281	Cattle liver	0.01	(*)		CXL-D	
	MM 0812	Cattle meat	0.02		(fat)	CXL-D	
	ML 0812	Cattle milk	0.005	(*)	F	CXL-D	
	VC 0424	Cucumber	0.03			CXL-D	
205	**Flutolanil**						
	MO 0098	Kidney of cattle, goats, pigs and sheep	0.1			CXL-D	
	MO 0099	Liver of cattle, goats, pigs & sheep	0.2			CXL-D	
207	**Cyprodinil**						
	FP 0226	Apple	0.05			CXL-D	
	VP 0061	Beans, except broad bean and soya bean	0.5			CXL-D	
	VC 0424	Cucumber	0.2			CXL-D	
	MO 0105	Edible offal (mammalian)	0.01	(*)		CXL-D	
	VO 0440	Egg plant	0.2			CXL-D	
	VL 0482	Lettuce, Head	10			CXL-D	
	VL 0483	Lettuce, Leaf	10			CXL-D	
	FP 0230	Pear	1			CXL-D	
	VO 0445	Peppers, Sweet (including pimento or pimiento)	0.5			CXL-D	
	FB 0272	Raspberries, Red, Black	0.5			CXL-D	
	VC 0431	Squash, summer	0.2			CXL-D	
	FB 0275	Strawberry	2			CXL-D	
	VO 0448	Tomato	0.5			CXL-D	
211	**Fludioxonil**						
	HH 0722	Basil	10			CXL-D	

	Commodity		MRL (mg/kg)			Step	Note
	DH 0722	Basil, dry	50			CXL-D	
	VD 0071	Beans (dry)	0.07			CXL-D	
	VP 0061	Beans, except broad bean and soya bean	0.3			CXL-D	
	VP 0062	Beans, Shelled	0.03			CXL-D	
	HH 0727	Chives	10			CXL-D	
	DH 0727	Chives, dry	50			CXL-D	
	VC 0424	Cucumber	0.3			CXL-D	
	PE 0112	Eggs	0.05	(*)		CXL-D	
	VC 0046	Melons, except watermelon	0.03			CXL-D	
	VO 0445	Peppers, Sweet (including pimento or pimiento)	1			CXL-D	
	VR 0589	Potato	0.02			CXL-D	
	PM 0110	Poultry meat	0.01	(*)		CXL-D	
	PO 0111	Poultry, Edible offal of	0.05	(*)		CXL-D	
	VC 0431	Squash, summer	0.3			CXL-D	
	VO 0448	Tomato	0.5			CXL-D	
224	**Difenoconazole**						
	VB 0400	Broccoli	0.5			CXL-D	
	VB 0402	Brussels sprouts	0.2			CXL-D	
	VB 0041	Cabbages, Head	0.2			CXL-D	
	VB 0404	Cauliflower	0.2			CXL-D	
	MO 0105	Edible offal (mammalian)	0.2			CXL-D	
	PE 0112	Eggs	0.01	(*)		CXL-D	
	VR 0604	Ginseng	0.5			CXL-D	
	FB 0269	Grapes	0.1			CXL-D	
	MM	Meat (from mammals other than marine mammals)	0.05		(fat)	CXL-D	
	ML 0106	Milks	0.005	(*)		CXL-D	
	FP 0009	Pome fruits	0.5			CXL-D	
	VR 0589	Potato	0.02			CXL-D	
	VO 0448	Tomato	0.5			CXL-D	
226	**Pyrimethanil**						
	FP 0009	Pome fruits	7		Po	CXL-D	
	FB 0275	Strawberry	3			CXL-D	
229	**Azoxystrobin**						
	GC 0640	Barley	0.5			CXL-D	
	SB 0716	Coffee beans	0.02			CXL-D	
	GC 0647	Oats	0.5			CXL-D	
	VR 0075	Root and tuber vegetables	1			CXL-D	
	AS 0081	Straw and fodder (dry) of cereal grains	15			CXL-D	

	Commodity	MRL (mg/kg)	Step	Note
230	**Chlorantraniliprole**			
	GC 0080 Cereal grains	0.02	CXL-D	
	PE 0112 Eggs	0.1	CXL-D	
	VL 0053 Leafy vegetables	20	CXL-D	
	PM 0110 Poultry meat	0.01 (*) (fat)	CXL-D	
	PO 0111 Poultry, Edible offal of	0.01 (*)	CXL-D	
	VR 0075 Root and tuber vegetables	0.02	CXL-D	

APPENDIX V

DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(At Step 7)

	Commodity		MRL (mg/kg)		Step	Note
90	**Chlorpyrifos-Methyl**					
	GC 0640	Barley	3	Po	7	
	GC 0640	Barley	10	Po	7	
	GC 0647	Oats	10	Po	7	
	GC 0649	Rice	10	Po	7	
	GC 0654	Wheat	3	Po	7	
	CM 0654	Wheat bran, Unprocessed	6	PoP	7	
	CF 1210	Wheat germ	5	PoP	7	
126	**Oxamyl**					
	FC 0001	Citrus fruits	3		7	
	VC 0424	Cucumber	1		7	
	VC 0046	Melons, except watermelon	1		7	
	VO 0051	Peppers	5		7	
178	**Bifenthrin**					
	FI 0345	Mango	0.5		7	
	VO 0442	Okra	0.2		7	
	FI 0350	Papaya	0.4		7	
189	**Tebuconazole**					
	VP 0526	Common bean (pods and/or immature seeds)	2		7	
	VC 0432	Watermelon	0.1		7	
212	**Metalaxyl-M**					
	FP 0226	Apple	0.02	(*)	7	
	SB 0715	Cacao beans	0.02		7	
	FB 0269	Grapes	1		7	
	VL 0482	Lettuce, Head	0.5		7	
	VA 0385	Onion, Bulb	0.03		7	
	VO 0445	Peppers, Sweet (including pimento or pimiento)	0.5		7	
	VR 0589	Potato	0.02	(*)	7	
	VL 0502	Spinach	0.1		7	
	SO 0702	Sunflower seed	0.02	(*)	7	
	VO 0448	Tomato	0.2		7	
224	**Difenoconazole**					
	FI 0350	Papaya	0.3		7	

APPENDIX VI

PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(At Step 4)

	Commodity		MRL (mg/kg)		Step	Note
31	**Diquat**					
	VD 0071	Beans (dry)	0.05		4	
	MO 0105	Edible offal (mammalian)	0.01 (*)		4	
	PE 0112	Eggs	0.01 (*)		4	
	MM	Meat (from mammals other than marine mammals)	0.01 (*)		4	
	ML 0106	Milks	0.001 (*)		4	
	PM 0110	Poultry meat	0.01 (*)		4	
	PO 0111	Poultry, Edible offal of	0.01 (*)		4	
90	**Chlorpyrifos-Methyl**					
	GC 0080	Cereal grains	5	Po	4	(except maize and rice)
	CM 0649	Rice, Husked	1.5	Po	4	
	CM 1205	Rice, Polished	0.2	Po	4	
175	**Glufosinate-Ammonium**					
	VD 0541	Soya bean (dry)	3		4	
178	**Bifenthrin**					
	FB 0275	Strawberry	3		4	
243	**Fluopyram**					
	VO 0051	Peppers	0.5		4	
	HS 0444	Peppers Chili, dried	5		4	
252	**Sulfoxaflor**					
	FC 0001	Citrus fruits	0.9		4	
	FP 0009	Pome fruits	0.4		4	
	FS 0012	Stone fruits	3		4	(except cherries)
	TN 0085	Tree nuts	0.015		4	
253	**Penthiopyrad**					
	AS 0645	Maize fodder (dry)	10	(DM)	4	(omitted from CX/PR 14/46/5)
	VL 0485	Mustard greens	50		4	

APPENDIX VII

PROPOSED DRAFT AND DRAFT MAXIMUM RESIDUE LIMITES FOR PESTICIDES

(Withdrawn by CCPR)

	Commodity		MRL (mg/kg)	Step	Note
143	**Triazophos**				
	CM 0649	Rice, Husked	2	MRL-W	(2013)
	CM 0649	Rice, Husked	2	MRL-W	(2010)
240	**Dicamba**				
	VD 0541	Soya bean (dry)	5	MRL-W	
253	**Penthiopyrad**				
	GC 0640	Barley	0.15	MRL-W	
	GC 0647	Oats	0.15	MRL-W	
	GC 0650	Rye	0.04	MRL-W	
	GC 0653	Triticale	0.04	MRL-W	
	GC 0654	Wheat	0.04	MRL-W	
	CF 1210	Wheat germ	0.1	MRL-W	

APPENDIX VIII

REVISED GROUP MRLS FOR "CITRUS FRUITS" AND "LEMONS OR LIMES" THAT APPLY TO KUMQUATS

(For Adoption)

Pesticide		MRL (mg/kg)
173	Buprofezin	1
8	Carbaryl	15
17	Chlorpyrifos	1
90	Chlorpyrifos-methyl	2
238	Clothianidin	0.07
118	Cypermethrins	0.3
193	Fenpyroximate	0.5
206	Imidacloprid	1
146	Lambda-cyhalothrin	0.2
49	Malathion	7
94	Methomyl	1
103	Phosmet	3
101	Pirimicarb	3
142	Prochloraz	10
210	Pyraclostrobin	2
196	Tebufenozide	2
65	Thiabendazole	7
245	Tiamethoxam	0.5

APPENDIX IX

DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED

(At Step 7)

ROOT AND TUBER VEGETABLES

Class A

Type 2 Vegetables Group 016 Group Letter Code VR

Group 016. Root and tuber vegetables are the starchy enlarged solid roots, tubers, corms or rhizomes, mostly subterranean, of various species of plants, mostly annuals.

The underground location protects the edible portion from pesticides applied to the aerial parts of the crop during the growing season; however the commodities in this group are exposed to pesticide residues from soil treatments and from applications that can be washed away by rain and can move into the soil.

The entire vegetable may be consumed in the form of fresh or processed foods.

This group contains 3 subgroups based on the morphology and growing practice:

16A Root vegetables

16B Tuberous and corm vegetables

16C Aquatic root and tuber vegetables

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removing tops. Remove adhering soil (e.g. by rinsing in running water or by gentle brushing of the dry commodity).**

Group 016 Root and tuber vegetables

Code No.	Commodity
VR 0075	**Root and tuber vegetables**

Subgroup 16A Root vegetables

Code No.	Commodity
VR 2070	**Root vegetables**
	(includes al commodities in this subgroup)
-	**American Ginseng**, See Ginseng, VR 0604
	Panax quinquefolius L.
VR 0574	**Beetroot**
	Beta vulgaris L., var. *conditiva*
VR 2940	**Bellflower, Chinese**
	Platycodon grandiflorus (Jacq.) A. DC.
-	**Black caraway**, see Caraway, black root, VR 2941
-	**Black salsify**, see Scorzonera, VR 0594
VR 0575	**Burdock, greater or edible**
	Arctium lappa L.;
	syn: *Lappa officinalis* All.; L. *major* Gaertn.
VR 2941	**Caraway, black root**
	Bunium persicum (Boiss.) B. Fedtsch.
VR 0577	**Carrot**
	Daucus carota L.
VR 0578	**Celeriac**
	Apium graveolens L., var. *rapaceum* (Mill.) Gaudin

VR 0579	**Chervil, Turnip-rooted**
	Chaerophyllum bulbosum L.
VR 0469	**Chicory, roots**
	Cichorum intybus L.
-	**Chik,** see Kudzu, VR 1024
-	**Chinese radish**, see Radish, Japanese, VR 0591
-	**Daikon**, see Radish, Japanese, VR 0591
VR 2942	**Dandelion root**
	Taraxacum officinale F.H. Wigg. Aggr.
VR 2943	**Deodeok**
	Codonopsis lanceolata (Siebold&Zucc.) Trautv.
-	**Doraji**, see Bellflower, Chinese, VR 2940
VR 0604	**Ginseng** (CODEX STAN 295R-2009)
	Panax spp.
VR 0583	**Horseradish**
	Armoracia rusticana Gaertn. et al
	syn: *Cochlearia armoracia* L.; *Armoracia lapathifolia* Gilib. ex Usteri
-	**Korean Ginseng,** see Ginseng, VR 0604
	Panax ginseng C.A. Mey.
VR 1024	**Kudzu**
	Pueraria lobata (Willd.) Ohwi
VR 2944	**Ladybell root**
	Adenophora triphylla DC.; *Adenophora spp.*
VR 2945	**Maca**
	Lepidium meyenii Walp.
VR 2946	**Madeira vine**
	Anredera cordifolia (Ten.) Steenis
VR 2947	**Mauka**
	Mirabilis expansa (Ruiz & Pav.) Standl.
VR 2948	**Murnong**
	Microseris scapigera (Sol. ex A. Cunn.) Sch. Bip.
VR 2949	**Mustard, tuberous rooted Chinese**
	Brassica juncea (L.) Czern. subsp. *napiformis* (Pailleux & Bois) Gladis
-	**Oyster plant**, see Salsify, VR 0498
VR 0587	**Parsley, Turnip-rooted**
	Petroselinum crispum (Mill.) Nyman ex A.W. Hill var. *tuberosum*
VR 0588	**Parsnip**
	Pastinaca sativa L.
VR 2950	**Pencil yam**
	Vigna lanceolata Benth.
-	**Pseudoginseng**, see Ginseng, VR 0604
	Panax pseudoginseng Wall.

VR 0494	**Radish**
	Raphanus sativus L. var. *sativus*
VR 0590	**Radish, Black**
	Raphanus sativus L., subvar. *niger* Pers.
VR 0591	**Radish, Japanese**
	Raphanus sativus L., var. *longipinnatus* Bailey
VR 0592	**Rampion roots**
	Campanula rapunculus L.
-	**Rutabaga**, see Swede, VR 0497
-	**Red beet**, see Beetroot, VR 0574
VR 0498	**Salsify**
	Tragopogon porrifolius L.
-	**Salsify, Black**, see Scorzonera, VR 0594
VR 0593	**Salsify, Spanish**
	Scolymus hispanicus L.
VR 0594	**Scorzonera**
	Scorzonera hispanica L.
VR 0595	**Skirret**
	Sium sisarum L.
VR 0596	**Sugar beet**
	Beta vulgaris L., var. *sacharifera*;
	syn: *B. vulgaris* L. var. altissima
VR 0497	**Swede**
	Brassica napus L., var. *napobrassica* (L.) Reichenbach
VR 2951	**Ti palm**
	Cordyline fruticosa (L.) A. Chev.
-	**Turnip**, see Swede, VR 0497
VR 0506	**Turnip, Garden**
	Brassica rapa L., var. *rapa;*
	syn: *B. campestris* L., var. *rapifera*
-	**Turnip, Swedish**, see Swede, VR 0497
-	**Vietnamese ginseng,** see Ginseng VR 0604
	Panax vietnamensis Ha &Grusshv.

Subgroup 16B Tuberous and corm vegetables

Code No.	**Commodity**
VR 2071	**Tuberous and corm vegetables**
	(includes al commodities in this subgroup)
-	**Achira**, see Canna, edible, VR 0576
-	**Ahipa,** see Yam bean, VR 0601
	Pachyrhizus ahipa (Wedd.) Parodi
	Ajanhuiri, see Potato, VR 0589
	Solanumajanhuiri Juz. &Bukasov

VR 0570	**Alocasia**(corm)
	Alocasia macrorrhiza (L.) G Don.;
	A. indica (Lour.) Spach
VR 2970	**American potato bean**
	Apio samericana Medik.
-	**Andigena**, see Potato, VR 0589
	Solanum tuberosum L. subsp. *Andigenum* (Juz. &Bukasov) Hawkes
VR 0571	**Arracacha**
	Arracacia xanthorrhiza Bancr.;
	syn: *A. esculenta* DC.
VR 0573	**Arrowroot**
	Maranta arundinacea L.; several cultivars
VR 0598	**Arrowroot, Guinea**
	Calathea allouia (Aubl.) Lindl.
VR 2971	**Arrowroot, Polynesian**
	Tacca leontopetaloides (L.) Kuntze
VR 2972	**Banana, Abyssinian**
	Ensete ventricosum (Welw.) Cheesman
-	**Blue ape,** see Tannia, VR 0504
	Xanthosoma violaceum Schott.
VR 0576	**Canna, edible**
	Canna indica L.
	syn: *C. edulis* Ker. Gawl.
VR 0463	**Cassava**
	Manihot esculenta Crantz;
	syn: *M. aipi* Pohl; *M. ultissima* Pohl; *M. dulcis* Pax; *M. palmata* Muell.-Arg.
-	**Cassava, Bitter**, see Cassava (CODEX STAN 300-2010), see VR 0463
	Manihot esculenta Crantz, bitter cultivars
-	**Cassava, Sweet**, see Cassava (CODEX STAN 238-2003), see VR 0463 *Manihot esculenta* Crantz, sweet cultivars
-	**Chamma,** see Yams, VR 0600
	Dioscorea japonica Thunb.
VR 0423	**Chayote root**
	Sechium edule (Jacq.) Swartz
VR 0584	**Chinese artichoke**
	Stachys affinis Bunge
	Syn: *S. sieboldii* Miq.
VR 2973	**Chinese potato**
	Plectranthus rotundifolius (Poir.) Spreng.
	Syn: *Solenostemon rotundifolius* (Poir.) J. K. Morton
-	**Chufa**, see Tiger nut, VR 0580
-	**Ckaisalla**, see Potato, VR 0589
	Solanum juzepczukii Bukasov
-	**Cocoyam**, see Tannia, VR 0504 and Taro, VR 0505

VR 2974	**Cowpea, wild**
	Vigna vexillata (L.) A. Rich.
-	**Dasheen**, see Taro, VR 0505
-	**Eddoe**, see Taro, VR 0505
	Colocasia esculenta L., var. *antiquorum* (Schott), Hubbard &Rehder;
	syn: C. *esculenta*, var. *globifera* Engl. & Krause
VR 2975	**Earthnut pea**
	Lathyrus tuberosus L.
VR 2976	**Elephant foot yam**
	Amorphophallus paeoniifolius (Dennst.) Nicolson
	Syn: *A. campanulatus* (Roxb.) Blume ex Decne
VR 2977	**Gastrodia tuber**
	Gastrodia elata Blume
VR 2978	**Giant swamp taro**
	Cytosperma chamissonis (Schott) Merr.
	Syn: C. merkusii (Hassk.) Schott
-	**Giant taro**, see Alocasia (corm), VR 0570
VR 0530	**Goa bean root**
	Psophocarpus tetragonolobus (L.) DC.
-	**Gruya**, see Canna, edible, VR 0576
-	**Hausa potato**, see Chinese potato, VR 2973
-	**Iaraj**, see Giant swamp taro, VR 2978
-	**Japanese artichoke,** see Chinese artichoke, VR 0584
VR 0585	**Jerusalem artichoke**
	Helianthus tuberosus L.
-	**Jicama**, see Yam bean, VR 0601
VR 2979	**Kaffir potato**
	Plectranthus esculenthus N.E. Br
-	**Kape**, see Alocasia (corm), VR 0570
VR 2980	**Konjac**
	Amorphophallus konjac K. Koch
-	**Kötak**, see Taro, VR 0500
-	**Kumara**, see Sweet potato, VR 0508
-	**Leren**, see Arrowroot, Guinea, VR 0598
-	**Manioc**, see Cassava, VR 0463
VR 2981	**Mashua**
	Tropaeolum tuberosum Ruiz & Pav.
VR 0586	**Oca**
	Oxalis tuberosa Mol.
VR 2982	**Pignut**
	Conopodium majus (Gouan) Loret & Barrandon

VR 0589	**Potato**
	Solanum tuberosum L. and other potato species
-	**Potato bean**, see Yam bean, VR 0601
	Pachyrhizus tuberosus (Lam.) Spreng.
-	**Potato, Specialty**, see Potato, VR 0589
	Solanum spp.
-	**Potato yam**, see Yam bean, VR 0601
-	**Queensland arrowroot**, see Canna, edible, VR 0576
-	**Rucki**, see Potato, VR 0589
	Solanum curtilobum Juz. & Bukasov
VR 0508	**Sweet potato**
	Ipomoea batatas (L.) Poir
-	**Talo futuna**, see Taro, VR 0505
-	**Tanier**, see Tannia, VR 0504
VR 0504	**Tannia** (CODEX STAN 224-2001)
	Xanthosoma sagittifolium (L.) Schott;
	X. violaceum Schott.
-	**Tapioca**, see Cassava, VR 0463
VR 0505	**Taro**
	Colocasia esculenta (L.) Schott, var. *esculenta*
-	**Taro tarua**, seeTannia, VR 0504
VR 0580	**Tiger nut**
	Cyperus esculentus L.
-	**Topeetambu,** See Arrow root, Guinea, VR 0598
-	**Ufi,** see Yams, VR 06600
VR 0599	**Ullucu**
	Ullucus tuberosus Caldas
-	**Winged bean root**, see Goa bean root, VR 0530
VR 2983	**Yacon**
	Smallanthus sonchifolius (Poepp. & Endl.) H. Rob.
	Syn: *Polymnia sonchifolia* Poepp.
VR 0600	**Yams**
	Dioscorea L.; several species
-	**Yam, Asiatic bitter**, See Yams, VR 0600
	Dioscorea hispida (Dennst.)
-	**Yam, Chinese**, see Yams, VR 0600
	Dioscorea polystachya Turcz.
	syn: *D. opposita* auct.
-	**Yam, Cush-cush**, see Yams, VR 0600
	Dioscorea trifida L.f.
-	**Yam, Greater**, see Yams, VR 0600
	Dioscorea alata L.

-	**Yam, Lesser**, see Yams, VR 0600
	Dioscorea esculenta (Lour.) Burkill
-	**Yam, White Guinea**, see Yams, VR 0600
	Dioscorea rotundata Poir.
-	**Yam, Yellow Guinea**, see Yams, VR 0600
	Dioscorea cayenensis Lam.
VR 0601	**Yam bean**
	Pachyrhizus erosus (L.) Urban;
	syn: *P. angulatus* Rich. ex DC.; *P. bulbosus* (L.) Kurz; *Dolichos erosus* L.
	Pachyrhizus tuberosus (Lam.) Spreng.
	Pachyrhizus ahipa (Wedd.) Parodi
-	**Yautia**, see Tannia, VR 0504
Subgroup 16C	**Aquatic root and tuber vegetables**
Code No.	**Commodity**
VR 2072	**Aquatic root and tuber vegetables**
	(includes all commodities in this subgroup)
VR 0572	**Arrowhead**
	Sagittaria sagittifolia L.; *S. latifolia* Willd.;
VR 3000	**Cattail**
	Typha latifolia L.
VR 3001	**Chinese water chestnut**
	Eleocharis dulcis (Burm. f.) Trin. ex Hensch.
VR 3002	**Lotus tuber**
	Nelumbo nucifera Geartn.
VR 3003	**Olbanggae**
	Eleocharis kuroguwai Ohwi

APPENDIX X

PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED

(At Step 5)

PULSES

Class A

Type 2 Vegetables Group 015 Group Letter Code VD

Group 015. Pulses are derived from the mature seeds, naturally or artificially dried, of leguminous plants known as beans (dry) and peas (dry). Pulses are dry seeds without the pods.

The seeds in the pods are protected from most pesticides applied during the growing season except pesticides which show a systemic action. The dry beans and peas however are often exposed to post harvest treatments.

The dry pulses are consumed after processing or household cooking.

Commodities in this group are grouped in 2 subgroups:

15A Dry beans

15B Dry peas

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

Group 015 Pulses

Code No.	**Commodity**
VD 0070	**Pulses**

Subgroup 015A Dry beans

Code No.	**Commodity**
VD 2065	**Dry beans**
	(includes all commodities in this subgroup)
VD 0071	**Beans (*Phaseolus* spp.)** (dry)
	Phaseolus spp.; several species and cultivars
VD 2890	**Beans(*Vigna* spp.)** (dry)
	Vigna spp.; several species and cultivars
VD 0560	**Adzuki bean** (dry)
	Vigna angularis (Willd.) Ohwi & Ohashi
	syn: *Phaseolus angularis* (Willd.) W. Wight;
VD 2891	**African yam bean**
	Sphenostylis stenocarpa (Hochst. Ex A. Rich.) Harms
VD 0520	**Bambara groundnut** (dry seed)
	Vigna subterranea (L.) Verde.;
	syn: *Voandzeia subterranea* (L.) Thou.
-	**Black-eyed pea**, see Cowpea (dry), VD 0526
	Vigna unguiculata (L.) Walp. subsp. *unguiculata*
-	**Black gram** (dry), See Urd bean (dry), VD 0521
-	**Bonavist bean**, see Lablab bean (dry), VD 0531
VD 0523	**Broad bean** (dry)
	Vicia faba L, subsp. *faba*, var. *faba*
	Syn: *V. Faba* L. var. *major* (Harz) Beck
-	**Butter bean**, see Lima bean (dry), VD 0534

-	**Catjang**(dry), See Cowpea, Dry), VD 0527
	Vigna unguiculata (L.) Walp. subsp. *cylindrical* (L.) Verdc.
	syn: *Dolichos catjang* Burm.
VD 0526	**Common bean** (dry)
	Phaseolus vulgaris L.
VD 2892	**Common vetch**
	Vicia sativa L.
VD 0527	**Cowpea** (dry)
	Vigna unguiculata (L.) Walp;
	syn: *V. sinensis* (L.) Savi ex Hassk.; *Dolichos sinensis* L.
-	**Cranberry bean**, see Common bean (dry), VD 0526
-	**Dwarf bean** (dry), see Common bean (dry), VD 0526
-	**Field bean** (dry), see Common bean (dry), VD 0526
-	**French bean**, see Group 014: Legume vegetables
-	**Geocarpa groundnutor Geocarpa bean**, see Kersting's groundnut, VD 0563
VD 2893	**Goa bean** (dry)
	Psophocarpus tetragonolobus (L.) DC.
-	**Green beans**, see Group 014: Legume vegetables
-	**Green gram** (dry), see Mung bean (dry), VD 0536
VD 2894	**Guar** (dry)
	Cyamopsis tetragonoloba (L.) Taub;
	syn: *C. psoralioides* (lam.) DC.
-	**Hairy vetch**, see Wooly-pod vetch, VD 2904
-	**Haricot bean**, see Common bean, Group 014: Legume vegetables
-	**Horse bean** (dry), see Broad bean (dry), VD 0523
VD 0562	**Horse gram**
	Macrotyloma uniflorum (Lam.) Verdc.
	syn: *Dolichos uniflorus* Lam.; *D. biflorus* auct. non L.
-	**Hyacinth bean** (dry), see Lablab bean (dry), VD 0531
VD 2895	**Jack bean**, (dry)
	Canavalia ensiformis (L.) DC.
VD 0563	**Kersting's groundnut**
	Macrostyloma geocarpum (Harms) Marcechal & Baudet;
	syn: *Kerstingiella geocarpa* Harms.
-	**Kidney bean** (dry), see Common bean (dry), VD 0526
VD 0531	**Lablab bean** (dry)
	Lablab purpureus (L.) Sweet spp. *purpureus*
	syn: *Dolichos lablab* L.; *Lablab niger* Medik; *L. vulgaris* Savi
VD 0534	**Lima bean** (dry)
	Phaseolus lunatus L.;
	syn: *Ph. limensis* Macf.; *Ph. inamoenus* L.

VD 0545	**Lupin** (dry)
	Lupinus spp., sweet spp. varieties and cultivars with a low alkaloid content
-	**Mat bean** (dry), see Moth bean (dry), VD 0535
VD 2896	**Morama bean**
	Tylosema esculentum (Burch.) A. Schreib.
VD 0535	**Moth bean** (dry)
	Vigna aconitifolius (Jacq.) Verde.
	syn: *Phaseolus aconitifolius* Jacq.; *Ph. trilobus* Ait;
VD 0536	**Mung bean** (dry)
	Vigna radiata (L.) Wilczek, var. *radiata*;
	syn: *Phaseolus aureus* Roxb;
VD 2897	**Narbon bean**
	Vicia narbonensis L.
-	**Narbon vetch**, see Narbon bean VD 2897
-	**Navy bean** (dry), see Common bean (dry), VD 0526
-	**Pinto bean**, see Common bean (dry), VD 0526
VD 2898	**Purple Vetch**
	Vicia benghalensis L.
VD 0539	**Rice bean** (dry)
	Vigna umbellata (Thunb.) Ohwi & Ohashi;
	syn: *V. calcarata* (Roxb.) Kurz; *Phaseolus calcaratus* Roxb.
-	**Runner bean**, see Common bean, Group 014: Legume vegetables
VD 2899	**Scarlet runner bean** (dry)
	Phaseolus coccineus L.
-	**Sieva bean** (dry), see Lima bean (dry), VD 0534
-	**Southern pea**, see Cowpea (dry), VD 0527
	Vigna unguiculata (L.) Walp. subsp. *unguiculata*
VD 0541	**Soya bean** (dry)
	Glycine max (L.) Merr.;
-	**Soya bean, black** (dry), see Soya bean (dry), VD 0541
-	**Soybean** (dry), see Soya bean (dry), VD 0541
VD 2900	**Sword bean** (dry)
	Canavalia gladiata (Jacq.) DC.
VD 0564	**Tepary bean** (dry)
	Phaseolus acutifolius Gray, var. *acutifolius*
	Syn: *Phaseolus acutifolius* Gray, var. *latifolius* Freem.
VD 2901	**Tick bean**
	Vicia faba L. var. *minor*
VD 0521	**Urd bean** (dry)
	Phaseolus mungo L.;
	syn: *Vigna mungo* (L.) Hepper

VD 2902	**Velvet bean** (dry)
	Mucuna Pruriens (L.) DC.
VD 2903	**Winged pea** (dry)
	Lotus tetragonolobus L.
	syn: *Tetragonolobus purpureus* Moench
VD 2904	**Wooly-pod vetch**
	Vicia villosa (Roth)
	Syn: *V. villosa* spp. *dasycarpa* (Ten.) Cavil.

Subgroup 015B Dry peas

Code No.	Commodity
VD 2066	**Dry peas**
	(includes all commodities in this subgroup)
VD 0072	**Peas** (dry)
	Pisum spp.
-	**Cajan pea**, see Pigeon pea (dry), VD 0537
-	**Chickling vetch**, see Grass-pea (dry), VD 2920
VD 0524	**Chick-pea** (dry)
	Cicer arietinum L.
VD 0561	**Field pea** (dry)
	Pisum sativum L., subsp. *sativum* var. *arvense* (L.) Poir.
	syn: *Pisum arvense* L.
-	**Garden pea**, see Group 014: Legume vegetables
VD 2920	**Grass-pea** (dry)
	Lathyrus sativus L.
VD 0533	**Lentil** (dry)
	L. culinaris Medik subsp. *culinaris*
	syn: *Lens esculenta* Moench.; *Ervum lens* L.
VD 0537	**Pigeon pea** (dry)
	Cajanus cajan (L.) Millsp.
	syn: *C. indicus* Spreng.
-	**Red gram** (dry), see Pigeon pea (dry), VD 0537
-	**Wrinkled pea** (dry), see Field pea (dry), VD 0561

APPENDIX XI

PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED

(At Step 3)

FRUITING VEGETABLES, CUCURBITS

Class A

Type 2 Vegetables Group 011 Group Letter Code VC

Group 011 Fruiting vegetables, Cucurbits are derived from the immature or mature fruits of various plants, belonging to the botanical family Cucurbitaceae: usually these are annual vines or bushes.

These vegetables are fully exposed to pesticides during the period of fruit development.

The edible portion of those fruits of which the inedible peel is discarded before consumption is protected from most pesticides, by the skin or peel, except from pesticides with a systemic action.

The entire fruiting vegetable or the edible portion after discarding the inedible peel may be consumed in the fresh form or after processing. The entire immature fruit of some of the fruiting vegetables species may be consumed, whereas only the edible portion of the mature fruit of the same species, after discarding the then inedible peel, is consumed.

The group Fruiting vegetables, Cucurbits is divided in 3 subgroups:

11A Fruiting vegetables, Cucurbits – Cucumbers and Summer squashes

11B Fruiting vegetables, Cucurbits – Melons

11C Fruiting vegetables, Cucurbits – Winter squashes

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

Group 011 Fruiting vegetables, Cucurbits

Code No.	**Commodity**
VC 0045	**Fruiting vegetables, Cucurbits**
Subgroup 011A	**Fruiting vegetables, Cucurbits – Cucumbers and Summer squashes**
Code No.	**Commodity**
VC 2039	**Fruiting vegetables, Cucurbits - Cucumbers and Summer squashes** (includes all commodities in this subgroup)
VC 0420	**Balsam apple** *Momordica balsamina* L.
VC 0421	**Bitter melon** *Momordica charantia* L.
-	**Bitter cucumber**, see Bitter melon, VC 0421
-	**Bitter gourd**, see Bitter melon, VC 0421
-	**Balsam pear**, see Bitter melon, VC 0421
VC 0422	**Bottle gourd** *Lagenaria siceraria* (Molina) Standl.; syn: *L. vulgaris* Ser.; *L. leucantha* (Duch.) Rusby
VC 0423	**Chayote** *Sechium edule* (Jacq.) Schwartz; syn: *Chayota edulis* Jacq.
VC 2650	**Chieh qua** (young Chinese waxgourd) *Benincasa hispida* (Thunb.) Cogn. var. *chieh-qua* How

VC 2651	**Chinese cucumber**
	Trichosanthes kirilowii Maxim.
-	**Christophine**, see Chayote, VC 0423
-	**Courgette**, see Squash, Summer, VC 0431
VC 0424	**Cucumber**
	Cucumis sativus L.; English and forcing cucumber cultivars
-	**Cucumber, brown-netted**, see Cucumber, VC 0424
	Cucumis sativus L. var. *sikkimensis*
VC 2652	**Cucumber, exploding**
	Cyclanthera brachystachya (Ser.) Cogn.
VC 2653	**Cucumber, stuffing**
	Cyclanthera pedata (L.) Schrad.
-	**Cucuzzi**, see Bottle gourd, VC 0421
VC 2654	**Gac**
	Momordica cochinchinensis (Lour.) Spreng.
VC 0425	**Gherkin**
	Cucumis sativus L.; pickling cucumber cultivars
VC 0426	**Gherkin,West Indian**
	Cucumis anguria L.
VC 2655	**Gourd, bitter snake**
	Trichosanthes tricuspidata Lour.
VC 2656	**Gourd, buffalo**
	Cucurbita foetidissima Kunth
-	**Gourd, club**, see Snake gourd, VC 0430
VC 2657	**Gourd, Malabar**
	Cucurbita ficifolia Bouché
VC 2658	**Gourd, pointed**
	Trichosanthes dioica Roxb.
VC 2659	**Gourd, round**
	Benincasa fistulosa (Stocks) H. schaef. & S.S. Renner
-	**Gourd, Xishuangbanna**, see Cucumber, VC 0424
	Cucumis sativus L. var. *xishuangbannansis* ined.
VC 2660	**Ivy gourd**
	Coccinia grandis (L.) Voigt
VC 2661	**Japanese snake gourd**
	Trichosanthes ovigera Blume
VC 0427	**Loofah, Angled**
	Luffa acutangula (L.) Roxb.
VC 0428	**Loofah, Smooth**
	L. aegyptiaca Mill.
	syn: *Luffa cylindrica* (L.) M. J. Roem;

-	**Marrow**, see Squash, Summer, VC 0431
	Cucurbita pepo L., several cultivars
-	**Patisson,** see Squash, Summer, VC 0431
-	**Sinkwa or Sinkwa towel gourd**, see Loofah, Angled, VC 0427
VC 0430	**Snake gourd**
	Trichosanthes cucumerina L.;
	syn: *T. anguina* L.
-	**Spiny bitter gourd**, see Gac, VR 2654
-	**Sponge gourd**, see Loofah, Smooth, VC 0428
VC 0431	**Squash, Summer**
	Cucurbita pepo L.; *Cucurbita pepo* L. subsp. *pepo; Cucurbita pepo* L. subsp. *Ovifera* (L.) Harz*;* several cultivars, immature
-	**Squash, White Bush**, see Squash, Summer, VC 0431
-	**Sweet gourd**, see Gac, VR 2654
VC 2662	**Tacaco**
	Sechium tacaco (Pittier) C. Jeffrey
-	**Vegetable sponge**, see Loofah, Smooth, VC 0428
-	**Wax gourd (immature fruit)**, see Chieh qua, VC 2650
-	**West Indian gherkin**, see Gherkin, West Indian, VC 0426
-	**Zucchetti**, see Squash, Summer, VC 0431
-	**Zucchini**, see Squash, Summer, VC 0431

Subgroup 011B Fruiting vegetables, Cucurbits - Melons

Code No.	**Commodity**
VC 2040	**Fruiting vegetables, Cucurbits - Melons**
	(includes all commodities in this subgroup)
VC 2670	**African horned melon**
	Cucumis metuliferus E. Meyer ex Naudin
-	**Cantaloupe**, see Melons, except Watermelon, VC 0046
	Cucumis melo L., subsp. *melo* var. *cantaloupo* Ser.
VC 2671	**Casabanana**
	Sicana odorifera (Vell.) Naudin
-	**Casaba or Casaba melon**, see Melons, except Watermelon, VC 0046
	Cucumis melo L., var. *inodorus* H. Jacq.
-	**Citron melon**, see Watermelon, VC 0432
	Citrullus lanatus (Thunb.) Mansf., var. *edulis*;
	syn: *Citrullus edulis* Pang.
-	**Kiwano**, see African horned melon, VC 2670
VC 2672	**Korean Melon**
	Hybrid cultivars of *Cucumis melo* L. Subsp. *agrestis* (Naudin) Pangalo
VC 0046	**Melons, except Watermelon**
	Several var. and cultivars of *Cucumis melo* L.

-	**Melon, Crenshaw**, see Melons, except Watermelon, VC 0046
	Cultivar of *Cucumismelo* L. subsp. *melo* var. *inodorus* H. Jacq.
-	**Melon, Dudaim**, see Melons, except Watermelon, VC 0046
	Cucumis melo L., var. *dudaim* (L.) Naudin.
-	**Melon, Garden**, see Melon, Mango
-	**Melon, Honey Ball**, see Melons, except Watermelon, VC 0046
	Cultivar of *Cucumis melo* L., subsp. *melo* var. *cantaloupo* Ser.
-	**Melon, Honeydew**, see Melons, except Watermelon, VC 0046
	Cultivar of *Cucumis melo* L., var. *inodorus* Naud.
-	**Melon, Mango**, see Vine peach
VC 2673	**Melon, nara**
	Acanthosicyos horridus Welw. ex Benth. & Hook. f.
-	**Melon, Oriental Pickling**
	Cucumismelo L. subsp. *agrestis* (Naudin) Pangalo var. *conomon* (Thunb.) Makino
-	**Melon, Persian**, see Melons, except Watermelon, VC 0046
	Cultivar of *Cucumis melo* L., subsp. *melo* var. *cantaloupo* Ser.
-	**Melon, Pomegranate**, see Melon, Dudaim
-	**Melon, Serpent**, see Melons, except Watermelon, VC 0046
	Cucumis melo L., var. *flexuosus* (L.) Naudin.
-	**Melon, Snake**, see Melons, except Watermelon, VC 0046
	synonym of Melon, Serpent
-	**Melon, Snap**, see Melons, except Watermelon, VC 0046
	Acanthosicyos horridus Welw. Ex Benth. & Hook. f.
-	**Melon, White-skinned**, see Melons, except Watermelon, VC 0046
	Cultivars of *Cucumismelo* L. subsp. *melo* var. *inodorus* H. Jacq.
-	**Melon, Winter**, see Melons, except Watermelon, VC 0046
	synonym of Melons, White-skinned, see there
-	**Muskmelon**, see Melons, except Watermelon, VC 0046
	Cultivar of *Cucumis melo* L.; *C. melo* L. var. *melo*
-	**Oriental melon,** see Korean melon, see VC 2672
-	**Vine peach**, see Melons, except Watermelon, VC 0046
	Cucumis melo L. subsp. *agrestis* (Naudin) Pangalo var. *chito* (C. Morren) Naudin
VC 0432	**Watermelon**
	Citrullus lanatus (Thunb.) Matsum. & Nakai var. *lanatus*
	syn: *C. vulgaris* Schrad.; *Colocynthis citrullus* (L.) O. Ktze.

Subgroup 011C Fruiting vegetables, Cucurbits - Winter squashes

Code No.	**Commodity**
VC 2041	**Fruiting vegetables, Cucurbits – Winter squashes**
	(includes all commodities in this subgroup)
-	**Acorn squash**, see Winter squash, VC 0433
	Cucurbita pepo var. *ovifera* (L.) Harz

-	**Butternut squash**, see Winter squash, VC 0433
	Cucurbita moschata Duchesne
-	**Calabaza**, see Winter squash, VC 0433
	Cucurbita pepo L.
-	**Cheese pumpkin**, see Pumpkins, VC 0429
	Cucurbita moschata Duchesne
-	**Chinese wax gourd**, see Wax gourd, VC 0434
-	**Cucumber, Armenian**, see Melon, Serpent
-	**Cushaws**, see Pumpkins, VC 0429
	Mature cultivars of *Cucurbita argyrosperma* C. Huber
-	**Giant pumpkin**, see Pumpkins, VC 0429
	Cucurbita moschata Duchesne
-	**Hubbard squash**, see Winter squash, VC 0433
	Cucurbita maxima Duchesne
VC 2680	**Indian round gourd**
	Praecitrullus fistulosus (Stocks) Pangalo
-	**Marrow** (late variety),see Pumpkins, VC 0429
-	**Pumpkin**, see Pumpkins, VC 0429
	Cucurbita pepo L.; *C. pepo* L. subsp. *pepo*
VC 0429	**Pumpkins**
	Mature cultivars of *Cucurbita maxima* Duchesne; *Cucurbita argyrosperma* C. Huber; *C. moschata* Duchesne; *C. pepo* L. and *C. pepo* L. subsp. *pepo*
-	**Silver Seed gourd**, see Pumpkins, VC 0429
	Cucurbita argyrosperma C. Huber
-	**Spaghetti squash**, see Winter squash, VC 0433
	Cucurbita pepo subsp. *pepo*
VC 0434	**Wax gourd**
	Benincasa hispida (Thunb.) Cogn.;
	syn: *B. cerifera* Savi
VC 0433	**Winter squash**, see also Pumpkins VC 0429
	Mature cultivars of *Cucurbita maxima* Duchesne; *C. maxima* subsp. *maxima*; *C. moschata* Duchesne;. *C. pepo* (L.); *Cucurbita pepo* subsp. *pepo* and *Cucurbita pepo* var. *ovifera* (L.) Harz

LEGUME VEGETABLES

Class A

Type 2 Vegetables Group 014 Group Letter Code VP

Group 014. Legume vegetables are derived from the succulent seed and immature pods of leguminous plants commonly known as beans and peas.

Pods are fully exposed to pesticides during the growing season, whereas the succulent seed is protected within the pod from most pesticides, except pesticides with systemic action.

The succulent forms may be consumed as whole pods or as the shelled product. Immature soya bean is usually marketed and served with pods, but pods are not edible and only succulent seeds are eaten.

This group contains 4 subgroups based on the morphology and growing practise:

14A Beans with pods

14B Peas with pods

14C Succulent beans without pods

14D Succulent peas without pods

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity, unless otherwise specified.**

Group 014 **Code No,**	***Legume vegetables*** **Commodity**
VP 0060	**Legume vegetables**
Subgroup 14A	**Beans with pods**
Code No,	**Commodity**
VP 2060	**Beans with pods** (includes all commodities in this subgroup)
VP 0061	**Beans (*Phaseolus* spp.)** (green pods and immature seeds)
VP 2840	**Beans with pods (*Vigna* spp.)** (green pods and immature seeds)
-	**Asparagus bean** (pods), see Yard-long bean, VP 0544
-	**Asparagus pea** (pods), see Goa bean, VP 0530
-	**Black gram** (green pods), see Urd bean, VP 0521
-	**Bonavist bean** (young pods and immature seeds), see Lablab bean, VP 0531
VP 0522	**Broad bean** (green pods and immature seeds) *Vicia faba* L. subsp. *faba*, var. *faba*
VP 2841	**Catjang** (immature pods and green seeds) *Vigna unguiculata* (L.) Walp. subsp *cylindrical* (L.) Verdc. syn: *Dolichos catjang* Burm.
-	**Chinese longbean**, see Yard-long bean, VP 0544
-	**Cluster bean** (young pods), see Guar, VP 0525
VP 0526	**Common bean** (pods and immature seeds) *Phaseolus vulgaris* L., several cultivars
VP 0527	**Cowpea** (immature pods) *Vigna unguiculata* (L) Walp. subsp. *unguiculata*
-	**Four-angled bean** (immature pods), see Goa bean, VP 0530
-	**French bean** (immature pods and seeds), see Common bean (pods and immature seeds), VP 0526
-	**Garden bean**, see see Common bean, VP 0526

VP 0530 **Goa bean** (immature pods)

Psophocarpus tetragonolobus (L.) DC.

- **Green bean** (green pods and immature seeds), see Common bean (pods and immature seeds), VP 0526

- **Green gram** (green pods), see Mung bean, VP 0536

- **Green soya bean**, see Soya bean (succulent seeds in pods), VP 0546

VP 0525 **Guar** (young pods)

Cyamopsis tetragonoloba (L.) Taub;

syn: *C. psoralioides* (lam.) DC.

- **Haricot bean** (green pods, and immature seeds), see Common bean (pods and immature seeds), VP 0526

- **Hyacinth bean** (young pods, and immature seeds), see Lablab bean (pods and immature seeds), VP 0531

VP 0532 **Jack bean** (young pods and immature seeds)

Canavalia ensiformis (L.) DC.

- **Kidney bean** (pods), see Common bean (pods and immature seeds), VP 0526

VP 0531 **Lablab bean** (pods and immature seeds)

Lablab purpureus (L.) Sweet spp. *purpureus*

syn: *Dolichos lablab* L.; *Lablab niger* Medik; *L. vulgaris* Savi

- **Manila bean** (immature pods), see Goa bean (immature pods), VP 0530

- **Mat bean** (green pods), see Moth bean (green pods), VP 0535

VP 0535 **Moth bean** (green pods)

Vigna aconitifolius (Jacq.) Verde.

syn: *Phaseolus aconitifolius* Jacq.; *Ph. trilobus* Ait;

VP 0536 **Mung bean** (green pods)

Vigna radiata (L.) Wilczek, var. *radiata*;

syn: *Phaseolus aureus* Roxb;

VP 0539 **Rice bean** (young pods)

Vigna umbellata (Thunb.) Ohwi eg Ohashi;

syn: *V. calcarata* (Roxb.) Kurz; *Phaseolus calcaratus* Roxb.

- **Runner bean**, see see Common bean, VP 0526

VP 0540 **Scarlet runner bean** (pods and seeds)

Phaseolus coccineus L.

- **Slicing bean**, see Common bean (pods and immature seeds), VP 0526

- **Snap bean** (young pods), see Common bean, VP 0526

VP 0546 **Soya bean** (succulent seeds in pods)

Glycine max (L.) Merr.;

VP 2842 **Stink bean** (pods and immature seeds)

Parkia speciosa Hassk.

VP 0542 **Sword bean** (young pods and bean)

Canavalia gladiata (Jacq.) DC.

VP 0521	**Urd bean** (green pods)
	Vigna mungo (L.) Hepper var. *mungo*
	syn: *Phaseolus mungo* L.;
-	**Vegetables soybean (edamame)**, see Soya bean (succulent seeds in pods), VP 0546
-	**Wax bean**, see Common bean, VP 0526
-	**Winged bean** (immature pods), see Goa bean, VP 0530
VP 0543	**Winged pea** (young pods)
	Lotus tetragonolobus L.
	syn: *Tetragonolobus purpureus* Moench
VP 0544	**Yard-long bean** (pods)
	Vigna unguiculata subsp *sesquipedalis* (L.) Verdc.
Subgroup 14B	**Peas with pods**
Code No,	**Commodity**
VP 2061	**Peas with pods**
	(includes all commodities in this subgroup)
VP 0063	**Peas** (pods and succulent = immature seeds)
	Pisum spp.
-	**Dwarf pea**, see Podded pea (young pods), VP 0537
VP 0528	**Garden pea** (young pods)
	Pisum sativum L. var. *sativum*
VP 2850	**Grass pea** (young pods)
	Lathyrus sativus L.
VP 0533	**Lentil** (young pods)
	L. culinaris Medik subsp. *culinaris*
	syn: *Lens esculenta* Moench.; *Ervum lens* L.
-	**Mangetout or Mangetout pea**, see Podded pea
VP 0537	**Pigeon pea** (green pods and young green seeds)
	Cajanus cajan (L.) Millsp.
	syn: *C. indicus* Spreng.
VP 0538	**Podded pea** (young pods)
	Pisum sativum L., subsp. *sativum* var. *macrocarpon* Ser.; *P. sativum* L., spp. *sativum*, var. *sacharatum*
-	**Red gram** (green pods and young green seeds), see Pigeon pea, VP 0537
-	**Snow pea**, see Podded pea (young pods), VP 0537
-	**Sugar pea** (young pods), see Podded pea, VP 0538
	Pisum sativum L., spp. *sativum*, var. *sacharatum*
Subgroup 14C	**Succulent beans without pods**
Code No,	**Commodity**
VP 2062	**Succulent beans without pods**
	(includes all commodities in this subgroup)
VP 0062	**Beans without pods (*Phaseolus* spp.)** (succulent seeds)
VP 2860	**Beans without pods (*Vigna* spp.)** (succulent seeds)

VP 0520 **Bambara groundnut** (immature seeds)

Voandzeia subterranea (L.) Thou.

- **Blackeyed peas** (succulent seeds), see Cowpea (succulent seeds), VP 2863

- **Bonavist bean** (immature seeds), see Lablab bean, VP 2864

VP 0523 **Broad bean, shelled** (succulent) (immature seeds)

Vicia faba L. subsp. *faba*, var. *faba*

VP 2861 **Catjang** (succulent seeds)

Vigna unguiculata (L.) Walp. subsp *cylindrical* (L.) Verdc.

syn: *Dolichos catjang* Burm.

VP 2862 **Common bean** (succulent seeds)

Phaseolus vulgaris L., several cultivars

VP 2863 **Cowpea** (succulent seeds)

Vigna unguiculata (L) Walp. subsp. *unguiculata*

- **Fava bean** (immature beans), see Broad bean, shelled, VP 0523

- **Flageolet** (fresh beans), see Common bean (succulent seeds), VP 2862

VP 0530 **Goa bean** (succulent seeds)

Psophocarpus tetragonolobus (L.) DC.

- **Hyacinth bean** (immature seeds), see Lablab bean (succulent seeds), VP2864

VP 2864 **Jack bean** (immature seeds)

Canavalia ensiformis (L.) DC.

VP 2865 **Lablab bean** (succulent seeds)

Lablab purpureus (L.) Sweet spp. *purpureus*

syn: *Dolichos lablab* L.; *Lablab niger* Medik; *L. vulgaris* Savi

VP 0534 **Lima bean** (succulent seeds)

Phaseolus lunatus L.;

syn: *Ph. limensis* Macf.; *Ph. inamoenus* L.

VP 0545 **Lupin**

Lupinus ssp, sweet spp., varieties and cultivars with a low alkaloid content

- **Mat bean** (fresh seeds), see Moth bean (fresh seeds), VP 2866

VP 2866 **Moth bean** (fresh seeds)

Vigna aconitifolius (Jacq.) Verde.

syn: *Phaseolus aconitifolius* Jacq.; *Ph. trilobus* Ait;

VP 0540 **Scarlet runner bean** (succulent seeds)

Phaseolus coccineus L.

- **Sieva bean** (green fresh beans), see Lima bean, VP 0534

- **Southern pea**, see Cowpea (succulent seeds), VP 2863

VP 0541 **Soya bean** (succulent seeds)

Glycine max (L.) Merr.;

- **Soybean**, see Soya bean (succulent seeds), VP 0541

VP 2867 **Stink bean** (succulent seeds)

Parkia speciosa Hassk.

VP 2868	**Velvet bean**
	Mucuna Pruriens (L.) DC.
Subgroup 14D	**Succulent peas without pods**
Code No,	**Commodity**
VP 2063	**Succulent peas without pods**
	(includes all commodities in this subgroup)
VP 0064	**Peas without pods** (succulent seeds)
	Pisum spp.
VP 0524	**Chick-pea** (succulent seeds)
	Cicer arietinum L.
-	**Garbanzos**, see Chick-pea (succulent seeds), VP0524
VP 0529	**Garden pea**, (succulent seeds)
	Pisum sativum L. var. *sativum*
-	**Green pea**, see Garden pea (succulent seeds, VP 0529)
VP 2881	**Lentil** (succulent seeds)
	L. culinaris Medik subsp. *culinaris*
	syn: *Lens esculenta* Moench.; *Ervum lens* L.
VP 2882	**Pigeon pea** (young green seeds)
	Cajanus cajan (L.) Millsp.;
	syn: *C. indicus* Spreng.
-	**Red gram** (young green seeds), see Pigeon pea (young green seeds), VP 2882

APPENDIX XII

PROPOSED DRAFT GUIDELINES ON PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR THE DETERMINATION OF PESTICIDES RESIDUES

(At Step 3)

DEFINITIONS

Analyte: The chemical substance sought or determined in a sample.

Analyte protectant: Compounds that strongly interact with active sites in the gas chromatographic (GC) system, thus decreasing degradation, adsorption, or both of co-injected analytes.

Confirmatory method: A method that provides complementary information in agreement with a previous result. Ideally, a different subsample is analysed with a method involving a different chemical mechanism than in the first analysis, and one of the methods meets analyte identification criteria with an acceptable degree of certainty at the level of interest

False positive: A result wrongly indicating that the analyte concentration is present or exceeds a specified value

False negative: A result wrongly indicating that the analyte concentration is not present or does not exceed a specified value.

Identification: Process of unambiguously determining the chemical identity of a pesticide or metabolite in experimental or analytical situations.

Incurred residue: Residue identified in a commodity resulting from specific use of a pesticide or from consumption by an animal or environmental contamination in the field, as opposed to residues identified from laboratory fortification of samples.

Interferent: Any chemical or physical phenomenon that can interfere with or disrupt a reaction or process

Limit of detection (LOD): The true net concentration or amount of the analyte in the material to be analysed which will lead to the conclusion that the concentration or amount of the analyte in the analysed material is larger than that in the blank material (generally expressed as 3XSignal/Noise ratio or 3XStandard Deviation of blank matrix signal).

Limit of quantification (LOQ): A method performance characteristic generally expressed in terms of the signal or measurement (true) value that will produce estimates having a specified relative standard deviation (RSD), (generally expressed as 10XSignal/Noise ratio or 10XStandard Deviation of blank matrix signal).

Note: LOQ also known as limit of determination or limit of quantitation.

Lowest level of method validation (LLMV): The lowest concentration level at which the analytical method has actually been validated in the laboratory.

Matrix: The material or component sampled for pesticide residue analysis.

Matrix blank: Sample material containing no detectable concentration of the analytes of interest.

Matrix effects: An influence of one or more undetected components from the sample on the measurement of the analyte concentration or mass. These matrix effects derive from various physical and chemical processes and may be difficult or impossible to eliminate. They may be observed as increased or decreased detector responses, compared with those produced by simple solvent solutions of the analyte.

Matrix-matched standards: Standard solutions prepared in a matrix extract similar to that of the sample to be analysed which compensate for matrix effects and acceptable interference, if present.

Maximum Residue Limit/Level (MRL): Maximum concentration of a residue that is legally permitted or recognised as acceptable in, or on, a food, agricultural commodity or animal feedstuff as set by Codex or a national regulatory authority. The term tolerance used in some countries is, in most instances, synonymous with MRL (Normally expressed as mg/kg matrix weight).

Multiresidue methods (MRMs): Analytical methods which detect/quantify a number of pesticide residues simultaneously.

Quantitative method: A method capable of producing analyte concentration (determinative) results with trueness and precision that comply with established criteria.

Relative Standard Deviation (RSD): It is the standard deviation, divided by the absolute value of the arithmetic mean and expressed as a percentage. It is a measure of the precision of the method. Considering a single laboratory, the precision is expressed in terms of repeatability (RSD_r) and reproducibility (RSD_{wR}) within the laboratory.

Relative Standard Deviation of repeatability (RSD_r): The precision of measurement of an analyte, obtained using the same method on the same sample(s) in a single laboratory over a short period of time, during which differences in the materials and equipment used and/or the analysts involved will not occur.

Relative Standard Deviation of within laboratory reproducibility (RSD_{wR}): The precision of measurement of an analyte obtained using the same method on different samples, in a single laboratory, over a long period of time, during which differences in the materials and equipment used and the analysts involved will occur.

Repeatability: For an analytical method, the closeness of agreement between results of measurements on identical test material subject to the following conditions: same analyst, same instrumentation, same location, same conditions of use, repetition over a short period of time.

Reproducibility: For an analytical method, the closeness of agreement between results of measurements on identical test material where individual measurements are carried under changing conditions such as: analyst, instrumentation, location, conditions of use, time.

Screening detection limit (SDL): The screening detection limit of a qualitative screening method is the lowest concentration for which it has been demonstrated that a certain analyte can be detected (not necessarily meeting unequivocal identification criteria) in at least 95% of the samples (i.e. a false negative rate of 5% is accepted).

Screening method: A method that meets predetermined criteria to detect the presence of an analyte or class of analytes at or above the minimum concentration of interest.

Selectivity: Selectivity refers to the extent to which the method can be used to determine particular analytes in mixtures or matrices without interferences from other components of similar behaviour. Some regulatory authorities use the term specificity to refer to selectivity.

Sensitivity: Quotient of the change in the indication of a measuring system and the corresponding change in the value of the quantity being measured.

Single Residue Method (SRM): An analytical method specific for the analysis of a single pesticide and related metabolite only.

Specificity: The ability of the detector to provide signals that effectively identify the analyte. (GC-MS with EI is a fairly nonselective determination system capable of high specificity. High resolution mass MS and MS^n can be both highly selective and highly specific).

SCOPE

1. The purpose of this guidance document is to describe the performance criteria of methods to analyse pesticide residues in food and feed. It addresses characteristics/parameters that analytical methods should have in order to provide internationally acceptable confidence in the method to produce accurate results to evaluate pesticide residues for either domestic programmes or in international trade.

2. This document is applicable to single, multiresidue, or multiclass multiresidue methods (MRMs) to analyse target compounds in food commodities, including parent pesticide residues and/or their metabolites and degradates in food and feed commodities, as per the definition of residue.

3. In this document, a MRM is considered to be a method which can determine three or more analytes in the same chemical class or in more than one class of pesticide. This guidance covers qualitative (screening, identification, confirmation) and quantitative analyses, each having different method performance requirements. It should be noted that a validated MRM may be used to determine analytes only where performance characteristics for quantitative analysis have been fully validated, but should be limited to qualitative purposes for analytes lacking full validation.

PRINCIPLES FOR THE SELECTION AND VALIDATION OF METHODS

Identification of Methods Requirements

4. The intended purpose of the method is usually defined in a statement of *scope* which defines the analytes (residues), the matrices and the concentration range to which the method applies. It also states whether the method is intended for screening, quantification, identification, and/or confirmation of analytes.

5. The MRL is expressed in terms of the "definition of residue", which may include the parent compound, a major metabolite, a sum of parent and/or metabolites, or a reaction product formed from the residues during analysis. Residue analytical methods should be able to measure all components of the residue definition.

6. Selection of methods is discussed in CAC/GL 40-1993, Guidelines on Good Laboratory Practice in Pesticide Residue Analysis.

Implementing other Codex Alimentarius Commission Guidelines

7. The Codex Alimentarius Commission has issued a guideline for laboratories involved in the import/export testing of foods which recommends that such laboratories should:

(a) Use internal quality control procedures, such as those described in the "Harmonised Guidelines for Internal Quality Control in Analytical Chemistry Laboratories";

(b) Participate in appropriate proficiency testing schemes for food analysis which confirm to the requirement laid out in "the International Harmonised Protocol for Proficiency Testing of (Chemical) Analytical Laboratories"

(c) Comply with the general criteria for testing laboratories provided in latest version of ISO/IEC 17025 "General requirements for the competence of calibration and testing laboratories"; and

(d) Whenever available, use methods which have been validated according to principles provided by the Codex Alimentarius Commission.

8. The methods should be used within the internationally accepted, approved, and recognised laboratory Quality Management System, which is consistent with the principles in the document for quality assessment (QA) and quality control (QC) referenced above. The on-going performance must be monitored through the Quality Management System in place in the laboratory.

Method Validation and Fitness for Purpose

9. The process of method validation is intended to demonstrate that a method is *fit-for-purpose*. This means that in the hands of a properly trained analyst using the specified equipment and materials, and following the procedures described in the method, reliable and consistent results can be obtained within specified statistical limits for the analysis of a sample. The validation should specify the analyte (identity and concentration), account for the matrix effect, and provide a statistical characterisation of the recovery results. When the method protocol is followed, using suitable analytical standards, results within the established performance limits should be obtained on the same or equivalent sample material by a trained analyst in any experienced residue control laboratory.

SUMMARY OF PERFORMANCE PARAMETERS TO BE CHARACTERISED AND DEFINED FOR ANALYTICAL METHODS

10. The general requirements for the individual performance characteristics for a method are summarised below from IUPAC's Harmonised guidelines for single-laboratory validation of methods of analysis.

A. APPLICABILITY

11. After validation, the documentation should provide, in addition to any performance specification, the following information:

- identity of the analyte, including speciation where appropriate;
- concentration range covered by method validation;
- specification of the types of matrices of the test materials covered by validation (e.g., "crops and/or crop groups"); (for representative commodities which may be used in method validation, see Sanco 12571-2013, and CAC/GL 40)
- protocol, describing the equipment, reagents, procedure (including permissible variation in specified instructions, e.g., "heat at 100 ± 5°C for 30 ± 5 min"), calibration and quality procedures, and any special safety precautions required; and
- intended application and critical uncertainty requirements (see CAC/GL 59).

B. SELECTIVITY

12. Ideally, selectivity should be evaluated for analytes of interest in contrast to any potential interferents likely to be present. It is particularly important to check interferents that are likely, on principal chemicals, to respond to the test. It may be impracticable to consider or test every potential interferent; where that is the case, it is recommended that the likely worst cases are checked. As a general principle, selectivity should be sufficiently good for any interference to be ignored. In many types of analysis, selectivity is essentially a qualitative assessment based on the significance or otherwise of suitable tests for interferents.

C. CALIBRATION AND LINEARITY

13. With the exception of gross errors in preparation of calibration materials, calibration errors are usually (but not always) a minor component of the total uncertainty budget, and can usually be safely subsumed into other categories. For example, random errors resulting from calibration are part of the run bias, which is assessed as a whole, while systematic errors from that source may appear as laboratory bias, likewise assessed as a whole. Nevertheless, there are some characteristics of calibration that are useful to know at the outset of method validation, because they affect the strategy for the optimal development of the procedure. In this class are such questions as whether the calibration function plausibly (a) is linear, (b) passes through the origin, and (c) is unaffected by the matrix of the test material. The procedures described here relate to calibration studies in validation, which are necessarily more exacting than calibration undertaken during routine analysis. For example, once it is established at validation that a calibration function is linear and passes through the origin, a much simpler calibration strategy can be used for routine use (with at least a three-point repeated design is recommended). Errors from this simpler calibration strategy will normally be subsumed into higher-level errors for validation purposes.

14. In general, the use of weighted-linear regression is recommended rather than linear regression.

Linearity and intercept

15. Linearity can be tested informally by examination of a plot of residuals produced by linear regression of the responses on the concentrations in an appropriate calibration set. Any curved pattern suggests lack of fit due to a nonlinear calibration function. Despite its current widespread use as an indication of quality of fit, the correlation coefficient is misleading and inappropriate as a test for linearity and should not be used.

16. Replicate measurements are needed to provide an estimate of pure error if there is no independent estimate. In the absence of specific guidance, the following should apply (for univariate linear calibration):

- there should be three or more calibration standards;
- the calibration standards should be evenly spaced over the concentration range of interest;

- the range should bracket LLMV–150% or 50–150% of the concentration likely to be encountered, depending on which of these is the more suitable; and
- the calibration standards should be run at least in duplicate, and preferably triplicate or more, in a random order.

17. The value of the intercept should be as close to zero [e.g. less than 20% of the lowest calibration standard] as possible to avoid errors in calculating sample concentrations at low residue levels.

Test for general matrix effect

18. A test for general matrix effect can be made by applying the method of analyte additions (also called "standard additions") to a test solution derived from a typical test material. The test should be done in a way that provides the same final dilution as the normal procedure produces, and the range of additions should encompass the same range as the procedure-defined calibration validation. If the calibration is linear, the slopes of the usual calibration function and the analyte additions plot can be compared for significant difference. A lack of significance means that there is no observable general matrix effect. If the calibration is not linear, an alternative method is needed for a significance test, but a visual comparison at equal concentrations will usually suffice. A lack of significance in this test will often mean that the matrix variation effect (Section I) will also be absent.

D. TRUENESS AND RECOVERY

19. Trueness is the closeness of agreement between a test result and the accepted reference value of the property being measured. Trueness is stated quantitatively in terms of "bias", with smaller bias indicating greater trueness. Bias is typically determined by comparing the response of the method to a reference material with the known value assigned to the material. Significance testing is recommended. Where the uncertainty in the reference value is not negligible, evaluation of the results should consider the reference material uncertainty as well as the statistical variability.

20. Recovery refers to the proportion of analyte remaining at the point of the final determination, following its addition (usually to a blank sample) immediately prior to extraction, usually expressed as a percentage. Routine recovery refers to the determination(s) performed with the analysis of each batch of samples.

E. PRECISION

21. Precision is the closeness of agreement between independent test results obtained under stipulated conditions. It is usually specified in terms of standard deviation or relative standard deviation. The distinction between precision and bias is fundamental, but depends on the level at which the analytical system is viewed. Thus, from the viewpoint of a single determination, any deviation affecting the calibration for the run would be seen as a bias. From the point of view of the analyst reviewing a year's work, the run bias will be different every day and will act like a random variable with an associated precision. The stipulated conditions for the estimation of precision take account of this change in viewpoint.

22. For single-laboratory validation, two sets of conditions are relevant: (a) precision under repeatability conditions, and (b) precision under run-to-run conditions. It is important that the precision values are representative of likely test conditions. First, the variation in conditions among the runs must represent what would normally happen in the laboratory under routine use of the method. For instance, variations in reagent batches, analysts, and instruments should be representative. Second, the test material used should be typical, in terms of matrix and (ideally) the state of comminution, of the materials likely to be encountered in routine application.

23. Precision very often varies with analyte concentration. Typical assumptions are (i) that there is no change in precision with analyte level, or (ii) that the standard deviation is proportional to, or linearly dependent on, analyte level. In both cases, the assumption needs to be checked if the analyte level is expected to vary substantially (that is, by more than about 30% from its central value).

24. Precision data may be obtained for a wide variety of different sets of conditions in addition to the minimum of repeatability and between-run conditions indicated here, and it may be appropriate to acquire additional information. For example, it may be useful to the assessment of results, or for improving the measurement, to have an indication of separate operator and run effects, between or within-day effects or the precision attainable using one or several instruments. A range of different designs and statistical analysis techniques is available, and careful experimental design is strongly recommended in all such studies.

F. RANGE

25. The validated range is the interval of analyte concentration within which the method can be regarded as validated. It is important to realise that this range is not necessarily identical to the useful range of the calibration. While the calibration may cover a wide concentration range, the remainder of the validation (and usually much more important part in terms of uncertainty) will cover a more restricted range. In practice, most methods will be validated at least two levels of concentration (e.g. LOQ and 10X LOQ) and should cover existing/target MRLs. The validated range may be taken as a reasonable extrapolation from these points on the concentration scale.

G. LIMIT OF DETECTION (LOD)

26. In broad terms, the LOD is the smallest amount or concentration of analyte in the test sample that can be reliably distinguished from matrix blank. For analytical systems where the validation range does not include or approach it, the LOD does not need to be part of a validation.

27. Despite the apparent simplicity of the idea, the whole subject of the LOD is beset with problems outlined below:

- There are several possible conceptual approaches to the subject, each providing a somewhat different definition of the limit. Attempts to clarify the issue seem ever more confusing.
- Although each of these approaches depends of an estimate of precision at or near zero concentration, it is not clear whether this should be taken as implying repeatability conditions or some other condition for the estimation.
- Unless an inordinate amount of data is collected, estimates of LOD will be subject to quite large random variation.
- Estimates of LOD are often biased on the low side owing to operational factors.
- Statistical inferences relating to the LOD depend on the assumption of normality, which is at least questionable at low concentrations.

28. Techniques used to determine LOD include: 3XSignal/Noiseratio, or 3X standard deviation of matrix blank signal. It is important that the method LOD and the technique used be stated in the method validation report.

H. LIMIT OF QUANTIFICATION (LOQ)

29. It is useful to state a concentration below which the analytical method cannot quantify with an acceptable confidence level of precision and trueness. Sometimes that precision is arbitrarily defined as 10% RSD, sometimes the limit is equally arbitrarily taken as a fixed multiple (typically three times) of the LOD. Hence, the use of this type of limit in validation is not recommended here.

30. It is preferable to try to express the uncertainty of measurement as a function of concentration and compare that function with a criterion of fitness for purpose agreed between the laboratory and the client or end-user of the data.

31. Techniques used to determine LOQ include: 10XSignal/Noise ratio, or 10X standard deviation of matrix blank signal. It is important that the method LOQ and the technique used be stated in the method validation report.

I. SENSITIVITY

32. The sensitivity of a method is the gradient of the calibration function. As this is usually arbitrary, depending on instrumental settings, it is not useful in validation. (It may be useful in quality assurance procedures, however, to test whether an instrument is performing to a consistent and satisfactory standard).

J. RUGGEDNESS

33. The ruggedness of an analytical method is the resistance to change in the results produced by an analytical method when minor deviations are made from the experimental conditions described in the procedure. The limits for experimental parameters should be prescribed in the method protocol (although this has not always been done in the past), and such permissible deviations, separately or in any combination, should produce no meaningful change in the results produced. (A “meaningful change” here would imply that the method could not operate within the agreed limits of uncertainty defining fitness for purpose.) The aspects of the method that are likely to affect results should be identified, and their influence on method performance evaluated by using ruggedness tests.

34. Examples of the factors that a ruggedness test could address are: changes in the instrument, operator, or brand of reagent; concentration of a reagent; pH of a solution; temperature of a reaction; time allowed for completion of a process, etc.

K. FITNESS FOR PURPOSE

35. Fitness for purpose is the extent to which the performance of a method matches the criteria, agreed between the analyst and the end-user of the data that describe the end-user’s needs. For instance, the errors in data should not be of a magnitude that would give rise to incorrect decisions more often than a defined small probability, but they should not be so small that the end-user is involved in unnecessary expenditure. Fitness-for-purpose criteria could be based on some of the characteristics described here, but ultimately will be expressed in terms of acceptable combined uncertainty.

L. MEASUREMENT UNCERTAINTY

36. The formal approach to measurement uncertainty estimation calculates a measurement uncertainty estimate from an equation, or mathematical model. The procedures described as method validation are designed to ensure that the equation used to estimate the result, with due allowance for random errors of all kinds, is a valid expression embodying all recognised and significant effects upon the result. Guidelines on estimation of uncertainty of results are provided in CAC/GL 59.

PERFORMANCE CHARACTERISTICS OF METHODS

PERFORMANCE CHARACTERISTICS OF SCREENING METHODS

37. Screening methods are usually either qualitative or semi-quantitative in nature, with the objective being to discriminate samples which contain no detectable residues above a threshold value ("negatives") from those which may contain residues above that value ("potentially positives"). The validation strategy therefore focuses on establishing a threshold concentration above which results are "potentially positive", determining a statistically based rate for both "false positive" and "false negative" results, testing for interferences and establishing appropriate conditions of use. Screening methods should be checked for their selectivity and sensitivity. They can be based on test kits and their selectivity may be increased when a detection system is used after chromatographic or other separation techniques. Another approach is to use screening methods that involve automated Mass Spectrometry-based detection systems, which are very selective. These methods offer laboratories a cost-effective means to extend their analytical scope to analytes which potentially have a low probability of being present in the samples. Analytes that occur more frequently should continue to be sought and measured using validated quantitative multiresidue methods.

38. The selectivity of screening methods should be adequate and must be able to distinguish the presence of the target compound, or group of compounds, from other substances which may be present in the sample material. It is normally not as great as that of a quantitative method. Screening methods often take advantage of a structural feature common to a group or class of compounds and may be based on immunoassays, or chromogenic responses which may not unambiguously identify a compound. Mass spectrometric techniques also are used for screening purposes. The selectivity of a screening method may be increased when it is used as a detection system after chromatographic or other separation technique.

39. The validation of a screening method based on a screening detection limit (SDL) can be focused on detectability. For each commodity group, a basic validation should involve analysis of at least 20 samples spiked at the estimated SDL. The samples selected should represent multiple commodity categories from the commodity group, with a minimum of two different samples for each commodity category and should be representative for the intended scope of the laboratory. Additional validation data can be collected from on-going AQC-data and method performance verification during routine analysis. The SDL of the qualitative screening method is the lowest level at which an analyte has been detected (not necessarily meeting the MS-identification criteria) in at least 95% of the samples (i.e. an acceptable false-negative rate of 5%).

PERFORMANCE CHARACTERISTICS OF QUANTITATIVE METHODS

40. Selectivity is of particular importance in defining the performance characteristics of quantitative methods used in regulatory control programmes for pesticide residues in foods. The method needs to provide a signal response which is free from interferences from other analytes and matrix compounds which may be present in a sample or sample extract. Chromatographic analyses based on peaks which are not fully resolved provide less reliable quantitative results. Use of element-specific detectors or different detection wavelengths or mass-selective detectors which are better able to distinguish a particular compound or structure, combined with chromatographic separation, improves the selectivity of quantitative methods.

41. The requirement to recover a range of different pesticide residues in one extraction increases the potential for compromised selectivity in MRMs compared to single analyte methods. Using less selective extraction and clean-up procedures is likely to result in greater co-extracted matrix material in the final extract. The nature and quantities of such co-extracted material can vary markedly depending on the history of the individual sample. Particular care is therefore required when setting criteria for the precision and trueness of MRMs to ensure that quantification will not be affected by interference from other compounds present in the sample matrix.

42. In addition to the selectivity of a method, the ability of the method to provide a quantitative result which is reliable, i.e. accuracy must be demonstrated. This consists of two factors:

(a) The closeness of the result to the true or accepted value for the concentration of analyte present in the sample material, i.e. trueness (bias) of the result and

(b) The ability of the method to provide consistent results on replicate determinations, expressed in terms of precision (repeatability and reproducibility).

43. Acceptability criteria for a quantitative analytical method should be demonstrated at both initial and extended validation stages, as being capable of providing acceptable mean recovery values at each spiking level. A minimum of 5 replicates is required (to check the recovery and precision) at the targeted LOQ or reporting limit of the method, and at least one other higher level, for example, 2-10x the targeted LOQ or the MRL. Where the residue definition includes two or more analytes, then wherever possible, the method should be validated for all analytes included in the residue definition. Acceptable mean recoveries and associated repeatability are presented in Table 1). The method-LOQ is the lowest spike level of the validation meeting these method performance acceptability criteria. In certain cases and typically with multiresidue methods, recoveries outside this range may be accepted. Exceptionally, where recovery is low but consistent (i.e. demonstrating good precision) and the basis for this is well established (e.g. due to analyte distribution in a partitioning step), a mean recovery below 70% may be acceptable. However, a more accurate method should be used, if practicable. Within-laboratory reproducibility (RSD_{wR}), which may be determined from on-going quality control data in routine analyses, should be ≤ 20%, excluding any contribution due to sample heterogeneity.

Table 1: Mean recovery and precision criteria for plant / animal matrices

Concentration level	Range of mean recovery (%)	Precision, RSD (%)
> 0.01 mg/kg ≤ 0.1 mg/kg	70 - 120	20
> 0.1 mg/kg ≤ 1.0 mg/kg	70 - 110	15
> 1 mg/kg	70 - 110	10

44. The accuracy of a method may be determined by analysis of a certified reference material, by comparison of results with those obtained using another method for which the performance parameters have previously been rigorously established (typically, a collaboratively studied method) or by determination of the recovery of analyte fortified into known blank sample material. The latter determination of accuracy as recovery is frequently used in validation of methods for pesticide residues in foods, as both certified reference materials and methods validated by an inter-laboratory trial are often not available. The accuracy of a measurement is closely related to random error (repeatability error or within-lab reproducibility error), systematic error (analytical method bias) and analyte recovery (measured as percent recovery). Recovery should be assessed over concentrations which cover the analytical range of the method. In interpreting recoveries, it is necessary to recognise that analyte added to a sample may not behave in the same manner as the same biologically incurred analyte (pesticide residue). In many situations, the amount of an incurred residue that is extracted (the yield or recovered fraction) is less than the total incurred residues present. This may be due to losses during extraction, intra-cellular binding of residues, the presence of conjugates, or other factors that are not fully represented by recovery experiments conducted with analyte-fortified blank matrices. At relatively high concentrations, analytical recoveries are expected to approach one hundred percent. At lower concentrations, particularly with methods involving extensive extraction, isolation, and concentration steps, recoveries may be lower. In general, residues data do not have to be adjusted for recovery when the mean recovery is within the range of 70-120%. Exceptionally, where recovery is low but consistent (i.e. demonstrating good precision) and the basis for this is well established (e.g. due to analyte distribution in a partitioning step), a mean recovery below 70% may be acceptable. However, a more accurate method should be used, if practicable. If residues data are adjusted for recovery, then this must be stated.

45. Recovery corrections should be made consistent with the guidance provided by the Codex Alimentarius Commission. It is of over-riding importance that all data, when reported, should (a) be clearly identified as to whether or not a recovery correction has been applied and (b) if a recovery correction has been applied, the amount of the correction and the method by which it was derived should be included with the report. This will promote direct comparability of data sets. Correction functions should be established on the basis of appropriate statistical considerations, documented, archived and available to the client.

46. Quantitative methods are usually based on a comparison of the response from an analyte in a sample with the response from standards of the analyte in solution or in a matrix at known concentrations. In method development and validation, the calibration curve should first be determined to assess the detector response to standards over the range of concentrations of analytical interest. Possible matrix enhancement or suppression effects of sample co-extractives, on the chromatography system or detection system response should be addressed both in Gas Chromatography (GC) and Liquid Chromatography (LC) based methods. When appropriate, the detection system may be calibrated using standard solutions in a blank matrix similar to that of the sample to be analysed (matrix-matched standards) which compensate for matrix effects and acceptable interference, if present. An alternative practical approach to compensate for matrix effects in GC-analyses is the use of analyte protectants that are added to both the sample extracts and the calibration solutions in order to equalise the response of pesticides in solvent calibrants and sample extracts. When no suitable blank commodity is available for the preparation of the matrix-matched standards, the most effective way to compensate for matrix effects is the use of standard addition or use of isotopically labelled internal standards. The standard addition approach may compensate for matrix effects and also recovery of the analytical procedure but does not overcome chromatographic interferences. Using a standard addiction approach, it is essential to assure a linear response in the concentration range investigated for achieving accurate results.

PERFORMANCE CHARACTERISTICS OF METHODS FOR ANALYTE IDENTIFICATION

47. The development of a separate confirmatory method is not generally needed when the original method is based on mass spectrometry or another highly specific technique. On a case-by-case basis, additional confirmation may be necessary, for example when the first method is an immunoassay or when selective detectors, which offer only limited specificity, are coupled with GC or LC techniques as their use, even in combination with different polarity columns, does not provide unambiguous identification.

48. Selectivity is the primary consideration for methods of identification**.** The method should be sufficiently selective to provide unambiguous identification. Mass spectrometry coupled to a chromatographic separation method is a very powerful combination for identification of an analyte in the sample extract. These are often the techniques on which confirmatory methods are based. It simultaneously provides retention time (RT), ion/charge ratios and relative abundance (intensity) data.

49. The following chromatography-MS/MS identification criteria should be met for regulatory purposes: 1.) the retention time of the detected analyte peak must be within 5 percent of the contemporaneously analysed analyte reference standard peak; 2.) the different ion transitions for the analyte should co-elute with similar peak shapes; 3.) the ratios of peak areas for each ion transition should match the ratios of the reference standard(s) within the criteria given in Table 2; 4.) reagent and matrix blanks should be shown to be free of carry-over, contamination, and/or interferences above an appreciable level; 5.) signal / noise ratios for measured peaks should be > 3; 6.) the signal should exceed the threshold intensity level as compared to the signal of a suitable reference standard or control encompassing the level of interest; and 7.) the ion transitions chosen for identification purposes should make chemical / structural sense.

Table 2: Recommended maximum (default) tolerances for ion ratios using different MS techniques

Ion ratio (least/most intense ion)	Maximum tolerance (relative) for GC-EI-MS	Maximum tolerance (relative) for LC-MS^n, LC-MS, GC-MS^n, GC-CI-MS
0.50-1.00	± 10%	± 30%
0.20-0.50	± 15%	± 30%
0.10-0.20	± 20%	± 30%
< 0.10	± 50%	± 30%

50. The relative abundances (intensities) or ratios of selective ions (full-scan MS or SIM) or product ions (MS/MS), expressed as a ratio relative to the most intense (product) ion, should correspond to those of the calibration standard at comparable concentrations and measured under the same conditions. Matrix-matched calibration solutions may need to be used. Table 2 indicates the recommended maximum tolerances for ion ratios. The tolerances given in Table 2 should not be taken as absolute limits and automated data interpretation based on the criteria without complementary interpretation by an experienced analyst is not recommended.

51. Methods based on high resolution mass spectrometry are considered to give a higher reliability through more precise measurement of mass than can be obtained using low resolution mass spectrometry techniques. Different types and models of mass spectrometric detectors provide different degrees of selectivity, which relates to the confidence in identification. The requirements for identification are given in Table 3. They should be regarded as guidance criteria for identification, not as absolute criteria to prove presence or absence of a compound.

Table 3: Identification requirements for different types of mass spectrometers

MS mode	Single MS (unit mass resolution)	Single MS (high resolution/high mass accuracy)	MS/MS
Typical systems (examples)	Quadrupole, ion trap, time-of-flight (TOF)	TOF, Orbitrap, FTMS, magnetic sector	Triple quadrupole ion trap, hybride MS (e.g. Q-TOF, Q-trap)
Acquisition	Full scan, Limited m/z range, Selected ion monitoring (SIM)	Full scan, Limited m/z range, Selected ion monitoring (SIM)	Selected/multiple reaction monitoring (SRM/MRM), full scan product-ion spectra
Requirements for identification	≥ 3 diagnostic ions, (preferably including quasi molecular ion)	≥ 2 diagnostic ions (preferably including the quasi molecular ion). Mass accuracy < 5 ppm. At least one fragment ion.	≥ 2 product ions

52. Additional confidence is provided with the use of high resolution mass spectrometers (or detection using mass spectrometers with high resolving power, typically > 20,000 FWHM) which offer more precise identification of the mass and may be used to predict the elemental composition of each fragment. In addition, at least one ion ratio must also be measured to eliminate the potential for fragments of the same mass arising from isobaric compounds of similar structure.

53. The minimum acceptable retention time for the analyte(s) under examination should be at least twice the retention time corresponding to the void volume of the column. The retention time of the analyte in the extract should correspond to that of the calibration standard (may need to be matrix-matched) with a tolerance of ±5 percent of retention time for gas chromatography and liquid chromatography. Greater retention time deviations are acceptable where both retention time and peak shape of the analyte match with those of a suitable IL-IS, or evidence from validation studies is available.

PERFORMANCE CHARACTERISTICS OF CONFIRMATORY METHODS

54. For enforcement actions, confirmation that analytes are present in the samples must be made by a second analysis, and one of the confirmatory methods should involve analyte identification, typically using MS techniques. Moreover, the confirmatory methods should use independent approaches based on different chemical mechanisms, such as liquid and gas chromatography (LC and GC) separations. In some situations, confirmation by independent laboratories may be appropriate.

55. Whenever chromatographic techniques are used in confirmation, proper settings of the retention time windows are pivotal. Care should be taken that the instrument is adjusted correctly before starting the analysis; a system suitability test should be performed prior to each batch of analysis. Retention time data base should be adjusted for the current conditions. In phase 1, tolerance intervals of 1.5 to 3% of the absolute retention time may be applied for capillary GC depending on the peak shape. For confirmation of the retention time, the absolute tolerance intervals will increase at higher retention time. The tolerance interval should be less than 1 sec for an RT less than 500 sec. For retention times between 500 and 5000 sec. an interval of 0.2% RRT is recommended. For higher retention times 6 sec. is a suitable interval. Additional guidance is given in CAC/GL 56-2005, Guidelines on the Use of Mass Spectrometry for Identification, Confirmation and Quantitative Determination of Residues.

Table 4: Examples of detection methods suitable for the confirmatory analysis of substances

Detection method	Criterion
LC or GC and Mass Spectrometry	If sufficient number of fragment ions are monitored
LC-DAD	If the UV spectrum is characteristic
LC – fluorescence	In combination with other techniques
2-D TLC – (spectrophotometry)	In combination with other techniques
GC-ECD, NPD, FPD	Only if combined with two or more separation techniques
Derivatisation	If it was not the first choice method
LC-immunogram	In combination with other techniques
LC-UV/VIS (single wavelength)	In combination with other techniques

Other chromatographic systems (applying stationary and/or mobile phases of different selectivity) or other techniques

References:

1	CAC/GL 64-1995	Protocol for the Design, Conduct and Interpretation of Method Performance Studies
2	CAC/GL 40-1993 and its revisions	Guidelines on Good Laboratory Practice in Pesticide Residue Analysis
3	CAC/GL 56-2005	Guidelines on the Use of Mass Spectrometry (MS) for Identification, Confirmation and Quantative Determination of Residues
4	CAC/GL 59-2006	Guidelines on Estimation of Uncertainty of Results
5	CAC/GL 72-2009	Guideline on Analytical Terminology
6	CAC/GL 49-2003	Harmonised IUPAC Guidelines for Single-Laboratory Validation of Methods of Analysis © 2002 IUPAC, Pure and Applied Chemistry 74, 835–855
7	CAC/GL 27-1997	Guidelines for the Assessment of the Competence of Testing Laboratories Involved in the Import and Export Control of Food
8	CAC/GL 65-1997	Harmonised Guidelines for Internal Quality Control in Analytical Chemistry Laboratories, *Pure & Appl. Chem.*, 67(1995) 649-666
9	CAC/GL 71-2009	Guidelines for the Design and Implementation of National Regulatory Food Safety Assurance Programme associated with the Use of Veterinary Drugs in Food Producing Animals
10	CAC/GL 37-2001	Harmonised IUPAC Guidelines for the use of Recovery Information in Analytical Measurement. Pure Appl. Chem., Vol. 71, pp. 337 – 348, 1999
11	SANCO/12571/2013	SANCO Analytical quality control and validation procedures for pesticide residues analysis in food and feed update of SANCO/12495/2011
12	ENV/JM/MOMO(2007)17	Guidance Document on Pesticide Residue Analytical Methods OECD Environment, Health and safety Publications, Series on Testing and Assessment, No. 72, Series on Pesticides No. 39
13	ENV/JM/MONO(2009)30	OECD Guidance Document on the Definition of Residue
14	SANCO/825/00 rev 8.0 (16/11/2010)	"Guidance document on pesticide residue analytical methods".
15	IUPAC Selectivity in Analytical Chemistry	Selectivity in analytical chemistry, International Union of Pure and Applied Chemistry Vol. 73 No. 8, pp. 1381-1386, 2001
16	IUPAC Glossary of Terms Relating to Pesticides	Glossary of Terms Relating to Pesticides. International Union of Pure and Applied Chemistry Vol. 68, No.5, pp. 1167-1193, 1996
17	ISO VIM	ISO International Vocabulary of Basic and General Terms in Metrology (VIM)
18	S.J. Lehotay et. al.	Identification and Confirmation of Chemical Residues in Food by Chromatography – Mass Spectrometry and Other Techniques. Trends in Analytical Chemistry Vol 27, No. 11, pp.1070-1090, 2008

APPENDIX XIII

RISK ANALYSIS PRINCIPLES APPLIED BY THE CODEX COMMITTEE ON PESTICIDE RESIDUES

(For Adoption)

1. SCOPE

1. This document addresses the respective applications of risk analysis principles by the Codex Committee on Pesticide Residues (CCPR) as the risk management body and the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) as the risk assessment body and facilitates the uniform application of the *Working Principles for Risk Analysis for Application in the Framework of the Codex Alimentarius*. This document should be read in conjunction with the *Working Principles for Risk Analysis for Application in the Framework of the Codex Alimentarius*.

2. GENERAL ASPECTS

SUMMARY OF THE MAXIMUM RESIDUE LIMIT (MRL)-SETTING PROCESS

2. In addressing pesticide residue issues in Codex, providing advice and taking decisions on risk management is the responsibility of the Codex Alimentarius Commission (CAC) and CCPR, while conducting risk assessment is the responsibility of JMPR.

3. The MRL-setting process begins with a member or observers nominating a pesticide for evaluation by the JMPR. In considering the nomination, the CCPR, in consultation with the JMPR Joint Secretaries may then prioritise and schedule the pesticide for evaluation.

4. The WHO Core Assessment Group considers available data encompassing a wide range of toxicological endpoints with the aim of estimating an acceptable daily intake (ADI) and an acute reference dose (ARfD) where necessary and if sufficient data are available.

5. The FAO Panel of Experts on Pesticide Residues in Food and the Environment considers data on registered use patterns, fate of residues, animal and plant metabolism, analytical methodology and residue data derived from supervised residue trials in order to propose residue definitions and maximum residues levels for the pesticide in food and feed.

6. The JMPR risk assessment includes the estimation of both short-term (single day) and long-term dietary exposures and their comparison with the relevant toxicological benchmarks. MRLs in or on food and animal feeds are based on Good Agricultural Practice (GAP) information, taking into consideration information on dietary intakes, and foods derived from commodities that comply with the respective MRLs are intended to be toxicologically acceptable.

7. The CCPR considers the recommendations of JMPR in the light of information provided in the relevant JMPR reports and monographs. MRL recommendations accepted by the CCPR are submitted to the CAC for adoption as Codex MRLs (CXLs). An active periodic review program complements this process.

8. CCPR and JMPR should ensure that their respective contributions to the risk analysis process result in outputs that are scientifically based, fully transparent, thoroughly documented and available in a timely manner to members[1].

3. RISK ASSESSMENT POLICY

9. CCPR shall consider the following when preparing its priority list of pesticides for JMPR evaluation:

   a. CCPR's Terms of Reference;

   b. JMPR's Terms of Reference;

   c. The CAC's Strategic Plan;

   d. Nomination requirements and criteria for the prioritisation and scheduling of pesticides.

10. When referring pesticides to JMPR, the CCPR shall provide background information and clearly specify the reasons for the request when pesticides are nominated for evaluation.

11. When referring pesticides to JMPR, the CCPR may also refer a range of risk management options, with a view to obtaining JMPR's guidance on the attendant risks and the likely risk reductions associated with each option.

12. CCPR shall request JMPR to review any risk assessment policies, methods and guidelines being considered by CCPR for assessing MRL for pesticides.

13. When establishing its standards, CCPR shall clearly state when it applies any considerations based on other legitimate factors[2] relevant for the health protection of consumers and for the promotion of fair practices in food trade, in addition to JMPR's risk assessment and recommended MRLs and specify its reasons for doing so.

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1 Submission and evaluation of pesticide residues data for the estimation of maximum residue levels in food and feed, FAO Plant Production and Protection Paper, 197, 2009, ISBN 978-92-5-106436-8.

14. JMPR applies a transparent, science based risk assessment process for establishing an ADI and ARfD, where appropriate.

15. JMPR, in consultation with CCPR, must continue to explore developing minimum data requirements necessary for JMPR to perform risk assessments.

16. The JMPR Secretariat shall consider whether these minimum data requirements have been met when preparing the provisional agenda for meetings of JMPR.

3.1 MRLs FOR SPECIFIC GROUPS

3.1.1 MRLs for Foods of Animal Origin

17. Farm animal metabolism studies are required whenever a pesticide is applied directly to livestock, to animal premises or housing, or when significant residues remain in crops or commodities used in animal feed, (e.g. forage crops, plant parts that could be used in animal feeds, by products or co-products of industrial productions). The results of farm animal feeding studies and residues in animal feed serve also as a primary source of information for estimating maximum residue levels in foods of animal origin.

18. If no adequate studies are available, no MRLs will be established for foods of animal origin. MRLs for feeds (and the primary crops) should not be established in the absence of animal transfer data. Where the exposure of livestock to pesticides through feeds leads to residues at the limit of quantitation (LOQ), MRLs at the LOQ must be established for foods of animal origin. MRLs should be established for groups of foods of animal origin, for example, edible offal (mammalian), if animals are exposed to pesticide residues via animal feed, and for specific foods, for example, cattle kidney, in cases where animals are directly treated with a pesticide.

19. If the recommended maximum residues levels or limits for foods of animal origin resulting from direct treatment of the animal and residues from animal feed do not agree, the higher recommendation will prevail regardless of whether they are recommended by JMPR or the Joint FAO/WHO Expert Committee on Food Additives (JECFA).

3.1.2 MRL for fat-soluble pesticides

20. If a pesticide is determined as “fat soluble” after consideration of the following factors, it is indicated with the text “The residues are fat soluble” in the residue definition:

a. When available, information concerning the partitioning of the residue (as defined) in muscle versus fat or residue in whole milk versus milk fat in the metabolism studies and livestock feeding studies determines the designation of a residue as being “fat soluble”;

b. In the absence of useful information on the distribution of residues in muscle and fat or in milk or milk fat, residues with Octanol-Water Partition Coefficient (log Pow) > 3 are likely to be “fat soluble”.

21. For milk and milk products, two maximum residue levels would be estimated for fat-soluble pesticides, if the data permits; one maximum residue level for whole milk and one for milk fat. When needed, MRLs for milk products can then be calculated from the two values, by taking into account the fat content and the contribution from the non-fat fraction

22. For regulation and monitoring of residues of fat-soluble pesticides in milk, where CXLs have been established for both whole milk and milk fat, whole milk should be analysed and the result should be compared with the CXLs for whole milk.

3.1.3 MRLs for spices

23. MRLs for spices can be established on the basis of monitoring data in accordance with the guidelines established by JMPR.

3.1.4 MRLs for processed or ready-to-eat foods or feeds

24. The JMPR evaluates processing studies to derive processing factors used to estimate residue concentrations in processed foods or feeds for dietary risk assessments and, if necessary, recommends MRLs for processed foods or feeds.

25. The CCPR:

a. Establish MRLs for important processed foods and feeds moving in international trade;

b. Establish MRLs for processed foods and feeds only if the resulting value is higher than the MRL established for the corresponding raw agriculture commodity (RAC)[1], Processing Factor > 1.3 (PF > 1.3);

c. Continue the practice of establishing MRLs for processed foods and feeds where, due to the nature of the residues during some specific process, significant amounts of relevant metabolites appear or increase; and

d. Support the current JMPR practice of evaluating all processing studies provided and including in each evaluation or review a summary table of all validated processing factors.

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[2] Statement of Principle Concerning the Role of Science in the Codex Decision-Making Process and the Extent to Which Other Factors are Taken into Account, Codex Alimentarius Commission Procedural Manual.

3.2 ESTABLISHMENT OF EXTRANEOUS MAXIMUM RESIDUE LIMITS (EMRLS)

26. The EMRL refers to a pesticide residue or a contaminant arising from environmental sources due to former agricultural uses not from the use of the pesticide directly or indirectly on the food or feed. It is the maximum concentration of a pesticide residue that is recommended by the CAC to be legally permitted or recognised as acceptable in or on a food or animal feed.

27. Pesticides for which EMRLs are most likely to be needed are persistent in the environment for a relatively long period after uses have been discontinued and are expected to occur in foods or feeds at levels of sufficient concern to warrant monitoring.

28. All relevant and geographically representative monitoring data (including nil-residue results) are required to make reasonable estimates to cover international trade. JMPR has developed a standard format for reporting pesticide residues monitoring data.

29. The JMPR compares data distributions in terms of the likely percentages of violations that might occur if a given EMRL is proposed to the CCPR.

30. Because residues gradually decrease, CCPR evaluates every 5 years, if possible, the existing EMRL, based on the reassessments of the JMPR.

4. RISK ASSESSMENT

4.1 ROLE OF JMPR

31. The JMPR consists of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. It is an independent scientific expert body convened by both Directors General of FAO and WHO according to the rules of both organisations, charged with the task of providing scientific advice on pesticide residues.

32. JMPR is primarily responsible for performing the risk assessments and proposing MRLs upon which CCPR and ultimately the CAC base their risk management decisions. JMPR proposes MRLs based on residue data from GAP/registered uses or in specific cases, such as EMRL and MRL for spices, based on monitoring data.

33. JMPR provides CCPR with science-based risk assessments that include the four components of risk assessment as defined by CAC, namely hazard identification, hazard characterisation, exposure assessment and risk characterisation that can serve as the basis for CCPR's discussions.

34. JMPR should identify and communicate to CCPR in its assessments any information on the applicability and any constraints of the risk assessment in regard to the general population and to particular sub-populations and shall, as far as possible, identify potential risks to populations of potentially enhanced vulnerability (e.g. children).

35. JMPR communicates to CCPR possible sources of uncertainties in the exposure assessment and/or in the hazard characterisation of the pesticide that, if resolved, would allow a refinement of the risk assessment.

4.2 DIETARY INTAKE

36. JMPR is responsible for evaluating exposure to pesticides. JMPR must strive to base its exposure assessment and hence the dietary risk assessments on global data, including that from developing countries. In addition to Global Environment Monitoring System (GEMS)/Food data, consumption monitoring data and exposure studies may be used. The GEMS/Food diets are used to assess the risk of chronic exposure. The acute exposure calculations are based on the available high percentile consumption data as provided by members and compiled by GEMS/Food.

37. In undertaking dietary exposure risk assessments to assist the CCPR, the JMPR uses the WHO and FAO Guidance Documents[3,4]. The JMPR recommends Supervised Trial Median Residues (STMRs) and Highest Residues (HRs) for dietary intake purposes.

38. The JMPR establishes the ADI and calculates the International Estimated Daily Intake (IEDI). The JMPR also establishes ARfDs, where appropriate, and indicates cases where an ARfD is not necessary. Where an ARfD is set, the JMPR calculates the International Estimate of Short-term Intake (IESTI) for the general population and for children (less than 6 years old), following a procedure described by JMPR.

39. The JMPR uses the most up-to-date and most refined residue and consumption data available to calculate the IEDI. When the IEDI exceeds the ADI in one or more of the GEMS/Food cluster diets, the JMPR flags this situation when recommending maximum residue levels to the CCPR. The JMPR also indicates relevant data to refine the IEDI.

40. Where the IESTI exceeds the ARfD for a pesticide/food combination, the JMPR report should describe the particular situation that gives rise to that acute intake concern. The JMPR shall indicate the possibilities to refine the IESTI.

41. If either IESTI exceeds the ARfD or IEDI exceed ADI, JMPR indicates that the provision of additional data would be necessary to refine these calculations. Members / observers have the opportunity to supply the new data and shall commit to provide them in accordance with the four-year-rule.

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3 WHO. Guideline for predicting dietary intake of pesticide residues.

4 FAO. Pesticide Residues in Food 2003- Report.FAO Plant Production and Protection Paper No. 176 FAO, Rome. Chapter 3.

42. In these cases, the four-year-rule is applied when insufficient data have been submitted to set a new CXL. Members/observers may provide a commitment to the JMPR and CCPR to provide the necessary data for evaluation within four years. The proposed MRL is maintained for a period of no more than four years, pending the evaluation of the additional data. A second period of four years is not granted. If there is no commitment to provide additional information, or no data are supplied despite a commitment being made in relation to the four-year-rule, the CCPR considers withdrawal of the draft MRL.

43. The estimate of the short-term dietary intake requires substantial food consumption data that currently are only sparsely available. Governments are urged to generate relevant consumption data and to submit these data to the WHO.

5. RISK MANAGEMENT

5.1 ROLE OF CCPR

44. CCPR is primarily responsible for recommending risk management proposals, such as MRLs, for adoption by the CAC.

45. CCPR shall base its risk management recommendations to the CAC on JMPR's risk assessments of the respective pesticides, considering, where appropriate, other legitimate factors[2] relevant for health protection of consumers and for the promotion of fair practices in food trade.

46. In cases where JMPR has performed a risk assessment and the CCPR or the CAC determines that additional scientific guidance is necessary, the CCPR or the CAC may make a specific request to JMPR to provide further scientific guidance necessary for a risk management decision.

47. CCPR's risk management recommendations to the CAC shall take into account the relevant uncertainties as described by JMPR.

48. CCPR shall consider only maximum residue levels recommended by JMPR.

49. CCPR shall base its recommendations on the GEMS/Food diets used to identify consumption patterns. The GEMS/Food diets are used to assess the risk of chronic exposure. The acute exposure calculations are not based on those diets, but available consumption data provided by members and compiled by GEMS/Food.

50. If no validated methods of analysis are available for enforcing an MRL for a specific pesticide, no MRL will be established by CCPR.

5.2 SELECTION OF PESTICIDES FOR JMPR EVALUATION

51. Each year CCPR, in cooperation with the JMPR Secretariat, agrees on a schedule of JMPR evaluations in the following year and considers prioritisation of other pesticides for future scheduling.

5.2.1 Procedure for the preparation of the Schedules and Priority Lists

52. CCPR submits the Schedules and Priority Lists of Pesticides for JMPR Evaluation to the CAC for approval each year, as new work, and requests the re-establishment of the Electronic Working Group (EWG) on Priorities.

53. The EWG on Priorities is tasked with preparing a Schedule of Pesticides for JMPR (evaluations for the following year) for the consideration of CCPR and the maintenance of a Priority List of Pesticides for future scheduling by CCPR.

54. The Schedules and Priority Lists are provided in the followingTables:

a. Table 1 – CCPR Proposed Schedule and Priority Lists of Pesticides (new pesticides, new uses, and other evaluations);

b. Table 2A – Schedule and Priority Lists of Periodic Reviews;

c. Table 2B – Periodic Review List (Pesticides that have been last evaluated 15 years ago or more, but not yet scheduled or listed, 15 years-rule);

d. Table 3 – Record of Periodic Review;

e. Table 4 –Pesticide/Food combinations for which specific GAP is no longer supported.

55. Each year, the Codex Secretariat issues a letter, one month after the CAC, seeking application for membership of the EWG on Priorities.

56. In early September of each year, the EWG Chair will issue a broadcast e-mail to member/observers of the EWG requesting nominations for:

a. New pesticides;

b. New uses of pesticides previously reviewed by JMPR;

c. Other evaluations to address, for example, review of toxicological endpoint and alternative GAP;

d. Periodic reviews of pesticides for which there are concerns including public health.

57. Nominations for new pesticides and new uses of pesticides previously reviewed by JMPR are submitted by members/observers to the EWG Chair and the JMPR Joint Secretariat using the form in the FAO Manual[1].

58. The nomination form shall provide a clear indication of the availability of data and national evaluations, as well as, give an indication of the number of crops and residue trials to be evaluated. The request should also indicate the current status of national registrations for the pesticide.

59. Nominations for other evaluations and periodic reviews should be submitted, on concern forms Annex A and Annex B respectively, with accompanying scientific data addressing the relevant concern. For periodic reviews, the request should also provide information on the most recent evaluation, ADI and ARfD.

60. Nominations complying with the requirements are incorporated into a list, prioritised and scheduled according to the criteria specified below:

a. Those received by 30 November are incorporated into the draft agenda paper which is distributed as a circular letter in early January.

b. Members and observers are allowed two months from the date of distribution to provide comment to the EWG Chair and JMPR Joint Secretariat.

c. On the basis of comments received in response to the circular letter, the EWG Chair incorporates the new nominations into the Schedule and Priority Lists, and prepares an agenda paper for CCPR. The Schedule seeks to provide a balance of new pesticides, new uses, other evaluations and periodic reviews.

d. Following plenary discussions on MRL recommendations, the EWG Chair revises the Schedule and Priority List, which is then presented as Conference Room Document (CRD) for CCPR's consideration. To cover the possibility that a member/observer cannot meet the JMPR data call-in deadline for new pesticide evaluations, CCPR will include reserve pesticides.

e. Following plenary discussion on CRD, the CCPR will agree on a JMPR Evaluation Schedule for the following year. The final Schedule will take into account available JMPR resources.

f. At this point, the Schedule will be closed for the inclusion of additional pesticides. However, with the agreement of the JMPR Secretariat, the inclusion of additional foods or feeds for scheduled pesticides may be accepted.

5.2.2 Nomination requirements and criteria for the prioritisation and scheduling pesticides for evaluation by JMPR

New pesticides

Nomination Requirements

61. Before a nomination is accepted the following requirements must be met:

a. An intention to register the pesticide for use in a member country;

b. The foods or feeds proposed for consideration should be traded internationally;

c. There is a commitment by the member/observer of the pesticide to provide supporting data for review in response to the JMPR "data call-in";

d. The use of the pesticide is expected to give rise to residues in or on a food or feed moving in international trade;

e. The pesticide has not been already accepted for consideration;

f. The nomination form has been completed.

Prioritisation Criteria

62. The following criteria are applied when preparing the Schedules and Priority Lists:

a. The period of time since the pesticide was nominated for evaluation; a pesticide that was nominated first will have higher priority;

b. Timing of data availability;

c. Commitment by the member/observer to provide supporting data for review with a firm date for data submission;

d. The provision of information on the foods or feeds for which CXL are sought and the number of trials for each food or feed.

Scheduling Criteria

63. In order for CCPR to schedule a pesticide for JMPR evaluation in the following year:

a. It must be registered for use in a member country and formulation labels made available by the time of JMPR "data call-in";

b. If the use of the pesticide does not give rise to detectable residues in foods and feeds, it will be afforded a lower priority than those listed pesticides for which use does give rise to measurable residues.

5.2.3 New Uses of Pesticides previously Reviewed by JMPR

Nomination Requirement

64. At the request of a member/observer, pesticides previously evaluated by JMPR may be listed in Table 1 for the inclusion of additional uses.

Prioritisation Criteria

65. When prioritizing new use evaluations, the EWG on Priorities will consider the following criteria:

a. The date the request was received;

b. Commitment by the member/observer to provide the required data for review in response to the JMPR "data call-in".

Scheduling Criteria

66. Scheduling criteria are as specified in the new pesticide section (para 63).

5.2.4 Other Evaluations

Nomination Requirements

67. Pesticides previously evaluated by JMPR may be listed for further toxicological and/or residue evaluations by the JMPR as a result of requests from CCPR or members when:

a. A member seeks to obtain a revised MRL for one or more foods or feeds; for example, on the basis of alternative GAP;

b. The CCPR requests a clarification or reconsideration of a recommendation from the JMPR;

c. New toxicological data becomes available to indicate a significant change in the ADI or ARfD;

d. A data deficiency is noted by JMPR during a new pesticide evaluation or periodic review and members/observers will supply the required information;

e. The CCPR elects to schedule the pesticide under the four-year rule.

68. In this case, the four-year-rule is applied when insufficient data have been submitted to confirm or amend an existing CXL. The CXL is recommended for withdrawal. However, members/observers may provide a commitment to the JMPR and CCPR to provide the necessary data for review within four years. The existing CXL is maintained for a period of no more than four years pending the review of the additional data. A second period of four years is not granted.

Prioritisation Criteria

69. When prioritizing pesticides for other evaluations, the EWG on Priorities will consider the following criteria:

a. The date the request was received;

b. Commitment by the member/observer to provide the required toxicological and / or residue data for review in response to the JMPR "data call in";

c. Whether the data is submitted under the four-year-rule for evaluations;

d. The reason for its submission; for example, a request from CCPR.

Scheduling Criteria

70. Scheduling criteria are as specified in the new pesticides section.

5.2.5 Periodic Review

71. Pesticides that have not been reviewed toxicologically for more than 15 years and/or not having a significant review of CXL for 15 years will be listed in Table 2B of the Schedules and Priority Lists.

72. Pesticides listed in Table 2B should be considered for scheduling for periodic review when concerns, including public health concerns are identified and nominated for inclusion in Table 2A. The nominating member should submit the concern form in Annex B and accompanying relevant scientific information substantiating the concern for consideration by JMPR Secretariat /eWG on Priorities.

73. Pesticides listed in Table 2B may be nominated for inclusion in Table 2A and thus considered for scheduling for periodic review on the basis of the availability of data necessary for the review. The nominating member should submit an inventory and brief explanation of the relevant toxicological and residue data package for consideration by JMPR Secretariat/eWG on Priorities. The member should inform the eWG on Priorities whether all or some of the CXLs will be supported and should specify each supported and unsupported CXL.

74. Pesticides listed in Table 2B, for which no periodic review has been undertaken for 25 years, will be brought to the attention of CCPR with a view to transfer to Table 2A and subsequent scheduling.

75. Pesticides which have been the subject of a periodic review during the previous 15 years, and thus are not listed in Table 2B, may be considered for transferring to Table 2A where a concern form in Annex B and accompanying scientific information, upon review, demonstrates a public health concern.

Scheduling and Prioritisation Criteria for pesticides listed in Table 2A

76. The EWG on Priorities and CCPR will consider the following periodic review criteria:

a. If scientific data concerning the intake and/or toxicity profile of a pesticide indicates some level of public health concern;

b. If no ARfD has been established by Codex or if an established ADI or ARfD are of public health concern and information is available from members on national registrations and/or the conclusions from national/regional evaluations indicated a public health concern;

c. The availability of current labels (authorised GAP) arising from recent national reviews;

d. The CCPR has been advised by a member that the residues from apesticide has been responsible for trade disruption;

e. The date the data will be submitted;

f. If there is a closely related pesticide that is a candidate for periodic review that can be evaluated concurrently.

g. The CCPR agrees to schedule the pesticide under the four-year rule.

77. In this case, the four-year rule is applied when insufficient data have been submitted to confirm or amend an existing CXL. The CXL is recommended for withdrawal. However, members/observers may provide a commitment to JMPR and CCPR to provide the necessary data for review within four years. The existing CXL is maintained for a period of no more than four years pending the review of the additional data. A second period of four years is not granted.

5.2.6 Periodic Review Procedure

Identify pesticides for Periodic Review and solicit data commitments

78. Pesticides are listed for periodic review according to the process and procedures described in section "Selection of pesticides for JMPR evaluation". The process provides members/observers a notice of a periodic review.

79. When a pesticide is listed for periodic review, members/observers are able to support it, regarding the two following possibilities:

a. Case A: The pesticide is supported by the original sponsor, who is committed to submit a complete data package to meet JMPR's data requirements.

If the original sponsor does not support some uses, members/observers may support them.

b. Case B: The pesticide is not supported by the original sponsor; in this case, interested members / observers may support the review of the pesticide.

Commitment to support pesticides or existing CXL or new proposed MRL

80. The commitment of members/observers to provide data for the periodic review should be addressed to the Chair of the EWG on Priorities and the JMPR Joint Secretariat according to the FAO Manual[1] and the considerations of the JMPR on pesticides no longer supported by the original sponsor.

81. For Case A and Case B, data should be submitted in accordance with the guidance of the JMPR for the respective cases.[5]

- In cases where some uses are not supported by the manufacturer, but are supported by members/observers:
- If the current GAP support the current CXL, justification for it as well as relevant labels are required;
- If GAP were modified, supervised residue trial studies conducted according to current GAP, and relevant studies to support new MRL in animal and processed foods are required.

5 Submission and evaluation of pesticide residues data for the estimation of maximum residue levels in food and feed, FAO Plant Production and Protection Paper, 197, 2009, ISBN 978-92-5-106436-8, EHC 240 and General Consideration, Section 2.1, Report of the 2012 JMPR

5.3 ELABORATION PROCEDURE

5.3.1 Utilisation of the Accelerated Procedure for Elaboration of MRL (Step 5/8-Procedure)

82. In order to accelerate the adoption of a proposed MRL, the CCPR can recommend to the CAC to omit Steps 6 and 7 and adopt the proposed MRL at Step 8. This procedure is called "Step 5/8-procedure". The preconditions for utilisation of Step 5/8 Procedure are:

a. The new proposed MRL is circulated at Step 3;

b. The JMPR report is available electronically by early February;

c. No intake concerns were identified by JMPR.

83. If a delegation has a concern with advancing a given MRL, a concern form in Annex A must be submitted following the procedure described in section "Procedure for submitting concerns and clarifications", at least one month before the CCPR session.

84. If that concern is addressed at the CCPR session and the JMPR position remains unchanged, the CCPR will decide if the MRL will be advanced to Step 5/8.

85. If the concern cannot be addressed at the CCPR session, the MRL will be advanced to Step 5 to the CCPR session and the concern will be addressed by the JMPR according to the procedure described in section "Procedure for submitting concerns and clarifications". Any other draft MRLs for the pesticide, satisfying the above conditions, should be advanced to Step 5/8.

86. The result of the consideration of the concern by the JMPR will be considered at the next CCPR session. If the JMPR position remains unchanged, the CCPR will decide if the MRL will be advanced to Step 8.

87. If either IEDI exceeds ADI or IESTI exceedsARfDin one or more cluster diets, or the ARfD is exceeded in one or more foods or feeds, the accelerated procedure shall not be applied and the procedure described in section "DIETARY INTAKE" applies (para 41).

5.4 REVOCATION OF CXLS

88. CXLs are proposed for revocation in the following scenarios:

a. As a result of the periodic review procedure including CXLs of pesticides that have not been reviewed for more than 25 years and are not supported by any member/observer;

b. Where new scientific data, following the JMPR risk assessment, indicate that the pesticide use may compromise human health;

c. The pesticide is no longer produced and commercialised, and there is no remaining stock;

d. The pesticide is produced but is not used in food or feed;

e. There is no international trade of foods or feeds in which the pesticide may have been used.

89. When a pesticide meets one or more of conditions (a-e), its CXL list will be included in the agenda for the next CCPR session for the Committee to consider a recommendation to the CAC for revocation of the CXL. Decisions of the CAC on revocation of CXL will take effect a year after the close of the session of the CAC where such decisions were made.

90. If a pesticide meeting the above stated conditions is environmentally persistent, the need for EMRLs to cover international trade should be considered before its CXLs are revoked. A member/observer should indicate the need to maintain CXLs for a period not exceeding four years. Within that period, members/observers will be requested to provide monitoring data to allow EMRLs to be established. CCPR will make a decision to establish EMLs when JMPR has evaluated monitoring data and all CXLs will be revoked.

5.5 PROCEDURE FOR SUBMITTING CONCERNS AND CLARIFICATIONS

5.5.1 Concerns with the advancement of an MRL or the evaluation of a pesticide

91. If members intend to express concerns with advancement of an MRL or the evaluation of a pesticide, they should complete and submit the concern form in Annex A to the Codex and JMPR Secretaries accompanied by scientific data at least one month before the CCPR session;

92. The JMPR will evaluate the scientific data provided with the concern form. The CCPR will decide whether JMPR should address the concern and schedule it based on the JMPR recommendations and workload.

93. When a concern form is not submitted one month prior to the CCPR session, the JMPR will consider the concern at a following meeting and the CCPR would subsequently decide on the status of the MRL.

94. When considering concerns expressed by members, CCPR should recognise the position taken by the JMPR as the best available scientific opinion (applicable at the international level) until and if a different position is indicated;

95. Science based concerns based on the same data/information should be considered only once by the JMPR in relationship to any specific pesticide, MRL or CXL.

96. If the same information is submitted, JMPR should simply note that this information has already been reviewed and therefore no further review is warranted.

5.5.2 Concerns with public health on previously evaluated pesticides

97. If members intend to express a public health concern on a previously evaluated pesticide for prioritisation, they should complete and submit the form in Annex B along with the accompanying relevant scientific information substantiating the concern to the Chair of EWG on Priorities and the JMPR secretaries, in accordance with "Selection of pesticides for JMPR evaluation" based on their potential higher concern regarding public health.

98. JMPR, in consultation with the EWG on Priorities, will consider whether the submitted information indicates some level of public health concern and present proposals at the subsequent CCPR session.

99. If the concern in regard to a pesticide is supported by CCPR, the pesticide will be assigned a high priority and scheduled for the next available year.

100. However, if a member or observer disagrees with the proposal by the EWG on Priorities, it must lodge additional scientific data to the Chair of the EWG on Priorities one month before the next CCPR session. At the following CCPR session, the EWG on Priorities will report its proposal. CCPR will make its final decision on prioritisation.

5.5.3 Request for Clarification

101. If members seek clarification on a pesticide, they must complete the form provided in Annex A and indicate the specific parts of the JMPR evaluation for which they seek clarification. Such requests must be included in the response to relevant Codex Circular Letters or other Codex papers. The JMPR will address such requests for clarification during the next JMPR meeting and provide a response to such requests by the following CCPR session. The CCPR will record any responses or changes in decisions made resulting from the request for clarification. Pending JMPR's respond to the request of the clarification, the MRL relevant to the request can proceed through the Codex 5/8 Step process for the elaboration of CXL.

5.5.4 Addressing differences in procedures for risk assessment

102. MRLs should not be prevented from advancement when there is a science-based concern regarding current JMPR risk assessment procedures that JMPR has addressed through the concern form process. However, where differences exist in procedures for risk assessment (i.e., use of variability factor, use of human studies) it is imperative that CCPR/JMPR attempt to address these differences in order to limit them where possible. Appropriate action by CCPR to address these issues may include referring the issue:

a. to JMPR if there is additional or new information, or if the CCPR wishes to provide risk management input to JMPR on the conduct of risk assessments;

b. to national governments or regional authorities for input with a discussion and decision at the next CCPR; and/or

c. where justified by its nature, to a scientific consultation if the resources are available. Members recommending any such action by CCPR should provide information supporting their recommendation for the consideration of the Committee.

6. RISK COMMUNICATION

103. In accordance with the *Working Principles for Risk Analysis for Application in the Framework of the Codex Alimentarius*, the CCPR, in cooperation with JMPR, shall ensure that the risk analysis process is fully transparent and thoroughly documented and that results are made available in a timely manner to members and observers.

104. In order to ensure the transparency of the assessment process in JMPR, the CCPR provides comments on the guidelines related to assessment procedures being drafted and published by JMPR.

105. CCPR and JMPR recognise that good communication between risk assessors and risk managers is an essential requirement for successfully performing their risk analysis activities.

106. CCPR and JMPR must continue to develop procedures to enhance communication between the two bodies.

Annex A

FORM FOR EXPRESING CONCERNS WITH ADVANCEMENT OF AN MRL OR REQUEST FOR CLARIFICATION OF CONCERNS

Submittedby:			
Date:			
Pesticide/PesticideCodeNumber	***Food/FoodCode Number***	***MRL (mg/kg)***	***Present Step***
Is this a request for clarification?			
Request for clarification (Specific statement of clarification requested)			
Isthis a concern?			
Is this a continuing concern?			
Concern (Specific statement of reason for concern to the advancement of the proposed MRL)			
Do you wish this concern to be noted in the CCPR Report?			
Data/Information (Description of each separate piece of data/information which will be provided to the appropriate JMPR secretary within one month of the CCPR meeting)			

Annex B

FORM FOR EXPRESING CONCERNS WITH PUBLIC HEALTH ON A PESTICIDE FOR PRIORITISATION OF PERIODIC REVIEW

Submittedby:		
Date:		
Pesticide/PesticideCodeNumber	***Food(s)/FoodCode Number(s)***	***CXL (mg/kg)***
Isthis a concern?		
The concern relates to which prioritisation criterion/criteria (Specific statement of concern)		
Is supporting data being provided?		
Data/Information (Description of each separate piece of data/information which is attached or will provided to the EWG Priorities and the appropriate JMPR Secretary within one month of the CCPR meeting)		
Is this a continuing concern?		
Outline ongoing concern and provide supporting data		

Annex C

PRINCIPLES AND GUIDANCE FOR APPLICATION OF THE PROPORTIONALITY CONCEPT FOR ESTIMATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES

1. Use of the concept for soil, seed and foliar treatments has been confirmed by analysis of residue data. Active substances confirmed included insecticides, fungicides, herbicides, and plant growth regulators, except desiccants.

2. The proportionality concept can be applied to data from field trials conducted within a rate range of between 0.3x and 4x the GAP rate. This is only valid when quantifiable residues occur in the dataset. Where there are no quantifiable residues, i.e. values are less than the limit of quantitation may only be scaled down. It is unacceptable to scale up in this situation.

3. The variation associated with residue values derived using this approach can be considered to be comparable to using data selected according to the ±25% rule for application rate.

4. Scaling is only acceptable if the application rate is the only deviation from critical GAP (cGAP). In agreement with JMPR practice, additional use of the ±25% rule for other parameters such as PHI is not acceptable. For additional uncertainties introduced, e.g. use of global residue data, these need to be considered on a case-by-case basis so that the overall uncertainty of the residue estimate is not increased.

5. Proportionality cannot be used for post-harvest situations at this time. It is also recommended that the concept is not used for hydroponic situations due to lack of data.

6. Proportionality can be applied for both major and minor crops. The main difference between minor and major crops is the number of trials required by national/regional authorities, which has no direct relevance to the proportionality of residues. If scaling is applied on representative crops, there is no identified concern with extrapolation to other members of an entire crop group or subgroup.

7. Regarding processed commodities, it is assumed that the processing factor is constant within an application rate range and resulting residues in the commodity being processed. Therefore existing processing factors can also be used for scaled datasets.

8. With respect to exposure assessments, no restrictions appear to be necessary. The approach may be used for distribution of residues in peel and pulp, provided the necessary information for scaling is available from each trial. Scaled datasets for feeds may also be used for dietary burden calculations for livestock.

9. The approach may be used where the dataset is otherwise insufficient to make an MRL recommendation. This is where the concept provides the greatest benefit. The concept has been used by JMPR and different national authorities on a case-by-case basis and in some cases MRLs may be estimated from trials where all of the data (100%) has been scaled.

10. Although the concept can be used on large datasets containing100% scaled residue trials, at least 50% of trials at GAP may be requested on a case-by-case basis depending for example on the range of scaling factors. In addition, some trials at GAP might be useful as confirmatory data to evaluate the outcome in cases where the uses result in residue levels leading to a significant dietary exposure.

APPENDIX XIV

QUESTIONS TO THE 2014 JMPR REGARDING THE ESTABLISHMENT OF MAXIMUM RESIDUE LIMITES FOR PESTICIDES FOR MINOR CROPS / SPECIALTY CROPS

(For Consideration by JMPR)

QUESTIONS

For setting MRL on minor crops, it is recognised that, due to lower importance in term of consumption, a lower number of trials than for major crops may be required.Therefore, CCPR requests JMPR to consider the followings:

1. Can JMPR agree to use the proposed approach as astarting point to set MRL on minor crops?
2. Under which condition JMPR qould consider these reduced numbers of trials to set MRL on minor crops?

In order to assist JMPR in the consideration of about the questions background information on the criteria, methodology and crop lists is provided in this Appendix.

BACKGROUND

Crops repartition to support the establishment of Codex MRLs for minor crops

1. For setting MRL on minor crops, it is recognised that, due to lower importance in term of consumption, a lower number of trials than for major crops may be required.

2. Since the Committee didn't agree on an international definition for minor crops, in order to assist member countries in identification of minor crops, it was considered appropriate to define criteria for use by CCPR and JMPR to determine the minimum number of trials necessary to support the establishment of MRLs for minor crops and to facilitate data submission to JMPR.

3. The Committee had agreed on 3 categories based on consumption levels (% of total daily consumption/capita) for which a lower number of trials than for major crops can be required.

4. A methodology was defined to assign crops to these categories. It is based on two tiers selection, the first tiers based on worldwide consumption and the second one on "local" consumption as defined in GEMS/Food clusters.

5. During its 44th session, the Committee proposed a minimum number of trials for each category:

- Category 1 - No data in FAO Stat and No GEMS/Food Cluster data: minimum of 3 trials
- Category 2 - < 0.5% worldwide and < 0.5% in all of the clusters: minimum of 4 trials
- Category 3 - < 0.5% worldwide and > 0.5% in one or more clusters: minimum of 5 trials

6. In any case, it is recommended to the data submitter to present as many trials as possible to establish robust MRL. These trials must be usable to make a recommendation according to the Good Agricultural Practice. It has to be pointed out that this minimum number of trials is a recommendation and that JMPR, based on expert judgment and practical situation of the submitted data, can require as many trials as necessary to constitute what can be considered a data set robust enough to set reliable MRL.

7. These minimum numbers of trials are only relevant to establish MRLs on individual crops. Group MRLs are not in the scope of this document. Furthermore, the use of monitoring data to set MRLs is not considered.

8. Based on this methodology, crops for which worldwide consumption values are above the threshold of 0.5% of the total daily consumption/capita are listed in Table 1. Crops for which worldwide consumption values are below this threshold of 0.5% enter the 3 above categories and are listed in Table 2.

9. These lists of crops were refined using national consumption data and on the request of member countries. On very specific cases, additional criteria were used considering seasonal crops that are major during part of the year and large portion instead of average consumption.

Table 1: List of crops for which consumption values are above the threshold of 0.5% worldwide total consumption.

CODEX CODE	Commodity	CODEX CODE	Commodity
001	**CITRUS FRUITS**	**012**	**FRUITING VEGETABLES OTHER THAN CUCURBITS**
FC 0003	Mandarin + mandarin-like hybrid	VO 0445	Peppers, sweet (incl. pim(i)ento) (bell pepper, paprika)
FC 0004	Orange, sweet, sour + orange-like hybrid	VO 0440	Egg plant (aubergine)
FC 0204	Lemon	VO 0448	Tomato
002	**POME FRUITS**	**013**	**LEAFY VEGETABLES**
FP 0226	Apple	**014**	**LEGUME VEGETABLES**
FP 0230	Pear	**015**	**PULSES (dry harvested)**
003	**STONE FRUITS**	VD 0071	Beans (dry) (Phaseolus spp)
FS 0013	Cherries	VD 0072	Peas (dry) (Pisum spp, Vigna spp)
FS 0014	Plum	VD 0541	Soya bean (dry) (Glycine spp)
004	**BERRIES AND OTHER SMALL FRUITS**	**016**	**ROOT AND TUBER VEGETABLES**
FB 0269	Grape	VR 0463	Cassava (Manioc, Tapioca)
FB 0275	Strawberry	VR 0508	Sweet potato
005	**ASSORTED (SUB)TROPICAL FRUITS - EDIBLE PEEL**	VR 0577	Carrot
FT 0305	Olive	VR 0589	Potato
006	**ASSORTED (SUB)TROPICAL FRUITS-INEDIBLE PEEL**	VR 0596	Sugar beet
FI 0327	Banana	VR 0600	Yams
FI 0354	Plantain	**017**	**STALK AND STEM VEGETABLES**
F10341	Kiwi Fruit	**020**	**CEREAL GRAINS**
009	**BULB VEGETABLES**	GC 0640	Barley
VA 0385	Onion, bulb	GC 0645	Maize (corn)
010	**BRASSICA**	GC 0646	Millet
VB 0041	Cabbage, head	GC 0649	Rice
011	**FRUITING VEGETABLES, CUCURBITS**	GC 0651	Sorghum (Chicken corn, Dari seed, Durra, Feterita)
VC 0046	Melons, except watermelon	GC 0654	Wheat

CODEX CODE	Commodity	CODEX CODE	Commodity
VC 0424	Cucumber	**021**	**GRASSES FOR SUGAR OR SYRUP PRODUCTION**
VC 0429	Pumpkins	GS 0659	Sugar cane
VC 0432	Watermelon		
022	**TREE NUTS**	**024**	**SEED FOR BEVERAGES AND SWEETS**
TN 0665	Coconut	SB 0716	Coffee beans
023	**OILSEED**	**027**	**HERBS**
SO 0495	Rapeseed	**028**	**SPICES**
OR 0696	Palm fruit (oil)	**057**	**DRIED HERBS**
SO 0702	Sunflower seed	**066**	**TEAS**
		DT 1114	Tea, green, black (black, fermented and dried)

Table 2: List of crops for which consumption values are below the threshold of 0.5% worldwide total consumption

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
		tier 1		tier 2		
001	**CITRUS FRUITS**					
FC 0005	Shaddock or pomelo + shaddock-like hybrid	1.351	0.1%	1	3	
FC 0205	Lime	N/A	N/A	N/A	1	
002	**POME FRUITS**					
FP 0227	Crab-apple	N/A	N/A	N/A	1	
FP 0228	Loquat (Japanese medlar)	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FP 0229	Medlar	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FP 0231	Quince	0.174	0.01%	0	2	
003	**STONE FRUITS**					
FS 0240	Apricot	0.953	0.1%	0	2	
FS 0245	Nectarine	5.486	0.4%	4	3	
FS 0247	Peach					
004	**BERRIES AND OTHER SMALL FRUITS**					
FB 0019	Vaccinium berries (incl. Bearberry) (excl blueberries)	0.242	0.02%	0	2	
FB 0020	Blueberries					see vaccinium berries
FB 0021	Currants, red, black, white	0.309	0.02%	0	2	
FB 0264	Blackberries	available under GEMS/FAO code 558: berries nes	N/A	N/A	2	
FB 0266	Dewberries, incl boysen- & loganberry	available under GEMS/FAO code 558: berries nes	N/A	N/A	2	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
FB 0267	Elderberries	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FB 0268	Gooseberries	0.057	0.004%	0	2	
FB 0271	Mulberries	available under GEMS/FAO code 558: berries nes	N/A	N/A	2	
FB 0272	Raspberries, red, black	0.195	0.01%	0	2	
FB 0273	Rose hips	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
005	**ASSORTED (SUB)TROPICAL FRUITS - EDIBLE PEEL**					
FT 0287	Barbados cherry (acerola)	5.43	N/A	N/A	2	National data, 1 country
FT 0289	Carambola (= star fruit)	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FT 0291	Carob (Locust Tree, St John's Bread)	0.068	N/A	N/A	2	no GEMS consumption data but FAO world production data/capita
FT 0292	Cashew apple	available under GEMS/FAO code 591: Cashewapple	N/A	N/A	2	
FT 0295	Date	2.249	0.1%	3	3	
FT 0297	Fig	0.305	0.02%	0	2	
FT 0300	Jaboticaba	N/A	N/A	N/A	1	
FT 0301	Jujube. Indian	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
FT 0302	Jujube. Chinese	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FT 0303	Kumquats	available under GEMS/FAO code 512: citrus fruit nes	N/A	N/A	2	
FT 0307	Persimmon, Japanese	1.137	0.1%	0	2	
FT 0309	Rose apple	11.4			2	National data, 1 country
FT 0312	Tree tomato	N/A	N/A	N/A	1	
006	**ASSORTED (SUB)TROPICAL FRUITS-INEDIBLE PEEL**					
FI 0326	Avocado	1.257	0.1%	0	2	
FI 0329	Breadfruit	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0331	Cherimoya	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0332	Custard apple	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0334	Durian	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0335	Feijoa (Pineapple guava)	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0336	Guava	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	Individual data provided in 2013

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
FI 0338	Jackfruit	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0339	Jambolan	N/A	N/A	N/A	1	
FI 0340	Java apple	N/A	N/A	N/A	1	
FI 0342	Longan	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0343	Litchi	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FI 0345	Mango	Individual data Gems Food 2006	< 0.5%	5	3	Individual data provided in 2013
FI 0346	Mangosteen	available under GEMS/FAO code 571: Mangoes. mangosteens. guavas	N/A	N/A	2	Individual data provided in 2013
FI 0350	Papaya	3.174	0.2%	3	3	
FI 0351	Passion fruit	available under GEMS/FAO code 9024/603: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0352	Persimmon, American	1.137	0.1%	0	2	
FI 0353	Pineapple	5.880	0.4%	6	3	
FI 0355	Pomegranate	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FI 0356	Prickly pear (Indian fig)	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
FI 0358	Rambutan	available under GEMS/FAO code 603/9024: Fruit. tropical fresh nes	N/A	N/A	2	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
FI 0359	Sapodilla	available under GEMS/FAO code 603/9024: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0360	Sapote, black	available under GEMS/FAO code 603/9024: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0364	Sentul	N/A	N/A	N/A	1	
FI 0365	Soursop (Guanabana)	0.134	N/A	N/A	2	National data, 1 country
FI 0367	Star apple	available under GEMS/FAO code 603/9024: Fruit. tropical fresh nes	N/A	N/A	2	
FI 0369	Tamarind (sweet)	available under GEMS/FAO code 619: fruit fresh nes	N/A	N/A	2	
009	**BULB VEGETABLES**					
VA 0380	Fennel, bulb	available under GEMS/FAO code 711: Anise. badian. fennel. corian and 463: Vegetables fresh nes	N/A	N/A	2	
VA 0381	Garlic	5.422	0.3%	1	3	
VA 0384	Leek	2.115	0.14%	1	3	
VA 0386	Onion, Chinese					
VA 0387	Onion, Welsh (Japanese bunching onion, multiplying onion)					
VA 0388	Shallot (i.e. dry harvested small onion)	2.115	0.14%	1	3	
VA 0389	Spring onion					
010	**BRASSICA**					
VB 0402	Brussels sprouts	1.18	N/A	N/A	2	National data 15 countries

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VB 0405	Kohlrabi	0.78	N/A	N/A	2	National data 4 countries
VB 0400	Broccoli	6.141	0.4%	3	3	
VB 0404	Cauliflower				3	
011	**FRUITING VEGETABLES, CUCURBITS**					
VC 0421	Balsam pear (Bitter cucumber, Bitter gourd, Bitter melon)	1.619	N/A	N/A	2	National data, 2 countries
VC 0422	Bottle gourd (Cucuzzi)	0.53	N/A	N/A	2	National data, 1 country
VC 0423	Chayote (Christophine)	1.325	N/A	N/A	2	National data, 4 countries
VC 0425	Gherkin	available under GEMS/FAO code 397:Cucumbers and gherkins	N/A	N/A	2	
VC 0427	Loofah, Angled (Sinkwa, Sinkwa towel gourd)	N/A	N/A	N/A	1	
VC 0428	Loofah, Smooth	N/A	N/A	N/A	1	
VC 0430	Snake gourd	N/A	N/A	N/A	1	
VC 0431	Squash, summer (courgette, marrow, zucchetti, zucchini)	available under GEMS/FAO code 394: pumpkins, squash and gourds			3	
012	**FRUITING VEGETABLES OTHER THAN CUCURBITS**					
VO 0444	Peppers, chilli	0.02	N/A	N/A	3	National data (20 countries)
VO 0442	Okra (Lady's finger)	2.388	0.2%	2	3	
VO 0443	Pepino (Melon pear, Tree melon)	N/A	N/A	N/A	1	
VO 0447	Sweet corn (corn-on-the-cob)	2.768	0.18%	3	3	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VO 0449	Fungi, edible (mainly wild, not including mushrooms)	1.142	0.1%	1	3	
VO 0450	Mushrooms (cultivated)					
013	**LEAFY VEGETABLES**					
VL 0269	Grape leaves	N/A	N/A	N/A	1	
VL 0460	Amaranth (Bledo)	Amaranthus caudatus available under GEMS/FAO code 9004/108: Cereals. nes	N/A	N/A	2	
VL 0464	Chard (silver beet)	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VL 0465	Chervil	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VL 0466	Chinese cabbage, type pak-choi	available under GEMS/FAO grouped with head cabbage	N/A	0	2	Head cabbage represent more than 80% of the group
VL 0467	Chinese cabbage, type pe-tsai	available under GEMS/FAO grouped with head cabbage	N/A	0	2	Head cabbage represent more than 80% of the group
VL 0469	Chicory leaves (sugar loaf)	available under GEMS/FAO code 372: Lettuce and chicory	N/A	N/A	2	
VL 0470	Corn salad (lambs lettuce)	0.132	N/A	N/A	2	National data, 1 country
VL 0472	Cress, garden	0.252	N/A	N/A	2	National data, 4 countries
VL 0473	Watercress	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VL 0474	Dandelion leaves	0.01	N/A	N/A	2	National data, 3 countries

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VL 0478	Indian mustard (Amsoi)	available under GEMS/FAO code 358: Cabbages and other brassicas	N/A	N/A	2	
VL 0479a	Japanese greens: Chrysanthemum leaves (Chrysanthemum spp)	0.56	N/A	N/A	2	National data, 1 country
VL 0479b	Japanese greens: Mizuna (Brassica rapa nipposinica)	N/A	N/A	N/A	1	
VL 0480	Kale (borecole, collards)	available under GEMS/FAO code 358: Cabbages and other brassicas	N/A	N/A	2	
VL 0481	Komatsuna	N/A	N/A	N/A	1	
VL 0482	Lettuce, head	8.241	0.5%	4	3	National Data (20 countries) suggest 50% each variety
VL 0483	Lettuce, leaf				3	
VL 0476	Endive	0.8	N/A	N/A	3	Individual data were submitted. European cluster might be above the threshold of 0.5%
VL 0485	Mustard greens	0.104	N/A	N/A	2	National data, 1 country
VL 0492	Purslane	0.067	N/A	N/A	2	National data, 2 countries
VL 0495	Rape greens	5.79	N/A	N/A	2	National data, 1 country
VL 0496	Rucola (arrugula, rocket salad, roquette)	0.23	N/A	N/A	2	National data, 4 countries
VL 0501	Sowthistle	N/A	N/A	N/A	1	
VL 0502	Spinach	4.776	0.3%	1	3	
VL 0505	Taro leaves	N/A	N/A	N/A	1	
VL 0506	Turnip greens (Namenia, Tendergreen)	N/A	N/A	N/A	1	
VL 0507	Kangkung (water spinach)	3.86	N/A	N/A	2	National data, 1 country

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VL 0510	Cos lettuce	4.218	N/A	N/A	2	National data, 1 country
014	**LEGUME VEGETABLES**					
VP 0061	Beans except broad bean & soya bean (green pods & immature seeds) (Phaseolus spp)	3.216	0.2%	1	3	No individual Data were submitted. however the consumption is very high for some countries
VP 0062	Beans, shelled (immature seeds)	3.216	0.2%	1	3	
VP 0063	Peas (green pods & immature seeds) (Pisum spp, Vigna spp)	3.014	0.2%	1	3	No individual Data
VP 0064	Peas, shelled (immature seeds) (Pisum spp, Vigna spp)	3.014	0.2%	1	3	
VP 0520	Bambara groundnut (immature seeds) (Voandzeia spp)	available under GEMS/FAO code 9016/203: Groundnuts and bambara Shelled/Bambara beans	N/A	N/A	2	
VP 0522	Broad bean (green pods & immature seeds) (Vicia spp)	0.485	0.03%	0	2	
VP 0523	Broad bean, shelled (immature seeds) (Vicia spp)					
VP 0541	Soya bean (immature seeds) (Glycine spp)	available under GEMS/FAO code 236: Soybeans	N/A	N/A	2	
VP 0542	Sword bean (young pods and bean) (Canavalia spp)	available under GEMS/FAO code 211: Pulses. nes	N/A	N/A	2	
VP 0553	Lentil (young pods) (Lens spp)	1.150	0.1%	1	3	
015	**PULSES (dry harvested)**					
VD 0523	Broad bean (dry) (Vicia spp)	1.049	0.1%	0	2	
VD 0524	Chick-pea (dry) (Cicer spp)	2.97	0.2%	1	3	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VD 0531	Hyacinth bean (dry) (Lablab spp)	available under GEMS/FAO code 211	0.1%	0	2	no individual data (pulse_nes)
VD 0537	Pigeon pea (dry) (Cajanus spp)	1.107	0.1%	0	2	
VD 0533	Lentil (dry) (Lens spp)	1.150	0.1%	1	3	
VD 0545	Lupin (dry) (Lupinus spp)	0.378	-	N/A	2	no GEMS consumption data but FAO world production data/capita
016	**ROOT AND TUBER VEGETABLES**					
VR 0469	Chicory, roots	0.111	0.01%	1	3	
VR 0494	Radish	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0497	Swede (rutabaga)	available under FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0498	Salsify (Oyster plant)	available under FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0504	Tannia (tanier, yautia)	0.118	0.01%	1	3	
VR 0505	Taro (dasheen, eddoe)	2.378	0.2%	6	3	
VR 0506	Turnip, garden	available under GEMS/FAO code 426: Carrots and turnips	N/A	N/A	2	grouped with carrot. no individual data. however turnip consumption are assumed to be very low compared to carrot's
VR 0573	Arrowroot	available under GEMS/FAO code 149: Roots and Tubers. nes	N/A	N/A	2	
VR 0574	Beetroot	0.98	N/A	N/A	2	National data 17 countries

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VR 0575	Burdock, greater or edible	0.855	N/A	N/A	2	National data, country
VR 0578	Celeriac	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0583	Horseradish	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0585	Jerusalem artichoke	available under GEMS/FAO code 149: Roots and Tubers. nes	N/A	N/A	2	
VR 0587	parsley. turnip-rooted	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0588	Parsnip	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0590	Radish, black	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VR 0591	Radish, Japanese (Chinese radish, Daikon)	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
017	**STALK AND STEM VEGETABLES**					
VS 0469	Witloof chicory (sprouts)	N/A	N/A	N/A	1	
VS 0620	Artichoke globe	0.485	0.03%	0	2	
VS 0621	Asparagus	2.417	0.2%	0	2	
VS 0622	Bamboo shoots	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VS 0623	Cardoon	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
VS 0624	Celery	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
VS 0626	Palm hearts	0.211	N/A	N/A	2	National data, 6 countries
VS 0627	Rhubarb	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
020	**CEREAL GRAINS**					
GC 0641	Buckwheat	0.133	0.01%	0	2	
GC 0643	Hungry rice (fonio)	0.074	0.005%	0	2	
GC 0644	Job's tears	adlay or Job's tears (Coix lacryma-jobi) available under GEMS/FAO code 9004/108: Cereals. nes	N/A	N/A	2	
GC 0647	Oats	0.760	0.05%	0	2	
GC 0648	Quinoa	0.026	-	-	2	no GEMS consumption data but FAO world production data/capita
GC 0650	Rye	1.842	0.1%	3	3	
GC 0653	Triticale	5.5	-	-	2	no GEMS consumption data but FAO world production data/capita
GC 0655	Wild rice	N/A	N/A	N/A	1	
021	**GRASSES FOR SUGAR OR SYRUP PRODUCTION**					
GS 0658	Sorgho or sorghum, sweet	N/A	N/A	N/A	1	
022	**TREE NUTS**					
TN 0295	Cashew nut	1.129	0.1%	1	3	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
TN 0660	Almonds	0.421	0.03%	0	2	
TN 0662	Brazil nut	0.022	0.001%	0	2	
TN 0664	Chestnuts	0.488	0.03%	0	2	
TN 0666	Hazelnut	0.146	0.01%	0	2	
TN 0669	Macadamia nut	available under GEMS/FAO code 434: Nuts. nes	N/A	N/A	2	
TN 0672	Pecan	available under GEMS/FAO code 434: Nuts. nes	N/A	N/A	2	
TN 0673	Pine nut	available under GEMS/FAO code 434: Nuts. nes	N/A	N/A	2	
TN 0675	Pistachio nut	0.168	0.01%	0	2	
TN 0678	Walnut	0.380	0.02%	0	2	
?	Arecanut	0.353	0.02%	0	2	No codex code found. But under the FAO code 236:Arecanuts
023	**OILSEED**					
SO 0090	Mustard seed	0.153	0.01%	0	2	
SO 0691	Cotton seed	5.875	-	0	2	expressed in raw commodities: standard industrial yield used. For cottonseed oil. a factor of 5 was applied from oil to seed: 1.175 x 5 = 5.875 g prod/hab/day
SO 0692	Kapok	0.145	-	-	2	no GEMS consumption data but FAO world production data/capita
SO 0693	Linseed (Flax-seed)	0.830	-	-	2	no GEMS consumption data but FAO world production data/capita

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
SO 0697	Peanut, shelled (groundnut)	6.077	0.4%	4	3	
SO 0698	Poppy seed	0.012	0.001%	0	2	
SO 0699	Safflower seed	0.045	0.003%	0	2	
SO 0700	Sesame seed	0.772	0.05%	0	2	
024	**SEED FOR BEVERAGES AND SWEETS**					
SB 0715	Cocoa beans	1.272	0.1%	0	2	
SB 0717	Cola nut	0.091	0.01%	0	2	
027	**HERBS**					
HH 0624	Celery leaves	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HH 0720	Angelica, including Garden Angelica	0.002	N/A	N/A	2	National data, 1 country
HH 0722	Basil	0.104	N/A	N/A	2	National data, 11 countries
HH 0723	Bay leaves	available under GEMS/FAO code 723: Spice. nes	N/A	N/A	2	
HH 0727	Chives	available under GEMS/FAO code 407: Leeks. other alliaceous veg	N/A	N/A	2	
HH 0730	Dill	available under GEMS/FAO code 723: Spice. nes	N/A	N/A	2	
HH 0731	Fennel	available under GEMS/FAO code 711: Anise. badian. fennel. corian and 463: Vegetables fresh nes	N/A	N/A	2	
HH 0733	Hyssop	N/A	N/A	N/A	1	
HH 0735	Lovage	N/A	N/A	N/A	1	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
HH 0736	Marjoram (incl Oregano)	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HH 0738	Mints	0.031	0.002%	0	2	
HH 0740	Parsley	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HH 0741	Rosemary	0.003	N/A	N/A	2	National data, 4 countries
HH 0743	Sage and related salvia species	0.01	N/A	N/A	2	National data, 4 countries
HH 0745	Savory, summer, winter	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HH 0749	Tarragon	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HH 0750	Thyme	available under GEMS/FAO code 723: Spice, nes	N/A	N/A	2	
HH 0751	Land cress	N/A	N/A	N/A	1	
028	**SPICES**					
HS 0624	Celery seed	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HS 0730	Dill seed	available under GEMS/FAO code 723: Spice, nes	N/A	N/A	2	
HS 0731	Fennel, seed	available under GEMS/FAO code 711: Anise, badian, fennel, corian and 463: Vegetables fresh nes	N/A	N/A	2	
HS 0771	Anise seed	0.181	0.01%	0	2	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
HS 0773	Caper buds	available under GEMS/FAO code 463: Vegetables fresh nes	N/A	N/A	2	
HS 0774	Caraway seed	available under GEMS/FAO code 711: Anise, badian, fennel, corian	N/A	N/A	2	
HS 0775	Cardamom seed	0.033	0.002%	0	2	
HS 0777	Cinnamon bark	0.061	0.004%	0	2	
HS 0778	Cloves. Buds	0.019	0.001%	0	2	
HS 0779	Coriander, seed	available under GEMS/FAO code 711: Anise, badian, fennel, corian	N/A	N/A	2	
HS 0780	Cumin seed	available under GEMS/FAO code 711: Anise, badian, fennel, corian	N/A	N/A	2	
HS 0782	Fenugreek, seed	available under GEMS/FAO code 723: Spice, nes	N/A	N/A	2	
HS 0783	Galangal, rhizomes	0.00005	N/A	N/A	2	National data, 1 country
HS 0784	Ginger, root	0.504	0.03%	0	2	
HS 0786	Juniper, berry	available under GEMS/FAO code 711: Anise, badian, fennel, corian	N/A	N/A	2	
HS 0787	Liquorice, roots	N/A	N/A	N/A	1	
HS 0788	Mace	available under GEMS/FAO code 702: Nutmeg. mace and cardamoms	N/A	N/A	2	

CODEX CODE	Commodity	Consumption weighted with population (g/hab/day)	% of total consumption	N° of Cluster > 0.5%	Consumption category	Comments
HS 0789	Nutmeg	available under GEMS/FAO code 702: Nutmeg. mace and cardamoms	N/A	N/A	2	
HS 0790	Pepper (black, white)	0.171	0.01%	0	2	
HS 0792	Pimento, fruit (allspice fruit)	available under GEMS/FAO code 689: Chillies and peppers, dry	N/A	N/A	2	
HS 0794	Turmeric, root	0.028	N/A	N/A	2	National data, 2 countries
HS 0795	Vanilla, beans	0.004	0.0002%	0	2	
057	**DRIED HERBS**					
DH 1100	Hops, dry	0.008	0.0005%	0	2	
066	**TEAS**					
DT 0446	roselle, dry	N/A	N/A	N/A	1	
DT 1110	camomile or chamomile	0.001	N/A	N/A	2	National data, 1 country
DT 1111	Lemon verbena (dry leaves)	N/A	N/A	N/A	1	
DT 1112	lime blossoms	N/A	N/A	N/A	1	
DT 1113	mate (dry leaves)	0.335	0.02%	0	2	

Annex: Methodology

Tiers 1 Calculation

1. Tier one ranking was calculated from GEMS/Food Cluster Diet as follow:

2. Items from the same origins were grouped together. Basic grouping was proposed to have only one item per crop if possible, which is more in line with the process of MRL setting and residue trials, for example all commodities containing wheat and wheat extracts were tentatively grouped together.

3. For each country, consumption data (GEMS/Food five years average: 2002-2007) were compiled in accordance with the predefined list for each group of commodities, the corresponding consumption value were added.

4. Then, each compiled consumption value was weighed with the corresponding country population and divided by the world population. The resulted sum for each commodity consequently simulates better the relative importance of each commodity in the world and was considered to fit better with the tier 1 approach.

5. Hence, for each commodity, the following calculation was realised:

$$\%_i = \left(\frac{\sum^c \frac{\text{consumption}_{i,c} \text{ x } \text{population}_c}{\text{population}_w}}{\sum_c \frac{\text{total consumption}_c \text{ x } \text{population}_c}{\text{population}_w}} \right) \text{x } 100$$

- $\%_i$: percentage of the commodity "i" in worldwide
- $\text{consumption}_{i,c}$: consumption of the commodity "i" in the corresponding country "c" (g/hab/day):
- $\text{total consumption}_c$: total consumption (including sugars, beverages and commodities from animal origins, etc.) in the corresponding country "c" (g/hab/day):
- population_c: population in the country "c" (hab)
- population_w: world population (hab)

Tiers 2 calculation

6. Tier 2 focuses on different existing consumption profiles within each cluster. Indeed a crop considered of minor importance calculated on a world basis could be of relative high importance in a national diet (depending on the quantity and variety of crops or commodities consumed in the country).

7. The clustering system gathers together similarities between diets and gets a good overview of consumption profiles in the world. Nevertheless, in order not to influence excessively the results by a high local consumption inside a cluster, and in addition since a very local consumption is in all likelihood not the commodity the most subjected to international trade and consequently for which a CXL is required, each country consumption was weighted by its population inside its cluster to get a better consumption profile of the cluster. This better takes into account the real number of consumer within each cluster.

8. Hence, for each commodity and each cluster, the following calculation was realised:

$$\%_j = \left(\frac{\sum c \frac{consumption_{j,c} \times population_c}{population_z}}{\sum c \frac{total\ consumption_c \times population_c}{population_z}} \right) \times 100$$

- $\%_j$: percentage of the commodity "j" in the cluster
- $\text{consumption}_{j,c}$: consumption of the commodity "j" in the corresponding country "c" (g/hab/day):
- $\text{total consumption}_c$: total consumption (including sugars, beverages and commodities from animal origins, etc.) in the corresponding country "c" (g/hab/day):
- population_c: population in the country "c" (hab)
- population_z: total population in the cluster (hab)

APPENDIX XV

CCPR SCHEDULE AND PRIORITY LISTS

TABLE 1: CCPR SCHEDULE AND PRIORITY LISTS OF PESTICIDES (NEW COMPOUNDS, NEW USES AND OTHER EVALUATIONS)

(For Adoption)

2015 JMPR - NEW COMPOUND EVALUATIONS – PROPOSED SCHEDULE				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Acetochlor (999) (herbicide) USA [Monsanto]	Acetochlor	Registered MRLs > LOQ	Corn, field, forage; corn, field, grain; corn, field, stover; corn, pop, grain; corn, pop, stover; corn, sweet, forage; corn, sweet, kernels plus cob with husks removed; corn, sweet, stover; cotton, gin by-products; cotton, undelinted seed; sorghum, forage; sorghum, grain, grain; sorghum, grain, stover; soybean, meal; soybean, seed; beet, sugar, dried pulp; beet, sugar, molasses; beet, sugar, roots; beet, sugar, tops; peanut; peanut, hay; peanut, meal For crops planted in rotation which are included in a crop group tolerance or which have a stand-alone tolerance in the USA: Rice, grain; rice, straw; wheat, forage; wheat, hay; wheat, wheat, grain; alfalfa, forage; alfalfa, hay; clover; potatoes; sunflower seed	Corn, field, forage; corn, field, grain; corn, field, stover; corn, pop, grain; corn, pop, stover; corn, sweet, forage; corn, sweet, kernels plus cob with husks removed; corn, sweet, stover (21 total); gin by-products; cotton, undelinted seed (13 total); sorghum, grain forage; sorghum, grain, grain; sorghum, grain, stover (13 total); soybean, meal; soybean, seed (21 total); beet, sugar, dried pulp; beet, sugar, molasses; beet, sugar, roots; beet, sugar, tops (15 total); peanut; peanut, hay; peanut, meal (13 total) For crops planted in rotation which are included in a crop group tolerance or which have a stand-alone tolerance in the USA: rice, grain; rice, straw; wheat, forage; wheat, hay; wheat, straw; wheat, grain; alfalfa, forage; alfalfa, hay (11); clover (10); potatoes (10); sunflower seed (8); dried beans (9)
Cyazofamid (999) (fungicide) [Ishihara Sangyo Kaisha] USA	Cyazofamid	Registered MRLs > LOQ	Hops; potato; tomato; grape; cucurbits; carrots; brassica vegetables; okra; spinach; other fruiting vegetables; leafy vegetables US add on: Basil; succulent bean*; succulent shelled bean*; chives**; lettuce; spinach US registration date: 02/07/13 – pending registration	USA/Canada: potato (27); tomato (35); cucurbits (11); cucumber (11); muskmelon (9); summer squash; grape (3-USA) (1-Argentina); (10-EU) (1-Mexico); pepper (9-bell and non-bell); carrot (14); broccoli (6); cabbage (9); mustard greens (9); spinach (10); hops (3) Basil (6); succulent bean (8); succulent shelled bean (8); chives (9); lettuce (21); spinach (10)

2015 JMPR - NEW COMPOUND EVALUATIONS – PROPOSED SCHEDULE				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Fenazaquin (999) (insecticide) [Gowan company] USA	Fenazaquin	Registered MRLs > LOQ	Alfalfa; apples; apricots; berries; citrus; cotton; cucurbits (cucumbers, melons, zucchini, squash, pumpkin); eggplant; grapes; hops; nectarines; peaches; pears; peppers; pineapples; plums; prunes; strawberries; tea; tomatoes; tree nuts; zucchini	Cucurbits (cucumbers – 6; cantaloupe – 6; zucchini squash – 5); stone fruit (sweet cherries – 3; sour cherries – 3; peach – 9; plum – 6); fruiting vegetable (tomato – 12; bell peppers – 6; chili peppers – 3); strawberries – 8; tree nuts (pecan – 5; almond – 5); berries (blueberry – 6; raspberry – 5); Hops – 3; mint (spearmint – 1; peppermint – 4); alfalfa – 4; corn (field, sweet) – 24; cotton – 12; bean (edible podded legumes – 9; succulent shelled pea & bean – 11; dried shelled pea & bean – 14); grape – 12; avocado – 5; citrus (orange – 12; lemon – 5; grapefruit – 6)
Flonicamid (999) (insecticide) [Ishihara Sangyo Kaisha] USA	Flonicamid	Registered MRLs > LOQ	Cucurbit, vegetables; fruiting vegetables; leafy vegetables; pome fruit; potato; stone fruit; head/stem brassica; mustard greens; brassica leafy greens; root vegetables; radish tops; tuberous/corm vegetables; hops; okra; cottonseed; hops US add on: Bean, dry and succulent**; canola; mint*; strawberry US registration date: 02/14– pending registration	USA/Canada: peach (9); cherry (6); plum (6); apple (12); pear (6); cucumber (6); cantaloupe (6); summer squash (5); tomato (21); bell pepper (6); non-bell pepper (3); broccoli (6); cabbage with wrapper leaves (6); cabbage without wrapper leaves (6); mustard greens (5); head lettuce with wrapper leaves (6); head lettuce without wrapper leaves (6); leaf lettuce (6); celery (6); spinach (6); potato tubers (17); carrot roots (8); carrot roots (2); radish roots (5); radish tops (5); dried hop cones (3) Bean, dry (12); canola (8); mint (5); strawberry (8)
Fluazifop-p-butyl (herbicide) [Syngenta] (999) Switzerland moved from 2014	Fluazifop-p-butyl	Registered MRsL > LOQ	Oil seed rape; soybean; dry beans; cotton; potato; sweet potato; sugar beets; citrus fruits; pome fruit; stone fruit; grapes; tree nuts; onion (could include bulb veg); cabbage; carrots; vegetables; bananas; coffee bean; (palm oil) US Add-ons: Lettuce**; rhubarb**; caneberry**; blueberry** Pending registration Brasil - sugarcane; sunflower; cotton seeds; potato; broccoli; onion; soya; tomato Animal feeding study data to support MRLs in animal commodities given use of cotton seed, rape seed and soybeans or their by-products as animal feeds	Soybean (20); dry bean (12); oil seed rape (12); cotton (6); potato (16); sweet potato (6); carrots (12); onion (12); sugar beet (16); sugar cane (4); citrus fruit (16); pome fruits (16); stone fruit (16); grape (16); cabbage/brassica (12); lettuce (6); coffee (6); tree nutspecan (12); palm oil (4); tomato (16); asparagus (6); banana (10); cucumber/cucurbit (12) Lettuce (26); rhubarb (2); caneberry (6); blueberry (9); coffee (2) Animal feeding study data to support MRLs in animal commodities Brasil - sugarcane; sunflower; cotton seeds; potato; broccoli; onion; soya; tomato

2015 JMPR - NEW COMPOUND EVALUATIONS – PROPOSED SCHEDULE				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Flupyradifurone (insecticide) (999) [Bayer CropScience] Germany	Flupyradifurone	Registered; MRLs > LOQ	Citrus fruit; table and wine grapes and small berries (including blueberry); pome fruit; tree nuts; hops; fruiting and brassica vegetables; lettuce; potatoes; sugar beets; onions; cereals; coffee; soya and cotton US Add-ons:prickly pear cactus	Citrus fruit (54); table & wine grapes & small berries (78); pome fruit (39); tree nuts (10); hops (11); fruiting vegetable, cucurbits (89); fruiting vegetables other than cucurbits (96); brassica vegetables (56); leafy vegetables including brassica leafy vegetables (76); legume vegetables (52); root and tuber vegetables (43); onions (18); cereals (107); coffee (18); soya and cotton (44) Prickly pear cactus (8); blueberry (26)
Flumioxazin USA (herbicide) [Sumitomo] (999)	Flumioxazin	Registered MRLs > LOQ	Alfalfa; artichoke; asparagus; bushberry subgroup; cabbage and Chinese cabbage; cactus; corn; cotton; fish, freshwater; fruit, pome; fruit, stone; garlic; grape; hop; leaf petiole subgroup 4B; nut, tree; okra; olive; onion, bulb; pea and bean; dried shelled, except soybean; peanut; peppermint; pistachio; pomegranate; rapeseed subgroup 20A; shallot bulb; soybean; spearmint; strawberry; sugarcane; sunflower (subgroup 20B); vegetable; cucurbit; group 9; vegetable, fruiting; group 8; vegetable, tuberous and corm subgroup 1C (potato); wheat US add ons: broccoli**; caneberry**; prickly pear cactus Pending registration	Alfalfa: 13; artichoke: 3; asparagus: 8; bushberry subgroup: 5 (blueberry); cabbage and Chinese cabbage: 8; cactus: 2; corn: 21; cotton: 13; freshwater fish: 1 (catfish); 1 (bluegill sunfish); fruit, pome 12 (apple), 6 (pear); fruit, stone 9 (peach), 6 (plum), 6 (cherry); garlic: 9 (dry bulb onion); grape: 13; hop: 3; leaf petiole subgroup 4B; 8 (celery); nut, tree: 5 (pecan), 5 (almond); Okra: included in vegetable, fruiting, group 8; olive: 5; onion, bulb: 9; pea and bean, dried shelled, except soybean: 6 (dry pea), 12 (dry bean); peanut: 16; peppermint: 6; pistachio: 5 (almond); pomegranate: 3; rapeseed subgroup (canola): 8; shallot bulb: 9 (dry bulb onion); soybean: 42; spearmint: 6; strawberry: 8; sugarcane: 9; sunflower (subgroup 20B): 8; vegetable, cucurbit, group 9: 8 (cantaloupe), 8 (squash), 8 (cucumber); vegetable, fruiting, group 8: 12 (tomato), 9 (bell and non-bell pepper); vegetable, tuberous and corm subgroup 1C (potato): 14; wheat: 3 (pre-emergent), 20 (foliar) Broccoli (10); caneberry (8); prickly pear cactus (3)
Lufenuron (999) (insecticide) Brasil [Syngenta] **RESERVE**	Lufenuron	Registered MRLs > LOQ	Soybean; citrus; pome fruit; stone fruit; grapes; fruiting vegetables; melon; cucumber/squash; flowering brassica; head brassica; leafy vegetables; cotton; potato; sunflower; sugarcane; corn; wheat; rice; coffee	Soybean (8); citrus (18); pome fruit (16); stone fruit (16); fruiting vegetables (tomato, pepper) (21); melon (8); cucumber/squash (9); flowering brassica (16); head brassica (8); leafy vegetables (lettuce) (16); cotton (4); potato (4); sunflower (4); sugarcane (4); corn (4); wheat (4); coffee (4); rice (4); tea (4)

2015 JMPR - NEW COMPOUND EVALUATIONS – PROPOSED SCHEDULE				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Phosphorous acid (fungicide) [Nufarm] Australia (999) **RESERVE**	Phosphorous acid fosetyl-aluminium [Bayer CropScience]	Registered MRLs > LOQ	Grapes US add on: Citrus Post harvest	To be advised Citrus (8)
Quinclorac (999) (herbicide) USA [BASF]	Quinclorac	Registered MRLs > LOQ	Barley; canola; cranberry; rhubarb; rice; sorghum; wheat; and animal feed items	Barley (5); canola (23); cranberry (5); rhubarb (4); rice (40); sorghum (24); wheat (67); and animal feed items (13)

2015 JMPR - NEW USES AND OTHER EVALUATIONS – PROPOSED SCHEDULE			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
	2,4-D (020) [Dow AgroSciences] moved from 2012 on request	New GAP for soya bean	Soya bean (24)
	Acetamiprid (246) [Nippon Soda]	Fruiting vegetables other than cucurbits, China (tomatoes and cucumbers); seed spices [HS 190]; fruit and berry spices [HS 191] (India); pistachio (Iran); US Add-ons: Mustard greens; sweet corn; aspargus	Mustard greens (8); sweet corn (8); aspargus (8)
	Bifenthrin [FMC] (178)	Strawberry; mango – authorised GAP US Add-ons: Chives; head lettuce; spinach; celery; snap bean; pea; lima bean; blueberry; grape; basil; artichoke	Strawberry; mango – (authorised GAP) Chives (3); head lettuce(6); spinach (5); celery (12); snap bean (6); pea (6) lima bean (7); blueberry (9); grape (7); basil (2); artichoke (2)

2015 JMPR - NEW USES AND OTHER EVALUATIONS – PROPOSED SCHEDULE			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
Moved from 2014 to allow JMPR to conduct one evaluation for all commodity requests.	Chlorothalonil [Syngenta] (81) (4 year rule)	Carrot; cherry; cranberry; bulb onion; peach; sweet and chilli pepper; tomato; common beans; asparagus Blueberry USA; apple and pear (KOREA) US Add-ons: radish (root veg)**; ginseng; horseradish; rhubarb; mustard greens**; pepper (bell); pepper (NB); orange**; lemon**; grapefruit (citrus fruit)**; almond; pistachio; mushroom; guava**; lychee**; mango; papaya; persimmon - **not submitted Brasil - coffee; mango; citrus; watermelon; soya; potato	Cherry (12); peach (12); bulb onion (8); sweet pepper (8); tomato (24); asparagus (8); cranberry (6); blueberry (8); radish (7); ginseng (5); horseradish (3); rhubarb (4); mustard greens (9); pepper (bell) (9); pepper (NB) (8); orange (12); lemon (5); grapefruit (6); almond (5); pistachio (3); mushroom (3); guava (5); lychee (4); mango (4); papaya (4); persimmon (2) Apple, 6 (KOREA); pear 6 (KOREA), Brasil - coffee; mango; citrus; watermelon; soya; potato
	Cyantraniliprole (263) [DuPont] USA	Cucumber; carrot; radish; legumes (succulent and dried); green beans; peas; maize; strawberries; artichokes; tobacco; peanuts; soybeans Potato; coffee; citrus; oil seeds; grapes; olives; sunflower; pomegranate; green beans; rice and tree nuts	Carrots (42 trials); brussels sprouts (10 trials); beans without pods (16 trials); peas without pods (16 trials); cucumber (greenhouse – 5 trials); cherries (14 trials); strawberries (28 trials); peanuts (13 trials); soybeans (21 trials); maize (23 trials); artichokes (6 trials)
	Cyprodinil (207) [Syngenta]	Rapeseed / Canola - MRL > LOQ Brasil - cotton; potato; citrus; sunflower; apple; soya	Rapeseed / Canola (16); Brasil - cotton; potato; citrus; sunflower; apple; soya
	Lambda-cyhalothrin (146) [Syngenta]	Basil (Thailand); Brasil - pineapple; coffee	Brasil - pineapple; coffee
	Carbofuran (145) FMC	Seed spices [HS 190]; fruit and berry spices [HS 191] (India)	
	Dicamba USA [Monsanto] (240)	Cotton – undelinted seed; cotton – gin by-products	Cotton (13)

2015 JMPR - NEW USES AND OTHER EVALUATIONS – PROPOSED SCHEDULE			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
	Difenoconazole (224) [Syngenta] USA	Papaya (Kenya); Canada – rapeseed / canola US Add-ons: Almond; soybean 13-07G. Low growing berry subgroup **-** Bearberry; bilberry; blueberry; lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; strawberry; cultivars, varieties, and/or hybrids of these Brasil - avocado; cotton seeds; peanut; rice; coffee; watermelon	Rapeseed / canola (13) Almond (5); soybean (20); strawberry (9) Brasil - avocado; cotton seeds; peanut; rice; coffee; watermelon
	Fluopyram [Bayer CropScience] (243)	Grapes; berries and small fruits; artichoke; tuber vegetables; leek; plum; tomato/aubergine; onion; peppers; cucumber; melon; chicory; beans); peas; maize; wheat & barley; soya bean; cotton; Peanut	Grapes; berries and small fruits (36 trials); artichoke (4); tuber vegetables (16); leek (20); plum (21); tomato/aubergine (12); onion (16); peppers (9); cucumber (8); melon (9); chicory (8); beans (9); peas (12); maize (16); wheat & barley (44); soya bean (21); cotton (11); Peanut (12)
	Flutriafol USA [Cheminova] (248)	Pears; peach/nectarine; plum; cherry; sugar beet; rice; strawberry; almond; pecan; tomato; cucumber; muskmelon; summer squash	Pears (6); peach/nectarine (12); plum (8); cherry (16); sugar beet (12); rice (8); strawberry (10); almond (5); pecan (5); tomato (19); cucumber (9); muskmelon (8); summer squash (8)
	Fluxapyroxad USA [BASF] (256)	Tree nuts; berries and small fruit; grape; strawberry; bulb vegetables; brassica, leafy and head and stem, cucurbits; leafy vegetables (lettuce, spinach, celery); root and tuber vegetables (radish, carrot); cereal grains; grasses for sugar production (sugar cane); sorghum	Tree nuts (almond (5), pecan (5)); berries and small fruit (blueberry (6), blackberry (1), raspberry (2)); grape (12); strawberry (8); bulb vegetables (green onion (3); dry bulb onion (6)); brassica (broccoli (6); cabbage (6); mustard greens (5)); cucurbits (cucumber (6); cantaloupe (6); summer squash (5)); leafy vegetables (head lettuce (6), leafy lettuce (6), spinach (6), celery (6)); root and tuber vegetables (radish (5), carrot (7)); cereal grains (rice (16)); sorghum (9); grasses for sugar production (sugar cane (8))
	Imazapic (266), imazapyr (267) [BASF] Australia	Soya bean	
Moved from 2014	Imidacloprid (206) [Bayer CropScience]	Stone fruit; olive; tea; Chinese cabbage; kale; pistachio (Iran); seed spices [HS 190]; fruit and berry spices [HS 191] (India), Goji (China), Basil (Thailand)	Stone fruits (40); olive (28); tea (8); Chinese cabbage and kale (4)

2015 JMPR - NEW USES AND OTHER EVALUATIONS – PROPOSED SCHEDULE			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
	Methoxyfenozide [Dow AgroScience] (209)	Fruiting vegetables / cucurbits, spring onion	
	Pyrimethanil [Bayer CropScience] (226)	Blueberry; blackberry; raspberry; cucumber	Blueberry (8); blackberry (3); raspberry (2); cucumber
	Spirotetramat [Bayer CropScience] (234) USA	Avocado; guava; sweet corn US Add ons: Artichoke; blueberry; coffee; cranberry; onion, green onion; pineapple; pomegranate; watercress	Avocado (5); guava (4); sweet corn (7) Artichoke (5); blueberry (11); coffee (5); cranberry (6); onion (12); green onion (5); pineapple (5); pomegranate (4); watercress (3)
	Tebuconazole (189) [Bayer CropScience] USA	China (banana and cucumber); lettuce head – Ginseng (KOREA); US Add-ons:sunflower; aspargus; onion, bulb; onion, green; garlic	Ginseng (6); sunflower (7); aspargus (8); onion, bulb (8); onion, green (3); garlic (9)
	Trifloxystrobin [Bayer CropScience] (213)	Lentils; chick pea; beans; peas; soya beans	Beans (9); peas (9); soya beans (24);
Spices [India]	Spices [India]	Cardamon – cypermethrin (118); lambda-cyhalothrin (146); profenofos (171); triazophos (143) Black Pepper – profenofos (171); ethion (34); triazophos (143) Cumin – phorate (112); profenofos (171); dithiocarbamates (50 and 105); Curry leaves – profenofos (171); chorpyrifos (17); cypermethrin (118); methyl parathion (59); triazophos (143); ethion (34); bifenthrin (178)	Monitoring data

2016 JMPR- NEW COMPOUND EVALUATIONS – PRIORITY LIST				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Acibenzolar-S methyl (999) (fungicide) [Syngenta] New Zealand	Acibenzolar-S methyl	Registered	Kiwifruit	Awaiting advice
Bixafen (Tox 2013)	Bixafen [Bayer CropScience] (262)	Registered	To be advised	
Cyclaniliprole [Ishihara Sangyo Kaisha] USA (999) (insecticide)	Cyclaniliprole	Not Registered MRLs > LOQ	Potato; broccoli; cabbage; mustard green; brussels sprout; kale; cauliflower; soybean, dried; soybean, immature (with pods); tomato; pepper; apple; pear; cherry; peach; plum; apricot; plum; nectarine; almond hulls; almond; pecan; lettuce, head; lettuce, leaf; spinach; grape; cucumber; muskmelon; summer squash; tea	Potato (8); broccoli (21); cabbage (34); mustard green (5); brussels sprout (6); kale (4); cauliflower (8); soybean, dried (6); soybean, immature (with pods) (3); tomato (53); pepper (36); apple (46); pear (16); cherry (17); peach (24); plum (26); apricot (6); plum (26); nectarine (2); almond hulls (5); almond (5); pecan (5); lettuce, head (9); lettuce, leaf (11); spinach (9); grape (43); cucumber (9); muskmelon (10); summer squash (9); tea (6)
Ethiprole (insecticide) [Bayer CropScience] – Germany (999)	Ethiprole	Registered MRLs > LOQ	Coffee; corn/maize; rice; soybean and food of animal origin	Coffee (15); corn/maize (10); rice (12); soybean (10)
Imazethapyr BASF – USA (999) (herbicide)	Imazethapyr	Registered? Yes MRLs > LOQ? Yes	Alfalfa; canola; clover; corn; lentils; peanut; fresh peas; dry peas; fresh beans; dry beans; rice; soybean; sunflower Canada Rapeseed/canola	Alfalfa (35); canola (11); clover (12); corn (35); lentils (10); peanut (12); fresh peas (22); dry peas; (26); fresh beans (6); dry beans (14); rice (19); soybean (32); sunflower (5); rapeseed/canola (trials?)

2016 JMPR- NEW COMPOUND EVALUATIONS – PRIORITY LIST				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Isofetamid [Ishihara Sangyo Kaisha] USA (999) (fungicide)	Isofetamid	Not Registered MRLs > LOQ	Lettuce; apricot; cherry; peach; plum; grape; strawberry; almond; canola/oilseed rape	Lettuce (49); apricot (8); cherry (8); peach (8); plum (12); grape (40); strawberry (33); almond (5); canola/oilseed rape (24)
MCPB [Nufarm] – USA Herbicide (999)	MCPB	Registered – yes MRLs > LOQ – No	Peas (fresh and dried)	Peas (fresh and dried) – 8 US trials 8 EU trials
Norflurazon (herbicide) (999) [Syngenta] –USA moved from 2014	Norflurazon	Registered MRLs > LOQ	Almond; apple; apricot; asparagus; avocado; blackberry; blueberry; cranberry; cherry (sweet and tart); citrus fruits group; cottonseed; grape; hazelnut; hops; nectarine; peach; peanut; pear; pecan; plums and prunes; raspberry; soybean; and walnut	Almond: 7; apple: 8; apricot: 2; asparagus: 6; avocado: 3; blackberry: 1; blueberry: 6; cranberry: 5; cherry: 3; citrus fruits: 8; cottonseed: 10; filberts: 3; grapes: 14; nectarine: 2; peach: 4; peanut: 10; pear: 4; pecans: 4; plums: 6; raspberry: 6; soybeans: 22; walnuts: 2
Oxathiapiprolin [Du Pont] – USA (fungicide) (999) **RESERVE (possible 2nd 2015 meeting)**	Oxathiapiprolin	Registered - No MRLs > LOQ	Grapes; potato; dry bulb onion; green onion; tomato; bell pepper; non-bell pepper; courgette; cucumber; melon; summer squash; cantaloupe; broccoli; cauliflower; head cabbage; lettuce; spinach; succulent peas; ginseng; and tobacco	Grapes (16); potato (40); dry bulb onion (12); green onion (5); tomato (37); bell pepper (12); non-bell pepper (6); courgette (18); cucumber (16); melon (17); summer squash (10); cantaloupe (12); broccoli (6); cauliflower (4); head cabbage (10); lettuce (40); spinach (10); succulent peas (12); ginseng (4); and tobacco (6)
Pinoxaden [Syngenta] Switzerland (herbicide) (999)	Pinoxaden	Registered MRLs > LOQ	Wheat; barley	Wheat (60); barley (60)

2016 JMPR- NEW COMPOUND EVALUATIONS – PRIORITY LIST				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Pendimethalin (herbicide) BASF – USA (999)	Pendimethalin	Registered? y MRLs > LOQ? Most	Leafy Lettuce; leafy brassica (mustard greens, kale); alfalfa and grass hay; fresh legumes/dry pulses; citrus; tree nuts; carrot/other root and tuber; bulbs: onion; dry and green onion; asparagus; leeks; celery	Leafy brassica (kale)(7); alfalfa (23); grass hay (12); fresh legumes/dry pulses (21); citrus (13); tree nuts (5); carrot (16); celeriac (5); green onion (3); asparagus (4); leeks (7); celery (11) US Data: Leafy lettuce (9); leafy brassica (mustard greens (9); grass hay (8); citrus (16); tree nuts (23); carrot (10); green onion and onion (13); asparagus (6)
Pyrifluquinazon (999) (insecticide) [Nihon Nohyaku] Japan	Pyrifluquinazon **[moved from 2015 at the request of manufacturer]**	Registered Japan; KOREA	Citrus; pome fruits; potatoes; stone fruits; grapes; tree nuts; melons; tea; grapes (table grapes, raisins, wine); fruiting vegetables, cucurbits; cotton; leafy vegetables; brassica leafy and head/stem vegetables	Almonds (10); pecans (10); grape (table) (24); raisin, juice (if MRL not included under table grape); plum (18); peach (24); cherry (16); apple (24); pear (12); lemon (10); grapefruits (12); oranges (24); cantaloupe (12); cucumbers (14); summer squash (10); peppers (24); tomatoes (28); cauliflower/broccoli (12); cabbage (16); potatoes (33); cotton seed (24); tea (6) and corresponding animal commodity MRLs
Spiromesifen Germany [Bayer CropScience] (insecticide) (999) **RESERVE (possible 2nd 2015 meeting)**	Spiromesifen	Registered MRLs > LOQ	Legume vegetables (beans/peas (dry, succulent, edible podded); leafy vegetables (head lettuce, leaf lettuce, spinach, celery); brassica vegetables (broccoli, cabbage, mustard, green); root and tuber vegetables (potato); fruiting vegetables (tomato, bell pepper, chili pepper); cucurbits (cucumber, melon, summer squash); pulses; (beans dry, peas dry); cereals (wheat, maize, sweet corn, field corn, popcorn); oilseeds (cotton); berries (strawberries); tea, coffee, herbal infusions and cocoa (tea, coffee); tropical fruits (papaya, passion fruit); herbs; rotational crops (alfalfa, barley, oat, sugar beet, bulb vegetables (Welsh / green onions, wheat)	Legume vegetables (27); leafy vegetables (26); brassica vegetables (21); root and tuber vegetables (16); fruiting vegetables (67); cucurbits (34); pulses (19); cereals (88); oilseeds (15); berries (16); tea (8); coffee (10); herbs (5); tropical fruits (9); rotational crops (66)

2016 JMPR - NEW USES AND OTHER EVALUATIONS – PRIORITY LIST			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
	Azoxystrobin (229) [Syngenta] – Uganda	Uganda: pineapple (or passion fruit); Tanzania: guava; Egypt or Morocco: olive; Indonesia: dragon fruit (this needs to be moved from 2013 to 2016)	
	Bixafen [Bayer CropScience]	FAO followup evaluation to consider rotational crop scenario	
	Chlorantraniliprole (230)	Philippines – pineapple	
	Deltamethrin (135) [Bayer CropSciences] - Canada	Rapeseed/canola – MRL > LOQ	Rapeseed/canola (13 trials)
	Difenoconazole (224) [Syngenta] – Uganda	Uganda: pineapple (or passion fruit); Tanzania: guava; Egypt or Morocco: olive; Indonesia: dragon fruit (this needs to be moved from 2013 to 2016) Paprika; chili pepper (Korea)	Paprika (6); chili pepper (6)
	Fipronil (202) [BASF]	Basil (Thailand)	
	Fluensulfone (265) [Makhteshim]	Root tuber; leafy vegetable; brassica vegetable; strawberry; cereal grain; product of animal origin; radish; legume vegetables; tree fruit	
	Flutolanil (205) [Nihon Nohyaku] – USA	Carrot; potato; radish; sugar beet; ginseng	Carrot (9); potato (17); radish (5); sugar beet (12); ginseng (3)
	Imazapic (266), imazapyr (267) [BASF] Australia	Barley	Barley (xxx)
	Isoxaflutole [Bayer CropScience] (268)	Soya bean (label review)	
	Penthiopyrad (253)	Mustard greens (alternative GAP)	

2016 JMPR - NEW USES AND OTHER EVALUATIONS – PRIORITY LIST			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
Moved at request of USA	Picoxystrobin– [Dupont] –USA (258)	Fruiting vegetables, cucurbits; stone fruit; pome fruit; grapes; legume vegetables; bulb vegetables; strawberry; brassica vegetables; leafy vegetables; root and tuber vegetables; sunflower; tree nut; peanut; rice; cotton and tomato	Brassica (broccoli, cauliflower, cabbage, mustard greens), 30; bulb vegetables (green onion, dry bulb onion), 15; coffee, 4; cotton, 13; cucurbits, 30 (cucumbers, 12); muskmelons, 9; summer squash, 9; fruiting vegetables, 44 (tomatoes, 24); bell peppers, 13; (7 non-bell peppers); grape, 13; leafy vegetables, 44 trials (leaf lettuce 10); head lettuce, 11; celery, 10; spinach, 9; peanut, 13; pome (apple, pear), 26 (apple 17, pear 9); rice, 11; root and tuber vegetables, 56 trials (potatoes, 21; sugarbeets, 13; radishes, 6; carrots, 10; turnips, 6); stone fruit (cherries; peaches, plums), 30; strawberry, 9; succulent/edible podded legumes, 40 (8 edible podded bean, 4 edible podded pea, 17 succulent bean, and 11 succulent pea); sugarcane, 4; sunflower, 9; tree nuts, 12 (6 almond, 6 pecan)
Propylene oxide [Balchem] (250) – USA - JMPR 2013	Propylene oxide [Balchem] (250)	Tree nuts	Moved at the request of manufacturer
	Pyriproxyfen (200) - Costa Rica	Costa Rica: banana; Peru: avocado; Philippines: papaya; Malaysia/Singapore: mango; Panama: pineapple	
	Spinetoram (233) – Thailand; (Dow AgroSciences USA)	Thailand: mango, lichi; Egypt or Morocco: olive; Colombia: avocado; Costa Rica: papaya; Bolivia and Ghana: banana; Senegal: pineapple – NZ – feijoa; passionfruit; avocado; tamarillo US - olives; avocado; papaya; banana; pineapple; mango; cucurbits; pepper; strawberries; plum; cherry; apricot; potato; soybean; corn; tangerine; sweetcorn; kiwi; passion fruit	NZ trials - feijoa (4); passionfruit (4); avocado(4); tamarillo (4). US- Olives (8); avocado (6); papaya (6); banana (6); pineapple (6); mango (6); cucurbits (8); pepper (8); strawberries (8); plum (8); cherry (8); apricot (4); potato (4); soybean (4); corn (4); tangerine (8); sweetcorn (4); kiwi (3); passion fruit (4)
	Spirotetramat (234)	Strawberry; carrot; sugarbeet	Strawberry (10); carrot (24); sugarbeet (19)

2016 JMPR - NEW USES AND OTHER EVALUATIONS – PRIORITY LIST			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
Sulfoxaflor (252) [Dow AgroSciences] USA - Re-evaluation of developmental tox, based upon new data.	Sulfoxaflor [Dow AgroSciences] – USA Request for new MRLs, based upon new residue data	Corn, grain; corn, sweet; sorghum, grain; pineapple, cacao, beans, rice, grain; avocado	Corn, field (15); corn, sweet (9); sorghum (9); pineapple (8); cacao (8); rice (12); avocado (5)
	Tolfenpyrad [Nihon Nohyaku] – USA (269)	Almonds; pecans; pistachio; hazelnuts; walnuts; grape (table); raisin; juice (if MRL not included under table grape); apricots; plum; prunes; peach; nectarine; cherry; pear; lemon; lime; grapefruit; tangerine (mandarin); oranges; cantaloupe; cucumbers; summer squash; pumpkin; watermelon; peppers; tomatoes; cabbage; head lettuce; leaf lettuce; celery; spinach; cauliflower; potatoes; cotton seed; and corresponding animal commodities.	Brassica (cole) leafy vegetable: Cabbage (6); cauliflower (6); mustard greens (5); cotton (12); Citrus fruit: Grapefruit (6); lemon (5); orange (12); Fruiting vegetables, cucurbits (cantaloupe (6); cucumber (6); summer squash (5); Fruiting vegetables, other than cucurbits: pepper (9); tomato (12); Berries and other small fruits: Grape (12); raisin (1); Leafy vegetable: Head lettuce (6); leaf lettuce (6); spinach (6); pear (6); Root and tuber vegetables: Potato (16); Stalk and stem vegetables: Celery (6); Stone fruits: Cherry, sweet (6); peach (9); plum (6); prune (dried plum) (2); Tree nuts: Almond (5); pecan (5)
	Tebuconazole (189) [Bayer CropScience] USA	Kenya (common beans)	

2017 JMPR - NEW COMPOUND EVALUATIONS – PRIORITY LIST				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Tox evaluation JMPR 2012	Chlorfenapyr [BASF] (254)	Registered	Awaiting advice	

2017 JMPR - NEW COMPOUND EVALUATIONS – PRIORITY LIST				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**
Isoprothiolane (999) India	Isoprothiolane (999) India		Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	
Quinalphos (999) India	Quinalphos (999) India		Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	
Tricyclazole (999) India	Tricyclazole (999) India		Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	

2017 JMPR – NEW USES AND OTHER EVALUATIONS – PRIORITY LIST			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
	Prothioconazole (232) [Bayer CropScience]	Cotton	Cotton (16)
	Trifloxystrobin (213) [Bayer CropScience]	Cotton; Ginseng (Korea)	Cotton (12) Ginseng (6)
	Pirimicarb (101) [Syngenta]	Public health concerns - acute dietary risk– Netherlands – check uses for peach and lettuce based on existing residue data and labels	
	Cypermethrins (118) [BASF], [FMC]	Public health concerns - acute dietary risk– Netherlands – check uses for peach based on existing residue data and labels	
	Acephate (95)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Acetamiprid (246)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information

	Bifenthrin (178)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Carbendazim (72)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Chlorpyrifos (017)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Diazinon (22)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Dimethoate (27)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Ethion (34)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Imidacloprid (206)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Lambda-cyhalothrin (146)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Methomyl (94)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Profenofos (171)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Spiromesifen (999)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information
	Triazophos (143)	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, grean pea, bitter gourd, cucumber, brinjal and capsicum), grapes	Await field trial information

2018 JMPR - NEW COMPOUND EVALUATIONS – PRIORITY LIST				
TOXICOLOGY	**RESIDUE**	**Prioritisation criteria**	**Commodities**	**Residue trials provided**

2018 JMPR – NEW USES AND OTHER EVALUATIONS – PRIORITY LIST			
TOXICOLOGY	**RESIDUE**	**Commodities**	**Residue trials provided**
	Bifenthrin [FMC] (178)	Barley; barley (straw fodder); - 4 year rule granted in 2014	
	Bentazone [BASF] (172)	Field pea (USA) - 4 year rule granted in 2014	
	Diquat [Syngenta] (031)	Cereals – wheat, barley, oat (Australia) Pulse (Canada) – 4 year rule granted in 2014	
	Metalaxyl-M [Syngenta] (212)	Cocoa beans (4 year rule grnated in 2014)	
	Dithianon [BASF] (180)	Shaddock / pomelo and mandarin (4 year rule granted in 2014)	

TABLE 2A: SCHEDULE AND PRIORITY LISTS OF PERIODIC REVIEWS – 2014-2018

Note 1: NR denotes "following evaluation, JMPR has deemed the establishment of an ARfD unnecessary"

Note 2: N/A denotes "not assessed – JMPR has not had the opportunity to consider, or determine the need for, an ARfD"

2015 PERIODIC REVIEW – PROPOSED SCHEDULE						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Abamectin (177) [Syngenta]	Abamectin (177)	Pome fruits; cucurbits (edible and inedible peel); grapes; citrus fruits; stone fruits; strawberries; hops; leafy vegetables (lettuce, spinach, endive, celery); potato; almond; walnut; bean; coffee; cotton; fruiting vegetables (tomato, aubergine, pepper, sweet pepper); avocado; papaya; mango; avocado; onion Chili peppers (Thailand) Tomato; mango; papaya (Indonesia REP12/PR, CRD 26) (appears to be no support for animal product CXLs)	Pome fruits (16); cucurbits (edible and inedible peel) (40); grapes (12); berries (8); citrus fruits (24); stone fruits (29); strawberries (30); hops (18); leafy vegetables (lettuce, spinach, endive, celery) (22); tree nuts (almond, walnut) (15); bean (28); coffee (5); cotton (8); fruiting vegetables (tomato, aubergine, pepper, sweet pepper) (40); avocado (5); papaya (4); mango (5); bulb vegetables (leek, onion, shallots, spring onion) (20); rice (6); celery (7); roots and tuber vegetables (27)	1997	0.002 1997	N/A
Ethephon (106) [Bayer CropScience]	Ethephon (106)	Apple; barley; barley straw and fodder; blueberries; cantaloupe; cherries; chili peppers (dry); cotton seed; dried grapes; figs; grapes; hazelnuts; peppers; pineapple; rye; rye straw and fodder; tomato; walnuts; wheat; wheat straw and fodder; chicken eggs; edible offal of cattle; goats; horses; pigs & sheep; meat of cattle; goats; horses; pigs & sheep; milk of cattle; goats & sheep; poultry meat; poultry; edible offal - US Add on: Coffee All CXLs supported	Apple (38); barley (41); barley straw and fodder; blueberries; cantaloupe; cherries (15); chili peppers (dry); cotton seed (59); dried grapes; figs (6); grapes (43); hazelnuts; olives (8); peppers; persimmon (4); pineapple (17); rye (9); rye straw and fodder; tomato (38); walnuts; wheat (42); Coffee (5 trials)	1994	0.05 1997	0.05 2002
Lindane (48)	Lindane (48)	Review of monitoring data with a view to converting MRLs to EMRLS.				

2015 PERIODIC REVIEW – PROPOSED SCHEDULE						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Metalaxyl (138) Quimicas del Vallés - SCC GmbH	Metalaxyl (138)	Review in 2004 for residues was for evaluation of metalaxyl-M; support from Quimicas del Vallés - SCC GmbH; USA – Grapes; tomatoes; potatos; lettuce; oranges; strawberries; broccoli; cauliflower; head cabbage; onion Supervised trials by Thailand – pineapples	Grapes (21); tomatoes (20); potatos (16); lettuce (10); oranges (4); strawberries (8); broccoli (8); cauliflower (4); head cabbage (4); onion (8) Thailand has agreed to provide field trials – pineapples	2004	0.08 2004	NR 2004
Chlormequat (15) [BASF] **RESERVE**	Chlormequat (15)	Cereals; cottonseed; maize; rapeseed; maize fodder; cereals fodder/straw; meat; milk; eggs	Cereals - 64 trials (16 trials each for wheat, barley; oats and rye); grapes - 8 trials; soybean - 8 trials; ottonseed - 4 trials; potato - 4 trials; onion - 4 trials; meat/milk/eggs	1994	0.05 1997	0.05 1999
Penconazole (182) [Syngenta] Moved at request of manufacturer **RESERVE**	Penconazole (182)	Pome fruit; stone fruit; grapes; cane berries; bush berries; strawberries; fruiting vegetables other than cucurbits; fruiting vegetables cucurbits, globe artichokes (appears to be no support for animal product CXLs)	Apples/Pears (18); peach (12); cherries (4); grapes (16); raspberry/Blackberry (4); currants (4); gooseberry (4); strawberry (29); tomatoes/aubergines (20); peppers (12); cucumbers/gherkins (24); melons (23); globe artichokes (8)	1992	0.03 1992	N/A

2016 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Fenpropimorph (188) [BASF]	Fenpropimorph (188)	Banana; cereals; sugar beet; cereals fodder/straw; meat; milk; eggs All CXLs supported	Cereals (56 trials); banana (23); sugar beet (8)	1993	0.03 2006	N/A

2016 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Imazalil (110) [Janssen] EU – public health concerns	Imazalil (110)	Awaiting advice	Awaiting advice	1994R, 2005T	0.03 2001	0.05 2005
Iprodione (111) (BASF)	Iprodione (111)	Tree nuts; cereals; beans, (dried); blackberry; broccoli; carrots; cheery; cucumber; grapes; kiwi; lettuce (head and leafy); onion; stone fruit; pome fruit; rapeseed; raspberry; sugar beet; sunflower; tomato; witloof (All CXLs appear to be supported)	BASF Trials: Almond (6); hazelnut (4); cherry (9); peach (22); plums (18); grapes, table & wine (38); strawberry (28); raspberry (6); currants, red, black, white (9); carrots (34); onion, bulb (17); onion, spring (10); tomato (18); pepper (8); cucumber (21); cucurbits w inedible peel (8); cauliflower (18); Brussel sprouts (8); Chinese cabbage (12); lettuce (38); witloof (4); beans, fresh w pods (15); peas, fresh w/o pods (16); asparagus (4); peas, dry (19); rapeseed (12); rice (8) FMC Trials: Almonds (4); barley (13); blackberries (8); broccoli (4); carrot (12); cherry (5); lettuce, leaf (12); peach (9); raspberries, red/black (8); rice, husked (18); Spices, seeds (4); spices, roots & rhizomes (4); apricots (8); artichoke (4); banana (8); bean, succulent - lima and snap (12); Brassica, head and stem vegetables (12); coffee (6); eggplant (8); mandarins (8); mango (4); melon (12); pea (12); peanut (12); plum (12); potato (16); soybean (12); wheat (16)	1994	0.06 1995	N/A

2016 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Teflubenzuron (190) [BASF]	Teflubenzuron (190)	Apple; orange; coffee; field corn; soybean; sugarcane; sunflower; tomato; melon; broccoli; cauliflower; grape; papaya (no support for plum; potato; cabbage and Brussels sprout CXLs)	Apple (12); orange (16); coffee (9); field corn (6); soybean (5); sugarcane (5); sunflower (8); tomato (12); melon (8); broccoli (8); cauliflower (8); grape (12); papaya (4); mango (4); cucumber (8); gherkin (4); sweet pepper (4)	1996	0.01 1994	N/A

2017 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Clethodim (187) USA Arysta LifeScience	Clethodim (187)	Bean; broccoli; cabbage; carrot; cranberry; cucurbits; hops; lettuce; pea; strawberry; blueberry	Blueberry (9) – Awaiting further advice	1994	0.01 1994	NR 2004
Dithiocarbamates (105) Netherlands - public health concerns [Taminco]	Dithiocarbamates (105)	Await advice on commodities to be supported	Residue definition applies to all DTC – propineb; mancozeb; ferbam; ziram; thiram; maneb; metiram; zineb	1996T, 1993R, (2004 propineb)	Range of group ADIs	Interim ARfD propineb 0.1 mg/kg 1995
Fenpyroximate (193) [Nihon Nohyaku]	Fenpyroximate (193)	Awaiting advice on commodities US Add-ons: potato; bean (snap); melons; cucumber; stone fruit; avocado; mint	US Data: potato (16); bean (snap) (8); melons (8); cucumber (9); cherry (8); peach (10); plum (6); avocado (5); mint (6)	1995	0.01 1995	0.02 2007
Oxamyl (126) [Dupont]	Oxamyl (126)	No details – awaiting advice	Awaiting advice	1986R 2002T	0.009 2002	0.009 2002

2017 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Tolclofos-methyl (191) [Sumitomo Chemical]	Tolclofos-methyl (191)	Lettuce head; lettuce leaf; potato; radish	Await advice	1994	0.07 1994	N/A

2018 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Bromopropylate (70) [Syngenta] Not supported by the manufacturer Concern Form lodged	Bromopropylate (70)	*The active substance was first included in 1973 and re-evaluated in 1993, but not since. In the evaluation of 1993 an ADI was set at 0.03 mg/kg bw/d but no ARfD.* *Since no ARfD was ever set and data for evaluation are missing (supervised field trials, processing studies), the MRLs should be re-evaluated after 41 years*	*Since in 1993 it was not yet common practice to set an ARfD, EFSA used the ADI to assess the acute effects in the short term intake. A risk assessment was performed using the EFSA PRIMo including the existing CXLs for citrus fruits, pome fruits and grapes. The highest chronic exposure was calculated for the German child, representing 124% of the ADI. Since there were no supervised field trials complying with the critical GAP or reliable processing studies, the intake could not be further refined. The acute intake assessment (using the ADI-value) shows exceedance of the toxicological reference value for citrus fruits (884% for oranges, 594% for grapefruit, 371% for mandarins, 230% for lemons, and 134% for limes), pome fruits (653% for apples, 607% for pears), table grapes (437%) and wine grapes (158%). For further details see EFSA evaluation on the internet at http://www.efsa.europa.eu/en/efsajournal/doc/1640.pdf.*	1993	0.03 - 1993	N/A

Methidathion (51) [Syngenta] Not supported by the manufacturer Concern form lodged	Methidathion (51)	*The active substance has been re-evaluated for residues (after it's first inclusion in 1972) in 1992. An ARfD was derived in the toxicological re-evaluation in 1997.* *As a consequence of this ARfD a couple of MRLs are not safe for consumers. Due to the fact that no periodic re-evaluation of residues took place in 42 years it is proposed to carry out a new evaluation.*	The JMPR has established an ADI of 0.001 mg/kg bw/d and an ARfD of 0.01 mg/kg bw/d in 1997. A risk assessment was performed using the EFSA PRIMo including all MRLs that were considered relevant for international trade. The ADI was exceeded for 25 European diets with the highest exposure representing 2392% of the ADI. Citrus fruits, olives for oil production and milk were shown to be the main contributors. Citrus fruits also exceeded the ARfD (up to 6631%). A second exposure calculation delete the existing MRLs for citrus fruits, pome fruits and sunflower seeds still showed an that the ADI for 5 European diets was exceeded (up tp 301%). *For further details see EFSA evaluation on the internet at*http://www.efsa.europa.eu/en/efsajournal/doc/1639.pdf.	1992	0.001 - 1997	0.01 - 1997
Dichlofluanid (82) – [Bayer CropScience]	Dichlofluanid (82)	No longer supported by manufacturer	No longer supported by manufacturer, Last reviewed over 30 years ago	1983	0.3 - 1983	N/A
Flumethrin (195) [Bayer CropScience]	Flumethrin (195)	Cattle milk; cattle meat		1996	0.004, 1996	N/A
Permethrin (120)	Permethrin (120)	Not supported by manufacturer	Not supported by manufacturer Last reviewed over 25 years ago	1987	0.05 - 1999	NR - 1999

2019 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
(Methyl bromide) Bromide ion (47)	Bromide ion (47)	No Croplife manufacturer responsible	Support unknown Last reviewed over 25 years ago	1988	1.0 - 1988	N/A
Hydrogen phosphide, (zinc and aluminium salts) (46)	Hydrogen phosphide (46)	No Croplife manufacturer responsible	Support unknown, Last reviewed over 40 years ago	1971	NR	N/A

2019 PERIODIC REVIEW – PRIORITY LIST						
TOXICOLOGY	**RESIDUE**	**Commodities**	**Comments**	**Previous evaluation**	**ADI**	**ARfD**
Fenarimol (192) [Gowan] Not supported by the manufacturer Concern form lodged	Fenarimol	Fenarimol was first included as active substance in 1995. The ADI was set at 0.01 mg/kg bw/d. The COM set an ADI of 0.01 mg/kg bw/d in 2007 as well as an ARfD of 0.02 mg/kg bw/d. Since the JMPR hasn't evaluated the active substance in 19 years whereas now an ARfD-value is available it is proposed to re-evaluate all MRLs.	An ADI- and ARfD-value were derived in a peer-review under 91/414/EEC. EFSA identified in the acute risk assessment for children a possible risk for peppers (157.4%), peaches (148.3%), apples (146.9%), tomatoes (145.4%), pears (136.6%) and bananas (125.4%). A refined calculation was carried out using the HR. For further details see EFSA evaluation on the internet at http://www.efsa.europa.eu/en/efsajournal/doc/161r.pdf.	1995	0.01 - 1995	N/A
Dimethoate [xxx] (027)	Dimethoate	EU concerns ARfD JMPR 2003 New use and other evaluation OR Periodic review ?????	Acute risk for citrus and cherries Sum of dimethoate and omethoate expressed as dimethoate		0.002, 1996	0.02, 2003

TABLE 2B: PERIODIC REVIEW LIST (COMPOUNDS LISTED UNDER 15 YEAR RULE BUT NOT YET SCHEDULED OR LISTED)

Note 3: Compounds listed in this table meet criterion 2 (15 year rule).

Decisions on the prioritisation of these compounds should be based on criterion 1 (public health concerns), criteria 4 and 7 (date that data will be submitted and availability of current labels arising from recent national evaluations) and other relevant criteria found in pp135-136 of the *Codex Procedural Manual*.

Compounds are listed in Table 2b awaiting advice on supporting data packages and/or an indication of manufacturer/member country support.

TOXICOLOGY	RESIDUE	Issue – Commodities supported	Comments	Previous evaluation	ADI	ARfD
Fenbutatin oxide (109) [BASF]	Fenbutatin oxide (109)	No longer supported by manufacturer 4 year rule (member country ????)	No longer supported by manufacturer	1992	0.03 - 1992	N/A
	Azinphos-methyl (002) [Makhteshim – Agan] ??	Support unknown	Support unknown	2007	0.03 - 2007	0.1 - 2007
Tecnazene (115)	Tecnazene (115)	Support unknown	Support unknown	1994	0.02 - 1994	N/A
Fenthion (39) [Bayer CropScience]	Fenthion	Not supported by the manufacturer	Not supported by the manufacturer	1995	0.007 - 1995	0.01 - 1997
Dinocap (87) [Dow AgroSciences]	Dinocap (87)	Not supported by the manufacturer	Not supported by the manufacturer t	1998	0.008 - 1998	0.008 WCBA 0.03 general
Bioresmethrin (93) previously Sumitomo Chemical	Bioresmethrin (93)	Not supported by the manufacturer	Not supported by the manufacturer	1991	0.03 - 1991	N/A
	Aldicarb (117) [Bayer CropScience]	Not supported by the manufacturer	Not supported by the manufacturer	1995	0.003 - 1992	0.003 - 1995
Diazinon (22) [Makhteshim–Agan]	Diazinon (22)	Awaiting advice on commodities		1996	0.005 - 2006	0.03 - 2006
Phosalone (60) [Cheminova]	Phosalone (60)	Awaiting advice on commodities	Durian (Thailand)	1997	0.02 - 1997	0.3 - 2001
Quintozene (64) [Crompton – AMVAC]	Quintozene	Awaiting advice on commodities		1995	0.01 - 1995	N/A

TOXICOLOGY	RESIDUE	Issue – Commodities supported	Comments	Previous evaluation	ADI	ARfD
Disulfoton (74) – [Bayer CropScience]	Disulfoton (74)	Awaiting advice on commodities	Support from USA Confirmation of support is required	1996	0.0003 - 2006	0.003 - 2006
Carbofuran (96) FMC Corporation	Carbofuran	Awaiting advice on commodities		1997	0.001 - 1996	0.001 - 2009
Amitraz (122) – [Arysta Lifesciences]	Amitraz (122)	Awaiting advice on commodities	Await further advice	1998	0.01 - 1998	0.01 - 1998
Carbosulfan (145) [FMC Corporation]	Carbosulfan	Awaiting advice on commodities	Asparagus; egg plant (Thailand)	1997	0.01 (1986)	0.02 (2003)
Fenbuconazole (197) [Dow AgroSciences]	Fenbuconazole	Awaiting advice on commodities	Awaiting advice on commodities	1997	0.03 (1997)	0.2 (2012)
Kresoxim-methyl (199) [BASF]	Kresoxim-methyl	Awaiting advice on commodities		1998	0.4 (1998)	NR (1998)
Pyriproxyfen [xx] (200)	Pyriproxyfen	Awaiting advice on commodities		1999	0.1 (1999)	NR (1999)
Malathion [xxx] (049)	malathion	Awaiting advice on commodities	Requested at CCPR46	1999	0.3 (1997	2.0 (2003)

TABLE 3: RECORD OF PERIODIC REVIEWS

Note 4: All information is derived from the current "DRAFT AND PROPOSED DRAFT MAXIMUM RESIDUE LIMITS IN FOODS AND FEEDS AT STEPS 7 AND 4"

Note 5: The year value provided in the schedule (tox) and (residue) columns is based on chronological order and is for guidance only.

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
007	Captan	1963	1995T, 2004T(ARfD), 2000R			
008	Carbaryl	1965	2001T(ADI, ARfD), 2002R			
017	Chlorpyrifos	1972	1999T, 2000R			
020	2,4-D	1970	1996T, 2001T(ARfD), 1998R			
025	Dichlorvos	1965	2011T, 2012R			AMVAC
026	Dicofol	1968	1992, 2011T			Not supported by manufacturer
030	Diphenylamine	1969	1998T, 2001R			
031	Diquat	1970	1993T, 1994R, 2013			Syngenta
032	Endosulfan	1965	1998T, 2006R			
035	Ethoxyquin	1969	2005T, 1999R			
037	Fenitrothion	1969	2007T(ADI, ARfD), 2003R			
041	Folpet	1969	1995T, 2007T(ARfD), 1998R			
056	2-phenylphenol	1969	1999			
057	Paraquat	1970	2003T, 2004R			
059	Parathion-methyl	1965	1995T, 2000R			
062	Piperonyl butoxide	1965	1995T, 2001T(ARfD), 2001R			

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
063	Pyrethrins	1965	2003T, 2000R			
065	Thiabendazole	1970	1997T, 2006T(ARfD), 1997R			
067	Cyhexatin	1970	2005T, 2005R			
072	Carbendazim	1973	1995T, 2005T(*ARfD)*, 1998R			
079	Amitrole	1974	1997T, 1998R			
081	Chlorothalonil	1974	2009T, 2010R			
083	Dicloran	1974	1998			
084	Dodine	1974	2000T, 2003R			
085	Fenamiphos	1974	1997T, 2002T(*ARfD)*, 1999R			
086	Pirimiphos-methyl	1974	1992T, 2006T(*ARfD)*, 2003R			
090	Chlorpyrifos-methyl	1975	2009			
094	Methomyl	1975	2001			
095	Acephate	1976	2005T, 2003R			
100	Methamidophos	1976	2002T, 2003R			
101	Pirimicarb	1976	2004			
102	Maleic hydrazide	1976	1996T, 1998R			
103	Phosmet	1976	1994T, 2003T, 1997R 2002R			0.01 (1998), 0.2 (2003) Gowan
112	Phorate	1977	2004T, 2005R			
113	Propargite	1977	1999T, 2002R			

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
118	Cypermethrin	1979	2006T, 2008R			
119	Fenvalerate	1979	2012			Sumitomo Chemical
129	Azocyclotin	1979	2005T, 2005R			
130	Diflubenzuron	1981	2001T, 2002R			
132	Methiocarb	1981	1998T, 1999R			
133	Triadimefon/triadimenol	1979	2004T, 2007R			133 /168
135	Deltamethrin	1980	2000T, 2002R			
142	Prochloraz	1983	2001T, 2004R			
143	Triazophos	1982	2002T, 2007R			
144	Bitertanol	1983	1998T, 1999R			
146	Cyhalothrin	1984	2004(JECFA)			
146	Lambda-cyhalothrin	1984	2007T, 2008R			
147	Methoprene	1984	2001T, 2005R			
148	Propamocarb	1984	2005T, 2006R			
149	Ethoprophos	1983	1999T, 2004R			
151	Dimethipin	1985	1999T, 2004T(*ARfD)*, 2001R			
155	Benalaxyl	1986	2005T, 2009R			
156	Clofentezine	1986	2005T, 2007R			
157	Cyfluthrin	1986	2006T, 2007R			

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
158	Glyphosate	1986	2004			
160	Propiconazole	1987	2004T, 2007R			
162	Tolylfluanid	1988	2002			
165	Flusilazole	1989	2007			
166	Oxydemeton-methyl	1989	2002T, 1998R			
167	Terbufos	1989	2003T			
169	Cyromazine	1990	2006T, 2007R			
171	Profenofos	1990	2007T, 2008R			
172	Bentazone	1991	2012T, 2004T(ARfD), 2013			BASF
173	Buprofezin	1991	2008			
174	Cadusafos	1991	2009T, 2010R			
175	Glufosinate-ammonium	1991	2012			Bayer CropScience
176	Hexythiazox	1991	2008T, 2009R			
178	Bifenthrin	1992	2009T, 2010R			
179	Cycloxydim	1992	2009T, 2012R			BASF
180	Dithianon	1992	2010T, 2013R			
184	Etofenprox	1993	2011T,R			Mitsui Chemical Inc
185	Fenpropathrin	1993	2012T		2014	Sumitomo Chemical
189	Tebuconazole	1994	2010T, 2011R			

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
194	Haloxyfop	1995	2006T, 2009R			
196	Tebufenozide	1996	2003T(*ARfD)*			
201	Chlorpropham	2000	2005T(ADI, *ARfD)*			
116	Triforine	1977	1997T	2014	2014	Support from Sumitomo Co.
181	Myclobutanil	1992	None	2014	2014	Support from Dow AgroSciences
015	Chlormequat	1970	1997T, 1999T(ARfD) 1994	2015	2015	Support from BASF
048	Lindane	1965	2002T, 2003R	2015	2015	
106	Ethephon	1977	1997T, 2002T(ARfD), 1994R	2015	2015	Bayer CropScience
138	Metalaxyl	1982	2002T	2015	2015	Quimicas del Vallés - SCC GmbH
177	Abamectin	1992	1997T	2015	2015	Syngenta
182	Penconazole	1992	None	2015	2015	Syngenta
110	Imazalil	1977	1977, 2000T, 2005T(*ARfD)*	2016	2016	Janssen
111	Iprodione	1977	1995T, 1994R	2016	2016	Support from BASF
188	Fenpropimorph	1994	2004T(ARfD)	2016	2016	Support from BASF
190	Teflubenzuron	1994	None	2016	2016	Support unknown
105	Dithiocarbamates - incl propineb, ferbam, ziram	1965	1993R, 1996T ferbam, ziram, 2004 propineb	2017	2017	Individual DTCs are evaluated, propineb 2004, ferbam/ziram 1996
126	Oxamyl	1980	2002	2017	2017	Dupont
187	Clethodim	1994	1999T(ARfD)	2017	2017	Support from USA

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
191	Tolclofos-methyl	1994	None	2017	2017	Sumitomo Chemical
193	Fenpyroximate	1995	2007T(ARfD)	2017	2017	Nihon
051	Methidathion	1972	1997T, 1992	2018	2018	Not supported
070	Bromopropylate	1973	1993	2018	2018	Syngenta
082	Dichlofluanid	1969	1983T	2018	2018	Not supported by manufacturer
120	Permethrin	1979	1999T	2018	2018	Not supported by manufacturer
195	Flumethrin	1996	None	2018	2018	Bayer CropScience
027	Dimethoate	1965	1996T, 2003T(ARfD), 1998R	2019	2019	
046	Hydrogen phosphide	1965	1966T	2019	2019	Support unknown
047	Bromide ion	1968	1988T	2019	2019	Support unknown
192	Fenarimol	1995	None	2019	2019	
002	Azinphos-methyl	1965	2007T	Listed-not scheduled	Listed-not scheduled	Makhteshim
022	Diazinon	1965	2006T, 1993	Listed-not scheduled	Listed-not scheduled	Makhteshim-Agan
039	Fenthion	1971	1995, 1997T(ARfD)	Listed-not scheduled	Listed-not scheduled	Not supported by manufacturer
049	Malathion	1965	1997T, 2003T(ARfD), 1999R	Listed-not scheduled	Listed-not scheduled	
060	Phosalone	1972	1997T, 2001T(ARfD), 1994R	Listed-not scheduled	Listed-not scheduled	Cheminova
064	Quintozene	1969	1995	Listed-not scheduled	Listed-not scheduled	Chemtura
074	Disulfoton	1973	1996T(ARfD)	Listed-not scheduled	Listed-not scheduled	Bayer CropScience
087	Dinocap	1969	1998T, 2000T(ARfD)	Listed-not scheduled	Listed-not scheduled	Not supported by manufacturer

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
093	Bioresmethrin	1975	1991T, none	Listed-not scheduled	Listed-not scheduled	Not supported by manufacturer
096	Carbofuran	1976	1996T, 2008T(*ARfD)*, 1997R	Listed-not scheduled	Listed-not scheduled	
109	Fenbutatin oxide	1977	1992T, 1993R	Listed-not scheduled	Listed-not scheduled	Not supported by BASF
115	Tecnazene	1974	1994T	Listed-not scheduled	Listed-not scheduled	Support unknown
117	Aldicarb	1979	1992T, 1995T(ARfD), 1994R	Listed-not scheduled	Listed-not scheduled	Bayer CropScience
122	Amitraz	1980	1998T	Listed-not scheduled	Listed-not scheduled	Arysta Lifesciences
145	Carbosulfan	1984	2003T, 1997R	Listed-not scheduled	Listed-not scheduled	
197	Fenbuconazole	1997	None	Listed-not scheduled	Listed-not scheduled	Dow
199	Kresoxim-methyl	1998	None	Listed-not scheduled	Listed-not scheduled	
200	Pyriproxyfen	1999	None	Listed-not scheduled	Listed-not scheduled	
202	Fipronil	2000/2001	None	Never scheduled	Never scheduled	BASF
203	Spinosad	2001	None	Never scheduled	Never scheduled	
204	Esfenvalerate	2002	None	Never scheduled	Never scheduled	
205	Flutolanil	2002	None	Never scheduled	Never scheduled	
206	Imidacloprid	2001	None	Never scheduled	Never scheduled	
207	Cyprodinil	2003	None	Never scheduled	Never scheduled	
208	Famoxadone	2003	None	Never scheduled	Never scheduled	
209	Methoxyfenozide	2003	None	Never scheduled	Never scheduled	
210	Pyraclostrobin	2003	None	Never scheduled	Never scheduled	

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
211	Fludioxonil	2004	None	Never scheduled	Never scheduled	
212	Metalaxyl-M	2002	None	Never scheduled	Never scheduled	
213	Trifloxystrobin	2004	None	Never scheduled	Never scheduled	
214	Dimethenamid-P	2005	None	Never scheduled	Never scheduled	
215	Fenhexamid	2005	None	Never scheduled	Never scheduled	
216	Indoxacarb	2005	None	Never scheduled	Never scheduled	
217	Novaluron	2005	None	Never scheduled	Never scheduled	
218	Sulfuryl fluoride	2005	None	Never scheduled	Never scheduled	
219	Bifenazate	2006	None	Never scheduled	Never scheduled	
220	Aminopyralid	2007	None	Never scheduled	Never scheduled	
221	Boscalid	2006	None	Never scheduled	Never scheduled	
222	Quinoxyfen	2006	None	Never scheduled	Never scheduled	
223	Thiacloprid	2006	None	Never scheduled	Never scheduled	
224	Difenoconazole	2007	None	Never scheduled	Never scheduled	
225	Dimethomorph	2007	None	Never scheduled	Never scheduled	
226	Pyrimethanil	2007	None	Never scheduled	Never scheduled	
227	Zoxamide	2007	None	Never scheduled	Never scheduled	
229	Azoxystrobin	2008	None	Never scheduled	Never scheduled	
230	Chlorantraniliprole	2008	None	Never scheduled	Never scheduled	

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
231	Mandipropamid	2008	None	Never scheduled	Never scheduled	
232	Prothioconazole	2008	None	Never scheduled	Never scheduled	
233	Spinetoram	2008	None	Never scheduled	Never scheduled	
234	Spirotetramat	2008	None	Never scheduled	Never scheduled	
235	Fluopicolide	2009	None	Never scheduled	Never scheduled	
236	Metaflumizone	2009	None	Never scheduled	Never scheduled	
237	Spirodiclofen	2009	None	Never scheduled	Never scheduled	
238	Clothianidin	2010	None	Never scheduled	Never scheduled	
239	Cyproconazole	2010	None	Never scheduled	Never scheduled	
240	Dicamba	2010	None	Never scheduled	Never scheduled	
241	Etoxazole	2010	None	Never scheduled	Never scheduled	
242	Flubendiamide	2010	None	Never scheduled	Never scheduled	
243	Fluopyram	2010	None	Never scheduled	Never scheduled	
244	Meptyldinocap	2010	None	Never scheduled	Never scheduled	
245	Thiamethoxam	2010	None	Never scheduled	Never scheduled	
246	Acetamiprid	2011	None	Never scheduled	Never scheduled	
247	Emamectin-benzoate	2011	None	Never scheduled	Never scheduled	
248	Flutriafol	2011	None	Never scheduled	Never scheduled	
249	Isopyrazam	2011	None	Never scheduled	Never scheduled	

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
250	Propylene oxide	2011	None	Never scheduled	Never scheduled	
251	Saflufenacil	2011	None	Never scheduled	Never scheduled	
252	Sulfoxaflor	2011	None	Never scheduled	Never scheduled	
253	Penthiopyrad	2011	None	Never scheduled	Never scheduled	
253	Ametoctradin	2012	None	Never scheduled	Never scheduled	[BASF] – USA
254	Chlorfenapyr	2012	None	Never scheduled	Never scheduled	[BASF] – Brazil
255	Dinotefuran	2012	None	Never scheduled	Never scheduled	[Mitsui Chemicals Agro] – Japan
256	Fluxapyroxad	2012	None	Never scheduled	Never scheduled	[BASF] – USA
257	MCPA	2012	None	Never scheduled	Never scheduled	[Nufarm] – USA
258	Picoxystrobin	2012	None	Never scheduled	Never scheduled	[Dupont] -USA
259	Sedaxane	2012	None	Never scheduled	Never scheduled	[Syngenta] – USA
261	Benzovindiflupyr	2013	None	Never scheduled	Never scheduled	Syngenta
262	Bixafen	2013	None	Never scheduled	Never scheduled	Bayer CropScience
263	Cyantraniliprole	2013	None	Never scheduled	Never scheduled	DuPont
264	Fenamidone	2013/14	None	Never scheduled	Never scheduled	Bayer CropScience
265	Fluensulfone	2013/14	None	Never scheduled	Never scheduled	Makhteshim
266	Imazapic	2013	None	Never scheduled	Never scheduled	BASF
267	Imazapyr	2013	None	Never scheduled	Never scheduled	BASF
268	Isoxaflutole	2013	None	Never scheduled	Never scheduled	Bayer CropScience

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
269	Tolfenpyrad	2013	None	Never scheduled	Never scheduled	Nihon Nohyaku
270	Triflumizole	2013	None	Never scheduled	Never scheduled	Nippon Soda
271	Trinexapac	2013	None	Never scheduled	Never scheduled	Syngenta
999	Aminocyclopyrachlor	2014	None	Never scheduled	Never scheduled	DuPont
999	Cyflumetofen	2014	None	Never scheduled	Never scheduled	BASF
999	Dichlobenil	2014	None	Never scheduled	Never scheduled	Chemtura
999	Flufenoxuron	2014	None	Never scheduled	Never scheduled	BASF
999	Imazamox	2014	None	Never scheduled	Never scheduled	BASF
999	Mesotrione	2014	None	Never scheduled	Never scheduled	Syngenta
999	Metrafenone	2014	None	Never scheduled	Never scheduled	BASF
999	Pymetrozine	2014	None	Never scheduled	Never scheduled	Syngenta
999	Acetochlor	2015	None	Never scheduled	Never scheduled	Monsanto
999	Cyazofamid	2015	None	Never scheduled	Never scheduled	Ishihara Sangyo Kaisha
999	Fenazaquin	2015	None	Never scheduled	Never scheduled	Gowan
999	Flonicamid	2015	None	Never scheduled	Never scheduled	Ishihara Sangyo Kaisha
999	Fluazifop-p-butyl	2015	None	Never scheduled	Never scheduled	Syngenta
999	Flumioxazin	2015	None	Never scheduled	Never scheduled	Sumitomo
999	Flupyradifurone	2015	None	Never scheduled	Never scheduled	Bayer CropScience
999	Phosphorous acid	2015	None	Never scheduled	Never scheduled	?

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
999	Pyrifluquinazon	2016	None	Never scheduled	Never scheduled	Nihon Nohyaku
999	Quinclorac	2015	None	Never scheduled	Never scheduled	BASF
999	Norfluazuron	2016	None	Never scheduled	Never scheduled	Syngenta
999	Spiromesifen	2016	None	Never scheduled	Never scheduled	Bayer CropScience
999	Acibenzolar-S methyl	2016	None	Never scheduled	Never scheduled	
999	cyclaniliprole	2016	None	Never scheduled	Never scheduled	
999	ethiprole	2016	None	Never scheduled	Never scheduled	
999	imazethapyr	2016	None	Never scheduled	Never scheduled	
999	isofetamid	2016	None	Never scheduled	Never scheduled	
999	MCPB	2016	None	Never scheduled	Never scheduled	
999	norflurazon	2016	None	Never scheduled	Never scheduled	
999	oxathiapiprolin	2016	None	Never scheduled	Never scheduled	
999	pinoxaden	2016	None	Never scheduled	Never scheduled	
999	pendimethalin	2016	None	Never scheduled	Never scheduled	
999	spiromesifen	2016	None	Never scheduled	Never scheduled	
999		2016	None	Never scheduled	Never scheduled	
999		2016	None	Never scheduled	Never scheduled	
999		2016	None	Never scheduled	Never scheduled	

TABLE 4: CHEMICAL-COMMODITY COMBINATIONS FOR WHICH SPECIFIC GAP IS NO LONGER SUPPORTED

Code	Chemical	Comments
49	Malathion	Apple; citrus; grapes (EU GAP no longer supported by EU)
39	Fenthion	Cherry; citrus fruits; olive oil (virgin); olives (EU GAP no longer supported by EU)
162	Tolyfluanid	All commodities (EU GAP no longer supported)