

# CODEx ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: [codex@fao.org](mailto:codex@fao.org) - [www.codexalimentarius.org](http://www.codexalimentarius.org)

REP17/PR

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEx ALIMENTARIUS COMMISSION

40<sup>th</sup> Session  
CICG, Geneva, Switzerland  
17 – 22 July 2017

### REPORT OF THE 49<sup>th</sup> SESSION OF THE CODEx COMMITTEE ON PESTICIDE RESIDUES

Beijing, P.R. China, 24 - 29 April 2017

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## SUMMARY AND STATUS OF WORK

Responsible Party	Purpose	Text/Topic	Code	Step	Para(s).
Members CCEXEC73 CAC40	Adoption	Proposed draft and draft MRLs for different combinations of pesticide/commodity(ies) proposed by adoption by CCPR49	---	5/8 8	110
CCEXEC73 CAC40	Revocation	CXLs for different combinations of pesticide/commodity(ies) proposed for revocation by CCPR49	---	---	110
JMPR 2017 (or future sessions) Members CCPR50 (or future sessions)	Action / Information	Proposed draft and draft MRLs for different combinations of pesticide/commodity(ies) that were retained by CCPR49 awaiting further assessment from JMPR	---	4 7	110
CCEXEC73 CAC40	Information	Proposed draft and draft MRLs for different combinations of pesticide/commodity(ies) that were withdrawn (discontinued) by CCPR49	---	4 7	110
Members CCEXEC73 CAC40	Adoption	Proposed draft and draft revision of the <i>Classification of Food and Feed: Vegetable Commodity Groups</i>	---	5/8 8	115
		Proposed draft Table 2 on examples of representative commodities for vegetable commodity groups (for inclusion in the <i>Principles and Guidance for the Selection of Representative Commodities for the Extrapolation of MRLs for Pesticides to Commodity Groups</i> )	---	5/8	140
		Editorial amendments to the <i>Classification of Food and Feed: Fruit Commodity Groups</i>	CAC/MISC 4-1989	---	115
		Proposed draft and draft revision of the <i>Classification of Food and Feed: Grasses</i>	---	5/8 8	127
		Proposed draft Table 3 on examples of representative commodities for grasses (for inclusion in the <i>Principles and Guidance for the Selection of Representative Commodities for the Extrapolation of MRLs for Pesticides to Commodity Groups</i> )	---	5/8	140
Members CCEXEC73 CAC40 EWG (USA and Netherlands) Members CCPR50	Adoption / Action	Proposed draft revision of the <i>Classification of Food and Feed: Seeds for Beverages and Sweets</i>	---	5	131

Responsible Party	Purpose	Text/Topic	Code	Step	Para(s).
EWG (USA and Netherlands) Members CCPR50	Action	Proposed draft and draft revision of the <i>Classification of Food and Feed</i> for selected commodity groups (including seeds for beverages and sweets)  Proposed draft tables on examples of representative commodities (including seeds for beverages and sweets)	---	2/3	141
Codex Secretariat CCPR50	Action / Information	Notes to be added to the existing group CXLs as a result of the revision of the <i>Classification of Food and Feed</i>	---	---	115
Members CCEXEC73 CAC40	Adoption	Draft Guidelines on Performance Criteria for Methods of Analysis for the Determination of Pesticide Residues	---	8	146
EWG (Netherlands, Australia, Uganda) CCPR50	Action	Review of the IESTI equations (possible revision of the IESTI equations)	---	---	161-163
CCEXEC73 CAC40 JMPR 2018	Approval (new work)	JMPR 2018 Schedule for evaluations of pesticides (Part A)	---	1/2/3	177
EWG (Australia and Germany) Members CCPR50	Action (follow-up by CCPR / JMPR)	JMPR schedules for evaluations of pesticides (Part 2)	---	---	177
EWG (Australia and Germany) Codex Secretariat Members CCPR50	Action	Information on national registration of pesticides Establishment of a Codex database of national registration of pesticides	---	---	177

**LIST OF ABBREVIATIONS**

ADI	Acceptable Daily Intake
ALINA	The Latinamerican Association of the National Agrochemical Industries
ARfD	Acute Reference Dose
AU	African Union
CAC	Codex Alimentarius Commission
CCEXEC	Executive Committee
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
CL	Circular Letter
CLI	CropLife International
CRD	Conference Room Document
CXL	Codex Maximum Residue Limit for Pesticide (as adopted by CAC)
DIE	Daily Intake Estimate
EFSA	European Food Safety Authority
EHC	Environmental Health Criteria
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
GLP	Good laboratory practices
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
IEDI	International Estimated Daily Intake
IESTI	International Estimate of Short-Term Intake
IGG	FAO Intergovernmental Group (IGG) on Tea
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
NHF	National Health Federation
OECD	Organization for Economic Co-operation and Development
PAD	Pesticide Attributes Database



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PWG	Physical Working Group
RIVM	National Institute for Public Health and the Environment
STMR	Supervised Trial Median Residues
TF/AMR	Codex Task Force on Antimicrobial Resistance
TDI	Tolerable Daily Intake
TTC	Threshold of Toxicological Concern
USA	United States of America
WG	Working group
WHO	World Health Organization
WTO	World Trade Organization

## INTRODUCTION

1. The 49<sup>th</sup> Session of the Codex Committee on Pesticide Residues (CCPR) was held in Beijing, China, from 24 to 29 April 2017 at the kind invitation of the Government of the People's Republic of China. Professor Xiongwu QIAO, Director of the Shanxi Academy of Agricultural Science chaired the Session, assisted by Dr Guibiao YE, Director of CCPR Secretariat, Institute for Control of Agrochemicals, Ministry of Agriculture of the People's Republic of China. Representatives from 52 Member countries, one Member organization, 11 international organizations attended the Session. The list of participants is attached as Appendix I.

### OPENING OF THE SESSION<sup>1</sup>

2. Mr Xinrong YU, Vice-Minister of Agriculture of the People's Republic of China, opened the Session and welcomed the participants. Mr Vincent Martin, FAO Representative in China and Mr Tom Heilandt, Secretary of the Codex Alimentarius Commission also addressed the meeting.
3. Mr YU indicated that China would continue to support and participate in the work of the Commission and its subsidiary bodies to promote the setting of internationally harmonized food safety standards in particular in the area of harmonization of maximum residue limits for pesticides within the framework of CCPR. He noted the following points: China had issued a revised Pesticide Management Regulation in March 2017 that would enter into effect on 1 June 2017; China was planning to establish 6,000 MRLs during 2016-2020; the Ministry of Agriculture was vigorously promoting sustainable agricultural development and zero growth use of fertilizers and pesticides; the implementation of these measures would raise the level of food security and food safety in the country and would further improve ecological environment.

### Division of Competence<sup>2</sup>

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 PROVISIONAL AGENDA (Agenda Item 1)<sup>3</sup>

5. The Committee adopted the Provisional Agenda as its Agenda for the Session and agreed to establish in-session working groups:
  - i. To consider the comments submitted on the guidelines on performance criteria for methods of analysis for the determination of pesticide residues in order to prepare a revised version for consideration by the plenary chaired by the United States of America and co-chaired by China and India (Agenda Item 8); and
  - ii. To consider the recommendations on the review of the IESTI equations in order to determine further work on this matter for consideration by the plenary chaired by the Netherlands and co-chaired by Australia (Agenda Item 9).

### APPOINTMENT OF RAPORTEURS (Agenda Item 2)

6. 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/OR OTHER SUBSIDIARY BODIES (Agenda Item 3)<sup>4</sup>

7. The Committee noted that matters referred from CAC39 (2016).

### MATTERS OF INTEREST ARISING FROM FAO AND WHO (Agenda Item 4a)<sup>5</sup>

#### Coordination of work between JECFA and JMPR

#### Call for pesticide monitoring data

8. The Representative of WHO provided relevant information to CCPR on FAO/WHO scientific advice regarding:
  - On-going harmonization of the dietary exposure methodologies for compounds used both as pesticides and veterinary drugs.
  - Collection of pesticide monitoring data through the GEMS/Food platform to serve the ongoing review of the IESTI equations.

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<sup>1</sup> CRD25 (Remarks delivered at the opening ceremony)

<sup>2</sup> CRD01

<sup>3</sup> CX/PR 17/49/01

<sup>4</sup> CX/PR 17/49/02

<sup>5</sup> CX/PR 17/49/03; CX/PR 17/49/03-Add.1; Comments of EU, Ghana, Kenya, Uganda and AU (CRD04); Nigeria (CRD12); Senegal (CRD14)

9. Delegations welcomed coordination of work between JECFA and JMPR for the safety assessment of compounds used both as pesticides and veterinary drugs and expressed their interest in submitting national monitoring data to GEMS/Food.
10. In particular, the following points were raised:
- In addition to harmonization of the dietary exposure methodologies for risk assessment, the discussion should also cover aspects such as the review of the matrices for which Codex MRLs (CXLs) are established, harmonization of the residue definition, harmonization of the specifications, etc. to ensure that toxicological reference values derived from pesticides are applicable to active substances used as veterinary drugs and vice-versa.
  - There is a need for a harmonized protocol for data generation so that data submitted can be compatible with GEMS/Food requirements. FAO and WHO should assist countries in submitting harmonized data that are comparable and can effectively be used by FAO, WHO and JMPR. Robust and geographical representative data are one of the key issues within the framework of the discussion on the review of the IESTI equations. There should be a continuous collection of pesticide monitoring data in order to allow observing the long term trends.
11. The Committee supported coordination of work between JECFA and JMPR for the safety assessment of compounds used both as pesticide and veterinary drugs and encouraged Codex members to submit data to GEMS/Food in reply to the call for data for pesticide monitoring data.

#### **Update on FAO work on antimicrobial resistance with a focus on antimicrobial use in horticulture**

12. The Representative of FAO informed the Committee about the FAO activities on AMR arising from the antimicrobial use of pesticides in horticulture, carried in the context of the Global Action Plan on AMR. The Representative also indicated the challenge faced by FAO to evaluate the risk and benefits of the use of these products in horticulture and determine the extent to which their use might contribute to AMR.
13. The Representative encouraged Codex members and observers to support the FAO/WHO scientific advice work in support of the recently established Codex Task Force on Antimicrobial Resistance by identifying sources of data on antimicrobial use in horticultural systems and supporting data collection efforts.
14. The Codex Secretariat provided additional information on the establishment of the TFAMR, to be hosted by the Republic of Korea and its mandate to: (i) revise the *Code of Practice to Control and Minimize Antimicrobial Resistance* (CAC/RCP 61-2005) to cover the entire food chain and (ii) the development of guidance in integrated surveillance of antimicrobial resistance. The Secretariat emphasized the importance for members and observers to provide the requested information to support the work of the TFAMR.
15. The Committee encouraged Codex members and observers to submit information to FAO on antimicrobial use of pesticides in horticultural systems as indicated in paragraph 7 of CX/PR 17/49/03-Add.1.

#### **MATTERS OF INTEREST ARISING FROM OTHER INTERNATIONAL ORGANIZATIONS (Agenda Item 4b)<sup>6</sup>**

16. The Committee noted information provided by IAEA, OECD, and Australia (APEC) on their activities relevant to the work of CCPR.
17. Members from African countries thanked the IAEA for their technical support they were providing in the region.

#### **REPORT ON ITEMS OF GENERAL CONSIDERATION BY THE 2016 JMPR (Agenda Item 5a)<sup>7</sup>**

18. The JMPR Secretariat provided relevant information for CCPR on JMPR sessions held in 2016 regarding:

##### **JMPR Special Session (May 2016)**

- General considerations on the evaluation of genotoxic studies
- Methods for the evaluation of epidemiological evidence for risk assessment

##### **JMPR Regular Session (September 2016)**

- Benchmark dose
- Chemical-specific adjustment factors (CSAFs)
- Guidance on the use and interpretation of statistical evaluations and historical control data
- JMPR guidance documents for WHO monographers and reviewers
- Evaluation of genotoxicity data
- Update of the OECD livestock animal burden feed table

<sup>6</sup> CX/PR 17/49/04; CRD26 (Australia (APEC))

<sup>7</sup> Section 2 of the 2016 JMPR Report. Comments of EU, Ghana, Uganda, AU (CRD05); Nigeria (CRD12); China (CRD16)

19. The Committee noted:
- The information contained in Section 2 of the JMPR reports; and
  - The support of Codex members on the update of the EHC240 in particular on criteria for the evaluation of genotoxicity studies; the use of epidemiological evidences to support risk assessment; and the use of benchmark dose approach to establish ADIs.
20. The Committee noted the information contained in Section 2 of the 2016 JMPR Report and the support of Codex members for such activities as follows:
- REPORT ON THE JMPR RESPONSES TO SPECIFIC CONCERNS RAISED BY CCPR (Agenda Item 5b)<sup>8</sup>**
21. The Committee noted that the outcome of the toxicological assessment of diazinon, glyphosate and malathion (JMPR Special Session) and the replies to specific concerns raised by CCPR (JMPR Regular Session) would be considered 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)<sup>9</sup>**
- General remarks**
22. The EU 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 CRD06.
23. The EU explained to the Committee that it was current EU policy to align EU MRLs with Codex MRLs (CXLs) if three conditions were fulfilled: (i) that the EU sets MRLs for the commodity under consideration; (ii) that the current EU MRL is lower than the CXL; and (iii) that the CXL is acceptable to the EU with respect to aspects such as consumer protection, supporting data, and extrapolations.
24. In the interest of transparency the Delegation advised the Committee that they would be making reservations during the discussions on the individual compounds where they considered the third criterion had not been met (CRD06).
25. Norway advised the Committee that they supported all EU reservations as their residue risk assessment approach was the same as that of the EU.
26. The Committee agreed that these reservations, where relevant, would be noted in the report.
- DIAZINON (22)**
27. The Committee noted that the JMPR special session held in May 2016 had re-evaluated all available toxicology data. The JMPR concluded that diazinon was unlikely to pose a carcinogenic risk to humans from dietary exposure. JMPR had also revised the ADI to 0-0.003 mg/kg bw and reconfirmed the ARfD of 0.03 mg/kg bw and had concluded that there were no dietary exposure concerns identified and no impact on existing CXLs.
- MALATHION (49)**
28. The Committee noted that the JMPR special session held in May 2016 had re-evaluated all available toxicology data. The JMPR concluded that malathion was unlikely to pose a carcinogenic risk to humans from dietary exposure. The JMPR had reconfirmed the ADI of 0-0.3 mg/kg bw and the ARfD of 2 mg/kg bw and had concluded that no dietary exposure concerns and no impact on existing CXLs.
- METHIDATHION (51)**
29. The Committee noted that the 48<sup>th</sup> session had agreed to consider withdrawing all existing CXLs at this session because of public health concerns. The Committee was informed that toxicology and residue data would be made available to JMPR for a periodic review. While there was support for the revocation of all CXLs, the Committee agreed to retain the CXLs for apple; cherry; grapes; mandarins; pear; and tea; awaiting the periodic review by JMPR in 2020. The Committee noted that data would also be provided for peach and mango. The Committee agreed to withdraw all other existing CXLs.
- CHLOROTHALONIL (81)**
30. In response to a concern form submitted to the 48<sup>th</sup> Session of CCPR, the JMPR Secretariat explained that the 2016 JMPR had re-assessed the existing storage stability data for chlorothalonil and its metabolite in cranberry and had confirmed its previous conclusions that residues were not stable over the 10-month storage period in the field trials.

<sup>8</sup> Section 3 of the 2016 JMPR Report; Comments of Australia, EU, Ghana, Kenya, Thailand and AU (CRD06); China (CRD16)

<sup>9</sup> CX/PR 17/49/05; Comments of Australia, Brazil, Canada, Cuba and Ecuador (CX/PR 17/49/05-Add.1); Australia, EU, Ghana, Kenya, Thailand and AU (CRD06); Japan (CRD13); Indonesia (CRD15); China (CRD16); USA (CRD17)

31. The Committee was informed that new studies on cranberry would be available in 2018 and agreed to retain the CXL for cranberry awaiting evaluation by the 2019 JMPR.

#### **CHLORPYRIFOS-METHYL (90)**

32. Australia informed the Committee that regretfully it would be unable to provide additional cereal grains data for review by the 2019 JMPR. To avoid any additional inconvenience the Delegation proposed that the Committee return to the maximum residue level recommendations of the 2009 JMPR.
33. The Committee agreed to the Australian proposal to adopt the JMPR 2009 recommendations for barley; wheat; wheat bran, unprocessed; and wheat germ; to revoke the associated CXLs and to withdraw the related cereal commodity recommendations from the 1994 and 2013 JMPRs.
34. The Committee noted the reservation of the EU and Norway on the advancement of the draft maximum residue levels for barley; wheat; wheat bran unprocessed; and wheat germ as the compound was currently the subject of an ongoing review.
35. The Observer from NHF expressed its concern about the detrimental health effect of this compound upon humans and animals.

#### **DELTAMETHRIN (135)**

36. The Committee decided to advance the proposed draft MRL for rape seed for adoption at Step 5/8, as recommended by the 2016 JMPR.

#### **METALAXYL (138)**

37. The Committee noted that metalaxyl was scheduled for periodic review in 2018 and agreed that if there were no data submitted before the end of 2017, revocation of all metalaxyl CXLs and the advancement of the metalaxyl-M draft maximum residue levels would be considered at the next session of the Committee.

#### **METHOPRENE (147)**

38. The Committee noted the reservations of the EU and Norway on the advancement of the proposed draft MRL for oilseed, except peanut as a chronic dietary exposure concern had been identified for European consumers and that studies investigating the metabolic behaviour following post-harvest treatment and on the nature and magnitude of the residues in processed products were not available.
39. In response to the EU comment that the dietary burden calculations were not included in the JMPR report, the JMPR Secretariat advised that this information was now available in the Annex to the 2016 JMPR Report.
40. The Committee agreed to advance the proposed draft MRL for oilseed, except peanut to Step 5/8, as recommended by the 2016 JMPR.

#### **GLYPHOSATE (158)**

41. The Committee noted that the JMPR special session, held in May 2016 had re-evaluated all available toxicology data and concluded that glyphosate was unlikely to pose carcinogenic risk to humans from dietary exposure; that there were no dietary exposure concerns and no impact on existing CXLs. The existing group ADI of 0-1 mg/kg bw was confirmed, as was the previous conclusion that an ARfD was not necessary.
42. The Committee noted the comment from the Observer from NHF that they hold a counter opinion on carcinogenicity of glyphosate and oppose that use of glyphosate.

#### **BENTAZONE (172)**

43. The JMPR Secretariat informed the Committee that new toxicology studies reviewed by experts of WHO guidelines for Drinking-water Quality had been submitted to the 2016 JMPR and that an ARfD of 0.5 mg/kg bw had been established.
44. A dietary exposure assessment was performed and the JMPR confirmed that there was no dietary exposure concern and no impact on existing CXL for this compound.

#### **BUPROFEZIN (173)**

45. The Committee decided to advance the proposed draft MRL for avocado, basil and soya bean (dry) for adoption at Step 5/8, as recommended by the 2016 JMPR.
46. The Committee noted the reservations of the EU, Norway and the comments from the Observer from NHF on the advancement of the proposed draft MRLs because of their health concern arising from the potential presence of aniline under high temperature processing conditions.

47. The JMPR Secretariat indicated that aniline should be treated as a contaminant as it could occur from a variety of sources. From that perspective a data call was launched in 2015 for relative occurrence to enable an assessment to be completed by JECFA. Unfortunately no data was received. The Secretariat also indicated that if a processing study was available the JMPR could look at aniline arising from buprofezin specifically. The Observer from CropLife indicated that the manufacturer could submit new processing studies to JMPR in 2019.

#### **BIFENTHRIN (178)**

48. The Committee decided to withdraw the proposed MRLs for mango and papaya, due to a lack of GAP information and agreed to hold the maximum residue level recommendation for okra at Step 7 awaiting data from India.

#### **PENCONAZOLE (182)**

49. The Committee noted the reservations from the EU and Norway as the compound was the subject of an ongoing review in the EU.
50. The Committee agreed to advance all the proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs as recommended by the 2016 JMPR.

#### **FENPROPIMORPH (188)**

51. The Committee noted that the 2016 JMPR established new health based guidance values; an ADI of 0–0.004 mg/kg bw and an ARfD of 0.4 mg/kg bw for the general population and an ARfD of 0.1 mg/kg bw for women of child-bearing age.
52. The Committee also noted that there was a different policy regarding the setting of toxicological reference values in the EU, which precluded establishing health based guidance value for different population groups.

#### **TEFLUBENZURON (190)**

53. The Committee noted the reservation of the EU and Norway on the advancement of the proposed draft MRLs for apples on the methodological concerns, and for the meat MRLs due to different policies on the setting of MRLs for muscle and fat for fat soluble pesticides. In response to the EU reservation on apples, the JMPR Secretariat advised that while the number of applications differed from GAP, the total application rate matched GAP, and that as decline trials showed no residue decrease, the JMPR agreed that the supervised trials matched Brazilian GAP.
54. The Committee noted the comment from the Observer from NHF over the continued use of this compound because of ecotoxicity concerns.
55. The Committee agreed to advance all the proposed draft MRLs for adoption at Step 5/8 and withdraw the CXLs for Brussels sprouts; cabbages, head; plums (including prunes) (includes all commodities in this subgroup); pome fruits; potato, as recommended by the 2016 JMPR.

#### **FIPRONIL (202)**

56. The EU and Norway expressed a reservation on the advancement of the proposed draft MRL for Basil due to their different residue definition for enforcement.
57. The Committee agreed to advance the proposed draft MRL for Basil for adoption at Step 5/8, as recommended by the 2016 JMPR.

#### **DIMETHOMORPH (225)**

58. The Committee agreed to advance the proposed draft MRL of 9 mg/kg for lettuce, leaf for adoption at Step 5/8, and to withdraw the previous recommendation of 20 mg/kg for Lettuce, Leaf, as recommended by the 2016 JMPR.

#### **CHLORANTRANILIPROLE (230)**

59. The EU and Norway expressed a reservation on the advancement of the proposed draft MRL for poultry meat due to their different policy on setting MRLs for muscle and fat for fat soluble pesticides.
60. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs as recommended by the 2016 JMPR.

#### **SAFLUFENACIL (251)**

61. The Committee noted the reservation of the EU and Norway on the advancement of all proposed draft MRLs due to a different enforcement residue definition. The Committee also noted the EU comment that an ARfD had been established in the EU and that they had identified potential acute dietary exposure concerns with regard to edible offal (mammalian).

62. The Committee also noted the concern raised by the Observer from NHF over potential ecotoxicological effects from use of the compound.
63. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

#### **SULFOXAFLO (252)**

64. The JMPR Secretariat informed the Committee that JMPR had received data for tree nuts; rice and other commodities in 2016, however as no labels were available the JMPR was not able to recommend maximum residue levels.
65. The Committee noted that labels had now been received and sulfoxaflor was scheduled for JMPR evaluation in 2018.

#### **PENTHIOPYRAD (253)**

66. The JMPR Secretariat informed the Committee that the GAP information provided by Australia allowed no consideration of an alternative GAP, for mustard greens and the Committee agreed to withdraw the proposed MRL for mustard greens.
67. The Committee agreed to advance the proposed draft MRL for maize fodder (dry) for adoption at Step 5/8.

#### **PICOXYSTROBIN (258)**

68. The JMPR Secretariat informed the Committee that the 2016 JMPR had received a new metabolism study on soya bean. After reviewing the new data the JMPR indicated that further information on the possible interconversion of the two metabolites was required. Additional information had been provided by the manufacturer for review by the 2017 JMPR.

#### **BENZOVINDIFLUPYR (261)**

69. The Committee noted the reservations of the EU and Norway on the advancement of the proposed draft MRLs for Fruiting vegetables, Cucurbits, due to a different policy on setting crop group MRLs; on the setting of MRLs for meat due to a different policy on setting MRLs for muscle when considering fat soluble residues. The EU also commented that a draft MRL 0.02 mg/kg for mammalian fats (except milk fat), as estimated by the OECD calculator, would be sufficient rather than the recommended 0.03 mg/kg.
70. The JMPR Secretariat commented that JMPR had a different policy on setting Crop Group MRLs and noted that if residues in the different commodities were similar, the JMPR would recommend group MRLs. Regarding the draft MRL for mammalian fats (except milk fat) the JMPR Secretariat indicated that the highest residue of 0.019 mg/kg was too close the calculator derived MRL estimate and chose the higher 0.03 mg/kg level.
71. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

#### **BIXAFEN (262)**

72. The Committee noted the reservation of the EU and Norway on the advancement of the proposed draft MRLs for meat (from mammals other than marine mammals) and poultry meat due to a different policy on setting MRLs for muscle and fat for fat-soluble pesticides.
73. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8.

#### **FLUENSULFONE (265)**

74. The EU and Norway expressed a reservation on the advancement of all the proposed draft MRLs due to questions on the residue definition (results of the metabolism studies did not reflect results from the field trials) and concern over the genotoxic potential of the methyl sulfone metabolite.
75. In response to the genotoxicity of methyl sulfone, the JMPR Secretariat responded that though there was a weakly positive result in the Ames test, the absence of genotoxicity was supported by negative results in in-vivo studies.
76. The Committee agreed to advance all proposed draft MRLs to Step 5/8 and the subsequent revocation of the associated CXLs, as recommended by the 2016 JMPR.

#### **TOLFENPYRAD (269)**

77. The Committee agreed to forward the proposed draft MRLs for pecan and potato for adoption at Step 5/8 as recommended by the 2016 JMPR.

**METRAFENONE (278)**

78. The Committee agreed to advance all the proposed draft MRLs for adoption at Step 5/8 with the subsequent revocation of the associated CXLs as recommended by the 2016 JMPR.

**ACETOCHLOR (280)**

79. In response to the concern form arising from CCPR48 relating to the 2015 JMPR not recommending a maximum residue level for soya beans, the JMPR Secretariat reconfirmed the previous decision that the use of proportionality could not be applied because the treatment regimes in the trials differed from GAP by more than one parameter.

**FLONICAMID (282)**

80. The EU and Norway expressed a reservation on the advancement of the proposed draft MRLs for food commodities of plant origin because they had a different residue definition for enforcement.
81. The JMPR Secretariat informed the Committee that the 2016 JMPR had reassessed the data for cucurbits in response to a concern form submitted following CCPR48, and had confirmed its previous conclusion that the maximum residue level should be derived only from outdoor cucurbits trials.
82. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8, and the subsequent withdrawal of the associated draft MRLs as recommended by the 2016 JMPR.

**FLUAZIFOP-P-BUTYL (283)**

83. The EU and Norway expressed a reservation on the advancement of the proposed draft MRLs for cabbages, head; tomato; beans, except broad bean and soya bean (green pods and immature seeds); peas, shelled (succulent seeds); beans (dry); carrot; potato; swede; turnip, garden; sunflower seed; meat (from mammals other than marine mammals); mammalian fats (except milk fats); edible offal (mammalian); milks; poultry meat; poultry fats; poultry, edible offal of; eggs due to their acute exposure concerns and different policies in setting MRLs for muscle when considering fat soluble residues.
84. The Committee noted the reservation of Brazil on the advancement of the proposed draft MRL for beans and cabbage due to their acute intake concern.
85. The Committee agreed to a proposal from the USA and Australia to withdraw the draft MRLs for sweet potato and yam to address chronic intake concerns identified by the 2016 JMPR. The Committee then decided to advance all remaining draft MRLs for adoption at Step 5/8.
86. The Observer from NHF expressed its concern to the advancement of the proposed draft MRLs due to over potential environmental impact.

**FLUPYRADIFURONE (285)**

87. The Committee noted the reservation of the EU and Norway on the advancement of all proposed draft MRLs for food commodities due to their different residue definition for enforcement.
88. China, Norway and EU supported the JMPR conclusion that a dietary exposure concern could not be precluded for celery; leaf lettuce; spinach; and mustard greens. As the manufacture indicated no alternative GAP was available, the Committee agreed to withdraw the proposed draft MRLs for spinach; leaf lettuce; mustard green; and celery and to advance the other proposed draft MRLs to Step 5/8.
89. The Observer from NHF expressed its concern over the use of this compound due to bee toxicity.

**ACIBENZOLAR-S-METHYL (288)**

90. The Committee noted the reservations of the EU and Norway on the advancement of the proposed draft MRLs for brassica (Cole or cabbage) vegetables, head cabbages, flowerhead brassicas; brassica leafy vegetables; and fruiting vegetables, cucurbits (due to their acute dietary exposure concern for EU consumers) and for citrus fruits; and kiwi fruit (due to lack of metabolism studies reflecting soil treatment).
91. The JMPR Secretariat responded that a substantial amount of relevant information was provided that addressed soil treatment despite there being no soil metabolism study available.
92. The Committee agreed to advance all the proposed draft MRLs to Step 5/8.

**IMAZETHAPYR (289)**

93. The Committee noted the reservations of the EU and Norway on the advancement of the proposed draft MRLs for all food commodities because of their pending evaluation of import MRLs and on rape seed (trials not analyzed for all compounds of the residue definition for risk assessment).
94. The Committee agreed to advance all the proposed draft MRLs to Step 5/8.



**ISOFETAMID (290)**

95. The Committee noted the reservations of the EU and Norway on the advancement of the proposed draft MRLs for animal commodities due to their different residue definition for enforcement.
96. The Committee agreed to advance all the proposed draft MRLs to Step 5/8.

**OXATHIPIPROLIN (291)**

97. The Committee noted the reservations expressed by the EU and Norway on the advancement of all the proposed draft MRLs. For plant commodities the reservation was due to the lack of information on concentrations of metabolites included in the residue definition for dietary risk assessment, in commodities from treated crops.
98. The JMPR Secretariat responded that these metabolites were predominantly found in commodities from rotational crops, and that they were no more toxic than the parent compound.
99. The Committee noted the reservations expressed by EU and Norway for commodities of animal origin the presentation of the assessment of animal products did not allow to verify the validity of the proposed MRLs.
100. The Delegation of EU commented that clear guidance was needed for active substances that lead to residues in rotational crops due to their persistence. The Committee noted that the OECD was developing such guidance.
101. The Committee agreed to advance all the proposed draft MRLs for adoption at Step 5/8 as recommended by the 2016 JMPR.

**PENDIMETHALIN (292)**

102. The Committee noted the reservations of the EU and Norway on the advancement of the proposed draft MRLs for brassica leafy vegetables, except kale; meat (from mammals other than marine mammals) and poultry meat, and welsh onion and spring onion.
103. The JMPR Secretariat responded that different assessment policies were applied with respect to leafy vegetables, except kale (extrapolation); animal commodities (setting MRLs for fat soluble residues in meat) and welsh onion and spring onion (minimum trial numbers).
104. The Committee agreed to advance all proposed draft MRLs for adoption at Step 5/8 as recommended by the 2016 JMPR.

**PINOXADEN (293)**

105. The EU and Norway expressed the reservations on the advancement of all the proposed draft MRLs for food commodities, due to their different residue definition for enforcement.
106. The Committee also noted the specific concerns from the EU and Norway on the advancement of the proposed MRLs for wheat and barley in the absence of feeding studies supporting the establishment of animal commodity MRLs.
107. The Committee agreed to advance all the proposed draft MRLs for adoption at Step 5/8, as recommended by the 2016 JMPR.

**SPIROMESIFEN (294)**

108. The Committee noted that reservation of the EU and Norway on the advancement of all the proposed draft MRLs for food commodities due to their different residue definition for enforcement.
109. The Committee decided to advance all the proposed draft MRLs for adoption at Step 5/8, as recommended by the 2016 JMPR.

**Conclusion**

110. The Committee:
  - (a) Agreed to forward to CAC40:
    - i. Draft MRLs for adoption at Step 8 (Appendix II)
    - ii. Proposed draft MRLs for adoption at Step 5/8 (Appendix III)
    - iii. Codex MRLs (CXLs) for revocation (Appendix IV)
  - (b) Noted that:
    - i. Draft and proposed draft MRLs retained at Steps 7 and 4 are attached as Appendices V and VI
    - ii. Draft and proposed draft MRLs withdrawn are attached as Appendix VII

**DRAFT AND PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED AT STEPS 7 AND 4: VEGETABLE COMMODITY GROUPS (Agenda Item 7a)<sup>10</sup>**

111. The United States of America, as Chair of the EWG on the revision of the Classification, explained that the EWG had compiled and reviewed all the vegetable commodity groups finalized by CCPR42-48 to ensure consistency in the terminology and code system and their location in Table 2 (examples of representative commodities). The Delegation further explained that CRD21 had been issued to address additional editorial corrections.

**Discussion**

Approach to the revision of the Classification

112. The Committee agreed with the following approach to the revision of the Classification: (i) to include a commodity only in one group or subgroup to avoid confusion of having two different CXLs for the same commodity; (ii) to include the same commodity with different plant parts in different groups to allow consideration of plant parts when describing a commodity; (iii) to include cross-referencing where commodities (without a code number) can be listed in a group, but with reference to its primary classification; (iv) to include the words “sub-group of” to the description of all subgroups to prevent misinterpretation between subgroups and individual commodities that share the same; and (v) to make consequential amendments to the revised fruit commodity group already adopted by CAC35 (2012) for consistency.

Impact of the revised vegetable commodity groups on the CXLs for vegetables

113. The EWG Chair recalled the approach agreed to by the Committee that following the revision of the Classification no change would be made to existing CXLs (as a result of some crops moving from one group to another group arising from the revision) until such a time JMPR would revise them following the procedures in place for the establishment of Codex schedules and priority list of pesticides.
114. The Committee agreed to incorporate the amendments to the existing CXLs arising from the revision of the vegetable commodity groups in the Codex Database for MRLs for Pesticides.

**Conclusion**

115. The Committee agreed to:
- i. Forward the draft and proposed draft revised vegetable commodity groups (Type 02) of the *Classification of Food and Feed* (CAC/MISC 4-1989) to CAC40 for adoption at Step 8 and 5/8 (Appendix VIII, part A);
  - ii. Forward consequential amendments to the fruit commodity groups (Type 01) of the *Classification of Food and Feed* (CAC/MISC 4-1989) related to the inclusion of the words “in subgroup of” to the description of all subgroups to CAC40 for adoption (Appendix IX);
  - iii. Attach the amendments to existing CXLs arising from the revision of the vegetable commodity groups as a reference to the Codex Secretariat in the revision of the Codex Database (Appendix X).

**DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED AT STEP 7: SELECTED COMMODITY GROUPS – GROUP 020 GRASSES OF CEREALS GRAINS (Agenda Item 7b)<sup>11</sup>**

116. The United States of America, as Chair of the EWG on the revision of the Classification, noted that the EWG had supported the inclusion of chia as a member of Group 020 (instead of the previously proposed Group 28 Spices) and the use of separate codes for commodities in Subgroup 020E Sweet Corns which remain as a separate subgroup. The Committee agreed with these recommendations.
117. The Committee considered the location of canarygrass and maize in Group 020 as follows:

**Discussion**

Location of canarygrass

118. The Committee agreed to relocate canarygrass from Subgroup 020D Maize, Grain Sorghum and Millet to Subgroup 020B Barley.

<sup>10</sup> CX/PR 17/49/06; Comments of Canada, EU, Ghana, Kenya, Thailand, Uganda and AU (CRD07); Nigeria (CRD12); Japan (CRD13); Senegal (CRD14); Indonesia (CRD15); China (CRD16); Revised draft and proposed draft revision of the *Classification of Food and Feed* at Steps 7 and 4: Vegetable commodity groups, prepared by USA and the Netherlands (CRD21); Revised Classification of Food and Feed as agreed by CCPR49 (prepared by USA and the Netherlands) (CRD23)

<sup>11</sup> CL 2017/19-PR (REV); Comments of Australia, Canada, Ecuador, EU, Kenya, Peru, USA and AU (CX/PR 17/49/07); Thailand (CRD07); Nigeria (CRD12); Japan (CRD13); Indonesia (CRD15); China (CRD16); Revised Classification of Food and Feed as agreed by CCPR49 (prepared by USA and the Netherlands) (CRD23)

Location of maize

119. The Committee considered a new proposal from Australia to establish a separate subgroup for maize. The proposal would have a minimum impact on Table 3 (examples of representative commodities) and was in line with the agreement reached at CCPR47<sup>12</sup> that sweet corn would be included in a separate subgroup.
120. The Committee noted general support for this proposal on the understanding that the new proposal clearly differentiate commodities harvested as immature (sweet corns) from those harvested as mature and dry (maize). In order to accommodate this relocation, grain sorghum should be selected as examples of representative commodity of the newly subgroup grain sorghum and millet as they produce the highest residue within this subgroup.
121. The Committee therefore agreed to have separate subgroups for maize (new Subgroup 020E) and sweet corns (Subgroup 020F) and to include grain sorghum as an example of representative commodity of grain sorghum and millet (revised Subgroup 020D).

Inclusion of oat naked

122. The Committee noted a request to add oat naked (*Avena nuda* L.) in Subgroup 020A Wheat (including pseudo-cereals without husk) as this commodity was traded without husk. However, it decided to include oat naked in Subgroup 020B Barley (including pseudo-cereals with husk) noting that this commodity had similar residue behaviour and agricultural practices with other commodities of this Subgroup.

**Conclusion**

See Agenda Item 7c.

**PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED AT STEP 4: SELECTED COMMODITY GROUPS – GROUP 021 GRASSES FOR SUGARS OR SYRUP PRODUCTION (Agenda Item 7c)<sup>13</sup>**

123. The United States of America, as Chair of the EWG on the revision of the Classification, noted that the EWG had recommended to maintain Group 021 Grasses for sugars or syrup production as currently established and to create a new separate (i) type or (ii) group for tree sap producers under Type 04 “Nuts and Seeds” while renaming the type accordingly. An additional question was whether the “portion of the commodity to which the MRL applies (and which is analyzed)” should be for the “whole commodity”.

**Discussion**Structure of Group 21

124. The Committee agreed to maintain Group 021 as currently established.

Location of tree sap producers

125. The Committee agreed to (i) create a new Group 025 for tree sap producers since they did not belong to the grass family and (ii) to include this group in a renamed Type 04 “Nuts, Seeds and Saps” in view of the large difference in forms between saps and the other commodities included in the Type.

Portion of the commodity to which the MRL applies (and which is analyzed)

126. The Committee agreed that the portion of the commodity to which the MRL applies (and which is analyzed) was the whole commodity as traded i.e. “stalk” for sorghum sweet and “cane” for sugar cane. The reference to “stalk” in the descriptor of GS 0658 was therefore removed.

**Conclusion**

127. The Committee agreed to:
- i. Forward the draft and proposed draft revised grass commodity groups (Type 03) namely Group 020 Grasses of cereal grains and Group 021 Grasses for sugar or syrup production of the *Classification of Food and Feed* (CAC/MISC 4-1989) to CAC40 for adoption at Step 8 and 5/8 (Appendix XI, part A) respectively.
  - ii. Request the EWG on the Classification to look at the possible expansion and grouping of Group 025 Tree Saps as well as the definition and the portion of the commodity to which the MRL applies and report back at the next session with a proposal for consideration (see Terms of Reference of the EWG, para. 141).

<sup>12</sup> REP15/PR, para. 132

<sup>13</sup> CL 2017/20-PR; Comments of Canada, Ecuador, EU, Kenya, Uganda, USA and AU (CX/PR 17/49/08); Thailand (CRD07); Nigeria (CRD12); Japan (CRD13); Indonesia (CRD15); Revised Classification of Food and Feed as agreed by CCPR49 (prepared by the USA and the Netherlands) (CRD23)

**PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED AT STEP 4: SELECTED COMMODITY GROUPS – GROUP 024 SEEDS FOR BEVERAGES AND SWEETS (Agenda Item 7d) <sup>14</sup>**

128. The United States of America, as Chair of the EWG on the revision of the Classification, noted that the EWG could not further expand Group 024 as commodities proposed for inclusion in this Group did not fit the crop grouping criteria or were already allocated to other groups (see para. 112). Therefore, the EWG had recommended to maintain Group 024 as presently established. Another question was the location in the Classification of commodities that did not fit the criteria for crop grouping for inclusion in any group in the Classification such as water chestnut, foxnut and lotus seeds.

**Discussion**

Structure of Group 024

129. The Committee agreed to maintain Group 024 as currently established. Any further work on this Group would relate to the inclusion of additional commodities only. Agreement was also reached to include senna seeds.

Inclusion of commodities in the Classification that do not meet the criteria for crop grouping

130. The Committee agreed with the development of a system that provide codes within the Classification for commodities which do not meet the crop criteria grouping (e.g. water chestnut, foxnut, lotus seeds, etc.). The development of such system should be further developed by the EWG and submitted for consideration by the next session of CCPR. The Committee also acknowledged that it would be not possible to select representative commodities for such commodities.

**Conclusion**

131. The Committee agreed to forward the proposed draft revised Group 024 Seeds for beverages and sweets of the *Classification of Food and Feed* (CAC/MISC 4-1989) for adoption at Step 5 (Appendix XII).

**PROPOSED DRAFT TABLES ON EXAMPLES OF SELECTION OF REPRESENTATIVE COMMODITIES (VEGETABLE AND OTHER COMMODITY GROUPS) FOR INCLUSION IN THE PRINCIPLES AND GUIDANCE FOR THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES FOR COMMODITY GROUPS AT STEP 4 (Agenda Item 7e) <sup>15</sup>**

132. The United States of America, as Chair of the EWG on the revision of the *Classification*, noted that the EWG had completed the revision of Table 2 and Table 3 on examples of representative commodities for Type 02 (vegetable commodity groups) and Type 03 (grass commodity groups).

**Discussion**

Table 2 – Representative commodities for vegetable commodity groups

*General considerations on examples of representative commodities in Table 3*

133. Australia was of the view that the representative crops could be significantly simplified to provide a smaller set of commodities that would be effective for use in group MRL establishment and that was more in line with current JMPR practice. Australia highlighted that the *Principles and Guidance on the Selection of Representative Commodities for the Extrapolation of Maximum Residue Limits for Pesticides to Commodity Groups* (CAC/GL 84-2012) was a guidance document only, and that, as stressed in the footnotes to the tables, countries were free to choose alternative representative crops on the basis of regional production and dietary consumption factors. Additionally, Australia noted that countries were free to propose to JMPR, and JMPR was free to select, representative crops for the recommendation of group MRLs on the basis of the GAP and the residue trial data available to the specific meeting.
134. Several delegations supported these comments and noted that the tables in CAC/GL 84-2012 provide only examples of representative commodities.

<sup>14</sup> CL 2017/21-PR; Comments of Canada, Ecuador, EU, Kenya, Republic of Korea, USA and AU (CX/PR 17/49/09); Nigeria (CRD12); China (CRD16); Revised Classification of Food and Feed as agreed by CCPR49 (prepared by USA and the Netherlands) (CRD23)

<sup>15</sup> CL 2017/22-PR; Comments of Australia, Canada, Chile, Ecuador, EU, Ghana, Kenya, Uganda, USA and AU (CX/PR 17/49/10); Thailand (CRD07); Nigeria (CRD12); Japan (CRD13); China (CRD16); Revised draft and proposed draft revision of the Classification of Foods and Feed at Steps 7 and 4: Vegetable commodity groups (prepared by USA and the Netherlands) (CRD21); Revised Classification of Food and Feed as agreed by CCPR49 (prepared by USA and the Netherlands) (CRD23)

*Subgroup 010A – Broccoli / Cauliflower as examples of representative commodities for flowerhead brassicas*

135. India requested for clarification of the words “Broccoli (*could be partly replaced by* Cauliflower)” in the example of representative commodity of Subgroup 010A and noted that sentence was unclear, and did not reflect the situation of these crops in the country as India was a major producer of cauliflower but with a minimal production of broccoli. The Delegation indicated that it would be more appropriate to refer to “broccoli and/or cauliflower” in line with the approach taken for the description of examples of representative commodities.
136. The Committee noted that broccoli had higher residues content than cauliflower. In addition, the footnote in the column “Examples of representative commodities” allowed for flexibility based on the local conditions related to volume of production and consumption patterns.

*Group 011 (fruiting vegetables, cucurbits) – Removal of watermelon as example of representative commodity*

137. As residues in watermelons were usually lower than melons, the Committee agreed to remove watermelons as example of representative commodity in Group 011. Thailand noted that there were several varieties of watermelons both small and large sizes cultivated in their country, the residues of the small size varieties showing higher levels. Thailand had no objection with the removal of watermelons from Group 011 (in particular Subgroup 011B) on the understanding that Codex members had the right to select alternative commodity according to their data of residue, production and consumption patterns.

*Group 012 (fruiting vegetables, other than cucurbits) - Tomatoes as example of representative commodity in Subgroups 012A (tomatoes) and 012C (eggplant and eggplant-like commodities)*

138. With regard to the inclusion of tomato in the example of representative commodity of Subgroup 012C, Eggplant and eggplant-like commodities, the Committee noted that the example was appropriate as residues of small tomatoes and eggplants were considered very similar.

Table 3

139. In addition to editorial changes to improve consistent presentation of the tables, the Committee amended Table 3 to reflect decisions related to canaryseed and maize and the inclusion of additional commodities.

**Conclusion**

140. The Committee agreed to:
- i. Forward the proposed draft Table 2 on Examples of selection of representative commodities (vegetable groups) (Appendix VIII, part B) and Table 3 on Examples of selection of representative commodities (grass groups) to CAC40 for adoption at Step 5/8 (Appendix XI, part B) and inclusion in the *Principles and guidance for the selection of representative commodities for the extrapolation of maximum residue limits for pesticides for commodity groups* (CAC/GL 84-2012).
  - ii. Request the EWG on Classification to continue working on Table 4 (nuts, seeds and saps) and to report back at the next session with a proposal for consideration (see Terms of Reference of the EWG, para. 141).

**Terms of Reference of the EWG on the revision of the Classification**

141. The Committee agreed to re-establish the EWG chaired by USA and co-chaired by the Netherlands working in English only with the following Terms of Reference:
- i. Continue work on Group 024 Seeds for beverages and sweets and the new Group 025 Sap producing trees and determine if these groups can be expanded to other commodities.
  - ii. Review the consistency of the nuts, seeds and saps groups, their codes and their location in Table 4 of the renamed Type 04 Nuts, Seed and Saps.
  - iii. Develop a system within the Classification to provide codes for commodities that do not meet the criteria for crop grouping.
  - iv. Consider new commodities for Type 05 Herbs and Spices.
  - v. Review the consistency of the herbs and spices groups, their codes and their location in Table 5 of Type 05 Herbs and Spices.
  - vi. Report back on how the CXLs in the database would be impacted by the revised grass commodity groups and subgroups; by the revised nuts, seeds and saps commodity groups and subgroups; and by the revised herbs and spices commodity groups and subgroups.
  - vii. Start considering the revision of Class C “Primary animal feed commodities”.
142. The Committee noted the following:

- Group 011 Tree nuts and Group 023 Oilseeds had already been finalized by CCPR and put on hold (Step 7) awaiting the finalization of the revision of the newly renamed Type 04 Nuts, Seeds and Saps.
- Group 027 Herbs and Group 028 Spices had already been finalized by CCPR and put on hold (Step 7) awaiting finalization of the revision of Type 05 Herbs and Spices.

Therefore, finalization of these groups should only relate to compilation and review to ensure consistency in the terminology and code system and their location in the relevant tables for representative commodities including the allocation of some additional commodities as appropriate (e.g. Group 028 Spices).

143. The Committee further agreed to inform CCEXEC that the revision of Class C “Primary animal feed commodities” would be completed by CCPR52 (2020) and that at this stage it was not possible to indicate when work on the remaining three classes, i.e. Primary food commodities of animal origin (Class B); Processed food of plant origin (Class D); and Processed food of animal origin (Class E) could be completed.

**DRAFT GUIDELINES ON PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR THE DETERMINATION OF PESTICIDE RESIDUES IN FOOD (Agenda Item 8)<sup>16</sup>**

144. The United States of America, as Chair of the in-session WG, introduced CRD22 and summarized the key changes introduced in the document based on the written comments submitted at this session and the viewpoints of the participating Codex members and observers for consideration by the Committee.
145. The Committee agreed to consider the guidelines as revised in CRD22 and, besides the changes proposed by the WG, made a few other changes to improve the clarity and consistency of the text. The Committee further noted that the scope of the guidelines had been extended to cover “feed” as the provisions in the document could also apply to feed.

**Conclusion**

146. The Committee agreed to forward the draft renamed Guidelines on performance criteria for methods of analysis for the determination of pesticide residues in food and feed to CAC40 for adoption at Step 8.

**DISCUSSION PAPER ON THE POSSIBLE REVISION OF THE INTERNATIONAL ESTIMATE OF SHORT-TERM INTAKE (IESTI) EQUATIONS (Agenda Item 9)<sup>17</sup>**

147. The Netherlands, as Chair of the EWG / in-session WG on the review of the IESTI equations, introduced the item and recalled that the discussion paper had been prepared to address the concern of a number of countries that conducting the assessment using the current IESTI equations with specific parameters might result in short-term intake dietary exposure exceeding the ARfD even when the residue levels found were still in compliance with the MRLs. The Delegation noted that the IESTI equations were protective of public health and that the review should not lead to substantial changes in the level of conservatism.
148. The Delegation referred to the mandate of the EWG and the work accomplished in relation to the identification of the advantages and challenges that might arise from the possible revision of the current IESTI equations and the impact on risk management, risk communication, consumer protection and trade. The Delegation noted that the EWG could not fully accomplish its work because of the divergent views on the need to revise the IESTI equations.
149. The Delegation also referred to the outcome of the discussion of the in-session WG established by CCPR49 to determine the further steps in the discussion of the review of the IESTI equations. The Delegation noted that the in-session WG discussed revised mandates for both the CCPR/EWG and the FAO/WHO scientific advice based on the recommendations in paragraphs 28-42 of discussion paper (noting that there was no missing information but a mistake in the paragraphs numbering).

**Discussion**

**Establishment of the CCPR/EWG**

150. The Committee noted general support to continue the discussion on the review of the IESTI equations.

<sup>16</sup> CL 2016/27 (REV); Comments of Albania, Australia, Canada, China, Colombia, Costa Rica, Cuba, Egypt, EU, Haiti, India, Mexico, New Zealand, Thailand, Uruguay, USA, and IAEA (CX/PR 17/49/11); Brazil, Kenya, Peru, Uganda and AU (CRD08); Senegal (CRD14); Indonesia (CRD15); China (CRD16); Revised draft Guidelines on performance criteria for methods of analysis for the determination of pesticide residues in food (prepared by USA) (CRD20); Revised draft Guidelines on performance criteria for methods of analysis for the determination of pesticide residues in food (prepared by in-session WG chaired by USA and co-chaired by China and India) (CRD22)

<sup>17</sup> CX/PR 17/49/12; Comments of Chile, Ecuador, El Salvador, EU, Kenya, Peru, Uganda, AU and CropLife (CRD09); Japan (CRD13); Senegal (CRD14); China (CRD16); ALINA (CRD18); Report of the in-session WG on the review of the IESTI equations chaired by Netherlands and co-chaired by Australia (CRD24)

151. The JMPR Secretariat noted that the periodic review of scientific methodologies was a normal process in particular when the approach was data-driven and needs the review of available information.
152. Delegations expressed the following views:
- There is a need to provide more information on the history, background and use of the IESTI equations to better understand and justify the need for this review and to better input in the discussions in the EWG.
  - There is a need to complete the work of the EWG established by CCPR48 in particular on the potential impact of the revision of the parameters in the IESTI equations on consumer health protection and trade facilitation.
  - There is a need to assess the reliability and robustness of the parameters in the IESTI equations to improve and strengthen enforcement of the MRLs.
  - The discussion on the review of the IESTI equations should not lead on increased level of conservatism of the current IESTI equations.
  - Agreement on the revision of the IESTI equation is premature hence the new established EWG should further explore the issues at hand and present the findings for consideration by CCPR50.

#### Mandate of the CCPR/EWG

##### *First bullet point*

153. The Committee noted that it would be helpful to provide information on the history, background and use of the IESTI equations so that members of the EWG could better understand the issues at hand and had a more active and effective participation in the discussion. This would assist the EWG in the development of conclusions and recommendations on how to move forward for consideration by CCPR50.

##### *Second bullet point*

154. The Committee noted that the task related to the need to complete the work of the EWG established by CCPR48 and to provide illustrative examples on e.g. what pesticide / commodity combinations presented MRLs they might result in short-term dietary exposure exceeding the ARfD (as calculated with the IESTI equations).

##### *Third bullet point (new)*

155. The Committee noted that this task related to the issues identified in Table 3, Appendix 2 of CX/PR 17/49/12 as relevant to risk management (or a combination of risk management and risk assessment) that would be important to develop or gather information for input in the risk assessment process carried out by FAO and WHO.

##### *Fourth bullet point*

156. The Committee noted that a review of the parameters in the IESTI equations and benchmarking the outcome of the IESTI equations to a probabilistic distribution of actual exposures were the remit of risk assessment so it was not the responsibility of CCPR. These points were spelt out in the recommendations to the FAO/WHO scientific advice and reflect regular risk assessment practices of FAO/WHO.
157. The Committee further noted that consideration of the outcome of the studies carried out by the FAO/WHO and other robust studies that become available were the remit of risk management so it was the responsibility of CCPR. The result of the risk assessment studies would be considered by CCPR in order to determine the level of consumer protection provided by the IESTI equations and whether there was a need to revise the equations.
158. Therefore, the Committee agreed not to include any reference to the above in the mandate of the EWG.

#### Recommendations to the FAO/WHO scientific advice

159. The Committee agreed with the recommendations to FAO/WHO.
160. The Committee highlighted the need to provide data in reply to the call for data on pesticide residue monitoring in order to ensure a robust and realistic estimate of the probability of exceedance of ARfDs in all regions (see paras. 8 and 11).

#### Conclusion

161. The Committee agreed to establish an EWG, chaired by the Netherlands and co-chaired by Australia and Uganda, working in English with the following Terms of Reference:

- i. To provide information on the history, background and use of the IESTI equations.
- ii. To review and provide illustrative comments on advantages and challenges that arise from the current IESTI equations and their impact on risk management, risk communication, consumer protection goals and trade.
- iii. To gather relevant information on bulking and blending, as well as other information or data as outlined in Table 3 Appendix 2 of CX/PR 17/49/12 in order to feed into the risk assessors work through the JMPR Secretariat.
- iv. On the basis of the above considerations develop a discussion paper providing recommendations for consideration at CCPR 50.

The Committee noted that non-official translation of documents into Spanish would be made available to facilitate the participation of Spanish-speaking countries.

162. The Committee agree to request FAO/WHO:

- i. To review the basis and the parameters of the IESTI equations;
- ii. To benchmark the outcomes of IESTI equations to a probabilistic distribution of actual exposures; and
- iii. To present the outcome to CCPR.

163. The Committee noted that interaction between risk managers (CCPR) and risk assessors (FAO/WHO, JMPR) would be done through the JMPR Secretariat. The Committee called upon an active participation of the JMPR Secretariat in the CCPR/EWG on the review of the IESTI equations to ensure proper focus and liaison between risk managers and risk assessors.

#### **ESTABLISHMENT OF CODEX SCHEDULES AND PRIORITY LISTS OF PESTICIDES (Agenda Item 10a)<sup>18</sup>**

164. Australia, as Chair of the EWG on Priorities, opened the discussion on Codex Schedules and Priorities and invited Canada to introduce the proposal for an extraordinary session of the JMPR in May 2019 to be funded by Canada.
165. Delegations indicated strong support for an extraordinary session of JMPR. The EWG Chair requested members and observers closely consider CRD02 and noted how a proposed Schedule would be generated for this extraordinary meeting. The Committee thanked Canada for providing support to the scientific advice to CCPR work.
166. The EWG Chair introduced the revised Schedules and Priority Lists of Pesticides (CRD02).
167. The Committee noted the decision taken at CCPR48 to utilize a date-stamp to signify when all scheduling criteria specified in the Risk Analysis Principles applying to CCPR (Codex Procedural Manual) were met. Accordingly nominations were now placed in order of receipt by member countries of all relevant data including product labels and evidence of national registrations from manufacturers, compound sponsors or nominators. A member country then forward those nominations to the Chair of the EWG Priorities. The nominations include upper case text for commodities where there was confirmation of a national registration.

#### **2018 Schedule for JMPR evaluations**

168. The EWG Chair provided the list of eight new compounds to be scheduled for JMPR evaluation plus two reserve compounds.
169. The EWG Chair advised the Committee that there were 20 confirmed new use and other evaluations listed in the proposed 2018 Schedule.
170. The proposed 2018 Schedule of Periodic Reviews was confirmed with six compounds. However, the JMPR acknowledged that with eight new and five plus one reserve old compounds for full evaluation, the workload may exceed available resources. Nevertheless, the JMPR would include all 16 compounds in the "data call-in", which includes reserves.
171. The EWG Chair noted comments in response to CL 2016/12-PR which sought a reasonable balance of new and old compound evaluations. The Committee agreed that the 8:5 ratio would be maintained, i.e. should the need arise, replace an old compound with a reserve old compound and likewise for new compounds.

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<sup>18</sup> CL 2017/12-PR; CX/PR 17/49/13; Revised Schedules and Priority Lists of Pesticides (prepared by Australia) (CRD02); Proposal of Canada for an extraordinary meeting of JMPR (CRD03); Comments of Egypt, El Salvador, EU, Kenya and Thailand (CRD10); Senegal (CRD14); China (CRD16)



**2019 Proposed Schedule for the Extraordinary Session of JMPR**

172. The EWG Chair directed the Committee to CRD02 paragraphs 19-21 to indicate that the proposed Schedule for the Extraordinary Session of JMPR would draw on the nominations listed in the 2019 Priority List on new use and other evaluations. The EWG Chair informed the Committee that 15 nominations were already confirmed following the submission of product labels and evidence of a national registration for the evaluation of the JMPR extraordinary session in 2019.
173. The Committee invited members and observers to submit all relevant information supporting a nomination to the new uses and other evaluation in the Priority List.

**Conclusion**

See Agenda Item 10(b).

**INFORMATION ON NATIONAL REGISTRATIONS OF PESTICIDES (BASED ON INFORMATION SUBMITTED IN REPLY TO CL 2017/18-PR)****DISCUSSION PAPER ON THE ESTABLISHMENT OF A CODEX DATABASE OF NATIONAL REGISTRATIONS OF PESTICIDES (Agenda Item 10b)<sup>19</sup>**

174. The EWG Chair introduced the item and noted the assistance of the co-chair from Germany for significant guidance in developing the national registration database proposal for compounds listed in Tables 2A and 2B and the format of the country-specific worksheets.
175. The EWG Chair provided some examples: carbosulfan, carbofuran and ethoxyquin to explain uses of the database. Further explanation was provided on the need for each member to take responsibility for the maintenance and update of respective country-specific worksheets. The Committee strongly supported the development of the national registration database.
176. The Codex Secretariat indicated that a web-based platform would be established in the Codex website to "house" the national registrations database which would allow each member to upload updates and revisions to respective country-specific worksheets. The Committee supported the Codex initiative.

**Conclusion**

177. The Committee agreed:
- i. To forward the proposed Schedule of Pesticides for evaluation by the 2018 JMPR to CAC for approval (Appendix XIV, Part A).
  - ii. To re-convene the EWG on Priorities, chaired by Australia and co-chaired by Germany working in English. The EWG will be tasked with providing a report on the schedules and priority list for consideration and coordinating further work to develop the national registration database for compounds listed in Tables 2A and 2B at the next session of CCPR.
  - iii. That Australia and Germany would continue working together over the next twelve months with a circular letter to be issued seeking further input to the database. In addition, the CL will introduce further ideas on the management of the database and consider whether or not to broaden the scope of the database to include all compounds listed on the CCPR Pesticide List.

**OTHER BUSINESS AND FUTURE WORK (Agenda Item 11)**

178. The Committee noted that there were no other business to discuss.

**DATE AND PLACE OF THE NEXT SESSION (Agenda Item 12)**

179. The Committee was informed that its 50<sup>th</sup> 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.

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<sup>19</sup> CL 2017/18-PR; CX/PR 17/49/14; CX/PR 17/49/15; Comments of Egypt, EU, Ghana, Kenya, AU (CRD11); Senegal (CRD14); China (CRD16); ALINA (CRD18); Additional replies to CL 2017/18-PR on national registrations of pesticides (CRD19)

**APPENDIX I****LIST OF PARTICIPANTS – LISTE DES PARTICIPANTS – LISTA DE PARTICIPANTES****CHAIRPERSON**

Mr Xiongwu Qiao  
 Professor/Deputy Director General  
 Shanxi Academy of Agricultural Sciences  
 2 Changfeng Street Taiyuan Shanxi Province  
 Shanxi, China  
 Tel: +86 351 7581865  
 Email: [ccpr\\_qiao@agri.gov.cn](mailto:ccpr_qiao@agri.gov.cn)

**VICE-CHAIR**

Dr Guibiao Ye  
 Professor/Director  
 CCPR Secretariat Institute for the Control of Agrochemicals  
 Ministry of Agriculture  
 Room 904, Building NO.18, Maizidian Street, Chaoyang District,  
 Beijing, China  
 Tel: +86 010 59194302  
 Email: [yeguibiao@agri.gov.cn](mailto:yeguibiao@agri.gov.cn)

**ANTIGUA AND BARBUDA -  
ANTIGUA-ET-BARBUDA -  
ANTIGUA Y BARBUDA**

Mr Joel Matthew  
 Agricultural Officer  
 Extension Division  
 Ministry of Agriculture, Land, Fisheries and Barbuda  
 Affairs  
 St. John's  
 Antigua and Barbuda  
 Tel: 1 268 720 5678 /1 268 462 106  
 Email: [joelmtthw@yahoo.com](mailto:joelmtthw@yahoo.com)

**ARGENTINA - ARGENTINE**

Mrs Gabriela Catalani  
 Punto Focal Codex  
 DNRAI  
 Ministerio de Agroindustria  
 Azopardo 1025, piso 11, of 1  
 Buenos Aires  
 Argentina  
 Tel: 54 -11- 4363-6265/6290  
 Email: [gcatal@magyp.gob.ar](mailto:gcatal@magyp.gob.ar)

Mr Daniel Mazzarella  
 SENASA – Servicio Nacional de Sanidad y Calidad  
 Agroalimentaria  
 Dirección Nacional De Agroquímicos, Productos  
 Farmacológicos Y Alimentos  
 Avenida Paseo Colon 439 4º Piso  
 Buenos Aires  
 Argentina  
 Tel: +5411- 4121-5335  
 Email: [dmazzare@senasa.gob.ar](mailto:dmazzare@senasa.gob.ar)

**AUSTRALIA - AUSTRALIE**

Mr Ian Reichstein  
 Director, National Residue Survey  
 Department of Agriculture and Water Resources  
 GPO Box 858  
 Canberra ACT  
 Australia  
 Tel: +61 2 6272 5668  
 Email: [ian.Reichstein@agriculture.gov.au](mailto:ian.Reichstein@agriculture.gov.au)

Mr Kevin Bodnaruk  
 Consultant  
 Horticulture Innovation Australia  
 26/12 Phillip Mall  
 West Pymble NSW  
 Australia  
 Tel: +61 2 9499 3833  
 Email: [kevinakc@bigpond.net.au](mailto:kevinakc@bigpond.net.au)

Ms Karina Budd  
 Director, Residues Chemistry and Laboratory  
 Performance  
 Department of Agriculture and Water Resources  
 GPO Box 858  
 Canberra City  
 Australia  
 Tel: +61262725795  
 Email: [karina.budd@agriculture.gov.au](mailto:karina.budd@agriculture.gov.au)

Dr Jason Lutze  
 A/g Executive Director, Scientific Assessment and  
 Chemical review Program  
 Australian Pesticides and Veterinary medicines  
 Authority  
 PO Box 6182  
 Kingston  
 Australia  
 Tel: +61 2 6210 4746  
 Email: [jason.lutze@apvma.gov.au](mailto:jason.lutze@apvma.gov.au)

Mr Gerard McMullen  
Consultant  
McMullen Consulting Pty Ltd  
76 Bruce Street  
Coburg VIC  
Australia  
Tel: +61 3 8300 0108  
Email: [gerardmcmullen@optusnet.com.au](mailto:gerardmcmullen@optusnet.com.au)

**AUSTRIA - AUTRICHE**

Mr Ingo Grossesteiner  
Austrian Agency for Health and Food Safety  
Spargelfeldstrasse 191  
Vienna  
Austria  
Tel: +43 50555 33472  
Email: [ingo.grossesteiner@ages.at](mailto:ingo.grossesteiner@ages.at)

**BRAZIL - BRÉSIL - BRASIL**

Mr Carlos Venancio  
Head of Pesticide Registration Division  
Ministry of Agriculture Livestock and Food Supply  
Brasília  
Brazil  
Tel: 55 61 3218-2445  
Email: [carlos.venancio@agricultura.gov.br](mailto:carlos.venancio@agricultura.gov.br)

Mr Marcus Venicius Pires  
General Management of Toxicology  
Brazilian Health Surveillance Agency - ANVISA  
SIA (Setor de Indústria e Abastecimento)  
Trecho 05 Área Especial 57, Lote 200  
Brasília  
Brazil  
Email: [marcus.pires@anvisa.gov.br](mailto:marcus.pires@anvisa.gov.br)

**CAMEROON - CAMEROUN - CAMERÚN**

Mr Nya Edouard  
Inspecteur phytosanitaire  
Ministère de l'Agriculture et du Développement Rural  
Yaoundé  
Cameroon  
Tel: 237 696189973  
Email: [nyaedouard@yahoo.fr](mailto:nyaedouard@yahoo.fr)

Mrs Ingratia Marie Luz Kayitavu Kone Sim  
Point de Contact Codex  
Ministère des Mines, de l'Industrie et du Développement Technologique  
Yaoundé  
Cameroon  
Tel: +237 677574283  
Email: [kayitavu@yahoo.fr](mailto:kayitavu@yahoo.fr)

**CANADA - CANADÁ**

Ms Monique Thomas  
Section Head  
Pest Management Regulatory Agency  
Health Canada  
Sir Charles Tupper Building Address locator: 6605E  
2720 Riverside Drive  
Ottawa  
Canada  
Tel: 613 736-3539  
Email: [monique.thomas@canada.ca](mailto:monique.thomas@canada.ca)

Ms Jennifer Ballantine  
Research Sites Manager  
Pest Management Centre  
Agriculture and Agri-Food Canada Pest Management Centre 960 Carling Ave  
Ottawa  
Canada  
Tel: 613 759-7953  
Email: [jennifer.ballantine@agr.gc.ca](mailto:jennifer.ballantine@agr.gc.ca)

Mr Jason Flint  
Director General, Policy, Communications and Regulatory Affairs Directorate  
Pest Management Regulatory Agency  
Health Canada  
2720 Riverside Dr.  
Ottawa  
Canada  
Tel: 613 736-3660  
Email: [jason.flint@canada.ca](mailto:jason.flint@canada.ca)

Mrs Louise Roberge  
President  
Tea and Herbal Association of Canada  
13 Richmond Street west Suite 207 Toronto, Ontario  
Toronto  
Canada  
Tel: 416 510-8647  
Email: [louise.roberge@tea.ca](mailto:louise.roberge@tea.ca)

Ms Rebeka Tekle  
Acting Deputy Director  
Technical Trade and Policy Division  
Agriculture and Agri-Food Canada  
1305 Baseline Road  
Ottawa  
Canada  
Tel: 613 773-1759  
Email: [Rebeka.Tekle@agr.gc.ca](mailto:Rebeka.Tekle@agr.gc.ca)

Dr Jian Wang  
Head, Research Scientist  
Calgary Laboratory, Research and Development  
Canadian Food Inspection Agency  
Agency 3650 36th Street NW Calgary, Alberta  
Calgary  
Canada  
Tel: 403 338-5273  
Email: [jian.wang@inspection.gc.ca](mailto:jian.wang@inspection.gc.ca)

**CHILE - CHILI**

Ms Roxana Vera Muñoz  
 Coordinadora Unidad de Acuerdos Internacionales  
 Servicio Agrícola y Ganadero (SAG)  
 División de Asuntos Internacionales  
 Ministerio de Agricultura  
 Bulnes 140, piso 5.  
 Santiago  
 Chile  
 Tel: 56 2 23451167  
 Email: [roxana.vera@sag.gob.cl](mailto:roxana.vera@sag.gob.cl)

Mr Eduardo Aylwin Herman  
 Asesor  
 Agencia Chilena para la Inocuidad y Calidad  
 Alimentaria, ACHIPIA  
 Ministerio de Agricultura  
 Nueva York 17, piso 4  
 Santiago  
 Chile  
 Tel: +56 2 27979900  
 Email: [eduardo.aylwin@achipia.gob.cl](mailto:eduardo.aylwin@achipia.gob.cl)

Mrs Paulina Chávez  
 Asesor Técnico  
 Departamento de Nutrición y Alimentos  
 Ministerio de Salud  
 Monjitas 565, piso 10  
 Santiago  
 Chile  
 Tel: +56 225740619  
 Email: [pchavez@minsal.cl](mailto:pchavez@minsal.cl)

Mrs Claudia Zamora Figueroa  
 Asesor Técnico  
 Servicio Agrícola y Ganadero (SAG)  
 Departamento de Laboratorios y Estaciones  
 Cuarentenarias  
 Ministerio de Agricultura  
 Ruta 68 n° 19100, Parcela SAG, Pudahuel  
 Santiago  
 Chile  
 Tel: +56 223451844  
 Email: [claudia.zamora@sag.gob.cl](mailto:claudia.zamora@sag.gob.cl)

**CHINA - CHINE**

Mrs Ying Ji  
 Professor/Chief Agronomist  
 Institute for the Control of Agrochemicals, MOA,  
 P.R.China  
 Building No. 22, Maizidian street, Chaoyang District,  
 Beijing, China  
 Beijing  
 China  
 Tel: +86 13910737120  
 Email: [jying@agri.gov.cn](mailto:jying@agri.gov.cn)

Mr Kit Hong Chan  
 Senior Technician  
 Food Safety Centre Division of Risk Assessment  
 Rua Nova de Areia Preta, no.52 Centro de Sericos  
 3 andar da RAEM MACAO  
 China  
 Tel: +86 15344854325  
 Email: [kithongc@iacm.gov.mo](mailto:kithongc@iacm.gov.mo)

Ms Ho-yan Chung  
 Scientific Officer (Pesticide Residues)  
 Center for Food Safety, Food and Environmental  
 Hygiene Department, HKSAR Government  
 43/F, Queensway Government Offices, 66  
 Queensway, Hong Kong  
 China  
 Tel: +86 852 28675606  
 Email: [hychung@fehhd.gov.hk](mailto:hychung@fehhd.gov.hk)

Ms Hao Ding  
 Assistant Researcher  
 China National Center for Food Safety Risk  
 Assessment  
 37 Guangqu Road, Building 2, Chaoyang, Beijing  
 Beijing  
 China  
 Tel: +86 010 52165407  
 Email: [dinghao@cfsa.net.cn](mailto:dinghao@cfsa.net.cn)

Ms Tao Ding  
 FIRST SECRETARY  
 Ministry of Commerce of the People's Republic of  
 China  
 No.2 Dong Chang'an Avenue, Dong Cheng District,  
 Beijing China  
 China  
 Tel: +86 010 65197380  
 Email: [dingtao@mofcom.gov.cn](mailto:dingtao@mofcom.gov.cn)

Ms Chin Man Ku  
 Technical assistant  
 Division of Risk Assessment, Food Safety Centre,  
 I.A.C.M., Macao S.A.R.  
 Rua Nova de Areia Preta, N°.52 Centro de Servicos  
 3 andar da Raem, Macao  
 Macao  
 China  
 Tel: +86 853 62491850  
 Email: [cmku@iacm.gov.mo](mailto:cmku@iacm.gov.mo)

Mr Fugen Li  
 Professor/Director  
 Institute for the Control of Agrochemicals, MOA,  
 P.R.China  
 Building No. 22, Maizidian street, Chaoyang District,  
 Beijing, China  
 Beijing  
 China  
 Tel: +86 010 59194739  
 Email: [lifugen@agri.gov.cn](mailto:lifugen@agri.gov.cn)

Mr Haitao Liu  
Program Officer  
Department of International Cooperation, Ministry of Agriculture  
Division of International Organization  
No.11,Nongzhanguannanli, Chaoyang District,  
Beijing  
China  
Tel: +86 010 59192429  
Email: [liu\\_haitao@agri.gov.cn](mailto:liu_haitao@agri.gov.cn)

Prof Fengmao Liu  
Professor  
China Agricultural University  
No.2 Yuanmingyuan West Road,Hai dian  
District,Beijing,China Agricultural University,  
Beijing  
China  
Tel: +86 18901175536  
Email: [lfm2000@cau.edu.cn](mailto:lfm2000@cau.edu.cn)

Mr Huanchen Liu  
Assistant Researcher  
China National Center for Food Safety Risk  
Assessment  
37 Guangqu Road, Building 2, Chaoyang  
Beijing  
China  
Tel: +86 010 52165468  
Email: [liuhuanchen@cfsa.net.cn](mailto:liuhuanchen@cfsa.net.cn)

Mr Zhenbin Mao  
China Food And Drug Administration  
26 Xuanwumen Xidajie,  
Beijing,  
China  
Tel: +86 010 88331073  
Email: [wangxiaofeng121@126.com](mailto:wangxiaofeng121@126.com)

Prof Canping Pan  
Professor  
China Agricultural University  
College of Science, China Agricultural University  
Yuanmingyuan Western Road 2,Haidian District  
Beijing  
China  
Tel: +86 13701327882  
Email: [canpingp@cau.edu.cn](mailto:canpingp@cau.edu.cn)

Mr Chuanjiang Tao  
Professor/ Director  
Institute for the Control of Agrochemicals, MOA,  
P.R.China  
Building No. 22, Maizidian street, Chaoyang District,  
Beijing  
China  
Tel: +86 13910595002  
Email: [taochuanjiang@agri.gov.cn](mailto:taochuanjiang@agri.gov.cn)

Prof Songxue Wang  
Researcher  
Academy of State Administration of Grain  
No.11 Baiwangzhuang Street Xicheng District  
Beijing  
China  
Tel: +86 010 58523708  
Email: [wsx@chinagrains.org](mailto:wsx@chinagrains.org)

Ms Guangyan Zhu  
Senior Technician  
Institute for the Control of Agrochemicals, MOA,  
P.R.China  
Building No. 22, Maizidian street, Chaoyang District,  
Beijing  
China  
Tel: +86 010 5919 4105  
Email: [zhuguangyan@agri.gov.cn](mailto:zhuguangyan@agri.gov.cn)

#### **COSTA RICA**

Mr Guillermo Arrieta Quesada  
Jefe de la Unidad de Control de Residuos de  
Agroquímicos  
Servicio Fitosanitario del Estado  
San Jose  
Costa Rica  
Tel: (506) 2549-3604  
Email: [garrieta@sfe.go.cr](mailto:garrieta@sfe.go.cr)

#### **CUBA**

Dr Tomás Joaquín Gómez Bernia  
Especialista del Departamento Nacional de Higiene  
de los Alimentos y Nutrición  
Higiene y Nutrición de los Alimentos  
Ministerio de Salud Pública  
Calle 23 y N Vedado. Plaza de la Revolución  
La Habana  
Cuba  
Tel: +5378300022  
Email: [tgomezb@infomed.sld.cu](mailto:tgomezb@infomed.sld.cu)

#### **DENMARK - DANEMARK - DINAMARCA**

Mrs Bodil Hamborg Jensen  
Senior Adviser  
National Food Institute  
Technical University of Denmark  
Mørkhøj Bygade 19  
Søborg  
Denmark  
Tel: +45 35887468  
Email: [bhje@food.dtu.dk](mailto:bhje@food.dtu.dk)

**ECUADOR - ÉQUATEUR**

Ing Jakeline Fernanda Arias Mendez  
Analista de vigilancia y control de contaminantes  
Agencia Ecuatoriana de Aseguramiento de la  
Calidad del Agro - AGROCALIDAD  
Ministerio de Agricultura, Ganadería, Acuacultura y  
Pesca - MAGAP  
Av. Eloy Alfaro N30-350 y Av. Amazonas, Edificio  
MAGAP, Piso 9  
Quito  
Ecuador  
Tel: (593) 2 2567232 Ext. 159  
Email: [jakeline.arias@agrocalidad.gob.ec](mailto:jakeline.arias@agrocalidad.gob.ec)

**ESTONIA - ESTONIE**

Mrs Sille Vahter  
Chief specialist  
Food Safety Department  
Ministry of Rural Affairs  
Lai str 39/41  
Tallinn  
Estonia  
Tel: +3726256211  
Email: [sille.vahter@agri.ee](mailto:sille.vahter@agri.ee)

Mr Toomas Lepplaan  
Chief Specialist  
Plant Products Bureau  
Ministry of Rural Affairs  
Lai str 39/41  
Tallinn  
Estonia  
Tel: (+372) 6256145  
Email: [toomas.lepplaan@agri.ee](mailto:toomas.lepplaan@agri.ee)

**EUROPEAN UNION - UNION EUROPÉENNE -  
UNIÓN EUROPEA**

Mr Marco Castellina  
Administrator  
DG Sante D 2  
European Commission  
Rue Froissart 101  
Brussels  
Belgium  
Tel: +32 229-87443  
Email: [marco.castellina@ec.europa.eu](mailto:marco.castellina@ec.europa.eu)

Mr Christophe Didion  
Administrator  
DG Sante  
European Commission  
F101 04/057  
Brussels  
Belgium  
Tel: +32 229-95427  
Email: [christophe.didion@ec.europa.eu](mailto:christophe.didion@ec.europa.eu)

Ms Hermine Reich  
European Food Safety Authority  
Via Carlo Magno 1A  
Parma  
Italy  
Email: [Hermine.REICH@efsa.europa.eu](mailto:Hermine.REICH@efsa.europa.eu)

Ms Veerle Vanheusden  
Administrator  
DG SANTE.DDG2.E.4.001  
European Commission  
F101 04/084  
Brussels  
Belgium  
Tel: +32 229-90612  
Email: [veerle.vanheusden@ec.europa.eu](mailto:veerle.vanheusden@ec.europa.eu)

**FIJI - FIDJI**

Mr Jainesh Anish Ram  
Entomologist  
Biosecurity of Fiji  
32 Namena Rd Nabua  
Suva  
Fiji  
Tel: 9957753  
Email: [jram@baf.com.fj](mailto:jram@baf.com.fj)

**FINLAND - FINLANDE - FINLANDIA**

Ms Tiia Mäkinen-töykkä  
Senior Inspector  
Finnish Food Safety Authority Evira  
Mustialankatu 3 FI-00790  
Helsinki  
Finland  
Email: [tiia.makinen@evira.fi](mailto:tiia.makinen@evira.fi)

**FRANCE - FRANCIA**

Mrs Florence Gerault  
residue expert  
Genera directorate for food  
ministry of agriculture  
SRAL 10 rue Le Notre 49044  
Angers  
France  
Tel: 0033241723234  
Email: [florence.gerault@agriculture.gouv.fr](mailto:florence.gerault@agriculture.gouv.fr)

Dr Xavier G Sarda  
Head of Residues & Food Safety Unit  
Direction d'Évaluation des Produits Réglementés  
Anses  
14 rue Pierre et Marie Curie  
Maisons Alfort  
France  
Tel: 33 1 49 77 21 66  
Email: [xavier.sarda@anses.fr](mailto:xavier.sarda@anses.fr)

**GERMANY - ALLEMAGNE - ALEMANIA**

Dr Karsten Hohgardt  
Director and Professor  
Plant Protection Products  
Federal Office of Consumer Protection and Food  
Safety  
Messeweg 11 - 12  
Braunschweig  
Germany  
Tel: +49 531 299 3503  
Email: [karsten.hohgardt@bvl.bund.de](mailto:karsten.hohgardt@bvl.bund.de)

Mr Hans-dieter Jungblut  
 Head of Global Consumer Safety  
 Crop Protection  
 BASF SE  
 Speyerer Str. 2  
 Limburgerhof  
 Germany  
 Tel: +49 621 60 27774  
 Email: [hans-dieter-jungblut@basf.com](mailto:hans-dieter-jungblut@basf.com)

#### **GHANA**

Dr Paul Osei-fosu  
 Head  
 Food and Agriculture  
 Ghana Standards Authority  
 P.O. Box Mb 245  
 Accra  
 Ghana  
 Tel: +233 208 150469  
 Email: [posei\\_fosu@yahoo.co.uk](mailto:posei_fosu@yahoo.co.uk)

#### **GREECE - GRÈCE - GRECIA**

Mr Emmanuel Stantzos  
 Head of Economic and Commercial Section in  
 Beijing  
 Minister for Economic and Commercial Affairs  
 Embassy of Greece in China  
 No. 19 Guang Hua Lu, Chao Yang District  
 Beijing  
 China  
 Tel: +86 (0)10 8532 6718  
 Email: [ecocom-beijing@mfa.gr](mailto:ecocom-beijing@mfa.gr)

#### **HONDURAS**

Mr Juan Carlos Paguada  
 Jefe del Departamento de Inocuidad  
 Agroalimentaria  
 Sub Dirección de Inocuidad Agroalimentaria  
 Servicio Nacional de Sanidad e Inocuidad  
 Agroalimentaria  
 Colonia Loma Linda Sur, Tegucigalpa, M.D.C.,  
 Honduras Avenida La FAO, Boulevard Miraflores,  
 Edificio de SENASA  
 Tegucigalpa  
 Honduras  
 Tel: 504-2232-6213  
 Email: [jcpaguada@senasa-sag.gob.hn](mailto:jcpaguada@senasa-sag.gob.hn)

#### **INDIA - INDE**

Dr Pranjib Chakrabarty  
 Assistant Director General (Plant Protection &  
 Biosafety)  
 Indian Council of Agricultural Research (ICAR)  
 Krishi Bhawan, Dr Rajendra Prasad Road  
 New Delhi  
 India  
 Tel: 91-9540029275  
 Email: [adgpp.icar@nic.in](mailto:adgpp.icar@nic.in)

Mr Puneet Gupta  
 Technical Officer  
 Food Safety and Standards Authority of India  
 FDA Bhawan Near Bal Bhawan Kotla Road  
 New Delhi  
 India  
 Tel: 8285878875  
 Email: [puneet88gupta@gmail.com](mailto:puneet88gupta@gmail.com)

Dr Kamma Satyanarayana Murthy  
 Principal Scientist  
 ITC Limited  
 ITC Limited - ABD ILTD, Spices Office, Guntur -  
 522 004 (AP)  
 Guntur  
 India  
 Tel: 098663 74155  
 Email: [k.satyamurthy@itc.in](mailto:k.satyamurthy@itc.in)

Dr Krishan Kumar Sharma  
 Network Coordinator  
 IARI  
 All India Network Project on Pesticide Residues  
 Indian Agricultural Research Institute  
 110 012  
 New Delhi  
 India  
 Tel: 011-25846396  
 Email: [kksaicrp@yahoo.co.in](mailto:kksaicrp@yahoo.co.in)

Dr T.a. Usmani  
 Joint Director  
 Department of Agriculture, Cooperation and  
 Farmers Welfare  
 CIPMC  
 Lucknow  
 India  
 Email: [ipmup12@nic.in](mailto:ipmup12@nic.in)

#### **INDONESIA - INDONÉSIE**

Dr Asep Nugraha Ardiwinata  
 Head of Indonesian Agricultural Environment  
 Research Institute  
 Indonesian Agricultural Environment Research  
 Institute (IAERI)  
 Ministry Of Agriculture  
 Jl. Raya Jakenan-Jaken-Jaken Km 05  
 Jakarta  
 Indonesia  
 Tel: 0295-4749055  
 Email: [asena020361@gmail.com](mailto:asena020361@gmail.com)

Ms Mia Mariani Agustina  
 Technical Officer  
 International Cooperation Bureau  
 Ministry of Agriculture  
 A Building 6th Floor, Jl. Harsono RM. No.3  
 Ragunan  
 Jakarta  
 Indonesia  
 Tel: +6221-7804350  
 Email: [agustinamia81@gmail.com](mailto:agustinamia81@gmail.com)



Mrs Puspaning Buanawaty  
Laboratory Supervisor  
Ministry of Trade  
Jl. Raya Bogor Km. 26. Ciracas  
Jakarta  
Indonesia  
Tel: 087882768670  
Email: [puspakoe@yahoo.com](mailto:puspakoe@yahoo.com)

Ms Farah Diba  
Technical Officer  
International Cooperation Bureau  
Ministry of Agriculture  
A Building 6th Floor, Jl. Harsono RM. No.3  
Ragunan  
JAKARTA  
Indonesia  
Tel: +6221-7804350  
Email: [farahdibakemtan@gmail.com](mailto:farahdibakemtan@gmail.com)

Ms Yusmita Siti Hajar Farida  
Quality Control  
Directorate of Standardization and Quality Control  
Ministry of Trade  
Jl. Raya Bogor KM. 26 Ciracas  
Jakarta  
Indonesia  
Tel: +62 21 8710321/3  
Email: [shafa.mita@gmail.com](mailto:shafa.mita@gmail.com)

**IRAN (ISLAMIC REPUBLIC OF) -  
IRAN (RÉPUBLIQUE ISLAMIQUE D') -  
IRÁN (REPÚBLICA ISLÁMICA DEL)**

Mrs Roya Noorbakhsh  
Expert  
Institute of Standard & Industrial Research of Iran &  
Secretary of CCPR in Iran  
Faculty of food and agriculture- Research Standard  
Institute  
Email: [roybakhsh@yahoo.com](mailto:roybakhsh@yahoo.com)

Dr Mohammadkazem Ramezani  
Pesticide Residues Expert  
Pesticides Research Department  
Iranian Research Institute of Plant Protection  
(IRIPP), Ministry of Agriculture, Jihad  
Tehran  
Iran (Islamic Republic of)  
Tel: +98-21-22403012-14, Ext.  
Email: [kazem.ramezani@gmail.com](mailto:kazem.ramezani@gmail.com)

**JAMAICA - JAMAÏQUE**

Ms Francine Webb  
Senior Plant Health/Food Safety Officer  
Technology, Training and Technical Information  
Division  
Rural Agricultural Development Authority  
Hope Gardens,  
Kingston 6  
Jamaica  
Tel: 876-977-1158  
Email: [webbf@rada.gov.jm](mailto:webbf@rada.gov.jm)

**JAPAN - JAPON - JAPÓN**

Mr Makoto Irie  
Deputy Director  
Plant Products Safety Division, Food Safety and  
Consumer Affairs Bureau  
Ministry of Agriculture, Forestry and Fisheries  
1-2-1, Kasumigaseki, Chiyoda-ku  
Tokyo  
Japan  
Tel: +81-3-3502-5969  
Email: [makoto\\_irie340@maff.go.jp](mailto:makoto_irie340@maff.go.jp)

Ms Sayaka Ishikawa  
Technical Officer  
Department of Environmental Health and Food  
Safety  
Ministry of Health, Labour and Welfare  
1-2-2 Kasumigaseki, Chiyoda-ku  
Tokyo  
Japan  
Tel: +81-3-3595-2423  
Email: [codexj@mhlw.go.jp](mailto:codexj@mhlw.go.jp)

Mr Yuta Ogawa  
Assistant Director  
Department of Environmental Health and Food  
Safety  
Ministry of Health, Labour and Welfare  
1-2-2 Kasumigaseki, Chiyoda-ku  
Tokyo  
Japan  
Tel: +81-3-3595-2423  
Email: [codexj@mhlw.go.jp](mailto:codexj@mhlw.go.jp)

Ms Marie Ohara  
Technical Officer  
Department of Environmental Health and Food  
Safety  
Ministry of Health, Labour and Welfare  
1-2-2 Kasumigaseki, Chiyoda-ku  
Tokyo  
Japan  
Tel: +81-3-3595-2423  
Email: [codexj@mhlw.go.jp](mailto:codexj@mhlw.go.jp)

Mr Yoshiyuki Takagishi  
Associate Director  
Food Safety Policy Division, Food Safety and  
Consumer Affairs Bureau  
Ministry of Agriculture, Forestry and Fisheries  
1-2-1, Kasumigaseki, Chiyoda-ku  
Tokyo  
Japan  
Tel: +81-3-3502-8731  
Email: [yoshiyuki\\_takagis500@maff.go.jp](mailto:yoshiyuki_takagis500@maff.go.jp)

Dr Takahiro Watanabe  
Section Chief  
Division of Foods  
National Institute of Health Sciences  
1-18-1, Kamiyoga, Setagaya-ku  
Tokyo  
Japan  
Tel: +81-3-3700-1141  
Email: [tawata@nihs.go.jp](mailto:tawata@nihs.go.jp)



**KENYA**

Ms Lucy Muthoni Namu  
 Head, Quality Assurance & Laboratory  
 Accreditation  
 Kenya Plant Health Inspectorate Services  
 P.O.Box 49592,00100 600  
 Nairobi  
 Kenya  
 Tel: +254-020 661800  
 Email: [lnamu@kephis.org](mailto:lnamu@kephis.org)

Mr Ngaruiya Paul Njuguna  
 Manager  
 Registration  
 Pest Control Products Board  
 Box Number 13794  
 Nairobi  
 Kenya  
 Tel: +254 722894138  
 Email: [paul.ngaruiya12@yahoo.com](mailto:paul.ngaruiya12@yahoo.com)

Dr Henry Kibet Rotich  
 Director- Metrology and Testing Division  
 Metrology and Testing Laboratory  
 Kenya Bureau of Standards  
 P.O Box 54974  
 Nairobi  
 Kenya  
 Tel: +2540206948000  
 Email: [rotichh@kebs.org](mailto:rotichh@kebs.org)

Mr Njane Samuel Njoroge  
 Manager -Regulation and compliance  
 Compliance  
 Tea Directorate  
 P.O Box 20064  
 Nairobi  
 Kenya  
 Tel: +254-722200556  
 Email: [Snjane@teaboard.or.ke](mailto:Snjane@teaboard.or.ke)

**LUXEMBOURG - LUXEMBURGO**

Mr Rol Reiland  
 Deputy Head of Mission  
 Embassy of the GRAND DUCHY OF  
 LUXEMBOURG in China  
 Unit 17, Tower B, Pacific Century Place 2A  
 Gongtibe Lu  
 Chaoyang District, Beijing  
 China  
 Tel: (+86-10) 8588 0900  
 Email: [roland.reiland@mae.etat.lu](mailto:roland.reiland@mae.etat.lu)

Mrs Anneleen Van Landeghem  
 Economic Counsellor  
 Embassy of the Grand Duchy of Luxembourg in  
 China  
 Unit 1701, Tower B, Pacific Century Place, 2A  
 Gongtibe Lu, P.R. China  
 Chaoyang District, Beijing  
 China  
 Tel: (+86-10) 8588 0900  
 Email: [anneleen.vanlandeghem@mae.etat.lu](mailto:anneleen.vanlandeghem@mae.etat.lu)

**MALAYSIA - MALAISIE - MALASIA**

Mr Mohammad Nazrul Fahmi Abdul Rahim  
 Principal Assistant Director  
 Pesticide Control Division  
 Department of Agriculture  
 4th Floor, Wisma Tani Jalan Sultan Salahuddin  
 Kuala Lumpur  
 Malaysia  
 Tel: +603-2030 1499  
 Email: [nazsmie@yahoo.com](mailto:nazsmie@yahoo.com)

Ms Nurul Hazila Abdul Ghani  
 Assistant Director  
 Pesticide Control Division  
 Department of Agriculture  
 4th Floor, Wisma Tani Jalan Sultan Salahuddin  
 Kuala Lumpur  
 Malaysia  
 Tel: +603 2030 1510  
 Email: [hazila@doa.gov.my](mailto:hazila@doa.gov.my)

Ms Norizah Halim  
 Research Officer  
 Analytical & Quality Development Unit, Product  
 Development & Advisory Services Division  
 Malaysian Palm Oil Board (MPOB)  
 No 6, Persiaran Institusi Bandar Baru Bangi Kajang  
 Selangor  
 Malaysia  
 Tel: +603 8769 4972  
 Email: [norizah@mpob.gov.my](mailto:norizah@mpob.gov.my)

**MOROCCO - MAROC - MARRUECOS**

Mr Abdelaziz El Hraiki  
 Docteur vétérinaire  
 Agriculture  
 Institut Agronomique et Vétérinaire Hassan II  
 Morocco  
 Tel: 00 212 6 61 37 39 60  
 Email: [a.elhraiki@iav.ac.ma](mailto:a.elhraiki@iav.ac.ma)

Mr Ahmed Jaafari  
 Chef de Service du Suivi et du Contrôle des intrants  
 Chimiques  
 Agriculture  
 office National de Sécurité Sanitaire des Produits  
 Alimentaires(ONSSA)  
 Avenue Haj Ahmed Cherkaoui Agdal Rabat  
 Rabat  
 Morocco  
 Tel: +212537681351,+212537676611  
 Email: [ahmed.jaafari@ONSSA.GOV.MA](mailto:ahmed.jaafari@ONSSA.GOV.MA)

Mr Zouaoui Ahmed  
 chef de Service des Pesticides  
 Agriculture  
 Laboratoire Officiel d'Analyses et de Recherches  
 Chimiques(LOARC)  
 25 rue Nichakra Rahal Casablanca  
 Casablanca  
 Morocco  
 Tel: +212522302007  
 Email: [zouaouiloarc@yahoo.fr](mailto:zouaouiloarc@yahoo.fr)

Mr Aarar Mustapha  
Délégué  
Agriculture  
Etablissement Autonome Contrôle et de  
Coordination des Exportations(EACCE)  
N°72; Rue Mohamed Smiha, Casablanca  
Casablanca  
Morocco  
Tel: +212 5 22 30 51 04  
Email: [aarar@eacce.org.ma](mailto:aarar@eacce.org.ma)

Mrs Asmaa Ouagari  
Association des Professionnels du The au Maroc  
Rabat  
Morocco  
Tel: +212608800080  
Email: [asmaa.ouagari@mathe.ma](mailto:asmaa.ouagari@mathe.ma)

#### **NETHERLANDS - PAYS-BAS - PAÍSES BAJOS**

Mr Martijn Martena  
Policy Officer  
Department of Nutrition, Health Protection and  
Prevention  
Ministry of Health, Welfare and Sport  
P.O. Box 20350  
The Hague  
Tel: +31 70 340 5463  
Email: [mj.martena@minvws.nl](mailto:mj.martena@minvws.nl)

Ms Bernadette Ossendorp  
Head Dept. Food Safety  
Centre for Nutrition, Prevention and Healthy  
Services  
RIVM  
PO Box 1  
Bilthoven  
Netherlands  
Tel: +31 30 274 3970  
Email: [bernadette.ossendorp@rivm.nl](mailto:bernadette.ossendorp@rivm.nl)

Ms Dorin Poelmans  
Officer Plant Health  
Dutch Food and Consumer Product Safety Authority  
PO BOX 9102  
Wageningen  
Netherlands  
Tel: +31 88 2232121  
Email: [D.A.M.POELMANS@NWWA.NL](mailto:D.A.M.POELMANS@NWWA.NL)

#### **NEW ZEALAND - NOUVELLE-ZÉLANDE - NUEVA ZELANDIA**

Mr Warren Hughes  
Principal Adviser  
Ministry for Primary Industries  
25 The Terrace  
Wellington  
New Zealand  
Email: [warren.hughes@mpi.govt.nz](mailto:warren.hughes@mpi.govt.nz)

Ms Rebecca May Fisher  
Regulatory Adviser-Food Safety  
Market Access Solutionz Ltd  
New Zealand  
Email: [Rebecca@solutionz.co.nz](mailto:Rebecca@solutionz.co.nz)

Mr Dave Lunn  
Principal Adviser  
Ministry for Primary Industries  
25 The Terrace  
Wellington  
New Zealand  
Email: [dave.lunn@mpi.govt.nz](mailto:dave.lunn@mpi.govt.nz)

#### **NIGERIA - NIGÉRIA**

Mr Boniface Chibueze Oguobi  
ACRO  
Chemical Evaluation and Research  
National Agency for Food and Drug Administration  
and Control  
Plot 1A, Isolo Industrial Estate, Apapa Oshodi  
Expressway  
Lagos  
Nigeria  
Tel: +2348037728394  
Email: [pat\\_bon2000@yahoo.com](mailto:pat_bon2000@yahoo.com)

Dr Bukar Ali Usman  
Director  
National Agency for Food and Drug Administration  
and Control  
Plot 1A Isolo Industrial Estate Oshodi Apapa  
Express Way  
Lagos  
Nigeria  
Tel: +2348035651540  
Email: [bukar.usman@nafdac.gov.ng](mailto:bukar.usman@nafdac.gov.ng)

#### **NORWAY - NORVÈGE - NORUEGA**

Mrs Ingunn Haarstad Gudmundsdottir  
Senior Adviser  
Norwegian Food Safety Authority  
P.O Box 383  
Brumunddal  
Norway  
Tel: + 47 41429212  
Email:  
[Ingunn.Haarstad.Gudmundsdottir@mattilsynet.no](mailto:Ingunn.Haarstad.Gudmundsdottir@mattilsynet.no)

#### **PERU - PÉROU - PERÚ**

Mr Ethel Humberto Reyes Cervantes  
Especialista de la Sub Dirección de Inocuidad  
Agroalimentaria  
Dirección de Insumos Agropecuarios e Inocuidad  
Agroalimentaria del Servicio Nacional de Sanidad  
Agr  
SENASA  
Av. La Molina N.º 1915 - La Molina  
Lima  
Peru  
Tel: +51990149050  
Email: [ereyesc@senasa.gob.pe](mailto:ereyesc@senasa.gob.pe)

**POLAND - POLOGNE - POLONIA**

Ms Blanka Golebiowska  
 Counsellor, Representative of the Ministry of  
 Agriculture and Rural Development  
 Agricultural Affairs Unit  
 Embassy of the Republic of Poland in Beijing  
 1, Ritan Rd. Beijing, China. Post Code: 100600  
 Beijing  
 China  
 Tel: 86-10-65321235 ext. 133  
 Email: [blanka.golebiowska@msz.gov.pl](mailto:blanka.golebiowska@msz.gov.pl)

Ms Magdalena Gorzycka  
 I Secretary  
 Agricultural Affairs Unit  
 Embassy of the Republic of Poland in Beijing  
 1 Ritan Lu, Jianguamenwai  
 Beijing  
 China  
 Email: [magdalena.gorzycka@msz.gov.pl](mailto:magdalenagorzycka@msz.gov.pl)

**REPUBLIC OF KOREA –  
 RÉPUBLIQUE DE CORÉE –  
 REPÚBLICA DE COREA**

Dr Jin-sook Kim  
 Deputy Director  
 Livestock Product Standard Division  
 Ministry of Food and Drug Safety  
 Osong Health Technology Administration Complex,  
 187 Osongsaengmyeong2(i)-ro, Osong-eup  
 Chungcheongbuk-do  
 Republic of Korea  
 Tel: +82-43-719-3854  
 Email: [jin1015@korea.kr](mailto:jin1015@korea.kr)

Dr Jung-ah Do  
 Scientific Officer  
 Pesticide & Veterinary Drug Residue Division  
 Ministry of Food and Drug Safety  
 Osong Health Technology Administration Complex,  
 187 Osongsaengmyeong2(i)-ro, Osong-eup  
 Chungcheongbuk-do  
 Republic of Korea  
 Tel: +82-43-719-4211  
 Email: [jado@korea.kr](mailto:jado@korea.kr)

Dr Geun-hwan Gil  
 Researcher  
 Rural Development Administration  
 Ministry of Agriculture, Food, and Rural Affairs  
 166 Nongsaengmyeong-ro, Iseo-myeon, Wanju-  
 gun, Jeollabuk-do  
 Wanju-gun  
 Republic of Korea  
 Tel: +82-10-5436-0241  
 Email: [ghgil@korea.kr](mailto:ghgil@korea.kr)

Prof Moo-hyeog Im  
 Professor  
 Food Engineering Department  
 Daegu University  
 201, Daegudae-ro, Jilyang, Gyeongsan  
 Gyeongsangbuk-do  
 Republic of Korea  
 Tel: +82-53-850-6537  
 Email: [imh0119@daegu.ac.kr](mailto:imh0119@daegu.ac.kr)

Ms Kyung-hee Jung  
 Codex researcher  
 Food Standard Division  
 Ministry of Food and Drug Safety  
 Osong Health Technology Administration Complex,  
 187 Osongsaengmyeong2(i)-ro, Osong-eup  
 Chungcheongbuk-do  
 Republic of Korea  
 Tel: +82-43-719-2437  
 Email: [inukio@korea.kr](mailto:inukio@korea.kr)

Ms Hyo-young Kim  
 Researcher  
 National Agricultural Products Quality Management  
 Ministry of Agriculture, Food, and Rural Affairs  
 141, Yongjeon-ro, Gimcheon-si, Gyeongsangbuk-  
 do  
 Gimcheon-si  
 Republic of Korea  
 Tel: 82-54-429-7771  
 Email: [hyo02@korea.kr](mailto:hyo02@korea.kr)

Dr Chan-hyeok Kwon  
 Scientific Officer  
 Livestock Product Standard Division  
 Ministry of Food and Drug Safety  
 Osong Health Technology Administration Complex,  
 187 Osongsaengmyeong2(i)-ro, Osong-eup  
 Chungcheongbuk-do  
 Republic of Korea  
 Tel: +82-43-719-3865  
 Email: [chkwon@korea.kr](mailto:chkwon@korea.kr)

Prof Mi-gyung Lee  
 Professor  
 Andong National University  
 #1375 Gyeongdong-ro, Andong-si,  
 Gyeongsangbuk-do, 36729,  
 Republic of Korea  
 Tel: +82-54-820-6011  
 Email: [leemig@andong.ac.kr](mailto:leemig@andong.ac.kr)

Mr Bong-hyun Nam  
 Food & Drug Safety Attache  
 Embassy of the Republic of Korea(China)  
 No. 20 Dong Fang Dong Lu, Chaoyang District  
 Beijing  
 China  
 Tel: +86-10-8531-0848  
 Email: [nahmbh@hanmail.net](mailto:nahmbh@hanmail.net)

**RUSSIAN FEDERATION -  
FÉDÉRATION DE RUSSIE -  
FEDERACIÓN DE RUSIA**

Prof Valerii Rakitski  
Acting Director  
FBES "Federal Scientific Centre of Hygiene named  
after F. F. Erisman" of Rospotrebnadzor  
Semashko st. 2, Mytischki town,  
Moscow Region  
Russian Federation  
Tel: +7-495-586-11-44  
Email: [gmasaltsev@mail.ru](mailto:gmasaltsev@mail.ru)

**SAUDI ARABIA - ARABIE SAOUDITE -  
ARABIA SAUDITA**

Mr Ahmad Al Ghannam  
Food Specialist  
Saudi Arabia  
Email: [AAGhannam@sfd.gov.sa](mailto:AAGhannam@sfd.gov.sa)

**SENEGAL - SÉNÉGAL**

Mr Papa Sam Gueye  
Coordonnateur du Comité du Codex sur les  
Résidus de Pesticides  
Ceres Locustox Km 15  
Ministère de l'agriculture et de l'équipement Rural  
Route De Rufisque  
Dakar  
Sénégal  
Tel: +221 563 11 63  
Email: [psamqueye@hotmail.com](mailto:psamqueye@hotmail.com)

Mr Nar Diene  
Coordonnateur de Comité  
Ministère Santé et Action Sociale  
Centre Anti-Poison  
Fann  
Dakar  
Sénégal  
Tel: +221 77649 61 56  
Email: [snardiene@yahoo.fr](mailto:snardiene@yahoo.fr)

Prof Mamadou Fall  
Enseignant chercheur  
Ministère Santé et Action Sociale  
Centre Anti-Poison  
Fann  
Dakar  
Sénégal  
Email: [madoufal@gmail.com](mailto:madoufal@gmail.com)

Mrs Mame Diarra Faye Leye  
Point de Contact du Codex Alimentarius  
Centre Anti Poison  
Ministère de la Santé et de l'Action sociale  
Hôpital de Fann - Avenue Cheikh Anta Diop  
Dakar  
Sénégal  
Tel: +221 77 520 09 15  
Email: [mamediarrafaye@yahoo.fr](mailto:mamediarrafaye@yahoo.fr)

**SINGAPORE - SINGAPOUR - SINGAPUR**

Dr Yuansheng Wu  
Deputy Director  
Pesticide Residues Section, VPHL Chemistry  
Department, Laboratories Group  
Agri-Food & Veterinary Authority of Singapore  
10 Perahu Road Singapore 718837  
Singapore  
Tel: +65 67952837  
Email: [WU\\_Yuan\\_Sheng@ava.gov.sg](mailto:WU_Yuan_Sheng@ava.gov.sg)

Mr Poh Leong Lim  
Principal Scientist  
VPHL Chemistry Department, Laboratories Group  
Agri-Food & Veterinary Authority of Singapore  
10 Perahu Road Singapore 718837  
Singapore  
Tel: +65 67952818  
Email: [lim\\_poh\\_leong@ava.gov.sg](mailto:lim_poh_leong@ava.gov.sg)

**SOUTH AFRICA - AFRIQUE DU SUD -  
SUDÁFRICA**

Ms Aluwani Madzivhandila  
Assistant Director: Food Control  
Department of Health  
Private Bag X828  
Pretoria  
South Africa  
Tel: +27 12 395 9359  
Email: [Aluwani.Madzivhandila@health.gov.za](mailto:Aluwani.Madzivhandila@health.gov.za)

**SPAIN - ESPAGNE - ESPAÑA**

Mr Cesar Casado De Santiago  
Jefe de Area  
Subdirección General de Promoción de la  
Seguridad Alimentaria  
Agencia Española de Consumo, Seguridad  
Alimentaria y Nutrición (AECOSAN)  
C\ Alcalá, 56  
Madrid  
Spain  
Email: [ccasado@msssi.es](mailto:ccasado@msssi.es)

**SUDAN - SOUDAN - SUDÁN**

Mrs Nour Grashi  
Pesticide Residue Specialist/ Head of Conformity  
assessment section  
Pesticide Residue Standards  
Sudanese Standard & Metrology Organization  
Aljamaa Street  
Khartoum  
Sudan  
Tel: +249912367408  
Email: [nourssmo2009@hotmail.com](mailto:nourssmo2009@hotmail.com)

Ms Ahlam Ahmed  
 plant protection Directorate  
 Pesticide Registration Sector  
 Ministry of Agriculture & Forestry  
 Plant protection Administration  
 Khartoum  
 Sudan  
 Tel: +249912839500  
 Email: [ahlamhassan424@yahoo.com](mailto:ahlamhassan424@yahoo.com)

Mr Hassan Ali  
 Director of integrated center of Pest management  
 integrated center of Pest management  
 Ministry of Agriculture & Forestry  
 Agricultural Research Corporation  
 Khartoum  
 Sudan  
 Tel: +249123016595  
 Email: [abdelgadirhasan@gmail.com](mailto:abdelgadirhasan@gmail.com)

Mrs Suaad Ibrahim  
 Pesticides Registration  
 Plant Protection Administration  
 Ministry Of Agriculture And Forestry  
 Plant Protection Administration  
 Khartoum  
 Sudan  
 Tel: +249185331581  
 Email: [suad.fageer@yahoo.com](mailto:suad.fageer@yahoo.com)

Mr Ismail Omer  
 Director of Pesticide analysis lab.  
 Pesticide analysis  
 Ministry of Agriculture & Forestry  
 Khartoum  
 Sudan  
 Tel: +24922658852  
 Email: [ismalsadd55@yahoo.com](mailto:ismalsadd55@yahoo.com)

#### SWITZERLAND - SUISSE - SUIZA

Dr Emanuel Hänggi  
 Scientific Officer  
 Food and Nutrition  
 Federal Food Safety and Veterinary Office FSVO  
 Bern  
 Switzerland  
 Email: [Emanuel.Haenggi@blv.admin.ch](mailto:Emanuel.Haenggi@blv.admin.ch)

Mr Till Stéphane Goldmann  
 Early Warning Group  
 Nestec Ltd.  
 Food Safety & Quality Competence Pillar  
 Nestlé Research Center PO Box 44  
 Lausanne  
 Switzerland  
 Email: [Till.Goldmann@rdls.nestle.com](mailto:Till.Goldmann@rdls.nestle.com)

#### THAILAND - THAÏLANDE - TAILANDIA

Ms Surmsuk Salakpetch  
 Deputy Director General  
 Department of Agriculture  
 Ministry of Agriculture and Cooperatives  
 50 Phaholyothin road, Ladyao, Chatuchak  
 Bangkok  
 Thailand  
 Tel: +66 2940 5418  
 Email: [ssalakpetch@gmail.com](mailto:ssalakpetch@gmail.com)

Ms Chitra Settaudom  
 Senior Advisor in Standards of Health Products  
 Food and Drug Administration  
 Ministry of Public Health  
 88/24 Moo 4, Tiwanon Road, Muang  
 Nonthaburi  
 Thailand  
 Tel: 662 590 7140  
 Email: [schitra@fda.moph.go.th](mailto:schitra@fda.moph.go.th)

Mr Boonthaweesak Boonthawee  
 Agricultural Technical officer  
 Department of Agriculture  
 Agricultural Production Science Research and  
 Development Division  
 50 Phaholyothin Rd., Chatuchak  
 Bangkok  
 Thailand  
 Tel: +662 579 3577  
 Email: [boonthaweesak@hotmail.com](mailto:boonthaweesak@hotmail.com)

Mr Charoen Kaowsuksai  
 Vice- Chairman of Food Processing Industry Club  
 The federation of Thai Industries  
 Queen Sirikit National Convention Center, Zone C,  
 4th Floor, 60 New Rachadapisek Rd., Klongtoey  
 Bangkok  
 Thailand  
 Tel: 662-9763088  
 Email: [charoen@cpram.co.th](mailto:charoen@cpram.co.th)

Mrs Sudarat Kueylaw  
 Senior Veterinary officer  
 Department of Livestock Development  
 Ministry of Agriculture and Cooperatives  
 20/158 Moo.4 Rungsitnakornayok rd, Thunyaburee  
 Patumtanee  
 91 Moo 4, Tumbol Bangkadi, Amphur  
 Muang, Pathum Thani  
 Thailand  
 Tel: +6618663510  
 Email: [wasankueylaw@yahoo.com](mailto:wasankueylaw@yahoo.com)

Mr Prachathipat Pongpinyo  
 Agricultural Technical officer  
 Department of Agriculture  
 Agricultural Production Science Research and  
 Development Division  
 Ministry of Agriculture and Cooperatives  
 50 Phaholyothin Rd., Chatuchak  
 Bangkok  
 Thailand  
 Tel: +662 579 3577  
 Email: [numkkn@hotmail.com](mailto:numkkn@hotmail.com)

Ms Panpilad Saikaew  
Standards Officer  
National Bureau of Agricultural Commodity and  
Food Standards  
Ministry of Agriculture and Cooperatives  
50 Phaholyothin road, Chatujak  
Bangkok  
Thailand  
Tel: +6625612277 ext 1427  
Email: [panpilad@acfs.go.th](mailto:panpilad@acfs.go.th)

Ms Wiphada Sirisompobchai  
Senior medical scientist  
Department of Livestock Development  
Ministry of Agriculture and Cooperatives  
91 Moo 4, Tumbol Bangkadi, Amphur Muang,  
Pathum Thani  
Thailand  
Tel: + 66 2 967 9728  
Email: [wiphada.s@dld.go.th](mailto:wiphada.s@dld.go.th)

#### TUNISIA - TUNISIE - TÚNEZ

Eng Hammadi Dekhil  
DIRECTEUR  
Agence Nationale de Controle Sanitaire et  
Environnementale des Produits.  
Ministère de la Santé.  
2 rue Ibn Nadim Montplaisir  
Tunis  
Tunisia  
Tel: +21671901724  
Email: [hamadi.dekhil@rns.tn](mailto:hamadi.dekhil@rns.tn)

#### TURKEY - TURQUIE - TURQUÍA

Mr Sinan Arslan  
Senior Expert  
Food Establishments and Codex Department  
Ministry of Food Agriculture and Livestock  
Eskişehir Yolu 9. Km Lodumlu  
Ankara  
Turkey  
Tel: +903122587753  
Email: [sinan.arslan@tarim.gov.tr](mailto:sinan.arslan@tarim.gov.tr)

Mr İlhami Sahin  
Head of Division  
Food Establishments and Codex  
Ministry of Food Agriculture and Livestock-General  
Directorate of Food and Control  
Eskisehir yolu 9.Km Lodumlu  
Ankara  
Turkey  
Tel: +903122587757  
Email: [ilhami.sahin@tarim.gov.tr](mailto:ilhami.sahin@tarim.gov.tr)

#### UGANDA - OUGANDA

Mr Geoffrey Onen  
Principal Government Analyst  
Government Chemist and Analytical Laboratory  
P.O. Box 2174  
Kampala  
Uganda  
Tel: +256-712-832871  
Email: [onengff@hotmail.com](mailto:onengff@hotmail.com)

Mr Phillip Musoke  
Assistant Production Manager - Soroti Fruit Factory  
Uganda Development Corporation  
Floor 5, Soliz House, Plot 23, Lumumba Avenue,  
P.O. Box 7042  
Kampala  
Uganda  
Tel: +256 704 938378  
Email: [musokephillip@gmail.com](mailto:musokephillip@gmail.com)

#### UNITED REPUBLIC OF TANZANIA - RÉPUBLIQUE-UNIE DE TANZANIE - REPÚBLICA UNIDA DE TANZANÍA

Dr Bakari Kaoneka  
Chief Research Officer  
Tropical Pesticides Research Institution  
Ministry of Agriculture Food Security and  
Cooperatives  
P.O. Box 3024  
Arusha  
United Republic of Tanzania  
Tel: +255 754476346  
Email: [bkaoneka2012@gmail.com](mailto:bkaoneka2012@gmail.com)

#### UNITED STATES OF AMERICA - ÉTATS-UNIS D'AMÉRIQUE - ESTADOSUNIDOS DE AMÉRICA

Mr David J. Miller  
Chief, Chemistry & Exposure Branch and Acting  
Chief, Toxicology & Epidemiology Branch  
Health Effects Division, Office of Pesticide  
Programs  
U.S. Environmental Protection Agency  
William J. Clinton Building 1200 Pennsylvania  
Avenue, NW  
Washington, DC  
United States of America  
Tel: +1-703-305-5352  
Email: [Miller.Davidj@epa.gov](mailto:Miller.Davidj@epa.gov)

Dr Bill Barney  
Senior Coordinator  
Food, Crop Grouping, and Biopesticides  
Rutgers University  
IR-4 Project Headquarters 500 College Road East  
Suite 201 W  
Princeton, NJ  
United States of America  
Tel: +1-732-932-9575 ext. 4603  
Email: [barney@aesop.rutgers.edu](mailto:barney@aesop.rutgers.edu)



Ms Kimberly Berry  
Director  
Regulatory Data Services  
Bryant Christie, Inc.  
500 Union Street Suite 701  
Seattle, WA  
United States of America  
Tel: +1-206-292-6340  
Email: [Kimberly.berry@bryantchristie.com](mailto:Kimberly.berry@bryantchristie.com)

Mrs Julie Chao  
Senior international Trade Specialist  
Plant Division, Office of Agreements and Scientific  
Affairs  
Foreign Agricultural Service, U.S. Department of  
Agriculture  
1400 Independence Avenue, SW South Building  
Washington, DC  
United States of America  
Tel: +1-202-378-1056  
Email: [Julie.chao@fas.usda.gov](mailto:Julie.chao@fas.usda.gov)

Dr Michal Eldan  
Vice President, Health and Environment  
Global Regulatory & Scientific Affairs  
Luxembourg-Pamol, Inc.  
3647 Willowbend Blvd, Suite 810  
Houston, TX  
United States of America  
Tel: +1.212.495.9717  
Email: [meldan@luxpam.com](mailto:meldan@luxpam.com)

Mr Raul Guerrero  
Consultant  
International Regulatory Strategies  
793 Ontare Road  
Santa Barbara, California  
United States of America  
Tel: +1805-898-1830  
Email: [guerrero\\_raul\\_j@yahoo.com](mailto:guerrero_raul_j@yahoo.com)

Ms Heidi Irrig  
MRL Manager North America  
Syngenta  
410 Swing Road  
Greensboro, NC  
United States of America  
Tel: +1-336-632-7243  
Email: [heidi.irrig@syngenta.com](mailto:heidi.irrig@syngenta.com)

Dr John Johnston  
Scientific Liaison  
Food Safety and Inspection Service  
US Department of Agriculture  
2150 Centre Ave Building D Room 2059  
Fort Collins, CO  
United States of America  
Tel: +1- 202-365-7175  
Email: [John.Johnston@fsis.usda.gov](mailto:John.Johnston@fsis.usda.gov)

Dr Daniel Kunkel  
Associate Director, Food and International  
Programs  
IR-4 Project Headquarters  
Rutgers, The State University of NJ  
500 College Road East Suite 201  
W Princeton, NJ  
United States of America  
Tel: +1.732.932.9575; ext: 4616  
Email: [kunkel@aesop.rutgers.edu](mailto:kunkel@aesop.rutgers.edu)

Dr Chia Pei (charlotte) Liang  
Chemist, Plant Products Branch  
Center for Food Safety and Applied Nutrition  
U.S. Food and Drug Administration  
Division of Plant Products and Beverages Office of  
Food Safety 5100 Paint Branch Parkway  
College Park, MD  
United States of America  
Tel: +1-240-402-2785  
Email: [charlotte.liang@fda.hhs.gov](mailto:charlotte.liang@fda.hhs.gov)

Ms Marie Maratos  
International Issues Analyst  
U.S. Codex Office, Food Safety & Inspection  
Service  
U. S. Department of Agriculture  
1400 Independence Avenue, SW Room 4861  
Washington, DC  
United States of America  
Tel: +1-202-690-4795  
Email: [marie.maratos@fsis.usda.gov](mailto:marie.maratos@fsis.usda.gov)

Dr Ray Mcallister  
Senior Director, Regulatory Policy  
CropLife America  
1156 15th St NW #400  
Washington, DC  
United States of America  
Tel: +1-202-577-6657  
Email: [ray@croplife.us](mailto:ray@croplife.us)

Dr Allen Scarborough  
North America Trade Flow Manager  
North America Regulatory Affairs  
Bayer CropScience LP  
P.O. Box 12014 2 T.W. Alexander Drive Research  
Triangle Park, NC 27709  
United States of America  
Tel: +1 919 549 2397  
Email: [allen.scarborough@bayer.com](mailto:allen.scarborough@bayer.com)

#### **VIET NAM**

Mr Thanh Trung Phan  
Head  
Environmental Testing Department  
Quality Assurance and Testing center 3  
49 Pasteur street, District 1  
Ho Chi Minh  
Viet Nam  
Tel: 0912310812  
Email: [pt-trung@quatest3.com.vn](mailto:pt-trung@quatest3.com.vn)

Mrs Tuong Van Tran  
 Official  
 Quality Assurance and Testing center 3  
 49 Pasteur street, District 1  
 Ho Chi Minh  
 Viet Nam  
 Email: [tt-van1@quatest3.com.vn](mailto:tt-van1@quatest3.com.vn)

**INTERGOVERNMENTAL ORGANIZATION  
 ORGANISATION INTERGOUVERNEMENTALE  
 ORGANIZACION INTERGUBERNAMENTAL**

**AFRICAN UNION (AU)**

Dr Raphael Coly  
 Coordinator Standards & Trade Secretariat  
 Au-Ibar  
 African Union  
 Kenindia Business Park  
 Nairobi  
 Kenya  
 Tel: +254203674323  
 Email: [raphael.coly@au-ibar.org](mailto:raphael.coly@au-ibar.org)

Mr John Oppong-otoo  
 Food Safety Officer  
 Au-Ibar  
 African Union  
 Kenindia Business Park Westlands Road  
 Nairobi  
 Kenya  
 Tel: +254203674338  
 Email: [john.opping-otoo@au-ibar.org](mailto:john.opping-otoo@au-ibar.org)

**NON GOVERNMENTAL ORGANIZATION  
 ORGANISATION NON GOUVERNEMENTALE  
 ORGANIZACIÓN NO GUBERNAMENTAL**

**THE LATINAMERICAN ASSOCIATION OF THE  
 NATIONAL AGROCHEMICAL INDUSTRIES  
 (ALINA)**

Ms Amanda Francisco  
 Advisor  
 Agrocare Latinoamerica (ALINA)  
 Rua Frei Caneca 1100 Apto 212  
 Sao Paulo  
 Brazil  
 Email: [amanda\\_afs1@hotmail.com](mailto:amanda_afs1@hotmail.com)

Prof Laura Beatriz Ruiz  
 Advisor  
 R&D Agroconsultora s.a.  
 AGROCARELATINOAMERICA (ALINA)  
 Necochea 1323  
 Martinez  
 Argentina  
 Tel: 91164835689  
 Email: [laura.ruiz@agrocarelainoamerica.org](mailto:laura.ruiz@agrocarelainoamerica.org)

**GLOBAL PULSE CONFEDERATION (CICILS)**

Ms Lois Rossi  
 Consultant  
 Global Pulse Confederation  
 1050 N. Taylor Street, Unit 512  
 Arlington  
 United States of America  
 Email: [rluisa1@aol.com](mailto:rluisa1@aol.com)

Mr Todd Scholz  
 Vice President of Research & Membership Services  
 US Dry Pea and Lentil Council  
 American Pulse Association/ USA Dry Pea & Lentil  
 Council 2780 W Pullman Road  
 Moscow  
 United States of America  
 Tel: +12088833023  
 Email: [tscholz@usapulses.org](mailto:tscholz@usapulses.org)

**CROPLIFE INTERNATIONAL (CROPLIFE)**

Mr Philip Anthony Brindle  
 Senior Manager, Global MRLs & Import Tolerances  
 BASF  
 26 Davis Drive  
 Durham  
 United States of America  
 Tel: 0019195472654  
 Email: [philip.brindle@basf.com](mailto:philip.brindle@basf.com)

Mr Peter Chalmers  
 APAC Head of Development and Registration  
 Adama  
 9 Temasek Boulevard #16-03A Suntec Tower Two  
 Singapore  
 Singapore  
 Tel: 006592320950  
 Email: [peter.chalmers@adama.com](mailto:peter.chalmers@adama.com)

Ms Cheryl Cleveland  
 Consumer Safety  
 BASF  
 26 Davis Drive  
 Research Triangle Park, NC  
 United States of America  
 Tel: 0019195930194  
 Email: [cheryl.cleveland@basf.com](mailto:cheryl.cleveland@basf.com)

Ms Lydia Cox  
 Director, Regulatory Affairs  
 Nichino  
 4550 New Linden Hill Road  
 Wilmington, DE  
 United States of America  
 Tel: 0013026369001  
 Email: [lcox@nichino.net](mailto:lcox@nichino.net)

Ms Andreia Da Silva Ferraz  
 Federal Regulation Manager  
 ANDEF  
 Av Roque Petroni Junior 850 19 Andar Torre 8  
 Sao Paulo  
 Brazil  
 Tel: +551130875031  
 Email: [andreia@andef.com.br](mailto:andreia@andef.com.br)



Ms Marie Noelle Douaiher  
Regulatory Affairs Manager  
Janssen PMP a division of Janssen Pharmaceutica  
NV  
Turnhoutseweg 30  
Beerse  
Belgium  
Tel: 0033616594652  
Email: [mdouaiher@its.inj.com](mailto:mdouaiher@its.inj.com)

Mr Craig Dunlop  
Regulatory Policy  
Syngenta Crop Protection AG  
Schwarzwaldallee 215  
Basel  
Switzerland  
Tel: 0041613231250  
Email: [craig.dunlop@syngenta.com](mailto:craig.dunlop@syngenta.com)

Mr Takahiro Egawa  
Registration & Regulatory Affairs Representative  
DuPont Crop Protection  
Sanno Park Tower 11-1 Nagata-cho 2-chome  
Chiyoda-ku  
Tokyo  
Japan  
Tel: 0081355218411  
Email: [takahiro.egawa@dupont.com](mailto:takahiro.egawa@dupont.com)

Mr Kazuyuki Fukushima  
Regulatory Affairs Division Biosciences Sales &  
Marketing  
Ishihara Sangyo Kaisha, Ltd.  
3-15, Edobori 1-chme, Nishi-ku  
Osaka  
Japan  
Tel: +81-6-6444-7154  
Email: [k-fukushima@iskweb.co.jp](mailto:k-fukushima@iskweb.co.jp)

Ms Amelia Gheissari  
International Regulatory Affairs Manager  
Monsanto  
1300 Eye (I) Street, NW Suite 450 East  
Washington DC  
United States of America  
Tel: 0012023832847  
Email: [amelia.elizabeth.jackson.-  
gheissari@monsanto.com](mailto:amelia.elizabeth.jackson.-gheissari@monsanto.com)

Mr Masaki Hiraki  
Manager  
“Asia Pacific Group Development & Registration  
Department”  
Mitsui Chemical Agro inc.  
Nihonbashi Dia Building, 1-19-1, Nihonbashi Chuo-  
ku  
Tokyo  
Japan  
Tel: +81-3-5290-2869  
Email: [Masaki.Hiraki@mitsuichemicals.com](mailto:Masaki.Hiraki@mitsuichemicals.com)

Ms Junko Horita  
Research and Development Department  
Kumiai Chemical Industry Co., Ltd.  
4-26, Ikenohata, 1-chome, Taitoh-ku  
Tokyo  
Japan  
Tel: 81-3-3822-5091  
Email: [j-horita@kumiai-chem.co.jp](mailto:j-horita@kumiai-chem.co.jp)

Dr Peter Horne  
Global Regulatory Affairs Manager  
DuPont Crop Protection  
Stine Haskell Research Center 1090 Elkton road  
Newark, Delaware  
United States of America  
Tel: 0013023666228  
Email: [peter.horne-1@dupont.com](mailto:peter.horne-1@dupont.com)

Mr Hideji Hosoda  
Executive, Division Manager  
Overseas Division  
Nihon Nohyaku CO.,LTD.  
Kyobshi OM Bldg. 19-8, Kyobashi 1-Chome, Chuo-  
ku  
Tokyo  
Japan  
Tel: +81-(0)3-6361-1401  
Email: [hosoda-hideji@nichino.co.jp](mailto:hosoda-hideji@nichino.co.jp)

Mr Kazuaki Iijima  
Associate Director  
Chemistry Division  
The Institute of Environmental Toxicology  
4321 Uchimoriya-machi, Joso-shi  
Ibaraki  
Japan  
Tel: +81-297-27-4516  
Email: [ijima@iet.or.jp](mailto:ijima@iet.or.jp)

Mr Yuji Ikemoto  
Assistant General Manager  
Overseas Registration Group, Registration  
Department, Market Development Division  
Nihon Nohyaku CO.,LTD.  
Kyobshi OM Bldg. 19-8, Kyobashi 1-Chome, Chuo-  
ku  
Tokyo  
Japan  
Tel: +81-(0)3-6361-1411  
Email: [ikemoto-yuji2@nichino.co.jp](mailto:ikemoto-yuji2@nichino.co.jp)

Mr Michael Kaethner  
Regulatory Policy  
Bayer CropScience  
Geb 6100 A1.4 Alfred Nobel Str 50  
Monheim  
Germany  
Tel: 00492173387521  
Email: [michael.kaethner@bayer.com](mailto:michael.kaethner@bayer.com)

Mr Yoshitaka Kawarai  
Registration and Regulatory Affairs Department  
Kyoyu Agri Co., Ltd.  
Yamaman Bldg. 11F. 6-1 Nihonbashi-Koami-cho,  
Chuo-ku  
Tokyo  
Japan  
Tel: +81-3-5465-0708  
Email: [kawarai-yoshitaka@kyoyu-agri.co.jp](mailto:kawarai-yoshitaka@kyoyu-agri.co.jp)

Mr Neil John Lister  
Syngenta  
Jealott's Hill  
Bracknell  
United Kingdom  
Tel: 00441344414381  
Email: [neil.lister@syngenta.com](mailto:neil.lister@syngenta.com)

Mr Takashi Morimoto  
R&RA department, AgroSolutions Division -  
International  
Sumitomo Chemical Co., Ltd.  
27-1, Shinkawa 2-chome, Chuo-ku  
Tokyo  
Japan  
Tel: +81-3-5543-5692  
Email: [morimotot2@sc.sumitomo-chem.co.jp](mailto:morimotot2@sc.sumitomo-chem.co.jp)

Mr Makoto Nabeshima  
Technical Advise  
Technical Product & Development Section,  
Fertilizers and Agrochemicals Div.  
National Federation of Cooperative Associations  
1-3-1 Otemachi Chiyoda-ku  
Tokyo  
Japan  
Tel: 81-3-6271-8289  
Email: [nabeshima-makoto-q1@zennoh.or.jp](mailto:nabeshima-makoto-q1@zennoh.or.jp)

Mr Yoshihiro Nishimoto  
General Manager  
R&RA department, AgroSolutions Division -  
International  
Sumitomo Chemical Co., Ltd.  
27-1, Shinkawa 2-chome, Chuo-ku  
Tokyo  
Japan  
Tel: +81-3-5543-5720  
Email: [nishimotoy@sc.sumitomo-chem.co.jp](mailto:nishimotoy@sc.sumitomo-chem.co.jp)

Mr Masaru Nokata  
Advisor  
Registration Department, Market Development  
Division  
Nihon Nohyaku CO.,LTD.  
Kyobshi OM Bldg. 19-8, Kyobashi 1-Chome, Chuo-  
ku  
TOKYO  
Japan  
Tel: +81-(0)3-6361-1411  
Email: [nokata-masaru@nichino.co.jp](mailto:nokata-masaru@nichino.co.jp)

Ms Mi Kyoung Park  
Regulatory Affairs  
Syngenta Korea Ltd  
CP RA 18th floor SC Bank Building Jongro 47  
Jongro-Gu, South Korea  
Republic of Korea  
Tel: +821088074663  
Email: [mikyoung.park@syngenta.com](mailto:mikyoung.park@syngenta.com)

Mr Vasant Patil  
Regulatory Affairs  
Crop Protection  
CropLife Singapore  
150 Cantonment Road, Block B #01-07  
Singapore  
Tel: +6562211615  
Email: [vasant.patil@croplifeasia.org](mailto:vasant.patil@croplifeasia.org)

Mr James William Pickering  
Registration Manager  
Nichino Europe  
5 Pioneer Court Histon  
Cambridge  
United Kingdom  
Tel: 00441509670743  
Email: [bpickering@nichino-europe.com](mailto:bpickering@nichino-europe.com)

Ms Monika Richter  
Global Food Safety and European MRL Manager  
BASF  
Speyerer Strasse 2  
Limburgerhof  
Germany  
Tel: 00496216027733  
Email: [monika.a.richter@basf.com](mailto:monika.a.richter@basf.com)

Ms Nanami Saita  
Regulatory  
R&D North East Asia, Crop protection Regulatory  
Syngenta Japan KK  
21F, Office Tower X, 1-8-10, Harumi, Chuo-ku  
Tokyo  
Japan  
Tel: +81362213839  
Email: [nanami.saita@syngenta.com](mailto:nanami.saita@syngenta.com)

Mr Naoto Sakiyama  
Regulatory Affairs Division Biosciences Sales &  
Marketing  
Ishihara Sangyo Kaisha, Ltd.  
3-1, Nishi-Shibukawa 2-chome  
Kusatsu, Shiga  
Japan  
Tel: +81-77-562-4122  
Email: [n-sakiyama@iskweb.co.jp](mailto:n-sakiyama@iskweb.co.jp)

Mr Takeshi Shibuya  
Manager  
REGULATORY AFFAIRS  
SDS Biotech K.K.  
1-1-5, HIGASHI-NIHOMBASHI, CHUO-KU  
Tokyo  
Japan  
Tel: +81-3-5825-5516  
Email: [takeshi\\_shibuya@sdsbio.co.jp](mailto:takeshi_shibuya@sdsbio.co.jp)

Mr Jun Tanaka  
 Manager  
 Regulatory Affairs Dept.  
 Nippon Soda Co.,Ltd  
 2-1, Ohtemachi 2-chome, Chiyoda-ku  
 Tokyo  
 Japan  
 Tel: +81-80-5965-4011  
 Email: [j.tanaka@nippon-soda.co.jp](mailto:j.tanaka@nippon-soda.co.jp)

Mr Toshitomo Tanaka  
 Chief Manager  
 “Sales Department, Asia Overseas Division “  
 Nihon Nohyaku CO.,LTD.  
 Kyobashi OM Bldg. 19-8, Kyobashi 1-Chome, Chuo-ku  
 Tokyo  
 Japan  
 Tel: +81-(0)3-6361-1424  
 Email: [tanaka-toshitomo@nichino.co.jp](mailto:tanaka-toshitomo@nichino.co.jp)

Ms Carmen Tiu De Mino  
 Global Residue & MRL Leader  
 Dow AgroSciences LLC  
 9330 Zionsville Road  
 Indianapolis  
 United States of America  
 Tel: +0013173724215  
 Email: [tcarmen@dow.com](mailto:tcarmen@dow.com)

Mr Omura Tomohiro  
 HOKKO CHEMICAL INDUSTRY CO.,LTD.  
 HOKKO CHEMICAL INDUSTRY CO.,LTD.  
 1-5-4 Nihonbashi Honcho, Chuo-Ku  
 Tokyo  
 Japan  
 Tel: +81-3-3279-5831  
 Email: [omura-t@hokkochem.co.jp](mailto:omura-t@hokkochem.co.jp)

Mr Shimpei Tsushima  
 Manager  
 Regulatory Affairs Dept.  
 Nippon Soda Co.,Ltd  
 2-1, Ohtemachi 2-chome, Chiyoda-ku  
 Tokyo  
 Japan  
 Tel: +81-80-5969-3622  
 Email: [s.tsushima@nippon-soda.co.jp](mailto:s.tsushima@nippon-soda.co.jp)

Mr Hiroo Wakimori  
 Chemistry Technical Lead, Asia  
 Chemical Regulatory Affairs  
 Monsanto Japan Limited  
 Kyobashi Souseikan 6F, 2-5-18 Kyobashi, Chuo-ku  
 Tokyo  
 Japan  
 Tel: +81 3 6264-4856  
 Email: [hiroo.wakimori@monsanto.com](mailto:hiroo.wakimori@monsanto.com)

Ms Han Yan  
 Manager  
 Regulatory Affairs Dept.  
 Nippon Soda Trading (Shanghai) Co.,Ltd  
 RM.2318,Ruijing Building,205,Maoming South Road  
 Shanghai  
 China  
 Tel: 021-64731277, 13701959545  
 Email: [yanhan@nipponsoda-sh.com](mailto:yanhan@nipponsoda-sh.com)

Mr Tokunori Yokota  
 General Manager  
 Regulatory Affairs  
 Japan Crop Protection Association  
 2-3-6 Kayaba-cho Nihonbashi Chuoku  
 Tokyo  
 Japan  
 Tel: +81-3-5649-7191  
 Email: [yokota@jcpa.or.jp](mailto:yokota@jcpa.or.jp)

Ms Sun Kyoung Yoon  
 Regulatory Affairs  
 Crop Protection  
 Monsanto Singapore  
 151 Lorong Chuan, #06-08 New Tech Park  
 Singapore  
 Tel: +6564885670  
 Email: [sun.kyoung.yoon@monsanto.com](mailto:sun.kyoung.yoon@monsanto.com)

#### **GRAIN AND FEED TRADE ASSOCIATION (GAFTA)**

Mr Alan(□□) Ding(丁)  
 Chief Representative  
 The Grain and Feed Trade Association Beijing Office  
 1-1-1607 LEADING INTERNATIONAL CENTRE  
 NO.1 GUANG QU MEN NAN XIAO JIE, 100061,  
 BEIJING, CHINA  
 BEIJING  
 China  
 Tel: +86-13910017217  
 Email: [gafta@263.net](mailto:gafta@263.net)

#### **INTERNATIONAL COUNCIL OF BEVERAGES ASSOCIATIONS (ICBA)**

Dr Ronald Williams, Jr  
 Advisor to ICBA  
 International Council of Beverages Associations  
 1275 Pennsylvania Avenue NW, Suite 1100  
 Washington, D.C.  
 United States of America  
 Tel: + 1 202-463-6739  
 Email: [ronaldwilliams@coca-cola.com](mailto:ronaldwilliams@coca-cola.com)

**INTERNATIONAL FRUIT AND VEGETABLE JUICE ASSOCIATION (IFU)**

Dr David Hammond  
IFU (Int. Fruit & Veg Juice Association)  
23, Boulevard des Capucines  
Paris  
France  
Email: [Davidfruitjuice@aol.com](mailto:Davidfruitjuice@aol.com)

**INTERNATIONAL NUT AND DRIED FRUIT COUNCIL FOUNDATION (INC)**

Ms Gabriele Ludwig  
Scientific and Government Affairs Committee  
International Nut & Dried Fruit Council (INC)  
United States of America  
Email: [gludwig@almondboard.com](mailto:gludwig@almondboard.com)

**INTERNATIONAL SOCIETY OF CITRICULTURE (ISC)**

Mr James Cranney  
Representative for ISC  
International Society of Citriculture  
c/o California Citrus Quality Council 853 Lincoln  
Way, Suite 206 Auburn, CA 95603  
Auburn  
United States of America  
Tel: 5308851894  
Email: [jcranney@ccqc.org](mailto:jcranney@ccqc.org)

**NATIONAL HEALTH FEDERATION (NHF)**

Mr Scott Tips  
President & General Counsel - CA  
National Health Federation  
PO Box 688  
Monrovia  
United States of America  
Tel: 6263572181  
Email: [scott@rivieramail.com](mailto:scott@rivieramail.com)

Ms Katherine Carroll  
Executive Director  
California  
National Health Federation  
PO Box 688  
Monrovia  
United States of America  
Tel: 16263572181  
Email: [katacarroll@gmail.com](mailto:katacarroll@gmail.com)

**INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)**

Dr Zhihua Ye  
Section Head, Food and Environmental Protection  
Section, Joint FAO/IAEA Division of Nuclear  
Techniques in Food and Agriculture  
Department of Nuclear Sciences and Applications  
International Atomic Energy Agency  
Vienna International Centre P. O. Box 100  
Vienna  
Austria  
Tel: +43 (1) 2600-21638  
Email: [Z.Ye@iaea.org](mailto:Z.Ye@iaea.org)

**FAO**

Ms Yongzhen Yang  
FAO JMPR Secretary  
Food and Agriculture Organization of the UN  
Viale delle Terme di Caracalla  
Rome  
Italy  
Tel: +39 06 57054246  
Email: [Yongzhen.Yang@fao.org](mailto:Yongzhen.Yang@fao.org)

**WHO**

Dr Philippe Jean Verger  
Scientist  
Risk Assessment and Management World Health  
Organization (WHO)  
20, avenue Appia  
Geneva 27  
Switzerland  
Tel: +41 22 791 3053  
Email: [vergerp@who.int](mailto:vergerp@who.int)

**HOST SECRETARIAT**

Ms Lifang Duan  
Senior Agronomist  
CCPR Secretariat Institute for the Control of  
Agrochemicals  
Ministry of Agriculture  
NO.18 Maizidian Street, Chaoyang District Beijing  
China  
Beijing  
China  
Tel: +86 13911379536  
Email: [duanlifang@agri.gov.cn](mailto:duanlifang@agri.gov.cn)

Dr Fengzu Zhang  
CCPR Secretariat Institute for the Control of  
Agrochemicals  
Ministry of Agriculture  
NO.18 Maizidian Street, Chaoyang District  
Beijing China  
Tel: +86 010 5919 4254  
Email: [zhangfengzu@agri.gov.cn](mailto:zhangfengzu@agri.gov.cn)

Ms Meng Fu  
CCPR Secretariat Institute for the Control of  
Agrochemicals  
Ministry of Agriculture  
NO.18 Maizidian Street, Chaoyang District  
Beijing  
China  
Tel: +86 010 5919 4255  
Email: [ccpr@agri.gov.cn](mailto:ccpr@agri.gov.cn)

Dr Longfei Yuan  
State Key Laboratory of Integrated Management of  
Pest Insects and Rodents  
Institute of Zoology, Chinese Academy of Sciences  
1 Beichen West Road, Chaoyang District  
Beijing  
China  
Tel: +86 010 64807261  
Email: [yuanlongfei@ioz.ac.cn](mailto:yuanlongfei@ioz.ac.cn)

Mr Ercheng Zhao  
Beijing Academy of Agriculture and Forestry  
Science  
NO.9 Shuguang Huayuan Middle Road Haidian  
District  
Beijing  
China  
Tel: +86 010 51503438  
Email: [eczhao@126.com](mailto:eczhao@126.com)

Ms Jun Xu  
Professor  
Institute of Plant Protection, Chinese Academy of  
Agricultural Sciences  
No.2 West Yuan Ming Yuan Road 100193  
Beijing  
China  
Tel: +86 010 62815938  
Email: [xujun1977927@163.com](mailto:xujun1977927@163.com)

Ms Liying Zhang  
Institute for the Control of Agrochemicals  
Ministry of Agriculture  
Beijing  
China  
Tel: +86 010 59194062  
Email: [zhangliying@agri.gov.cn](mailto:zhangliying@agri.gov.cn)

Ms Junhua Song  
Institute for the Control of Agrochemicals  
Ministry of Agriculture  
Beijing  
China  
Tel: +86 010 59194057  
Email: [junesong@agri.gov.cn](mailto:junesong@agri.gov.cn)

Ms Ran Liu  
Institute for the Control of Agrochemicals  
Ministry of Agriculture  
Beijing  
China  
Tel: +86 010 59194130  
Email: [liuran@agri.gov.cn](mailto:liuran@agri.gov.cn)

Dr Mingcheng Guo  
Institute for the Control of Agrochemicals  
Ministry of Agriculture  
NO.22 Maizidian Street, Chaoyang District  
Beijing  
China  
Tel: +86 010 5919 5076  
Email: [guomc90@163.com](mailto:guomc90@163.com)

#### **CODEX SECRETARIAT**

Mr Tom Heilandt  
Secretary, Codex Alimentarius  
Joint FAO/WHO Food Standards Programme  
Food and Agriculture Organization of the UN  
Viale delle Terme di Caracalla  
Rome  
Italy  
Tel: +39 06 5705 4384  
Email: [tom.heilandt@fao.org](mailto:tom.heilandt@fao.org)

Ms Annamaria Bruno  
Senior Food Standards Officer  
Joint FAO/WHO Food Standards Programme  
Food and Agriculture Organization of the UN  
Viale delle Terme di Caracalla  
Rome  
Italy  
Tel: 39 06570 56254  
Email: [annamaria.bruno@fao.org](mailto:annamaria.bruno@fao.org)

Ms Gracia Brisco  
Food Standards Officer  
Joint FAO/WHO Food Standards Programme  
Food and Agriculture Organization of the UN  
Viale delle Terme di Caracalla  
Rome  
Italy  
Tel: 39 06 570 52700  
Email: [gracia.brisco@fao.org](mailto:gracia.brisco@fao.org)

**APPENDIX II****DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES****(For adoption at Step 8)**

	<b><u>Commodity</u></b>	<b><u>MRL (mg/kg)</u></b>	<b><u>Step</u></b>	<b><u>Note</u></b>
90	<b>Chlorpyrifos-Methyl</b>			
	GC 0640 Barley	3	Po	8
	GC 0654 Wheat	3	Po	8
	CM 0654 Wheat bran, Unprocessed	6	PoP	8
	CF 1210 Wheat germ	5	PoP	8

**APPENDIX III****PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES****(For adoption at Step 5/8)**

	<b><u>Commodity</u></b>	<b><u>MRL (mg/kg)</u></b>	<b><u>Step</u></b>	<b><u>Note</u></b>
135	<b>Deltamethrin</b>			
	SO 0495 Rape seed	0.2	5/8	
147	<b>Methoprene</b>			
	SO 0089 Oilseed, except peanut	4 Po	5/8	
173	<b>Buprofezin</b>			
	FI 0326 Avocado	0.1	5/8	
	HH 0722 Basil	1.5	5/8	
	VD 0541 Soya bean (dry)	0.01 (*)	5/8	
182	<b>Penconazole</b>			
	FP 0226 Apple	0.1	5/8	
	VS 0620 Artichoke, Globe	0.06	5/8	
	VC 0424 Cucumber	0.06	5/8	
	FB 0278 Currant, Black	2	5/8	
	DF 0269 Dried grapes (=currants, raisins and sultanas)	1.5	5/8	
	MO 0105 Edible offal (mammalian)	0.05 (*)	5/8	
	VO 0440 Egg plant	0.09	5/8	
	PE 0112 Eggs	0.05 (*)	5/8	
	VC 0425 Gherkin	0.06	5/8	
	FB 0269 Grapes	0.4	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	
	VC 0046 Melons, except watermelon	0.15	5/8	
	ML 0106 Milks	0.01 (*)	5/8	
	FS 2001 Peaches (including Nectarine and Apricots) (includes all commodities in this subgroup)	0.08	5/8	
	FP 0230 Pear	0.1	5/8	
	VO 0445 Peppers, Sweet (including pimento or pimienta)	0.2	5/8	
	PO 0111 Poultry, Edible offal of	0.05 (*)	5/8	
	PM 0110 Poultry meat	0.05 (*)	5/8	
	VC 0431 Squash, summer	0.06	5/8	
	FB 0275 Strawberry	0.5	5/8	
	VO 0448 Tomato	0.09	5/8	
190	<b>Teflubenzuron</b>			
	FP 0226 Apple	0.5	5/8	
	VB 0404 Cauliflower	0.01 (*)	5/8	
	SB 0716 Coffee beans	0.3	5/8	
	VC 0424 Cucumber	0.5	5/8	
	MO 0105 Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	VC 0425 Gherkin	1.5	5/8	
	FB 0269 Grapes	0.7	5/8	
	FC 0002 Lemons and limes (including Citron)	0.5	5/8	(includes all commodities in this subgroup)
	GC 0645 Maize	0.01 (*)	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	OR 0645 Maize oil, Edible	0.015	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	
	VC 0046 Melons, except watermelon	0.3	5/8	
	FM 0183 Milk fats	0.01 (*)	5/8	
	ML 0107 Milk of cattle, goats & sheep	0.01 (*)	5/8	
	FI 0350 Papaya	0.4	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PF 0111 Poultry fats	0.01 (*)	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	
	OR 0004 Orange oil, edible	126	5/8	
	FC 0004 Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	0.5	5/8	(includes all commodities in this subgroup)
	VD 0541 Soya bean (dry)	0.05	5/8	
	AB 0541 Soya bean hulls	0.2	5/8	
	GS 0659 Sugar cane	0.01 (*)	5/8	
	SO 0702 Sunflower seed	0.3	5/8	
	VO 0448 Tomato	1.5	5/8	
202	<b>Fipronil</b>			
	HH 0722 Basil	1.5	5/8	
225	<b>Dimethomorph</b>			
	VL 0483 Lettuce, Leaf	9	5/8	
230	<b>Chlorantraniliprole</b>			
	PE 0112 Eggs	0.2	5/8	
	SO 0697 Peanut	0.06	5/8	
	PO 0111 Poultry, Edible offal of	0.07	5/8	
	PF 0111 Poultry fats	0.08	5/8	
	PM 0110 Poultry meat	0.02	5/8	
	AS 0161 Straw, fodder (dry) and hay of cereal grains and other grass-like plants	30 (dw)	5/8	
251	<b>Saflufenacil</b>			
	AL 1020 Alfalfa fodder	0.06	5/8	
	GC 0640 Barley	1	5/8	
	CM 0640 Barley bran, unprocessed	3	5/8	
	AS 0640 Barley straw and fodder, Dry	10	5/8	
	MO 0105 Edible offal (mammalian)	60	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	AS 0162 Hay or fodder (dry) of grasses	30	5/8	
	MF 0100 Mammalian fats (except milk fats)	0.05	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.01	5/8	
	ML 0106 Milks	0.01	5/8	
	SO 0697 Peanut	0.01 (*)	5/8	
	FI 0355 Pomegranate	0.01 (*)	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PF 0111 Poultry fats	0.01 (*)	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	
	GS 0659 Sugar cane	0.03	5/8	
	DM 0659 Sugar cane molasses	1	5/8	
	SO 0702 Sunflower seed	0.7	5/8	



	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	GC 0653 Triticale	0.7		5/8
	AS 0653 Triticale straw and fodder, Dry	10		5/8
	GC 0654 Wheat	0.7		5/8
	AS 0654 Wheat straw and fodder, Dry	10		5/8
253	<b>Penthiopyrad</b>			
	AS 0645 Maize fodder (dry)	10 (DM)		5/8
261	<b>Benzovindiflupyr</b>			
	GC 0640 Barley	1		5/8
	AS 0640 Barley straw and fodder, Dry	15 (dw)		5/8
	VD 0071 Beans (dry)	0.15		5/8
	SB 0716 Coffee beans	0.15		5/8
	DF 0269 Dried grapes (=currants, raisins and sultanas)	3		5/8
	MO 0105 Edible offal (mammalian)	0.1		5/8
	PE 0112 Eggs	0.01 (*)		5/8
	VC 0045 Fruiting vegetables, Cucurbits	0.2		5/8
	VO 0050 Fruiting vegetables other than cucurbits	0.9		5/8
	FB 0269 Grapes	1		5/8
	MF 0100 Mammalian fats (except milk fats)	0.03		5/8
	MM 0095 Meat (from mammals other than marine mammals)	0.03 F		5/8
	GC 0647 Oats	1		5/8
	AS 0647 Oat straw and fodder, Dry	15 (dw)		5/8
	ML 0106 Milks	0.01 (*)		5/8
	AL 0072 Pea hay or pea fodder (dry)	8 (dw)		5/8
	SO 0697 Peanut	0.04		5/8
	AL 0697 Peanut fodder	15 (dw)		5/8
	VD 0072 Peas (dry)	0.2		5/8
	HS 0444 Peppers Chili, dried	9		5/8
	FP 0009 Pome fruits	0.2		5/8
	VR 0589 Potato	0.02		5/8
	PO 0111 Poultry, Edible offal of	0.01 (*)		5/8
	PF 0111 Poultry fats	0.01 (*)		5/8
	PM 0110 Poultry meat	0.01 (*)		5/8
	SO 0495 Rape seed	0.2		5/8
	GC 0650 Rye	0.1		5/8
	AS 0650 Rye straw and fodder, Dry	15 (dw)		5/8
	VD 0541 Soya bean (dry)	0.08		5/8
	GS 0659 Sugar cane	0.04		5/8
	VO 0447 Sweet corn (corn-on-the-cob)	0.01 (*)		5/8
	GC 0653 Triticale	0.1		5/8
	AS 0653 Triticale straw and fodder, Dry	15 (dw)		5/8
	GC 0654 Wheat	0.1		5/8
	AS 0654 Wheat straw and fodder, Dry	15 (dw)		5/8
262	<b>Bixafen</b>			
	GC 0640 Barley	0.4		5/8
	AS 0640 Barley straw and fodder, Dry	20 (dw)		5/8
	MO 0105 Edible offal (mammalian)	4		5/8
	PE 0112 Eggs	0.05		5/8

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	MF 0100 Mammalian fats (except milk fats)	2	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	2 (fat)	5/8	
	ML 0106 Milks	0.2	5/8	
	FM 0183 Milk fats	5	5/8	
	GC 0647 Oats	0.4	5/8	
	AS 0647 Oat straw and fodder, Dry	20 (dw)	5/8	
	PO 0111 Poultry, Edible offal of	0.05	5/8	
	PF 0111 Poultry fats	0.05	5/8	
	PM 0110 Poultry meat	0.02 (*)	5/8	
	SO 0495 Rape seed	0.04	5/8	
	OR 0495 Rape seed oil, Edible	0.08	5/8	
	GC 0650 Rye	0.05	5/8	
	AS 0650 Rye straw and fodder, Dry	20 (dw)	5/8	
	GC 0653 Triticale	0.05	5/8	
	AS 0653 Triticale straw and fodder, Dry	20 (dw)	5/8	
	GC 0654 Wheat	0.05	5/8	
	CM 0654 Wheat bran, Unprocessed	0.15	5/8	
	AS 0654 Wheat straw and fodder, Dry	20 (dw)	5/8	
265	<b>Fluensulfone</b>			
	VR 0574 Beetroot	4	5/8	
	VB 0040 Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	1.5	5/8	
	VR 0577 Carrot	4	5/8	
	VR 0578 Celeriac	4	5/8	
	VS 0624 Celery	2	5/8	
	VR 0579 Chervil, Turnip-rooted	4	5/8	
	VC 0424 Cucumber	0.7	5/8	
	MO 0105 Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	VO 0050 Fruiting vegetables other than cucurbits	0.7	5/8	except sweetcorn and mushroom
	VR 0583 Horseradish	4	5/8	
	VL 0481 Komatsuna	9	5/8	
	VL 0053 Leafy vegetables	1 (R)	5/8	(not specified elsewhere)
	VP 0060 Legume vegetables	0.1 (R)	5/8	
	VL 0482 Lettuce, Head	0.8	5/8	
	FB 2009 Low growing berries	0.5	5/8	
	MF 0100 Mammalian fats (except milk fats)	0.01 (*)	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.01 (*) (fat)	5/8	
	VC 0046 Melons, except watermelon	0.3	5/8	
	ML 0106 Milks	0.01 (*)	5/8	
	VL 0485 Mustard greens	20	5/8	
	VR 0588 Parsnip	4	5/8	
	HS 0444 Peppers Chili, dried	7	5/8	
	VR 0589 Potato	0.8	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PF 0111 Poultry fats	0.01	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>		<u>Step</u>	<u>Note</u>
	VR 0494 Radish	4		5/8	
	VR 0075 Root and tuber vegetables	3	(R)	5/8	(not specified elsewhere)
	DV 0589 Potato, dried	2		5/8	
	VR 0591 Radish, Japanese	4		5/8	
	VL 0494 Radish leaves (including radish tops)	50		5/8	
	VL 0502 Spinach	4		5/8	
	VC 0431 Squash, summer	0.7		5/8	
	VR 0508 Sweet potato	0.8		5/8	
	VR 0497 Swede	4		5/8	
	DV 0448 Tomato, dried	1.5		5/8	
	VR 0506 Turnip, Garden	4		5/8	
	VW 0448 Tomato paste	1.5		5/8	
	VL 0506 Turnip greens	10		5/8	
	VC 0432 Watermelon	0.3		5/8	
269	<b>Tolfenpyrad</b>				
	TN 0672 Pecan	0.01 (*)		5/8	
	VR 0589 Potato	0.01 (*)		5/8	
278	<b>Metrafenone</b>				
	FS 0013 Cherries (includes all commodities in this subgroup)	2		5/8	
	VO 0440 Egg plant	0.6		5/8	
	VC 0045 Fruiting vegetables, Cucurbits	0.5		5/8	
	DH 1100 Hops, Dry	70		5/8	
	FS 2001 Peaches (including Nectarine and Apricots) (includes all commodities in this subgroup)	0.7		5/8	
	VO 0444 Peppers Chili	2		5/8	
	HS 0444 Peppers Chili, dried	20		5/8	
	VO 0445 Peppers, Sweet (including pimento or pimiento)	2		5/8	
	FP 0009 Pome fruits	1		5/8	
	VO 0448 Tomato	0.6		5/8	
282	<b>Flonicamid</b>				
	TN 0660 Almonds	0.01 (*)		5/8	
	AM 0660 Almond hulls	9		5/8	
	VB 0040 Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	2		5/8	
	VL 0054 Brassica leafy vegetables	15		5/8	
	MO 0105 Edible offal (mammalian)	0.2		5/8	
	PE 0112 Eggs	0.15		5/8	
	MF 0100 Mammalian fats (except milk fats)	0.05		5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.15		5/8	
	ML 0106 Milks	0.15		5/8	
	FP 0009 Pome fruits	0.8		5/8	
	PO 0111 Poultry, Edible offal of	0.1		5/8	
	VR 0589 Potato	0.015		5/8	
	PF 0111 Poultry fats	0.05		5/8	
	PM 0110 Poultry meat	0.1		5/8	
	SO 0495 Rape seed	0.5		5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	GC 0654 Wheat	0.08	5/8	
	AS 0654 Wheat straw and fodder, Dry	0.3	5/8	
283	<b>Fluazifop-p-butyl</b>			
	TN 0660 Almonds	0.01 (*)	5/8	
	FI 0327 Banana	0.01 (*)	5/8	
	AL 0061 Bean fodder	7 (dw)	5/8	
	VP 0061 Beans, except broad bean and soya bean	6	5/8	
	VD 0071 Beans (dry)	40	5/8	
	VB 0041 Cabbages, Head	3	5/8	
	FB 2005 Cane berries	0.01 (*)	5/8	
	VR 0577 Carrot	0.6	5/8	
	VR 0578 Celeriac	0.4	5/8	
	FC 0001 Citrus fruits	0.01 (*)	5/8	
	AB 0001 Citrus pulp, Dry	0.06 (*)	5/8	
	SB 0716 Coffee beans	0.01 (*)	5/8	
	SO 0691 Cotton seed	0.7	5/8	
	FB 0021 Currants, Black, Red, White	0.01 (*)	5/8	
	MO 0105 Edible offal (mammalian)	0.2	5/8	
	PE 0112 Eggs	0.03	5/8	
	VO 0440 Egg plant	0.4	5/8	
	VD 0561 Field pea (dry)	3	5/8	
	AM 1051 Fodder beet	0.5	5/8	
	VA 0381 Garlic	0.3	5/8	
	FB 0268 Gooseberry	0.01 (*)	5/8	
	FB 0269 Grapes	0.01 (*)	5/8	
	VL 0483 Lettuce, Leaf	0.01 (*)	5/8	
	TN 0669 Macadamia nuts	0.01 (*)	5/8	
	MF 0100 Mammalian fats (except milk fats)	0.09	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.09 (fat)	5/8	
	ML 0106 Milks	0.2	5/8	
	SO 0305 Olives for oil production	0.01 (*)	5/8	
	VA 0385 Onion, Bulb	0.3	5/8	
	OR 0004 Orange oil, edible	0.05 (*)	5/8	
	VP 0063 Peas (pods and succulent=immature seeds)	2	5/8	
	VP 0064 Peas, Shelled (succulent seeds)	15	5/8	
	TN 0672 Pecan	0.01 (*)	5/8	
	FP 0009 Pome fruits	0.01 (*)	5/8	
	VR 0589 Potato	0.6	5/8	
	PO 0111 Poultry, Edible offal of	0.09	5/8	
	PF 0111 Poultry fats	0.03	5/8	
	PM 0110 Poultry meat	0.03	5/8	
	VA 0388 Shallot	0.3	5/8	
	VD 0541 Soya bean (dry)	15	5/8	
	AL 0541 Soya bean fodder	4 (dw)	5/8	
	FS 0012 Stone fruits	0.01 (*)	5/8	
	FB 0275 Strawberry	0.3	5/8	
	VR 0596 Sugar beet	0.5	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	DM 0596 Sugar beet molasses	7	5/8	
	AB 0596 Sugar beet pulp, Dry	20	5/8	
	GS 0659 Sugar cane	0.01 (*)	5/8	
	SO 0702 Sunflower seed	7	5/8	
	VR 0497 Swede	4	5/8	
	FT 0305 Table Olives	0.01 (*)	5/8	
	VO 0448 Tomato	0.4	5/8	
	VR 0506 Turnip, Garden	4	5/8	
	TN 0678 Walnuts	0.01 (*)	5/8	
285	<b>Flupyradifurone</b>			
	AL 3350 Alfalfa hay	30 (dw)	5/8	
	DF 0226 Apples, dried	2	5/8	
	AL 3351 Bean hay	30	5/8	
	VP 0061 Beans, except broad bean and soya bean	1.5	5/8	(green pods and immature seeds)
	VD 0071 Beans (dry)	0.4	5/8	
	VP 0062 Beans, Shelled	0.2	5/8	(succulent = immature seeds)
	VA 0036 Bulb vegetables, except fennel, bulb	0.01 (*)	5/8	
	FB 2006 Bush berries	4	5/8	
	VB 0041 Cabbages, Head	1.5	5/8	
	VB 0404 Cauliflower	6	5/8	
	GC 0080 Cereal grains	3	5/8	(except maize and rice)
	SO 0691 Cotton seed	0.8	5/8	
	VC 0424 Cucumber	0.4	5/8	
	DF 0269 Dried grapes (=currants, raisins and sultanas)	8	5/8	
	MO 0105 Edible offal (mammalian)	4	5/8	
	PE 0112 Eggs	0.7	5/8	
	FB 0269 Grapes	3	5/8	
	FC 0002 Lemons and limes (including Citron)	1.5	5/8	
	VL 0482 Lettuce, Head	4	5/8	
	GC 0645 Maize	0.015	5/8	
	AS 3490 Maize bran, unprocessed	0.05	5/8	
	MF 0100 Mammalian fats (except milk fats)	1	5/8	
	FC 0003 Mandarins ((including Mandarin-like hybrids)	1.5	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	1.5	5/8	
	VC 0046 Melons, except watermelon	0.4	5/8	
	ML 0106 Milks	0.7	5/8	
	FC 0004 Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	4	5/8	
	AL 3353 Pea hay	50 (dw)	5/8	
	SO 0697 Peanut	0.04	5/8	
	AL 3352 Peanut hay	30 (dw)	5/8	
	VD 0072 Peas (dry)	3	5/8	
	VP 0063 Peas (pods and succulent=immature seeds)	3	5/8	
	VP 0064 Peas, Shelled (succulent seeds)	3	5/8	
	TN 0672 Pecan	0.015	5/8	
	VO 0051 Peppers	0.9	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>		<u>Step</u>	<u>Note</u>
	HS 0444 Peppers Chili, dried	9		5/8	
	FP 0009 Pome fruits	0.9		5/8	
	VR 0589 Potato	0.05		5/8	
	PO 0111 Poultry, Edible offal of	1		5/8	
	PF 0111 Poultry fats	0.3		5/8	
	PM 0110 Poultry meat	0.8		5/8	
	FC 0005 Pummelo and Grapefruits (including Shaddock-like hybrids, among others Grapefruit)	0.7		5/8	
	VR 0075 Root and tuber vegetables	0.7		5/8	(except potato)
	AS 0081 Straw and fodder (dry) of cereal grains	40	(dw)	5/8	
	VD 0541 Soya bean (dry)	1.5		5/8	
	AL 3354 Soya bean hay	40	(dw)	5/8	
	VC 0431 Squash, summer	0.2		5/8	
	FB 0275 Strawberry	1.5		5/8	
	VO 0447 Sweet corn (corn-on-the-cob)	0.05		5/8	
	VR 0508 Sweet potato	0.05		5/8	
	VO 0448 Tomato	1		5/8	
	CM 0654 Wheat bran, Unprocessed	8		5/8	
	CF 1210 Wheat germ	5		5/8	
	CF 1212 Wheat wholemeal	5		5/8	
288	<b>Acibenzolar-S-methyl</b>				
	FP 0226 Apple	0.3		5/8	
	FI 0327 Banana	0.06		5/8	
	VB 0040 Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	0.7		5/8	
	VL 0054 Brassica leafy vegetables	1		5/8	
	FC 0001 Citrus fruits	0.015		5/8	
	MO 0105 Edible offal (mammalian)	0.02 (*)		5/8	
	PE 0112 Eggs	0.02 (*)		5/8	
	VC 0045 Fruiting vegetables, Cucurbits	0.8		5/8	
	VA 0381 Garlic	0.15		5/8	
	FI 0341 Kiwifruit	0.03		5/8	
	VL 0482 Lettuce, Head	0.2		5/8	
	VL 0483 Lettuce, Leaf	0.4		5/8	
	FB 2009 Low growing berries	0.15		5/8	(including strawberries)
	MF 0100 Mammalian fats (except milk fats)	0.02 (*)		5/8	
	VO 0448 Tomato	0.3		5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.02 (*)		5/8	
	ML 0106 Milks	0.01 (*)		5/8	
	VA 0385 Onion, Bulb	0.15		5/8	
	FS 2001 Peaches (including Nectarine and Apricots) (includes all commodities in this subgroup)	0.2		5/8	
	PO 0111 Poultry, Edible offal of	0.02 (*)		5/8	
	PF 0111 Poultry fats	0.02 (*)		5/8	
	PM 0110 Poultry meat	0.02 (*)		5/8	
	VA 0388 Shallot	0.15		5/8	
	VL 0502 Spinach	0.6		5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
289	<b>Imazethapyr</b>			
	AL 1031 Clover hay or fodder	1.5 (dw)	5/8	
	MO 0105 Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	VD 0533 Lentil (dry)	0.1 (*)	5/8	
	GC 0645 Maize	0.1 (*)	5/8	
	AS 0645 Maize fodder (dry)	0.1 (*) (dw)	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 0697 Peanut	0.1 (*)	5/8	
	PF 0111 Poultry fats	0.01 (*)	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	
	SO 0495 Rape seed	0.1 (*)	5/8	
	GC 0649 Rice	0.1 (*)	5/8	
	AS 0649 Rice straw and fodder, Dry	0.15 (*) (dw)	5/8	
	VD 0541 Soya bean (dry)	0.03	5/8	
290	<b>Isofetamid</b>			
	TN 0660 Almonds	0.01 (*)	5/8	
	AM 0660 Almond hulls	0.8 (dw)	5/8	
	DF 0269 Dried grapes (=currants, raisins and sultanas)	7	5/8	
	MO 0105 Edible offal (mammalian)	0.03	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	VL 0482 Lettuce, Head	5	5/8	
	VL 0483 Lettuce, Leaf	7	5/8	
	FB 2009 Low growing berries	4	5/8	(includes all commodities in this subgroup)
	MF 0100 Mammalian fats (except milk fats)	0.02	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.02 (fat)	5/8	
	ML 0106 Milks	0.01 (*)	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PF 0111 Poultry fats	0.01 (*)	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	
	SO 0495 Rape seed	0.015	5/8	
	OR 0495 Rape seed oil, Edible	0.03	5/8	
	FB 2008 Small fruit vine climbing (includes all commodities in this subgroup)	3	5/8	
291	<b>Oxathiapiprolin</b>			
	VB 0041 Cabbages, Head	0.7	5/8	
	VB 0404 Cauliflower	0.3	5/8	
	VB 0400 Broccoli	1.5	5/8	
	DF 0269 Dried grapes (=currants, raisins and sultanas)	1.3	5/8	
	MO 0105 Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	VC 0045 Fruiting vegetables, Cucurbits	0.2	5/8	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	VO 0050 Fruiting vegetables other than cucurbits	0.4	5/8	(except sweetcorn and mushrooms)
	VA 0381 Garlic	0.04	5/8	
	VA 0382 Garlic, Great-headed	0.04	5/8	
	DV 0604 Ginseng, dried including red ginseng	0.15	5/8	
	FB 0269 Grapes	0.9	5/8	
	VA 0384 Leek	2	5/8	
	VL 0482 Lettuce, Head	3	5/8	
	VL 0483 Lettuce, Leaf	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	0.01 (*)	5/8	
	VA 0385 Onion, Bulb	0.04	5/8	
	VA 0387 Onion, Welsh	2	5/8	
	VP 0063 Peas (pods and succulent=immature seeds)	1	5/8	
	VP 0064 Peas, Shelled (succulent seeds)	0.05	5/8	
	HS 0444 Peppers Chili, dried	4	5/8	
	VR 0589 Potato	0.01 (*)	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PF 0111 Poultry fats	0.01 (*)	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	
	VL 0502 Spinach	15	5/8	
	VR 0508 Sweet potato	0.01 (*)	5/8	
	DV 0448 Tomato, dried	3	5/8	
	VA 0388 Shallot	0.04	5/8	
	VA 0389 Spring Onion	2	5/8	
292	<b>Pendimethalin</b>			
	AL 1020 Alfalfa fodder	4 (dw)	5/8	
	AM 0660 Almond hulls	7 (dw)	5/8	
	VS 0621 Asparagus	0.1	5/8	
	VP 0061 Beans, except broad bean and soya bean	0.05 (*)	5/8	(green pods and immature seeds)
	AL 0061 Bean fodder	0.3 (dw)	5/8	
	VD 0071 Beans (dry)	0.05 (*)	5/8	
	VL 0054 Brassica leafy vegetables	0.3	5/8	except kale
	VR 0577 Carrot	0.5	5/8	
	VS 0624 Celery	0.09	5/8	
	FC 0001 Citrus fruits	0.03	5/8	
	MO 0105 Edible offal (mammalian)	0.05	5/8	
	PE 0112 Eggs	0.01 (*)	5/8	
	VA 0380 Fennel, Bulb	0.05 (*)	5/8	
	VA 0381 Garlic	0.05 (*)	5/8	
	AS 0162 Hay or fodder (dry) of grasses	2500 (dw)	5/8	
	DH 1100 Hops, Dry	0.05 (*)	5/8	
	VL 0480 Kale (including among others: Collards, Curly kale, Scotch kale, thousand-headed kale; not including Marrow-stem kale)	0.5	5/8	
	VL 0483 Lettuce, Leaf	4	5/8	



	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	MF 0100 Mammalian fats (except milk fats)	0.2	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.2 (fat)	5/8	
	ML 0106 Milks	0.02	5/8	
	FM 0183 Milk fats	0.8	5/8	
	VA 0385 Onion, Bulb	0.05 (*)	5/8	
	VA 0387 Onion, Welsh	0.4	5/8	
	VD 0072 Peas (dry)	0.05 (*)	5/8	
	VP 0063 Peas (pods and succulent=immature seeds)	0.05 (*)	5/8	
	VP 0064 Peas, Shelled (succulent seeds)	0.05 (*)	5/8	
	PO 0111 Poultry, Edible offal of	0.01 (*)	5/8	
	PF 0111 Poultry fats	0.01 (*)	5/8	
	PM 0110 Poultry meat	0.01 (*)	5/8	
	VA 0388 Shallot	0.05 (*)	5/8	
	VA 0389 Spring Onion	0.4	5/8	
	TN 0085 Tree nuts	0.05	5/8	
293	<b>Pinoxaden</b>			
	GC 0640 Barley	0.7	5/8	
	AS 0640 Barley straw and fodder, Dry	3 (dw)	5/8	
	PE 0112 Eggs	0.02 (*)	5/8	
	PO 0111 Poultry, Edible offal of	0.02 (*)	5/8	
	PF 0111 Poultry fats	0.02 (*)	5/8	
	PM 0110 Poultry meat	0.02 (*)	5/8	
	GC 0654 Wheat	0.7	5/8	
	AS 0654 Wheat straw and fodder, Dry	3 (dw)	5/8	
294	<b>Spiromesifen</b>			
	VB 0040 Brassica (Cole or Cabbage) Vegetables, Head Cabbage, Flowerhead Brassicas	3	5/8	
	VL 0054 Brassica leafy vegetables	15	5/8	
	VR 0463 Cassava	0.02 (*)	5/8	
	SB 0716 Coffee beans	0.2	5/8	
	VP 0526 Common bean (pods and/or immature seeds)	1	5/8	
	SO 0691 Cotton seed	0.7	5/8	
	VC 0424 Cucumber	0.15	5/8	
	MO 0105 Edible offal (mammalian)	0.3	5/8	
	VO 0440 Egg plant	0.7	5/8	
	PE 0112 Eggs	0.02	5/8	
	VC 0045 Fruiting vegetables, Cucurbits	0.09	5/8	except melon and cucumber
	VL 0053 Leafy vegetables	15	5/8	
	FB 2009 Low growing berries	3	5/8	
	GC 0645 Maize	0.02 (*)	5/8	
	AS 0645 Maize fodder (dry)	6	5/8	
	MF 0100 Mammalian fats (except milk fats)	0.15	5/8	
	MM 0095 Meat (from mammals other than marine mammals)	0.15 F	5/8	
	VC 0046 Melons, except watermelon	0.3	5/8	
	ML 0106 Milks	0.015	5/8	
	VO 0442 Okra	0.5	5/8	

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<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
VO 0443 Pepino	0.5	5/8	
VO 0051 Peppers	0.5	5/8	
HS 0444 Peppers Chili, dried	5	5/8	
GC 0656 Popcorn	0.02 (*)	5/8	
VR 0589 Potato	0.02 (*)	5/8	
PO 0111 Poultry, Edible offal of	0.05	5/8	
PF 0111 Poultry fats	0.02	5/8	
PM 0110 Poultry meat	0.02	5/8	
VO 0447 Sweet corn (corn-on-the-cob)	0.02 (*)	5/8	
VR 0508 Sweet potato	0.02 (*)	5/8	
DT 1114 Tea, Green, Black (black, fermented and dried)	70	5/8	
VO 0448 Tomato	0.7	5/8	
DV 0448 Tomato, dried	4	5/8	
VW 0448 Tomato paste	2	5/8	

**APPENDIX IV****CODEX MAXIMUM RESIDUE LIMITS FOR PESTICIDES****(For revocation)**

<b>Commodity</b>	<b>MRL (mg/kg)</b>	<b>Step</b>	<b>Note</b>
51 <b>Methidathion</b>			
TN 0660 Almonds	0.05 (*)	CXL-D	
VS 0620 Artichoke, Globe	0.05 (*)	CXL-D	
VD 0071 Beans (dry)	0.1	CXL-D	
VB 0041 Cabbages, Head	0.1	CXL-D	
MF 0812 Cattle fat	0.02 (*)	CXL-D	
SO 0691 Cotton seed	1	CXL-D	
OC 0691 Cotton seed oil, Crude	2	CXL-D	
VC 0424 Cucumber	0.05	CXL-D	
MO 0097 Edible offal of cattle, pigs & sheep	0.02 (*)	CXL-D	
PE 0112 Eggs	0.02 (*)	CXL-D	
MO 0814 Goat, Edible offal of	0.02 (*)	CXL-D	
MF 0814 Goat fat	0.02 (*)	CXL-D	
MM 0814 Goat meat	0.02 (*)	CXL-D	
FC 0203 Grapefruit	2	CXL-D	
DH 1100 Hops, Dry	5	CXL-D	
FC 0002 Lemons and limes (including Citron)	2	CXL-D	
TN 0669 Macadamia nuts	0.01 (*)	CXL-D	
GC 0645 Maize	0.1	CXL-D	
MM 0097 Meat of cattle, pigs & sheep	0.02 (*)	CXL-D	
ML 0106 Milks	0.001	CXL-D	
FS 0245 Nectarine	0.2	CXL-D	
VA 0385 Onion, Bulb	0.1	CXL-D	
FC 0004 Oranges, Sweet, Sour (including Orange-like hybrids): several cultivars	2	CXL-D	
VD 0072 Peas (dry)	0.1	CXL-D	
VP 0063 Peas (pods and succulent=immature seeds)	0.1	CXL-D	
TN 0672 Pecan	0.05 (*)	CXL-D	
MF 0818 Pig fat	0.02 (*)	CXL-D	
FI 0353 Pineapple	0.05	CXL-D	
FS 0014 Plums (including prunes) (includes all commodities in this subgroup)	0.2	CXL-D	
VR 0589 Potato	0.02 (*)	CXL-D	
PO 0111 Poultry, Edible offal of	0.02 (*)	CXL-D	
PF 0111 Poultry fats	0.02 (*)	CXL-D	
PM 0110 Poultry meat	0.02 (*)	CXL-D	
VR 0494 Radish	0.05 (*)	CXL-D	
SO 0495 Rape seed	0.1	CXL-D	
SO 0699 Safflower seed	0.1	CXL-D	
MF 0822 Sheep fat	0.02 (*)	CXL-D	
GC 0651 Sorghum	0.2	CXL-D	
HS 0191 Spices, Fruits and Berries	0.02	CXL-D	
HS 0193 Spices, Roots and Rhizomes	0.05	CXL-D	
VR 0596 Sugar beet	0.05 (*)	CXL-D	
SO 0702 Sunflower seed	0.5	CXL-D	
FT 0305 Table Olives	1	CXL-D	

	<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
	VO 0448 Tomato	0.1	CXL-D	
	TN 0678 Walnuts	0.05 (*)	CXL-D	
90	<b>Chlorpyrifos-Methyl</b>			
	GC 0649 Rice	0.1	CXL-D	
	GC 0651 Sorghum	10 Po	CXL-D	
	GC 0654 Wheat	10 Po	CXL-D	
	CM 0654 Wheat bran, Unprocessed	20 PoP	CXL-D	
182	<b>Penconazole</b>			
	MO 0812 Cattle, Edible offal of	0.05 (*)	CXL-D	
	MM 0812 Cattle meat	0.05 (*)	CXL-D	
	ML 0812 Cattle milk	0.01 (*)	CXL-D	
	PE 0840 Chicken eggs	0.05 (*)	CXL-D	
	PM 0840 Chicken meat	0.05 (*)	CXL-D	
	VC 0424 Cucumber	0.1	CXL-D	
	DF 0269 Dried grapes (=currants, raisins and sultanas)	0.5	CXL-D	
	FB 0269 Grapes	0.2	CXL-D	
	DH 1100 Hops, Dry	0.5	CXL-D	
	VC 0046 Melons, except watermelon	0.1	CXL-D	
	FS 0245 Nectarine	0.1	CXL-D	
	FS 0247 Peach	0.1	CXL-D	
	FP 0009 Pome fruits	0.2	CXL-D	
	FB 0275 Strawberry	0.1	CXL-D	
	VO 0448 Tomato	0.2	CXL-D	
190	<b>Teflubenzuron</b>			
	VB 0402 Brussels sprouts	0.5	CXL-D	
	VB 0041 Cabbages, Head	0.2	CXL-D	
	FS 0014 Plums (including prunes) (includes all commodities in this subgroup)	0.1	CXL-D	
	FP 0009 Pome fruits	1	CXL-D	
	VR 0589 Potato	0.05 (*)	CXL-D	
230	<b>Chlorantraniliprole</b>			
	PE 0112 Eggs	0.2	CXL-D	
	AS 0645 Maize fodder (dry)	25	CXL-D	
	PO 0111 Poultry, Edible offal of	0.01 (*)	CXL-D	
	PF 0111 Poultry fats	0.01 (*)	CXL-D	
	PM 0110 Poultry meat	0.01 (*) (fat)	CXL-D	
	AS 0081 Straw and fodder (dry) of cereal grains	0.3	CXL-D	
251	<b>Saflufenacil</b>			
	AS 0640 Barley straw and fodder, Dry	0.05	CXL-D	
	MO 0105 Edible offal (mammalian)	0.3	CXL-D	
	MF 0100 Mammalian fats (except milk fats)	0.01	CXL-D	
	MM 0095 Meat (from mammals other than marine mammals)	0.01	CXL-D	
	ML 0106 Milks	0.01	CXL-D	
	SO 0702 Sunflower seed	0.7	CXL-D	
	AS 0654 Wheat straw and fodder, Dry	0.05	CXL-D	
261	<b>Benzovindiflupyr</b>			
	MO 0105 Edible offal (mammalian)	0.01 (*)	CXL-D	
	PE 0112 Eggs	0.01 (*)	CXL-D	

<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Step</u>	<u>Note</u>
MF 0100 Mammalian fats (except milk fats)	0.01 (*)	CXL-D	
MM 0095 Meat (from mammals other than marine mammals)	0.01 (*)	CXL-D	
ML 0106 Milks	0.01 (*)	CXL-D	
PO 0111 Poultry, Edible offal of	0.01 (*)	CXL-D	
PF 0111 Poultry fats	0.01 (*)	CXL-D	
PM 0110 Poultry meat	0.01 (*)	CXL-D	
VD 0541 Soya bean (dry)	0.05	CXL-D	
<b>265 Fluensulfone</b>			
VC 0045 Fruiting vegetables, Cucurbits	0.3	CXL-D	
VO 0050 Fruiting vegetables other than cucurbits	0.3	CXL-D	(except sweet corn and mushrooms)
HS 0444 Peppers Chili, dried	2	CXL-D	
DV 0448 Tomato, dried	0.5	CXL-D	
VW 0448 Tomato paste	0.5	CXL-D	
<b>278 Metrafenone</b>			
VC 0424 Cucumber	0.2	CXL-D	
VC 0425 Gherkin	0.2	CXL-D	
VO 0444 Peppers Chili	2	CXL-D	
HS 0444 Peppers Chili, dried	20	CXL-D	
VO 0445 Peppers, Sweet (including pimento or pimienta)	2	CXL-D	
VC 0431 Squash, summer	0.06	CXL-D	
VO 0448 Tomato	0.4	CXL-D	

APPENDIX V**DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES****(Retained at Step 7)**

<u>Commodity</u>	<u>MRL (mg/kg)</u>	<u>Source</u>	<u>Step</u>	<u>Note</u>
<b>126 Oxamyl</b>				
FC 0001 Citrus fruits	3		7	
VC 0424 Cucumber	1		7	
VC 0046 Melons, except watermelon	1		7	
VO 0051 Peppers	5		7	
<b>178 Bifenthrin</b>				
VO 0442 Okra	0.2		7	
<b>189 Tebuconazole</b>				
VP 0526 Common bean (pods and/or immature seeds)	2		7	
<b>212 Metalaxyl-M</b>				
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 pimiento 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	

**APPENDIX VI****PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES**

(Retained at Step 4)

	<b><u>Commodity</u></b>	<b><u>MRL (mg/kg)</u></b>	<b><u>Source</u></b>	<b><u>Step</u></b>	<b><u>Note</u></b>
31	<b>Diquat</b>				
	VD 0071 Beans (dry)	0.05		4	
	MO 0105 Edible offal (mammalian)	0.01 (*)		4	
	PE 0112 Eggs	0.01 (*)		4	
	MM 0095 Meat (from mammals other than marine mammals)	0.01 (*)		4	
	ML 0106 Milks	0.001 (*)		4	
	PO 0111 Poultry, Edible offal of	0.01 (*)		4	
	PM 0110 Poultry meat	0.01 (*)		4	
148	<b>Propamocarb</b>				
	VB 0041 Cabbages, Head	1		4	
	VL 0480 Kale (including among others: Collards, Curly kale, Scotch kale, thousand-headed kale; not including Marrow-stem kale)	20		4	
177	<b>Abamectin</b>				
	VL 0502 Spinach	0.15		4	
178	<b>Bifenthrin</b>				
	VS 0624 Celery	3		4	
	VL 0482 Lettuce, Head	4		4	
	FB 0275 Strawberry	3		4	
243	<b>Fluopyram</b>				
	VO 0051 Peppers	0.5		4	
	HS 0444 Peppers Chili, dried	5		4	
246	<b>Acetamiprid</b>				
	VL 0485 Mustard greens	15		4	
252	<b>Sulfoxaflor</b>				
	TN 0085 Tree nuts	0.015		4	
264	<b>Fenamidone</b>				
	VL 0485 Mustard greens	60		4	
	VL 0502 Spinach	60		4	

**APPENDIX VII****DRAFT AND PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR PESTICIDES****(Withdrawn by CCPR)**

	<b><u>Commodity</u></b>	<b><u>MRL (mg/kg)</u></b>	<b><u>Step</u></b>	<b><u>Note</u></b>
90	<b>Chlorpyrifos-Methyl</b>			
	GC 0640 Barley	10	Po	MRL-W
	GC 0080 Cereal grains	5	Po	MRL-W (except maize and rice)
	GC 0647 Oats	10	Po	MRL-W
	GC 0649 Rice	10	Po	MRL-W
	CM 0649 Rice, Husked	1.5	Po	MRL-W
	CM 1205 Rice, Polished	0.2	Po	MRL-W
178	<b>Bifenthrin</b>			
	FI 0345 Mango	0.5		MRL-W
	FI 0350 Papaya	0.4		MRL-W
225	<b>Dimethomorph</b>			
	VL 0483 Lettuce, Leaf	20		MRL-W
253	<b>Penthiopyrad</b>			
	VL 0485 Mustard greens	50		MRL-W
282	<b>Flonicamid</b>			
	PE 0112 Eggs	0.03		MRL-W
	MO 0105 Edible offal (mammalian)	0.06		MRL-W
	MF 0100 Mammalian fats (except milk fats)	0.02		MRL-W
	MM 0095 Meat (from mammals other than marine mammals)	0.05		MRL-W
	ML 0106 Milks	0.04		MRL-W
	PO 0111 Poultry, Edible offal of	0.02		MRL-W
	PF 0111 Poultry fats	0.02		MRL-W
	PM 0110 Poultry meat	0.02		MRL-W
283	<b>Fluazifop-p-butyl</b>			
	VR 0508 Sweet potato	2		MRL-W
	VR 0600 Yams	2		MRL-W
285	<b>Flupyradifurone</b>			
	VS 0624 Celery	9		MRL-W
	VL 0483 Lettuce, Leaf	15		MRL-W
	VL 0485 Mustard greens	40		MRL-W
	VL 0502 Spinach	30		MRL-W



**APPENDIX VIII****Part A****DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED:****CLASS A: PRIMARY FOOD COMMODITIES OF PLANT ORIGIN****TYPE 02: VEGETABLES****(For adoption at Step 8)****BULB VEGETABLES****Class A****Type 2                      Vegetables                      Group 009                      Group Letter Code VA**

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

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

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

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

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

The group is divided into 2 subgroups:

Subgroup 009A Bulb onions: Mature bulbs (dry)

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

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

**Group 009                      Bulb vegetables****Code No.****Commodity**

VA 0035

**Group of Bulb vegetables**

(includes all commodities in this group)

**Subgroup 009A, Bulb onions****Code No.****Commodity**

VA 2031

**Subgroup of Bulb Onions**

(includes all commodities in this subgroup)

VA 2600

**Daylily***Hemerocallis fulva* (L.) L.; *H. minor* Mill; *H. citrina* Baroni; *H. lilioasphodelus* L.

VA 2601

**Fritillaria (bulb)***Fritillaria camchatcensis* (L.) Ker. Gawl.

VA 0381

**Garlic***Allium sativum* L.

VA 0382

**Garlic, Great-headed***Allium ampeloprasum* L., var. *ampeloprasum*

VA 2602

**Garlic, Serpent***Allium sativum* var. *ophioscorodon* (Link) Döll

VA 2603

**Lily***Lilium* spp.

VA 0385	<b>Onion, Bulb</b> <i>Allium cepa</i> L. var. <i>cepa</i> , various cultivars
VA 0386	<b>Onion, Chinese</b> <i>Allium chinense</i> G. Don.; Syn: <i>A. bakeri</i> Regel
-	<b>Rakkyo</b> , see Onion, Chinese, VA 0386
VA 0388	<b>Shallot</b> <i>A. cepa</i> L., var. <i>aggregatum</i> Don.
VA 0390	<b>Silverskin onion</b> <i>Allium cepa</i> L.
<b>Subgroup 009B, Green onions</b>	
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VA 2032	<b>Subgroup of Green Onions</b> (includes all commodities in this subgroup)
VA 2605	<b>Chives</b> <i>Allium schoenoprasum</i> L.
VA 2606	<b>Chives, Chinese</b> <i>Allium tuberosum</i> Rottler ex Spreng.
VA 2607	<b>Elegans hosta</b> <i>Hosta sieboldiana</i> (Hook.) Engl.
VA 2608	<b>Fritillaria (green)</b> <i>Fritillaria camchatcensis</i> (L.) Ker. Gawl.
VA 2609	<b>Garlic chives</b> <i>Allium sativum</i> L. var. <i>sativum</i>
-	<b>Japanese bunching onion</b> , see Onion, Welsh, VA 0387
VA 0383	<b>Kurrat</b> <i>Allium kurrat</i> Schweinf. Ex K. Krause
VA 2610	<b>Lady's leek</b> <i>Allium cernuum</i> Roth
VA 0384	<b>Leek</b> <i>Allium porrum</i> L.; Syn: <i>A. ampeloprasum</i> L., var. <i>porrum</i> (L.) Gay
-	<b>Multiplying onion</b> , see Onion, Welsh, VA 0387
VA 2611	<b>Onion, Beltsville bunching</b> <i>Allium x proliferum</i> (Moench) Schrad. Syn: <i>Allium cepa</i> L. x <i>A. fistulosum</i> L.)
-	<b>Onion, Egyptian</b> , see Tree onion, VA 0391
VA 2612	<b>Onion, fresh</b> <i>Allium fistulosum</i> L. var. <i>caespitosum</i> Makino
-	<b>Onion, green</b> , see Spring onion, VA 0389
VA 2613	<b>Onion, macrostem</b> <i>Allium macrostemom</i> Bunge

- VA 2614      **Onion, pearl**  
*Allium porrum* L. var. *sectivum* Lueder
- VA 2615      **Onion, potato**  
*Allium cepa* var. *aggregatum* G. Don.
- VA 0387      **Onion, Welsh**  
*Allium fistulosum* L.
- VA 0389      **Spring onion**  
*Allium cepa* L., various cultivars, a.o. White Lisbon; White Portugal
- VA 0391      **Tree onion**  
*Allium x proliferum* (Moench) Schrad. ex Willd.; *Allium x wakegii* Araki  
Syn: *A. cepa* var. *proliferum* (Moench) Regel  
Syn: *A. cepa* L. var. *bulbiferum* L.H. Bailey  
Syn: *A. cepa* L. var. *viviparum* (Metz.) Alef.
- VA 2616      **Wild leek**  
*Allium tricoccum* Aiton

**BRASSICA VEGETABLES (EXCEPT BRASSICA LEAFY VEGETABLES)****Class A****Type 2                      Vegetables                      Group 010                      Group Letter Code VB**

Brassica (cole or cabbage) vegetables and flowerhead brassicas are foods derived from the leafy heads, stems and immature inflorescences of plants belonging to the genus Brassica of the family Cruciferae. Although Kohlrabi does not comply fully with the description above, for convenience and because of the similarity in residue behaviour the commodity is classified in this group. Kohlrabi is a tuber-like enlargement of the stem.

The edible part of the crop is partly protected from pesticides applied during the growing season by outer leaves, or skin (Kohlrabi).

The entire vegetable after discarding obviously decomposed or withered leaves may be consumed.

The group is divided into 3 subgroups:

Subgroup 10A Flowerhead Brassicas

Subgroup 10B Head Brassicas

Subgroup 10C Stem Brassicas

Portion of the commodity to which the MRL applies (and which is analysed): **Head cabbages and Kohlrabi: Whole commodity as marketed, after removal of obviously decomposed or withered leaves. Cauliflower and broccoli: flower heads (immature inflorescence only). Brussels sprouts: "buttons" only. Kohlrabi: "tuber-like enlargement of the stem" only.**

**Group 010                      Brassica vegetables (except Brassica leafy vegetables)****Code No.****Commodity**

VB 0040

**Group of Brassica vegetables (except Brassica leafy vegetables)**

(includes all commodities in this group)

**Subgroup 10A****Flowerhead Brassicas****Code No.****Commodity**

VB 0042

**Subgroup of Flowerhead Brassicas**

(includes all commodities in this subgroup)

VB 0400

**Broccoli***Brassica oleracea* L. var. *italica* Plenck

-

**Broccoli, Chinese**, see Brassica leafy vegetables Group 13B

-

**Broccoli, Sprouting**, see Broccoli, VB 0400

VB 0404

**Cauliflower***Brassica oleracea* L. var. *botrytis* L., several cultivars (white and green)

-

**Cauliflower, Green**, see Cauliflower, VB 0404

-

**Kailan**, see Broccoli, Chinese, Brassica leafy vegetables Group 13B

-

**Romanesco broccoli**, see Cauliflower, VB 0404**Subgroup 10B****Head Brassicas****Code No.****Commodity**

VB 2036

**Subgroup of Head Brassicas**

(includes all commodities in this subgroup)

VB 0402

**Brussels sprouts***Brassica oleracea* L. var. *gemmifera* (DC.) Zenker

VB 0041	<b>Cabbages, Head</b> Brassica oleracea L. var. capitata L., several var. and cvs. (includes Savoy cabbage and Chinese cabbage)
-	<b>Cabbage</b> , see Cabbages, Head, VB 0041
-	<b>Cabbage, Green</b> , see Cabbages, Head, VB 0041
-	<b>Cabbage, Red</b> , see Cabbages, Head, VB 0041 <i>Brassica oleracea</i> L. <i>capitata</i> L., var. <i>rubra</i>
-	<b>Cabbage, Oxhead</b> , see Cabbages, Head, VB 0041 <i>Brassica oleracea</i> L. <i>capitata</i> L., var. <i>alba</i> , <i>forma conica</i>
-	<b>Cabbage, Pointed</b> , see Cabbages, Head, VB 0041
-	<b>Cabbage, White</b> , see Cabbages, Head, VB 0041 <i>Brassica oleracea</i> L. <i>capitata</i> L., var. <i>alba</i>
-	<b>Cabbage, Savoy</b> , see - Cabbages, Head, VB 0041 <i>Brassica oleracea</i> L. var. <i>sabauda</i> L.
-	<b>Cabbage, Yellow</b> , see Cabbages, Head, VB 0041
-	<b>Celery cabbage</b> , see Chinese cabbage, (type Pe-tsai), VB 0467
VB 0467	<b>Chinese cabbage</b> , (type Pe-tsai) <i>Brassica rapa</i> L. <i>subsp. pekinensis</i> (Lour.) Hanelt Syn: <i>B. pekinensis</i> (Lour.) Rupr.
-	<b>Chinese cabbage (napa)</b> , see Chinese cabbage, (type Pe-tsai), VB 0467
-	<b>Kimchi cabbage</b> , see Chinese cabbage (type Pe-tsai), VB 0467 <i>Brassica rapa</i> L. <i>subsp. pekinensis</i> (Lour.) Hanelt Syn: <i>Brassica rapa</i> L. var. <i>glabra</i> Regel
-	<b>Napa cabbage</b> , see Chinese cabbage (type Pe-tsai), VB 0467
-	<b>Pak-tsai</b> , see Chinese cabbage, (type Pe-tsai), VB 0467
<b>Subgroup 10C Stem Brassicas</b>	
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VB 2016	<b>Subgroup of Stem Brassicas</b> (includes all commodities in this subgroup)
VB 0405	<b>Kohlrabi</b> <i>Brassica oleracea</i> L var. <i>gongylodes</i> L.
VB 2640.	<b>Stem mustard</b> <i>Brassica juncea</i> var. <i>tsatsai</i> Mao



- 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 0422
- 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, fluted**  
                   *Telfairia occidentalis* Hook. f.
- VC 2658      **Gourd, Malabar**  
                   *Cucurbita ficifolia* Bouché
- VC 2659      **Gourds, other**, including  
                   *Trichosanthes edulis* Rugayah  
                   *Trichosanthes laeoica* C. Y. Cheng & Lu Q. Huang
- VC 2660      **Gourd, pointed**  
                   *Trichosanthes dioica* Roxb.
- VC 2661      **Gourd, round**  
                   *Benincasa fistulosa* (Stocks) H. schaefer & S.S. Renner
- **Gourd, Xishuangbanna**, see Cucumber, VC 0424  
                   *Cucumis sativus* L. var. *xishuangbannansis* ined.
- **Indian curry cucumber**, see Cucumber, VC 0424
- **Indian round gourd**, see Gourd, round, VC 2661  
                   *Praecitrullus fistulosus* (Stocks) Pangalo

VC 2662	<b>Indian spine gourd</b> <i>Momordica dioica</i> Roxb. Ex Willd.
VC 2663	<b>Ivy gourd</b> <i>Coccinia grandis</i> (L.) Voigt
VC 2664	<b>Japanese snake gourd</b> <i>Trichosanthes pilosa</i> Lour.
VC 0427	<b>Loofah, Angled</b> <i>Luffa acutangula</i> (L.) Roxb.
VC 0428	<b>Loofah, Smooth</b> <i>Luffa aegyptiaca</i> Mill. Syn: <i>Luffa cylindrica</i> (L.) M. J. Roem;
-	<b>Marrow (immature fruit)</b> , see Squash, Summer, VC 0431 <i>Cucurbita pepo</i> L., several cultivars
-	<b>Patisson</b> , see Squash, Summer, VC 0431
-	<b>Sinkwa or Sinkwa towel gourd</b> , see Loofah, Angled, VC 0427
VC 0430	<b>Snake gourd</b> <i>Trichosanthes cucumerina</i> L.; Syn: <i>T. anguina</i> L.
-	<b>Spiny bitter gourd</b> , see Gac, VC 2654
-	<b>Sponge gourd</b> , see Loofah, Smooth, VC 0428
VC 0431	<b>Squash, Summer</b> <i>Cucurbita pepo</i> L.; <i>Cucurbita pepo</i> L. subsp. <i>pepo</i> ; <i>Cucurbita pepo</i> L. subsp. <i>Ovifera</i> (L.) Harz; several cultivars, immature
-	<b>Squash, White Bush</b> , see Squash, Summer, VC 0431
-	<b>Sweet gourd</b> , see Gac, VC 2654
VC 2665	<b>Tacaco</b> <i>Sechium tacaco</i> (Pittier) C. Jeffrey
-	<b>Vegetable sponge</b> , see Loofah, Smooth, VC 0428
-	<b>Wax gourd (immature fruit)</b> , see Chieh qua, VC 2650
-	<b>West Indian gherkin</b> , see Gherkin, West Indian, VC 0426
-	<b>Zapallito italiano (zucchini)</b> , see Squash, Summer, VC 0431
-	<b>Zucchetti</b> , see Squash, Summer, VC 0431
-	<b>Zucchini</b> , see Squash, Summer, VC 0431
<b>Subgroup 011B</b>	<b>Fruiting vegetables, Cucurbits – Melons, Pumpkins and Winter Squashes</b>
<b>Code No.</b>	<b>Commodity</b>
VC 2040	<b>Subgroup of Fruiting vegetables, Cucurbits – Melons, Pumpkins and Winter Squashes</b>  (includes all commodities in this subgroup)
-	<b>Acorn squash</b> , see Winter squash, VC 0433 <i>Cucurbita pepo</i> var. <i>ovifera</i> (L.) Harz



- VC 2680      **African horned melon**  
                   *Cucumis metuliferus* E. Meyer ex Naudin
- **Butternut squash**, see Winter squash, VC 0433 or Pumpkins, VC 0429  
                   *Cucurbita moschata* Duchesne
- **Calabaza**, see Winter squash, VC 0433 or Pumpkins, VC 0429  
                   *Cucurbita pepo* L.
- **Cantaloupe**, see Melons, except Watermelon, VC 0046  
                   *Cucumis melo* L., subsp. *melo* var. *cantaloupo* Ser.
- VC 2681      **Casabanana**  
                   *Sicana odorifera* (Vell.) Naudin
- **Casaba or Casaba melon**, see Melons, except Watermelon, VC 0046
- **Cheese pumpkin**, see Winter squash, VC 0433 or Pumpkins, VC 0429  
                   *Cucurbita moschata* Duchesne
- **Chinese wax gourd (mature fruit)**, see Wax gourd (mature fruit), VC 2684
- **Citron melon**, see Watermelon, VC 0432  
                   *Citrullus lanatus* (Thunb.) Mansf., var. *edulis*;  
                   Syn: *Citrullus edulis* Pang.
- **Cucumber, Armenian**, see Melons, except Watermelon, VC 0046
- **Cushaws**, see Pumpkins, VC 0429  
                   Mature cultivars of *Cucurbita argyrosperma* C. Huber
- **Giant pumpkin**, see Winter squash, VC 0433 or Pumpkins, VC 0429  
                   *Cucurbita moschata* Duchesne
- **Hubbard squash**, see Winter squash, VC 0433
- **Kiwano**, see African horned melon, VC 2680
- **Korean Melon**, see Melons, except Watermelon, VC 0046  
                   Hybrid cultivars of *Cucumis melo* L. subsp. *agrestis* (Naudin) Pangalo
- **Marrow (late variety)**, see Pumpkins, VC 0429
- VC 0046      **Melons, except Watermelon**  
                   Several var. and cultivars of *Cucumis melo* L.
- **Melon, Crenshaw**, see Melons, except Watermelon, VC 0046  
                   Cultivar of *Cucumis melo* 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 Melons, except watermelons VC 0046
- **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 Melons, except Watermelon, VC 0046

- VC 2683      **Melon, nara**  
*Acanthosicyos horridus* Welw. ex Benth. & Hook. f.
- **Melon, Oriental Pickling**, see Melons, except Watermelon, VC 0046  
*Cucumis melo* 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. *cantaloupe* Ser.
- **Melon, Pomegranate**, see Melons, except watermelons VC 0046
- **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 *Cucumis melo* 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 Melons, except Watermelon, VC 0046
- **Pumpkin**, see Pumpkins, VC 0429 or Winter squash, VC 0433  
*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. subsp. *pepo* and *C. pepo* L., several cultivars
- **Silver Seed gourd**, see Pumpkins, VC 0429  
*Cucurbita argyrosperma* C. Huber
- **Spaghetti squash**, see Winter squash, VC 0433 or Pumpkins, VC 0429  
*Cucurbita pepo* subsp. *pepo*
- **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.
- VC 2684      **Wax gourd (mature fruit)**  
*Benincasa hispida* (Thunb.) Cogn.;  
Syn: *B. cerifera* Savi
- VC 0433      **Winter squash**  
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

**FRUITING VEGETABLES, OTHER THAN CUCURBITS****Class A****Type 2                      Vegetables                      Group 012                      Group Letter Code VO**

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

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

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

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

The group is divided into 3 subgroups:

Subgroup 012A Tomatoes

Subgroup 012B Pepper and pepper-like commodities

Subgroup 012C Eggplant and eggplant-like commodities

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

**Group 012      Fruiting vegetables, other than Cucurbits****Code No.                      Commodity**

VO 0050                      **Group of Fruiting vegetables, other than Cucurbits**  
(includes all commodities in this group)

**Subgroup 12A Tomatoes****Code No.                      Commodity**

VO 2045                      **Subgroup of Tomatoes**  
(includes all commodities in this subgroup)

-                              **Alkekengi**, see Ground cherries, VO 0441  
*Physalis alkekengi* L.

VO 0451                      **Bush tomato**  
*Solanum centrale* Black

-                              **Cape gooseberry**, (Codex Stand. 226 – 2001), see Ground cherries, VO 0441  
*Physalis peruviana* L.

VO 2700                      **Cherry tomato**  
*Lycopersicon esculentum* var. *cerasiforme* (Dunal) A. Gray

-                              **Chinese lantern plant**, see Ground cherries, VO 0441

VO 2701                      **Cocona**  
*Solanum sessiliflorum* Dunal.

VO 2702                      **Currant tomato**  
*Lycopersicon pimpinellifolium* (L.) Mill.

VO 2703                      **Garden huckleberry**  
*Solanum scabrum* Mill.

VO 2704	<b>Goji berry</b> <i>Lycium barbarum</i> L.
-	<b>Golden berry</b> , see Ground cherries, VO 0441 <i>Physalis peruviana</i> L.
VO 0441	<b>Ground cherries</b> <i>Physalis alkekengi</i> L.; <i>Ph. ixocarpa</i> Brot. ex Horn.; <i>Ph. peruviana</i> L.
-	<b>Husk tomato</b> , see Ground cherries, VO 0441
-	<b>Naranjilla</b> , see Group 006 Assorted tropical and sub-tropical fruits - inedible peel, FI 0349 <i>Solanum quitoense</i> Lam.
-	<b>Quito Orange</b> , see Naranjilla, FI 0349
-	<b>Strawberry tomato</b> , see Ground cherries, VO 0441
VO 2705	<b>Sunberry</b> <i>Solanum retroflexum</i> Dunal.
VO 2706	<b>Tomatillo</b> <i>Physalis philadelphica</i> Lam. Syn. <i>Physalis ixocarpa</i> auct.
VO 0448	<b>Tomato</b> <i>Lycopersicon esculentum</i> Mill.; Syn: <i>Solanum lycopersicum</i> L.
-	<b>Tree tomato</b> , see Group 06 Assorted tropical and sub-tropical fruits – inedible peel, FI 0312

#### Subgroup 12B Pepper and pepper-like commodities

<u>Code No.</u>	<u>Commodity</u>
VO 0051	<b>Subgroup of Peppers</b> (includes all commodities in this subgroup)
-	<b>Bird chili peppers</b> , see Peppers, Chili, Vo 0444 <i>Capsicum Frutescens</i> L.
-	<b>Cherry pepper</b> , see Peppers, Chili, VO 0444 <i>Capsicum annuum</i> L., var. <i>acumimata</i> Fingerh.
-	<b>Chili peppers</b> , see Peppers, Chili, VO 0444
-	<b>Cluster pepper</b> , see Peppers, Chili, VO 0444 <i>Capsicum annuum</i> L., var. <i>fasciculatum</i> (Sturt.) Irish
-	<b>Cone pepper</b> , see Peppers, Chili, VO 0444
-	<b>Lady's finger</b> , see Okra, VO 0442
VO 2709	<b>Martynia</b> <i>Proboscidea louisianica</i> (Mill.) Thell.
VO 0442	<b>Okra</b> <i>Abelmoschus esculentus</i> (L.) Moench.
-	<b>Paprika</b> , see Peppers, Sweet, VO 0445
-	<b>Peppers, bell</b> , see Peppers, Sweet, VO 0445

VO 0444	<b>Peppers, Chili</b> <i>Capsicum annuum</i> L.; several pungent cultivars
-	<b>Peppers, Long</b> , see Peppers, Sweet, VO 0445 <i>Capsicum annuum</i> L., var. <i>longum</i> (D. C.) Sendt.
VO 0445	<b>Peppers, Sweet</b> (including pimento or pimienta) <i>Capsicum annuum</i> , var. <i>grossum</i> (L.) Sendt. and var. <i>longum</i> (D. C.) Sendt.
-	<b>Peppers, Sweet Piquante</b> , see Peppers, Sweet, VO 0445 <i>Capsicum baccatum</i> var. Piquanté
-	<b>Pimento or Pimiento</b> , see Peppers, Sweet, VO 0445
VO 0446	<b>Roselle</b> <i>Hibiscus sabdariffa</i> L., var. <i>sabdariffa</i> L.

**Subgroup 12C Eggplant and eggplant-like commodities**

<u>Code No.</u>	<u>Commodity</u>
VO 2046	<b>Subgroup of Eggplants</b> (includes all commodities in this subgroup)
VO 2711	<b>African Eggplant</b> <i>Solanum macrocarpon</i> L.
-	<b>Aubergine</b> , see Eggplant, VO 0440
VO 0440	<b>Eggplant</b> , various cultivars <i>Solanum melongena</i> L.
-	<b>Melon pear</b> , see Pepino, VO 0443
VO 2712	<b>Pea Eggplant</b> <i>Solanum torvum</i> Swartz
VO 0443	<b>Pepino</b> <i>Solanum muricatum</i> L.
VO 2713	<b>Scarlet Eggplant</b> <i>Solanum aethiopicum</i> L.
VO 2714	<b>Thai eggplant</b> <i>Solanum undatum</i> Jacq. Non Lam.
-	<b>Tree melon</b> , see Pepino VO 0443



VL 0640	<b>Barley shoots</b> <i>Hordeum vulgare</i> L.
-	<b>Beet leaves</b> , see Chard, VL 0464
-	<b>Bireumnamul</b> , see amaranth leaves VL 0460
VL 2744	<b>Bitawiri</b> <i>Cestrum latifolium</i> Lam.
VL 2745	<b>Bitter leaf</b> <i>Vernonia</i> hybrids
VL 2746	<b>Blackjack</b> <i>Bidens pilosa</i> L.
-	<b>Bledo</b> , see <i>Amaranth</i> leaves, VL 0460
VL 0462	<b>Boxthorn</b> <i>Lycium chinense</i> Mill.
-	<b>Buckhorn plantain</b> , see Plantain leaves, VL 0490 <i>Plantago lanceolata</i> L.
-	<b>Bush greens</b> , see <i>Amaranth</i> leaves, VL 0460 <i>Amaranthus cruentus</i> L.
VL 2747	<b>Cat's Whiskers</b> <i>Cleome gynandra</i> L.
VL 2748	<b>Chamchwi</b> <i>Doellingeria scabra</i> (Thunb.) Nees Syn: <i>Aster scaber</i> Thunb.
VL 2749	<b>Chamnamul</b> <i>Pimpinella calycina</i> Maxim Syn: <i>Pimpinella brachycarpa</i> (Kom.) Nakai;
VL 2750	<b>Chamssuk</b> <i>Artemisia dubia</i> Wall. Ex DC.
VL 0464	<b>Chard</b> <i>Beta vulgaris</i> L. subsp. <i>vulgaris</i> var. <i>vulgaris</i> ; <i>Beta vulgaris</i> L. subsp. <i>vulgaris</i> var. <i>cicla</i>
VL 0465	<b>Chervil</b> <i>Anthriscus cerefolium</i> (L.) Hoffmann
VL 0469	<b>Chicory leaves</b> (green and red cultivars) <i>Cichorium intybus</i> L., var. <i>foliosum</i> Hegi
VL 0444	<b>Chili pepper leaves</b> <i>Capsicum annuum</i> L.
-	<b>Chinese amaranth</b> , see <i>Amaranth</i> leaves, VL 0460 <i>Amaranthus tricolor</i> L.
VL 2751	<b>Chipilin</b> <i>Crotalaria lingirostrata</i> Hook & Arn.

- VL 2752      **Chrysanthemum, edible leaved**  
*Glebionis* spp.
- **Chrysanthemum, garland**, see Chrysanthemum, edible leaved, VL 2752  
*Glebionis coronaria* (L.) Cass. ex Spach;
- VL 0526      **Common bean leaves**  
*Phaseolus vulgaris* L.
- **Common plantain**, see Plantain leaves, VL 0490  
*Plantago major* L.
- **Corn chrysanthemum**, see Chrysanthemum, edible leaved, VL 2752  
*Glebionis segetum* (L.) Fourr
- VL 0470      **Corn salad**  
*Valerianella* spp.
- VL 0510      **Cos lettuce**  
*Lactuca sativa* L. var. *longifolia* Lam.
- VL 2753      **Cosmos**  
*Cosmos caudatus* Kunth
- VL 0527      **Cowpea leaves**  
*Vigna unguiculata* (L.) Walp.
- **Crisphead lettuce**, see Lettuce, Head, VL 0482
- **Cutting lettuce**, see Lettuce, Leaf, VL 0483
- VL 0474      **Dandelion**  
*Taraxacum officinale* F.H. Wigg. aggr.
- VL 2754      **Danggwi**  
*Angelica gigas* Nakai
- VL 2600      **Daylily leaves**  
*Hemerocallis fulva* L.
- VL 0475      **Dock**  
*Rumex patienta* L.
- VL 2755      **Dolnamul**  
*Sedum sarmentosum* Bunge
- VL 2756      **Ebolo**  
*Crassocephalum crepidioides* (Benth.) S. Moore
- VL 0476      **Endive**  
*Cichorium endivia* L.
- **Endive, broad or plain leaved**, see Endive, VL 0476  
*Cichorium endivia* L., var. *latifolium* Lamarck
- **Endive, curled**, see Endive, VL 0476  
*Cichorium endivia* L., var. *crispum* Lamarck
- VL 0514      **Fame flower**  
*Talinum fruticosum* L. Juss.
- **Fennel leaves**, see Group 027 Herbs



VL 0515	<b>Feather cockscomb</b> <i>Glinus oppositifolius</i> (L.) Aug. DC.
VL 2757	<b>Glasswort, common</b> <i>Salicornia</i> L.
VL 2758	<b>Godeulppaegi</b> <i>Crepidiastrum sonchifolium</i> (Bunge) Pak & Kawano
VL 2759	<b>Gomchwi</b> <i>Ligularia fischeri</i> Turcz.
-	<b>Good King Henry</b> , see Goosefoot leaves, VL 0477 <i>Chenopodium bonus-henricus</i> L.
VL 0477	<b>Goosefoot leaves</b> <i>Chenopodium</i> spp.
-	<b>Huauzontle</b> , see Goosefoot leaves, VL 0477 <i>Chenopodium berlandieri</i> Moq.
VL 2760	<b>Iceplant</b> <i>Mesembryanthemum crystallinum</i> L.
-	<b>Italian corn salad</b> , see corn salad, VL 0470 <i>Valerianella eriocarpa</i> Desv.;
VL 2761	<b>Japanese honewort</b> <i>Cryptotaenia japonica</i> Hassk.
-	<b>Jew mallow</b> , see Jute, VL 2762 <i>Corchorus olitorius</i> L.
VL 2762	<b>Jute</b> <i>Corchorus</i> spp.
-	<b>Lambs lettuce</b> , see Corn salad, VL 0470 <i>Valerianella locusta</i> L.;
VL 2763	<b>Lettuce, bitter</b> <i>Launaeaccornuta</i> (Hochst. ex Oliv. & Hiern) C. Jeffrey
VL 0482	<b>Lettuce, Head</b> <i>Lactuca sativa</i> L., var. <i>capitata</i>
VL 0483	<b>Lettuce, Leaf</b> <i>Lactuca sativa</i> L., var. <i>crispa</i> L.;
-	<b>Lettuce, Red</b> , see Lettuce, Head, VL 0482 Red cultivar of <i>Lactuca sativa</i> , var. <i>Capitata</i>
VL 2764	<b>Mallow leaves</b> <i>Malva sylvestris</i> L.
VL 0486	<b>New Zealand spinach</b> <i>Tetragonia tetragonioides</i> (Pallas) O. Kuntze; Syn: <i>T. expansa</i> Murr.
VL 0488	<b>Orach</b> <i>Atriplex hortensis</i> L.

VL 0697	<b>Peanut leaves</b> <i>Arachis hypogea</i> L.
VL 2765	<b>Perilla leaves</b> <i>Perilla frutescens</i> (L.) Britton var. <i>frutescens</i>
VL 0490	<b>Plantain leaves</b> <i>Plantago major</i> L.
VL 2766	<b>Polygonatum leaves</b> <i>Polygonatum odoratum</i> (Mill.) Druce; <i>Polygonatum</i> spp.
VL 0492	<b>Purslane</b> <i>Portulaca oleracea</i> L., ssp. <i>sativa</i> (Haw) Celak.
VL 0493	<b>Purslane, Winter</b> <i>Claytonia perfoliata</i> Donn ex Willd.;
-	<b>Red-leaved chicory</b> , see Chicory leaves, VL 0469
VL 2767	<b>Sanmaneul leaves</b> <i>Allium victorialis</i> L.; Syn: <i>A. ochotense</i> Prokh. <i>A. microdictyon</i> Prokh.
-	<b>Silver beet</b> , see Chard, VL 0464
-	<b>Slender amaranth</b> , see Amaranth leaves, VL 0460 <i>Amaranthus viridis</i> L.
VL 0501	<b>Sowthistle</b> <i>Sonchus oleraceus</i> L.
VL 0541	<b>Soya bean leaves</b> <i>Glycine max</i> (L.) Merr.
VL 2768	<b>Spider plant</b> <i>Chlorophytum comosum</i> (Thunb.) Jacques
VL 0502	<b>Spinach</b> <i>Spinacia oleracea</i> L.
-	<b>Spinach beet</b> , see Chard, VL 0464
VL 0503	<b>Spinach, Indian</b> <i>Basella alba</i> L.;
-	<b>Spiny amaranth</b> , see Amaranth leaves, VL 0460 <i>Amaranthus spinosus</i> L.
-	<b>Spleen amaranth</b> , see Amaranth leaves, VL 0460 <i>Amaranthus dubius</i> C. Mart. ex. Thell.
VL 2769	<b>Seumbagwi</b> <i>Ixeridium dentatum</i> (Thunb.) Tzvelev
-	<b>Sugar loaf</b> , see Chicory leaves, VL 0469
-	<b>Swiss chard</b> , see Chard, VL 0464
VL 2770	<b>Tanier spinach</b> <i>Xanthosoma brasiliense</i> (Desf.) Engl.
-	<b>Tricolor chrysanthemum</b> , see Chrysanthemum, Edible leaved, VL 2752 <i>Glebionis carinata</i> (Schousb.) Tzvelev
-	<b>Vine spinach</b> , see Spinach, Indian, VL 0503

VL 2771	<b>Violet, Chinese</b> <i>Asystasia gangetica</i> (L.) T. Anderson
-	<b>Warrigal greens</b> , see New Zealand spinach, VL 0486
-	<b>Young leaves of Wonchuri</b> , see Daylily leaves, VL 2600
<b>Subgroup 013B</b>	<b>Brassica leafy vegetables</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VL 0054	<b>Subgroup of Leaves of Brassicaceae</b> <i>Brassica</i> spp. (Includes all commodities in this subgroup)
-	<b>Amsoi</b> , see Mustard greens, VL 0485
-	<b>Arrugula</b> , see Rucola, VL 0496
-	<b>Big-stem mustard</b> , see Mustard greens, VL 0485 <i>Brassica juncea</i> (L.) Czern subsp. <i>tsatsai</i> (T.L. Mao) Gladis
-	<b>Borecole</b> , see Kale, VL 0480
VL 0401	<b>Broccoli, Chinese</b> <i>Brassica oleracea</i> var. <i>alboglabra</i> (L.H. Bailey) Musil
VL 2775	<b>Broccoli raab</b> <i>Brassica ruvo</i> L.H. Bailey
VL 2776	<b>Cabbage, Abyssinian</b> <i>Brassica carinata</i> A. Braun
VL 2777	<b>Cabbage, Seakale</b> <i>Brassica oleracea</i> L. var. <i>costada</i> DC.
-	<b>Celery mustard</b> , see Chinese cabbage (type Pak-choi), VL 0466
VL 0466	<b>Chinese cabbage (type Pak-choi)</b> <i>Brassica rapa</i> subsp. <i>chinensis</i> (L.) Hanelt
VL 2778	<b>Chinese flat cabbage</b> <i>Brassica rapa</i> subsp. <i>narinosa</i> (L.H. Bailey) Hanelt
-	<b>Chinese kale</b> , see Broccoli, Chinese, VL 0401
-	<b>Choisum</b> , see Flowering white cabbage, VL 0468
-	<b>Collards</b> , see Kale, VL 0480
VL 0472	<b>Cress, Garden</b> <i>Lepidium sativum</i> L.; <i>L. virginicum</i> L.
VL 2779	<b>Cress, Upland</b> <i>Barbarea vulgaris</i> W.T. Aiton; <i>B. Verna</i> (Mill.) Asch.
-	<b>Curly Kale</b> , see Kale, VL 0480
-	<b>Field mustard greens</b> , see Rape greens, VL 0495 <i>Brassica napus</i> L. subsp. <i>trilocularis</i> (Roxb.) Hanelt; <i>Brassica napus</i> L. subsp. <i>dichotoma</i> (Roxb.) Hanelt; <i>Brassica napus</i> L. subsp. <i>oleifera</i> Metzg.
-	<b>Flowering Chinese cabbage</b> , see Flowering white cabbage, VL 0468
VL 0468	<b>Flowering white cabbage</b> <i>Brassica rapa</i> L. Subsp. <i>chinensis</i> (L.) Hanelt var. <i>Parachinensis</i> (L.H. Bailey) Hanelt.

- **Garden cress**, see Cress, Garden, VL 0472
- VL 2780 **Hanover salad**  
*Brassica napus* var. *pabularia* (DC.) Rchb
- **Indian mustard**, see Mustard greens, VL 0485  
*Brassica juncea* (L.) Czern.
- VL 0480 **Kale**  
(including among others: Collards, Curly kale, Scotch kale, Thousand-headed kale, Branching bush kale, Jersey kale; not including Marrow-stem kale, no. AV 1052, see Group 052: Miscellaneous fodder and forage crops)  
*Brassica oleracea* L., var. *sabellica* L.
- **Kale, branching bush**, see Kale, VL 0480  
*Brassica oleracea* L., var. *ramosa* DC. L
- **Kale, curly**, see Kale, VL 0480  
*Brassica oleracea* L., convar. *acephala* (D. C.) Alef., var. *sabellica* L.
- **Kale, Jersey**, see Kale, VL 0480  
*Brassica oleracea* L., var. *palmifolia* DC.
- VL 0405 **Kohlrabi leaves**  
*Brassica oleracea* L var. *gongylodes* L.
- VL 0481 **Komatsuna**  
*Brassica rapa* L. var. *perviridis* L.H. Bailey
- **Land cress**, see Cress, Upland, VL 2779  
B. *Verna* (Mill.) Asch.
- **Leaf mustard**, see Mustard greens, VL 0485  
*Brassica juncea* (L.) Czern subsp. *integrifolia* (H. West) Thell.
- VL 2946 **Maca leaves**  
*Lepidium meyenii* Walp.
- VL 2781 **Mizuna**  
*Brassica rapa* L. subsp. *nipposinica* (L.H. Bailey) Hanelt
- VL 0485 **Mustard greens**  
*Brassica juncea* (L.) Czern
- **Mustard, Indian**, see Mustard greens, VL 0485
- **Mustard spinach**, see Komatsuna, VL 0481
- VL 2782 **Mustard, tuberous rooted leaves, Chinese**  
*Brassica juncea* (L.) Czern. Subsp. *napiformis* (Pailleux & Bois)
- **Namenia**, see Turnip greens, VL 0506
- **Oil radish greens**, see Radish leaves, VL 0494  
*Raphanus sativus* L var. *oleiformis* Pers.
- **Pak-choi or Paksoi**, see Chinese cabbage (type Pak-choi), VL 0466
- **Pak-tsoi or Pak-soi**, see Chinese cabbage (type Pak-choi), VL 0466
- **Peppergrass**, see Cress, garden, VL 0472  
*Lepidium virginicum* L

VL 2783	<b>Purple-stem mustard</b> <i>Brassica rapa</i> subsp. <i>chinensis</i> (L.) Hanelt var. <i>purpuraria</i> (L.H. Bailey) HaneltL.
VL 0494	<b>Radish leaves</b> (including Radish tops) <i>Raphanus sativus</i> L., several varieties
VL 0495	<b>Rape greens</b> <i>Brassica napus</i>
-	<b>Rat-tail radish greens</b> , see Radish leaves, VL 0494 <i>Raphanus sativus</i> L var. <i>mougri</i> H.J.W. Helm
-	<b>Rocket salad</b> , see Rucola, VL 0496
-	<b>Roquette</b> , see Rucola, VL 0496
VL 0496	<b>Rucola</b> <i>Eruca sativa</i> Mill.
VL 0497	<b>Rutabaga greens</b> <i>Brassica napus</i> L., var. <i>napobrassica</i> (L.) Rchb.
VL 2784	<b>Shepherd's purse</b> <i>Capsella bursa-pastoris</i> (L.) Medik.
VL 2785	<b>Ssam cabbage</b> <i>Brassica rapa</i> L. subsp. <i>pekinensis</i> (Lour.) Hanelt (non-head type)
-	<b>Tendergreen</b> , see Turnip greens, VL 0506
-	<b>Tsai shim</b> , see Flowering white cabbage, VL 0468
-	<b>Tsoi sum</b> , see Flowering white cabbage, VL 0468
VL 0506	<b>Turnip greens</b> <i>Brassica rapa</i> L. subsp. <i>rapa</i>
VL 2786	<b>Wasabi leaves</b> <i>Eutrema japonica</i> (Miq.) Koidz.
VL 2787	<b>Wild rocket</b> <i>Diplotaxis tenuifolia</i> (L.) Rchb.
<b>Group 013C</b>	<b>Leaves of root and tuber vegetables</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VL 2052	<b>Subgroup of Leaves of root and tuber vegetables</b> (Includes all commodities in this subgroup)
VL 2790	<b>Alexanders leaves</b> <i>Smyrniolum olusatrum</i> L.
VL 0573	<b>Arrowroot leaves</b> <i>Maranta arundinacea</i> L.; several cultivars
-	<b>Beet leaves</b> , see Chard, VL 0464
VL 2940	<b>Bell flower, Chinese leaves</b> <i>Platycodon grandiflorus</i> (Jacq.) A. DC.
-	<b>Blue ape leaves</b> , see Tannia leaves, VL 0504 <i>Xanthosoma violaceum</i> Schott

VL 0463	<b>Cassava leaves</b> <i>Manihot esculenta</i> Crantz
-	<b>Chinese yam</b> , see Yam leaves, VL 0600 <i>Dioscorea polystachya</i> Turcz.
-	<b>Greater yam</b> , see Yam leaves, VL 0600 <i>Dioscorea alata</i> L.
-	<b>Lesser yam</b> , see Yam leaves, VL 0600 <i>Dioscorea esculenta</i> (Lour.) Burkill
-	<b>Mapuey</b> , see Yam leaves, VL 0600 <i>Dioscorea trifida</i> L.f.
VL 0592	<b>Rampion leaves</b> <i>Campanula rapunculus</i> L.
VL 0498	<b>Salsify leaves</b> <i>Tragopogon porrifolium</i> L.; <i>Scorzonera hispanica</i> L.
VL 0508	<b>Sweet potato, leaves</b> <i>Ipomoea batatas</i> (L.) Lam.
VL 0504	<b>Tannia leaves</b> <i>Xanthosoma sagittifolium</i> (L.) Schott; Syn: <i>X. edule</i> (Mey) Schott; <i>X. xanthorrhizon</i> (Jacq.); C. Koch; <i>Arum sagittaefolium</i> L.
VL 0505	<b>Taro leaves</b> <i>Colocasia esculenta</i> (L.) Schott
VL 0599	<b>Ullucu leaves</b> <i>Ullucus tuberosus</i> Caldas
VL 2795	<b>Velvet plant leaves</b> <i>Gynura bicolor</i> (Roxb. ex Willd.) DC.
-	<b>White yam</b> , see Yam leaves, VL 0600 <i>Dioscorea rotundata</i> Poir.
VL 0600	<b>Yam leaves</b> <i>Dioscorea</i> spp.
-	<b>Yellow yam</b> , see Yam leaves, VL 0600 <i>Dioscorea cayenensis</i> Lam.
<b>Subgroup 013D</b>	<b>Leaves of trees, shrubs and vines</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VL 2053	<b>Subgroup of Leaves of trees, shrubs and vines</b> (Includes all commodities in this subgroup)
VL 2810	<b>Acacia shoots</b> <i>Acacia pennata</i> (L.) Willd.
VL 2811	<b>Ben moringa leaves</b> <i>Moringa oleifera</i> Lam.
-	<b>Eru leaves</b> , see Okazi leaves, VL 2812

VL 0269	<b>Grape leaves</b> <i>Vitis vinifera</i> L.
-	<b>Lead tree</b> , see White lead tree, VL 2814
VL 0517	<b>Melientha</b> <i>Melientha suavis</i> Pierre
VL 2524	<b>Monkey-bread tree leaves</b> <i>Adansonia digitata</i> L.
VL 2812	<b>Okazi leaves</b> <i>Gnetum africanum</i> Welw.; <i>G. Buchholzianum</i> Engl.
VL 0337	<b>Papaya leaves</b> <i>Carica papaya</i> L.
VL 0446	<b>Roselle leaves</b> <i>Hibiscus sabdariffa</i> L.
VL 3295	<b>Sichuan pepper sprouts</b> <i>Zanthocylum simulans</i> Hance
VL 2813	<b>Toona sinensis</b> <i>Cedrela sinensis</i> (A. Juss.) M. Roem.
VL 2814	<b>White lead tree</b> <i>Leuceana leucocephala</i> (Lam.) de Wit
<b>Subgroup 013E</b>	<b>Leafy aquatic vegetables</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VL 2054	<b>Subgroup of Leafy aquatic vegetables</b> (Includes all commodities in this subgroup)
VL 0507	<b>Kangkung</b> <i>Ipomoea aquatica</i> Forssk.;
-	<b>Sunchae</b> , see Water shield, VL 2821
VL 2820	<b>Water clover</b> <i>Marsilea crenata</i> L. Presl.
VL 0473	<b>Watercress</b> <i>Nasturtium officinale</i> W.T Aiton
-	<b>Water convolvulus</b> , see Kangkung, VL 0507
VL 0518	<b>Water mimosa</b> <i>Neptunia Oleracea</i> Lour.
VL 2821	<b>Water shield</b> <i>Brasenia schreberi</i> J.F. Gmel.
-	<b>Water spinach</b> , see Kangkung, VL 0507
<b>Subgroup 013F</b>	<b>Witloof</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VL 2832	<b>Witloof chicory (sprouts)</b> <i>Cichorium intybus</i> L., var. <i>foliosum</i> Hegi; green, red and white cultivars

**Subgroup 013G Leaves of Cucurbitaceae****Code No.****Commodity**

VL 2056

**Subgroup of Leaves of Cucurbitaceae**

(Includes all commodities in this subgroup)

VL 0421

**Balsam pear leaves***Momordia charantia* L.

VL 0423

**Chayote leaves***Sechium edule* (Jacq.) Sw.

VL 2830

**Ivy gourd leaves***Coccinia grandis* (L.) Voigt

VL 2831

**Kahurura***Cucumis ficifolius* A. Rich.

VL 0429

**Pumpkin leaves***Cucurbita Moschata* Duchesne**Subgroup 013H Baby leaves****Code No.****Commodity**

VL 2057

**Baby leaves**

(Baby crops, which are listed in the leafy vegetable group that are harvested up to 8 true leaf stage)

**Subgroup 013I Sprouts****Code No.****Commodity**

VL 2058

**Subgroup of Sprouts**

(Includes all commodities in this subgroup)

VL 1020

**Alfalfa sprouts***Medicago sativa* L

VL 0536

**Mungbean sprouts***Vigna radiata* (L.) R. Wilczek var. *radiata*

VL 2835

**Radish sprouts***Raphanus sativus* L., several varieties

VL 1265

**Soya bean sprouts***Glycine max* (L.) Merr.



**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 and underground beans and peas.

The succulent forms may be consumed as whole pods or without pods. Immature soya bean is usually marketed and served with pods, but pods are not edible and only succulent seeds are eaten.

This group is divided into 5 subgroups:

Subgroup 14A Beans with pods

Subgroup 14B Peas with pods

Subgroup 14C Succulent beans without pods

Subgroup 14D Succulent peas without pods

Subgroup 14E Underground beans and peas

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

**Group 014                      *Legume vegetables***

**Code No.                      Commodity**

VP 0060                      **Group of Legume vegetables**  
(includes all commodities in this group)

**Subgroup 14A                      *Beans with pods***

**Code No.                      Commodity**

VP 2060                      **Subgroup of Beans with pods**  
(includes all commodities in this subgroup)

VP 0061                      **Beans with pods (*Phaseolus spp.*)** immature pods and succulent seeds)

VP 2840                      **Beans with pods (*Vigna spp.*)** (immature pods and succulent seeds)

-                      **Asparagus bean** (pods), see Yard-long bean, VP 0544

-                      **Asparagus pea** (pods), see Goa bean, VP 0530

-                      **Black gram** (immature pods), see Urd bean, VP 0521

-                      **Bonavist bean** (immature pods and succulent seeds), see Lablab bean, VP 0531

VP 0522                      **Broad bean** (immature pods and succulent seeds)

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

VP 2841                      **Catjang** (immature pods and succulent seeds)

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

Syn: *Dolichos catjang* Burm.

-                      **Chinese longbean**, see Yard-long bean, VP 0544

-                      **Cluster bean** (immature pods), see Guar, VP 0525

VP 0526                      **Common bean (poroto)** (pods and succulent 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 (poroto) (pods and succulent seeds), VP 0526
- **Garden bean**, see Common bean (poroto) (pods and succulent seeds), VP 0526
- VP 0530            **Goa bean** (immature pods)  
*Psophocarpus tetragonolobus* (L.) DC.
- **Green bean** (immature pods and succulent seeds), see Common bean (poroto) (pods and succulent seeds), VP 0526
- **Green gram** (immature pods), see Mung bean, VP 0536
- **Green soya bean**, see Soya bean (succulent seeds in pods), VP 0546
- VP 0525            **Guar** (immature pods)  
*Cyamopsis tetragonoloba* (L.) Taub; Syn: *C. psoralioides* (lam.) DC.
- **Haricot bean** (immature pods and succulent seeds), see Common bean (pods and succulent seeds), VP 0526
- **Hyacinth bean** (immature pods and succulent seeds), see Lablab bean (pods and succulent seeds), VP 0531
- VP 0532            **Jack bean** (immature pods and succulent seeds)  
*Canavalia ensiformis* (L.) DC.
- **Kidney bean** (pods), see Common bean (poroto) (pods and succulent seeds), VP 0526
- VP 0531            **Lablab bean** (pods and succulent 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** (immature pods), see Moth bean (immature pods), VP 0535
- VP 0535            **Moth bean** (immature pods)  
*Vigna aconitifolius* (Jacq.) Verde.  
Syn: *Phaseolus aconitifolius* Jacq.; *Ph. trilobus* Ait;
- VP 0536            **Mung bean** (immature pods)  
*Vigna radiata* (L.) Wilczek, var. *radiata*; Syn: *Phaseolus aureus* Roxb;
- **Navy bean** (immature pods and/or succulent seeds), see Common bean (poroto) (pods and succulent seeds), VP 0526
- **Poroto** (pods and succulent seeds), see Common Bean (poroto) (pods and succulent seeds), VP 0526
- VP 0539            **Rice bean** (immature pods)  
*Vigna umbellata* (Thunb.) Ohwi eg Ohashi;  
Syn: *V. calcarata* (Roxb.) Kurz; *Phaseolus calcaratus* Roxb.
- **Runner bean**, see Common bean (poroto) (pods and succulent seeds), VP 0526
- VP 0540            **Scarlet runner bean** (pods and seeds)  
*Phaseolus coccineus* L.
- **Slicing bean**, see Common bean (poroto) (pods and succulent seeds), VP 0526
- **Snap bean** (immature pods), see Common bean (poroto) (pods and succulent seeds), VP 0526

VP 0546	<b>Soya bean</b> (succulent seeds in pods) <i>Glycine max</i> (L.) Merr.;
VP 2842	<b>Stink bean</b> (pods and succulent seeds) <i>Parkia speciosa</i> Hassk.
VP 0542	<b>Sword bean</b> (immature pods and beans) <i>Canavalia gladiata</i> (Jacq.) DC.
VP 0521	<b>Urd bean</b> (immature pods) <i>Vigna mungo</i> (L.) Hepper var. <i>mungo</i> Syn: <i>Phaseolus mungo</i> L.;
-	<b>Vegetables soybean (edamame)</b> , see Soya bean (succulent seeds in pods), VP 0546
-	<b>Wax bean</b> , see Common bean (poroto) (pods and succulent seeds), VP 0526
-	<b>Winged bean</b> (immature pods), see Goa bean, VP 0530
VP 0544	<b>Yard-long bean</b> (pods) <i>Vigna unguiculata</i> subsp. <i>sesquipedalis</i> (L.) Verdc.
<b>Subgroup 14B</b>	<b>Peas with pods</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VP 2061	<b>Subgroup of Peas with pods</b> (includes all commodities in this subgroup)
VP 0063	<b>Peas with pods (<i>Pisum</i> spp.)</b> (pods and succulent seeds) <i>Pisum</i> spp.
VP 0690	<b>Ben Moringa</b> (pods) <i>Moringa oleifera</i> Syn: <i>Moriga pterygosperma</i> .
VP 0524	<b>Chick-pea</b> (immature pods) <i>Cicer arietinum</i> L.
-	<b>Dwarf pea</b> , see pigeon pea with pods (immature pods), VP 0537
VP 0528	<b>Garden pea</b> (immature pods) <i>Pisum sativum</i> L. var. <i>sativum</i>
VP 2860	<b>Grass pea</b> (immature pods) <i>Lathyrus sativus</i> L.
VP 0533	<b>Lentil</b> (immature pods) <i>Lens culinaris</i> Medik subsp. <i>culinaris</i> Syn: <i>Lens esculenta</i> Moench.; <i>Ervum lens</i> L.
-	<b>Mangetout or Mangetout pea</b> , see Podded pea, VP 0538
VP 0537	<b>Pigeon pea</b> (immature pods and young seeds) <i>Cajanus cajan</i> (L.) Millsp. Syn: <i>C. indicus</i> Spreng.
VP 0538	<b>Podded pea</b> (immature pods) <i>Pisum sativum</i> L., subsp. <i>sativum</i> var. <i>macrocarpon</i> Ser.; <i>P. sativum</i> L., spp. <i>sativum</i> , var. <i>sacharatum</i>
-	<b>Red gram</b> (immature pods and immature seeds), see Pigeon pea, VP 0537
-	<b>Snow pea</b> , see Pigeon pea (immature pods), VP 0537
-	<b>Sugar pea</b> (immature pods), see Podded pea, VP 0538

VP 0543	<b>Winged pea</b> (immature pods) <i>Lotus tetragonolobus</i> L. Syn: <i>Tetragonolobus purpureus</i> Moench
<b>Subgroup 14C</b>	<b>Succulent beans without pods</b>
<b>Code No.</b>	<b>Commodity</b>
VP 2062	<b>Subgroup of Succulent beans without pods</b> (includes all commodities in this subgroup)
VP 0062	<b>Beans without pods (<i>Phaseolus</i> spp.)</b> (succulent seeds)
VP 2068	<b>Beans without pods (<i>Vigna</i> spp.)</b> (succulent seeds)
-	<b>Blackeyed peas</b> (succulent seeds), see Cowpea (succulent seeds), VP 2846
-	<b>Bonavist bean</b> (succulent seeds), see Lablab bean, VP 2848
VP 0523	<b>Broad bean, without pods</b> (succulent seeds) <i>Vicia faba</i> L. subsp. <i>faba</i> , var. <i>Faba</i>
VP 2844	<b>Catjang</b> (succulent seeds) <i>Vigna unguiculata</i> (L.) Walp. subsp. <i>cylindrica</i> (L.) Verdc. Syn: <i>Dolichos catjang</i> Burm.
VP 2845	<b>Common bean</b> (succulent seeds) <i>Phaseolus vulgaris</i> L., several cultivars
VP 2846	<b>Cowpea</b> (succulent seeds) <i>Vigna unguiculata</i> (L.) Walp. subsp. <i>Unguiculata</i>
-	<b>Fava bean</b> (succulent beans), see Broad bean, without pods, VP 0523
-	<b>Flageolet</b> (succulent beans), see Common bean (succulent seeds), VP 2845
VP 2847	<b>Goa bean</b> (succulent seeds) <i>Psophocarpus tetragonolobus</i> (L.) DC.
-	<b>Hyacinth bean</b> (succulent seeds), see Lablab bean (succulent seeds), VP 2848
VP 2853	<b>Jack bean</b> (succulent seeds) <i>Canavalia ensiformis</i> (L.) DC.
VP 2848	<b>Lablab bean</b> (succulent seeds) <i>Lablab purpureus</i> (L.) Sweet spp. <i>Purpureus</i> Syn: <i>Dolichos lablab</i> L.; <i>Lablab niger</i> Medik; <i>L. vulgaris</i> Savi
VP 0534	<b>Lima bean</b> (succulent seeds) <i>Phaseolus lunatus</i> L.; Syn: <i>Ph. limensis</i> Macf.; <i>Ph. inamoenus</i> L.
VP 0545	<b>Lupin</b> <i>Lupinus</i> ssp, sweet spp., varieties and cultivars
-	<b>Mat bean</b> (succulent seeds), see Moth bean (succulent seeds), VP 2849
VP 2849	<b>Moth bean</b> (succulent seeds) <i>Vigna aconitifolius</i> (Jacq.) Verde. Syn: <i>Phaseolus aconitifolius</i> Jacq.; <i>Ph. trilobus</i> Ait;
VP 2850	<b>Scarlet runner bean</b> (succulent seeds) <i>Phaseolus coccineus</i> L.
-	<b>Sieva bean</b> (fresh beans), see Lima bean, VP 0534
-	<b>Southern pea</b> , see Cowpea (succulent seeds), VP 2846

VP 0541	<b>Soya bean</b> (succulent seeds) <i>Glycine max</i> (L.) Merr.;
-	<b>Soybean</b> , see Soya bean (succulent seeds), VP 0541
VP 2851	<b>Stink bean</b> (succulent seeds) <i>Parkia speciosa</i> Hassk.
VP 2852	<b>Velvet bean</b> <i>Mucuna pruriens</i> (L.) DC.
<b>Subgroup 14D</b>	<b>Succulent peas without pods</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VP 2063	<b>Subgroup of Succulent peas without pods</b> (includes all commodities in this subgroup)
VP 0064	<b>Peas (<i>Pisum</i> spp.) without pods</b> (succulent seeds) <i>Pisum</i> spp.
-	<b>Angola pea</b> (succulent seeds), see Pigeon pea (succulent seeds), VP 2865
-	<b>Cajan pea</b> (succulent seeds), see Pigeon pea (succulent seeds), VP 2865
VP 2862	<b>Chick-pea</b> (succulent seeds) <i>Cicer arietinum</i> L.
-	<b>Garbanzos</b> , see Chick-pea (succulent seeds), VP2862
VP 2863	<b>Garden pea</b> , (succulent seeds) <i>Pisum sativum</i> L. var. <i>sativum</i>
-	<b>Green pea</b> , see Garden pea (succulent seeds), VP 2863
VP 2864	<b>Lentil</b> (succulent seeds) <i>Lens culinaris</i> Medik subsp. <i>Culinaris</i> Syn: <i>Lens esculenta</i> Moench.; <i>Ervum lens</i> L.
VP 2865	<b>Pigeon pea</b> (succulent seeds) <i>Cajanus cajan</i> (L.) Millsp.; Syn: <i>C. indicus</i> Spreng.
-	<b>Red gram</b> (succulent seeds), see Pigeon pea (succulent seeds), VP 2865
-	<b>Wrinkled pea</b> , see Garden pea (succulent seeds), VP 2863 <i>Pisum sativum</i> L., convar. <i>medullare</i>
<b>Subgroup 14E</b>	<b>Underground immature beans and peas</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VP 2064	<b>Subgroup of Underground immature beans and peas</b> (includes all commodities in this subgroup)
VP 0520	<b>Bambara groundnut</b> (immature seeds) <i>Vigna subterranea</i> (L.) Verdc.
VP 0697	<b>Peanut</b> (immature seeds) <i>Arachis hypogaea</i> L.

**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.

The group is divided into 3 subgroups:

Subgroup 15A Dry beans

Subgroup 15B Dry peas

Subgroup 15C Dry Underground pulses

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

**Group 015                      Pulses****Code No.****Commodity**

VD 0070

**Group of Pulses**

(includes all commodities in this group)

**Subgroup 015A****Dry beans****Code No.****Commodity**

VD 2065

**Subgroup of Dry beans**

(includes all commodities in this subgroup)

VD 0071

**Beans (*Phaseolus* spp.) (dry)**

*Phaseolus* spp.; several species and cultivars

VD 2891

**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 2890

**African yam bean (dry)**

*Sphenostylis stenocarpa* (Hochst. Ex A. Rich.) Harms

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**Asparagus pea, see Goa bean (dry), VD 0530**

-

**Blackeyed pea, see Cowpea (dry), VD 0527**

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

-

**Black gram (dry), see Urd bean (dry), VD 0521**

-

**Black turtle beans, see Common bean, VD 0526**

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**Bonavist bean (dry), 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

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**Butter bean (dry), see Lima bean (dry), VD 0534**

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**Catjang (dry), see Cowpea, (dry), VD 0527**

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

Syn: *Dolichos catjang* Burm.

- VD 0526      **Common bean** (dry)  
                   *Phaseolus vulgaris* L.
- VD 2892      **Common vetch** (dry)  
                   *Vicia sativa* L.
- VD 0527      **Cowpea** (dry)  
                   *Vigna unguiculata* (L.) Walp;  
                   Syn: *V. sinensis* (L.) Savi ex Hassk.; *Dolichos sinensis* L.
- **Cranberry bean** (dry), see Common bean (dry), VD 0526
- **Dwarf bean** (dry), see Common bean (dry), VD 0526
- **Fava bean** (dry), see Broad bean (dry), VD 0523
- **Field bean** (dry), see Common bean (dry), VD 0526
- **Flageolet** (dry), see Common bean (dry), VD 0526
- **French bean**, see Group 014: Legume vegetables
- VD 0530      **Goa bean** (dry)  
                   *Psophocarpus tetragonolobus* (L.) DC.
- **Gram** (dry), see Chick-pea (dry), VD 0524
- **Green beans**, see Group 014: Legume vegetables
- **Green gram** (dry), see Mung bean (dry), VD 0536
- VD 0525      **Guar** (dry)  
                   *Cyamopsis tetragonoloba* (L.) Taub;  
                   Syn: *C. psoralioides* (Lam.) DC.
- **Haricot bean**, see Group 014: Legume vegetables
- **Horse bean** (dry), see Broad bean (dry), VD 0523
- VD 0562      **Horse gram** (dry)  
                   *Macrotyloma uniflorum* (Lam.) Verdc.  
                   Syn: *Dolichos uniflorus* Lam.; *D. biflorus* auct. non L.
- **Hyacinth bean** (dry), see Lablab bean (dry), VD 0531
- VD 0532      **Jack bean**, (dry)  
                   *Canavalia ensiformis* (L.) DC.
- **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
- **Mat bean** (dry), see Moth bean (dry), VD 0535
- VD 2893      **Morama bean** (dry)  
                   *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;
- **Navy bean** (dry), see Common bean (dry), VD 0526
- **Pinto bean** (dry), see Common bean (dry), VD 0526
- VD 0539      **Rice bean** (dry)  
                   *Vigna umbellata* (Thunb.) Ohwi & Ohashi;  
                   Syn: *V. calcarata* (Roxb.) Kurz; *Phaseolus calcaratus* Roxb.
- Runner bean**, see Group 014: Legume vegetables
- VD 0540      **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 2898      **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 2894      **Thick bean** (dry)  
                   *Vicia faba* L. var. *minuta* (hort. Ex Alef.) Mansf.
- VD 0521      **Urd bean** (dry)  
                   *Phaseolus mungo* L.;  
                   Syn: *Vigna mungo* (L.) Hepper  
                   *Mucuna Pruriens* (L.) DC.
- VD 2852      **Velvet bean** (dry)  
                   *Mucuna Pruriens* (L.) DC.
- VD 2895      **Vetches** (*Vicia* spp.) (dry)
- **White bean** (dry), see Navy bean (dry)
- VD 0543      **Winged pea** (dry)  
                   *Lotus tetragonolobus* L.  
                   Syn: *Tetragonolobus purpureus* Moench
- VD 2896      **Yardlong bean** (dry)  
                   *Vigna unguiculata* (L.) Walp. subsp. *unguiculata* forma group *sesquipedalis*



<b>Subgroup 015B</b>	<b>Dry peas</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VD 2066	<b>Subgroup of Dry peas</b> (includes all commodities in this subgroup)
VD 0072	<b>Peas (<i>Pisum</i> spp.) (dry)</b> <i>Pisum</i> spp. several species and cultivars
-	<b>Angola pea (dry)</b> , see Pigeon pea (dry), VD 0537
-	<b>Ben Moringa seed (dry)</b> , see Ben Moringa seed, Group 023: Oilseed
-	<b>Cajan pea (dry)</b> , see Pigeon pea (dry), VD 0537
-	<b>Chickling vetch (dry)</b> , see Grass-pea (dry), VD 2860
VD 0524	<b>Chick-pea (dry)</b> <i>Cicer arietinum</i> L.
VD 0561	<b>Field pea (dry)</b> <i>Pisum sativum</i> L., subsp. <i>sativum</i> var. <i>arvense</i> (L.) Poir. Syn: <i>Pisum arvense</i> L.
-	<b>Garden pea</b> , see Group 014: Legume vegetables
-	<b>Gram (dry)</b> , see Chick-pea (dry), VD 0524
VD 2860	<b>Grass-pea (dry)</b> <i>Lathyrus sativus</i> L.
VD 0533	<b>Lentil (dry)</b> <i>Lens culinaris</i> Medik subsp. <i>Culinaris</i> Syn: <i>Lens esculenta</i> Moench.; <i>Ervum lens</i> L.
-	<b>Pea (dry)</b> , <i>Pisum sativum</i> , see Field pea (dry) VD 0561
VD 0537	<b>Pigeon pea (dry)</b> <i>Cajanus cajan</i> (L.) Huth Syn: <i>C. indicus</i> Spreng.
-	<b>Red gram (dry)</b> , see Pigeon pea (dry), VD 0537
-	<b>Wrinkled pea (dry)</b> , see Field pea (dry), VD 0561
<b>Subgroup 015C</b>	<b>Dry underground pulses</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VD 2067	<b>Subgroup of Dry underground pulses</b> (includes all commodities in this subgroup)
VD 0520	<b>Bambara groundnut (dry seed)</b> <i>Vigna subterranea</i> (L.) Verde.; Syn: <i>Voandzeia subterranea</i> (L.) Thou.
-	<b>Geocarpa groundnut or Geocarpa bean (dry)</b> , see Kersting's groundnut, VD 0563
-	<b>Groundnut (dry)</b> , see Peanut, Group 023: Oilseed
VD 0563	<b>Kersting's groundnut (dry)</b> <i>Macrotyloma geocarpum</i> (Harms) Marcechal & Baudet; Syn: <i>Kerstingiella geocarpa</i> Harms.
-	<b>Peanut (dry)</b> , see Peanut, Group 023: Oilseed

**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.

The group is divided into 3 subgroups:

Subgroup 16A Root vegetables

Subgroup 16B Tuberous and corm vegetables

Subgroup 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                      **Group of Root and tuber vegetables**  
(includes all commodities in this group)

**Subgroup 16A Root vegetables****Code No.                      Commodity**

VR 2070                      **Subgroup of Root vegetables**  
(includes all 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**  
                   *Cichorium 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	<b>Radish</b> <i>Raphanus sativus</i> L. var. <i>sativus</i>
VR 0590	<b>Radish, Black</b> <i>Raphanus sativus</i> L., subvar. <i>niger</i> Pers.
VR 0591	<b>Radish, Japanese</b> <i>Raphanus sativus</i> L., var. <i>longipinnatus</i> Bailey
VR 0592	<b>Rampion roots</b> <i>Campanula rapunculus</i> L.
-	<b>Rutabaga</b> , see Swede, VR 0497
-	<b>Red beet</b> , see Beetroot, VR 0574
VR 0498	<b>Salsify</b> <i>Tragopogon porrifolius</i> L.
-	<b>Salsify, Black</b> , see Scorzonera, VR 0594
VR 0593	<b>Salsify, Spanish</b> <i>Scolymus hispanicus</i> L.
VR 0594	<b>Scorzonera</b> <i>Scorzonera hispanica</i> L.
VR 0595	<b>Skirret</b> <i>Sium sisarum</i> L.
VR 0596	<b>Sugar beet</b> <i>Beta vulgaris</i> L., var. <i>sacharifera</i> ; Syn: <i>B. vulgaris</i> L. var. <i>altissima</i>
VR 0497	<b>Swede</b> <i>Brassica napus</i> L., var. <i>napobrassica</i> (L.) Reichenbach
VR 2951	<b>Ti palm</b> <i>Cordyline fruticosa</i> (L.) A. Chev.
-	<b>Turnip</b> , see Swede, VR 0497
VR 0506	<b>Turnip, Garden</b> <i>Brassica rapa</i> L., var. <i>rapa</i> ; Syn: <i>B. campestris</i> L., var. <i>rapifera</i>
-	<b>Turnip, Swedish</b> , see Swede, VR 0497
-	<b>Vietnamese ginseng</b> , see Ginseng VR 0604 <i>Panax vietnamensis</i> Ha & Grusshv.

**Subgroup 16B Tuberous and corm vegetables**

<u>Code No.</u>	<u>Commodity</u>
VR 2071	<b>Subgroup of Tuberous and corm vegetables</b> (includes all commodities in this subgroup)
-	<b>Achira</b> , see Canna, edible, VR 0576
-	<b>Ahipa</b> , see Yam bean, VR 0601 <i>Pachyrhizus ahipa</i> (Wedd.) Parodi
	<b>Ajanhuiri</b> , see Potato, VR 0589 <i>Solanum ajanhuiri</i> Juz. & Bukasov

- VR 0570      **Alocasia**(corm)  
                   *Alocasia macrorrhiza* (L.) G Don.;  
                   *A. indica* (Lour.) Spach
- VR 2970      **American potato bean**  
                   *Apios americana* 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**, (CODEX STAN 300-2010), see Cassava, VR 0463  
                   *Manihot esculenta* Crantz, bitter cultivars
- **Cassava, Sweet**, (CODEX STAN 238-2003), see Cassava, 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 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 esculentus* N.E. Br
- **Kape**, see *Alocasia* (corm), VR 0570
- VR 2980      **Konjac**  
*Amorphophallus konjac* K. Koch
- **Kötak**, see Taro, VR 0505
- **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**, see Tannia, VR 0504
- VR 0580      **Tiger nut**  
                   *Cyperus esculentus* L.
- **Topeetambu**, see Arrow root, Guinea, VR 0598
- **Ufi**, see Yams, VR 0600
- 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

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



**STALK AND STEM VEGETABLES****Class A****Type 2                      Vegetables                      Group 017                      Group Letter Code VS**

Group 017. Stalk and stem vegetables are the edible stalks, leaf stems or immature shoots, from a variety of annual or perennial plants. Although not actually belonging to this group, globe artichoke (the immature flowerhead) of the family Compositae is included in this group.

Depending upon the part of the crop used for consumption and the growing practices, stalk and stem vegetables are exposed, in varying degrees to pesticides applied during the growing season.

Stalk and stem vegetables may be consumed in whole or in part and in the form of fresh, dried or processed foods.

The group is divided into 3 subgroups:

Subgroup 17A Stalk and stem vegetables - Stems and Petioles subgroup

Subgroup 17B Stalk and stem vegetables - Young shoots subgroup

Subgroup 17C Stalk and stem vegetables – Others

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as marketed after removal of obviously decomposed or withered leaves. Rhubarb, leaf stems only: globe artichoke, flowerhead only, celery and asparagus, remove adhering soil.**

**Group 017                      Stalk and stem vegetables****Code No.****Commodity**

VS 0078

**Group of Stalk and stem vegetables**

(includes all commodities in this group)

**Subgroup 017A****Stalk and stem vegetables - Stems and Petioles****Code No.****Commodity**

VS 2080

**Subgroup of Stems and petioles**

(Includes all commodities in this subgroup)

VS 3020

**Burdock, edible tops***Articum lappa* L.

VS 0623

**Cardoon***Cynara cardunculus* L.

VS 0624

**Celery***Apium graveolens* L., var. *dulce*

-

**Celery leaves**, see Group 027: Herbs

VS 0625

**Celtuce***Lactuca sativa* L., var. *angustina* Irish;Syn: *L. sativa* L., var. *asparagina* Bailey

VS 0380

**Fennel, Bulb***Foeniculum vulgare* Mill. subsp. *vulgare* var. *azoricum* (Mill.) Thell-

-

**Fennel, Florance**, see Fennel, bulb, VS 0380

-

**Fuki**, see Giant butterbur, VS 3021

VS 3021

**Giant butterbur***Petasites japonicus* (Siebold & Zucc.) Maxim

VS 0627

**Rhubarb***Rheum x hybridum* Murray

VS 0508	<b>Sweet potato, stems</b> <i>Ipomoea batatas</i> (L.) Lam.
VS 0505	<b>Taro stems</b> <i>Colocasia esculenta</i> (L.) Schott
VS 3022	<b>Zuiki</b> <i>Colocasia gigantea</i> (Blume) Hook. f.
<b>Subgroup 017B</b>	<b>Stalk and stem vegetables - Young shoots</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VS 2081	<b>Subgroup of Young shoots</b> (Includes all commodities in this subgroup)
VS 3025	<b>Agave</b> <i>Agave</i> spp.
VS 0621	<b>Asparagus</b> <i>Asparagus officinalis</i> L.
VS 0622	<b>Bamboo shoots</b> <i>Arundinaria</i> spp.; <i>Bambusa</i> spp. including <i>B. blumeana</i> ; <i>B. multiplex</i> ; <i>B. oldhamii</i> ; <i>B. textilis</i> ; <i>Chimonobambusa</i> spp.; <i>Dendrocalamus</i> spp., including <i>D. asper</i> ; <i>D. beecheyana</i> ; <i>D. brandisii</i> ; <i>D. giganteus</i> ; <i>D. laetiflorus</i> and <i>D. strictus</i> ; <i>Gigantochloa</i> spp. including <i>G. albociliata</i> ; <i>G. atter</i> ; <i>G. levis</i> ; <i>G. robusta</i> ; <i>Nastus elatus</i> ; <i>Phyllostachys</i> spp.; <i>Thyrsostachys siamensis</i> ; <i>Thyrsostachys oliverii</i> (Poaceae (alt. Gramineae))
VS 3026	<b>Dokhwal shoot</b> <i>Aralia continentalis</i> Kitag.
VS 3027	<b>Dureup young shoot</b> <i>Aralia elata</i> (Miq.) Seem.
VS 3028	<b>Eumnamu shoot</b> <i>Kalopanax septemlobus</i> (Thunb.ex A Murr.) Koidz.
VS 3029	<b>Ferns, edible</b> Including: Black lady fern, <i>Deparia japonica</i> (Thunb.) M. Kato; Bracken fern, <i>Pteridium aquilinum</i> (L.) Kuhn; Broad buckler fern, <i>Dryopteris dilatata</i> (Hoffm.) A. Gray; Cinnamon fern, <i>Osmundastrum cinnamomeum</i> (L.) C. Presl; Lady fern, <i>Athyrium filix-femina</i> (L.) Roth ex Mert.; Leather fern, <i>Acrostichum aureum</i> L.; Mother fern, <i>Diplazium proliferum</i> (Lam.) Thouars; Ostrich fern, <i>Matteuccia struthiopteris</i> (L.) Tod.; Vegetable fern, <i>Diplazium esculentum</i> (Retz.) Sw.; Zenmai fern, <i>Osmunda japonica</i> Thunb.
VS 0499	<b>Kale, sea</b> <i>Crambe maritima</i> L.
VS 3030	<b>Udo</b> <i>Aralia cordata</i> Thunb.
<b>Subgroup 017C</b>	<b>Stalk and stem vegetables - Others</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
VS 2082	<b>Subgroup of Other stalk and stem vegetables</b> (Includes all commodities in this subgroup)
VS 0620	<b>Artichoke, globe</b> <i>Cynara scolymus</i> L.
-	<b>Minari</b> , see water-celery, VS 3035

VS 0626

**Palm hearts**

various species including: Peach Palm, *Bactris gasipaes* Kunth; Palmyra palm, *Borassus flabellifera* L.; African fan palm, *Borassus aethiopum* Mart.; Coconut, *Cocos nucifera* L.; Cabbage palm, *Euterpe oleracea* Mart.; Wine palm, *Raphia* spp.; Royal palm, *Roystonea oleracea* (Jacq.) O.F. Cook; Salak palm, *Salacca zalacca* (Gaertn.) Voss; Saw palmetto, *Serenoa repens* (W. Bartram) Small; Cabbage palmetto, Sabal palmetto (Walter) Schult. & Schult. f., (Arecaceae (alt. Palmae))

VS 0356

**Prickly pear pads**

*Opuntia ficus-indica* (L.) Mill.

VS 3035

**Water-celery**

*Oenanthe javanica* (Blume) de Candolle

**EDIBLE FUNGI****Class A**

**Type 1                      Vegetables                      Group 18                      Group Letter Code VF**

Edible Fungi are derived from lower plants. The fruiting bodies could be fully exposed to pesticides during the growing season.

The entire fruiting body may be consumed in a succulent or processed form.

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of soil and growing medium**

**Group 18                      Edible Fungi**

**Code No.****Commodity**

VF 2084

**Group of Edible fungi**

Various edible species of fungi, wild and cultivated.

VF 0449

**Fungi, Edible, except Mushrooms**

According to Codex Stand. 38-1981: various edible species of fungi, mainly wild, among others *Boletus edulis*; other *Boletus* spp, *Morchella* spp, *Pleurotus ostreatus*

-

**Bearded tooth**, see Pom pom, VF 3065

-

**Beech mushroom**, see Bunashimeji, VF 3052

VF 3050

**Black poplar mushroom**

*Agrocybe aegerita* (V. Brig.) Singer

VF 3051

**Blewitt**

*Lepista nuda* (Bull.) Cooke

VF 3052

**Bunashimeji**

*Hypsizygus marmoreus* (Peck) H.E. Bigelow, *H. tessulatus* (Bull.) Singer

VF 3053

**Cauliflower mushroom**

*Sparassis crispa* (Wulfen) Fr.

VF 3054

**Cep**

*Boletus edulis* Bull. and other *Boletus* spp.

VF 3055

**Chanterelle**

*Cantharellus cibarius* Fr. (Codex Stand. 40-1981)

VF 3056

**Enoke**

*Flammulina velutipes* (curtis) Singer

-

**Enoki mushroom**, see Enoke, VF 3056

-

**Hen-of-the-Woods mushroom**, see Maitake, VF 3059

VF 3057

**Hirmeola**

*Auricularia auricular-judea* (Fr.) J. Schröt (Syn. *Auricularia auricular* (Hook.f.)Underw.)

VF 3058

**Ink mushroom**

*Coprinus comatus* (O.F. Müll.) Persoon

-

**Jews ear mushroom**, see Hirmeola, VF 3057

-

**Lion's mane mushroom**, see Pom pom, VF 3065

VF 3059

**Maitake**

*Grifola frondosa* (Dicks) Gray

- VF 3060      **Morel**  
*Morchella spp.*
- VF 0450      **Mushrooms**  
 Cultivated cultivars of *Agaricus spp.* (included Royal sun agaricus = Hime-Matsutake (*Agaricus brasiliensis*), Rodman's agaricus, White button mushroom) Syn: *Psalliota spp.*, mainly *Agaricus bisporus* (definition Codex Stand. 55-1981)
- VF 3061      **Nameko**  
*Pholiota nameko* (T. Ito) S. Ito & S. Imai and other *Pholiota spp.*
- VF 3062      **Net bearing Dictyophora**  
*Phallus impudicus* L.
- **Oakwood mushroom**, see Shiitake mushroom, VF 3067
- VF 3063      **Oyster mushroom**  
*Pleurotus ostreatus* (Jacq.) P. Kumm and other *Pleurotus spp.*, including grey-oyster mushroom, abalone mushroom
- **Paddy straw mushroom**, see Straw mushroom, VF 3069
- VF 3064      **Pine mushroom**  
*Tricholoma matsutake* (S. Ito & Imai) Singer
- VF 3065      **Pom pom**  
*Hericum erinaceus* (Bull.) Pers.
- VF 3066      **Reishi mushroom**  
*Ganoderma lucidum* (Curtis) P. Karst. and other *Ganoderma spp.*
- VF 3067      **Shiitake mushroom**  
*Lentinula edodes* (Berk.) Pegler
- VF 3068      **Shimeji**  
*Lyophyllum fumosum* (Pers.) P.D. Orton (Syn: *Tricholoma conglobatum*(Vitt.) Ricken) and other *Lyophyllum spp.*
- **Slimy mushroom**, see Nameko, VF 3061
- VF 3069      **Straw mushroom**  
*Volvariella volvacea* (Bull.) Singer
- VF 3070      **Stropharia**  
*Stropharia spp.*  
*Stropharia rugosoannulata* Farl. ex Murrill
- VF 3071      **Truffle**  
*Tuber spp.*
- VF 3072      **Wangsongi**  
*Macrocybe gigantea* (Masse) Pegler & Lodge  
 (syn: *Tricholoma giganteum* Masse)
- **Winter mushroom**, see Enoke, VF 3056
- VF 3073      **White jelly mushroom**  
*Tremella fuciformis* Berk.
- VF 3074      **Wood ears mushroom**,  
*Auricularia polytricha* (Mont.)Sacc.

**Appendix VIII****Part B****PROPOSED DRAFT TABLE 2 ON 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 for Commodity Groups (CAC/GL 84-2012)*

(For adoption at Step 5/8)

<b>Codex Group / Subgroup</b>	<b>Examples of Representative Commodities <sup>1</sup></b>	<b>Extrapolation to the following commodities</b>
<b>Group 009 Bulb vegetables</b>	Bulb onion and Spring onion or leek	<u>Bulb vegetables (VA 0035)</u> : Chives; Chives, Chinese; Daylilly; Elegans hosta; Fritillaria (bulb); Fritillaria (green); Garlic; Garlic chives; Garlic, Great-headed; Garlic, Serpent; Kurrat; Lady's leek; Leek; Lily; Onion, Beltsville bunching; Onion, Bulb; Onion, Chinese; Onion, fresh; Onion macrostem; Onion, pearl; Onion, potato; Onion, Welsh; Shallot; Silverskin onion; Spring onion; Tree onion; Wild leek
Subgroup 009A, Bulb Onions	Bulb onion	<u>Bulb Onions (VA 2031)</u> : Daylilly; Fritillaria (bulb); Garlic; Garlic, Great-headed; Garlic, Serpent; Lily; Onion, Bulb; Onion, Chinese; Shallot; Silverskin onion
Subgroup 009B, Green Onions	Spring onion or leek	<u>Green Onions (VA 2032)</u> : Chives; Chives, Chinese; Elegans hosta; Fritillaria (green); Garlic chives; Kurrat; Lady's leek; Leek; Onion, Beltsville bunching; Onion, fresh; Onion macrostem; Onion, pearl; Onion, potato; Onion, Welsh; Spring onion; Tree onion; Wild leek
<b>Group 010 Brassica vegetables (except Brassica leafy vegetables)</b>	Broccoli (Could be partly replaced by Cauliflower) and Cabbage, Head or Chinese cabbage (type Pe-tsai) and Brussels sprouts and Kohlrabi	<u>Brassica vegetables (except Brassica leafy vegetables), Flowerhead cabbages (VB0040)</u> : Broccoli; Brussels sprouts; Cabbages, Head; Chinese cabbage (type Pe-tsai); Cauliflower; Kohlrabi; Stem mustard
Subgroup 010A, Flowerhead Brassicas	Broccoli (Could be partly replaced by Cauliflower)	<u>Flowerhead Brassicas (VB 0042)</u> : Broccoli; Cauliflower
Subgroup 010B, Head Brassicas	Cabbage, Head or Chinese cabbage (type Pe-tsai) and Brussels sprouts	<u>Head Brassicas (VB 2036)</u> : Brussels sprouts; Cabbages, Head; Chinese cabbage (type Pe- tsai)
Subgroup 010C, Stem Brassicas	Kohlrabi	<u>Stem Brassicas (VB 2016)</u> : Kohlrabi; Stem mustard

<sup>1</sup> Alternative representative commodities may be selected based on documented regional/country differences in dietary consumption and/or areas of production.

Codex Group / Subgroup	Examples of Representative Commodities <sup>1</sup>	Extrapolation to the following commodities
<b>Group 11 Fruiting vegetables, Cucurbits</b>	Cucumber and Squash, Summer and/or gourd and Melon ( <i>Cucumis melo</i> )	Fruiting vegetables, Cucurbits (VC 0045): African horned melon; Balsam apple; Bitter melon; Bottle gourd; Casabanana; Chayote; Chieh-qua; Chinese cucumber; Cucumber; Cucumber, exploding; Cucumber, stuffing; Gac; Gherkin; Gherkin, West Indian; Gourd, bitter snake; Gourd, buffalo; Gourd, fluted; Gourd, Malabar; Gourds, other; Gourd, pointed; Gourd, round; Indian spine gourd; Ivy gourd; Japanese snake gourd; Loofah, angled; Loofah, Smooth; Melons, except watermelon; Melon, nara; Pumpkins; Snake gourd; Squash, Summer; Tacaco; Watermelon; Wax gourd (mature fruit); Winter squash
Subgroup 11A, Fruiting vegetables, Cucurbits - Cucumber and Summer squashes	Cucumber and Squash, Summer and/or gourd	<u>Fruiting vegetables, Cucurbits - Cucumber and Summer Squashes (VC 2039)</u> : Balsam apple; Bitter melon; Bottle gourd; Chayote; Chieh-qua; Chinese cucumber; Cucumber; Cucumber, exploding; Cucumber, stuffing; Gac; Gherkin; Gherkin, West Indian; Gourd, bitter snake; Gourd, buffalo; Gourd fluted; Gourd, Malabar; Gourds, other; Gourd, pointed; Gourd, round; Indian spine gourd; Ivy gourd; Japanese snake gourd; Loofah, Angled; Loofah, Smooth; Snake gourd; Squash, Summer; Tacaco
Subgroup 11B, Fruiting vegetable, Cucurbits - Melons, Pumpkins and Winter Squashes	Melon ( <i>Cucumis melo</i> )	<u>Fruiting vegetables, Cucurbits Cucurbits - Melons, Pumpkins and Winter Squashes (VC 2040)</u> : African horned melon; Casababana; Melons, except Watermelon; Melon, nara; Pumpkins; Watermelon; Wax gourd (mature Fruit); Winter squash
<b>Group 012 Fruiting vegetables, other than Cucurbits</b>	One cultivar of large variety Tomato and one cultivar of small variety Tomato and Sweet Pepper and Chili pepper and One cultivar of large variety eggplant and/or tomato and one cultivar of small variety eggplant and/or tomato	<u>Fruiting vegetables, other than Cucurbits (VO 0050)</u> : African eggplant; Bush tomato; Cherry tomato; Cocona; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Ground cherries, Martynia; Okra; Pea eggplant; Pepino; Peppers, Chili; Peppers, sweet; Roselle; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Thai eggplant
Subgroup 12A, Tomatoes	One cultivar of large variety Tomato and one cultivar of small variety Tomato	<u>Tomatoes (VO 2045)</u> : Bush tomato; Cherry tomato; Cocona; Currant tomato; Garden huckleberry; Goji berry; Ground cherries; Sunberry; Tomatillo; Tomato
Subgroup 12B, Pepper and pepper-like commodities	Sweet Pepper and Chili pepper	<u>Peppers (VO 0051)</u> : Martynia; Okra; Peppers, Chili; Peppers, sweet; Roselle;

Codex Group / Subgroup	Examples of Representative Commodities <sup>1</sup>	Extrapolation to the following commodities
Subgroup 12C, Eggplant and eggplant-like commodities	One cultivar of large variety eggplant and/or tomato and one cultivar of small variety eggplant and/or tomato	Eggplants (VO 2046): African eggplant; Eggplant; Pea eggplant; Pepino; Scarlet eggplant; Thai eggplant
<b>Group 013 Leafy vegetables (including Brassica leafy vegetables)</b>	Head lettuce and/or Leaf lettuce and Spinach and Mustard greens or Kale or Broccoli, Chinese or radish leaves and Sweet potato leaves or Arrowroot leaves and Grape leaves and Kangkung or Water mimosa or Watercress and Witloof chicory (sprouts) and Chayote leaves or Pumpkin leaves and Leaf lettuce or any crop intended to use as baby leaves (harvested up to 8 true leaf stage) and Mungbean sprouts	<u>Leafy vegetables (including Brassica leafy vegetables) (VL 0053):</u> Acacia shoots; African Eggplant leaves; African nightshade; Agretti; Alexanders leaves; Alfalfa sprouts; Amaranth leaves; Arrowroot leaves; Aster, Indian; Ayoyo; Baby leaves; Balsam pear leaves; Bambara groundnut leaves; Barley shoots; Bell flower, Chinese leaves; Ben moringa leaves; Bitawiri; Bitter leaf; Blackjack; Boxthorn; Broccoli, Chinese; Broccoli raab; Cabbage, Abyssinian; Cabbage, Seakale; Cassava leaves; Cat's Whiskers; Chamchwi; Chamnamul; Chamssuk; Chard; Chayote leaves; Chervil; Chicory leaves; Chili pepper leaves; Chinese cabbage (type Pak-choi); Chinese flat cabbage; Chipilin; Cress, Garden; Cress, Upland; Chrysanthum, edible leaved; Common bean leaves; Corn salad; Cos lettuce; Cosmos; Cowpea leaves; Dandelion; Danggwii; Daylily leaves; Dock; Dolnamul; Ebolo; Endive; Fame flower; Feather cockscomb; Flowering white cabbage; Glasswort, common; Godeulppaegi; Gomchwi; Goosefoot leaves; Grape leaves; Hanover salad; Iceplant; Ivy gourd leaves; Japanese honewort; Jute; Kahurura; Kangkung; Kale; Kohlrabi leaves; Komatsuna; Lettuce, bitter; Lettuce, Head; Lettuce, Leaf; Maca leaves; Mallow leaves; Melientha; Mizuna; Monkey-bread tree leaves; Mungbean sprouts; Mustard greens; Mustard, tuberous rooted leaves, Chinese; New Zealand spinach; Okazi leaves; Orach; Papaya leaves; Peanut leaves; Perilla leaves; Plantain leaves; Polygonatum leaves; Pumpkin leaves; Purple-stem mustard; Purslane; Purslane, Winter; Radish leaves; Radish sprouts; Rampion leaves; Rape greens; Roselle leaves; Rucola; Rutabaga greens; Salsify leaves; Sanmaneul leaves; Shepherd's purse; Sichuan pepper sprouts; Sowthistle; Soya bean leaves; Soya bean sprouts; Spider plant; Spinach; Spinach, Indian; Ssam cabbage; Seumbagwi; Sweet potato, leaves; Tannier spinach; Tannia leaves; Taro leaves; Toona sinensis; Turnip greens; Ullucu leaves; Velvet plant leaves; Violet, Chinese; Wasabi leaves; Water clover; Watercress; Water mimosa; Water shield; White lead tree; Wild Rocket; Witloof chicory (sprouts); Yam leaves



Codex Group / Subgroup	Examples of Representative Commodities <sup>1</sup>	Extrapolation to the following commodities
Subgroup 013A, Leafy greens	Head lettuce and/or Leaf lettuce and Spinach	<u>Leafy greens (VL 2050)</u> : African Eggplant leaves; African nightshade; Agretti; Amaranth leaves; Aster, Indian; Ayoyo; Bambara groundnut leaves; Barley shoots; Bitawiri; Bitter leaf; Blackjack; Boxthorn; Cat's Whiskers; Chamchwi; Chamnamul; Chamssuk; Chard; Chervil; Chicory leaves; Chili pepper leaves; Chipilin; Chrysanthum, edible leaved; Common bean leaves; Corn salad; Cos lettuce; Cosmos; Cowpea leaves; Dandelion; Danggwi; Daylily leaves; Dock; Dolnamul; Ebolo; Endive; Fame flower; Feather cockscomb; Glasswort, common; Godeulppaegi; Gomchwi; Goosefoot leaves; Iceplant; Japanese honewort; Jute; Lettuce, bitter; Lettuce, Head; Lettuce, Leaf; Mallow leaves; New Zealand spinach; Orach; Peanut leaves; Perilla leaves; Plantain leaves; Polygonatum leaves; Purslane; Purslane, Winter; Sanmaneul leaves; Sowthistle; Soya bean leaves; Spider plant; Spinach; Spinach, Indian; Seumbagwi; Tanier spinach; Violet, Chinese
Subgroup 013B, Brassica leafy vegetables	Mustard greens or Kale or Broccoli, Chinese, or radish leaves	<u>Leaves of Brassicaceae (VL 0054)</u> : Broccoli, Chinese; Broccoli raab; Cabbage, Abyssinian; Cabbage, Seakale; Chinese cabbage (type Pak-choi); Chinese flat cabbage; Cress, Garden; Cress, Upland; Flowering white cabbage; Hanover salad; Kale; Kohlrabi leaves; Komatsuna; Maca leaves; Mizuna; Mustard greens; Mustard, tuberous rooted leaves, Chinese; Purple-stem mustard; Radish leaves; Rape greens; Rucola; Rutabaga greens; Shepherd's purse; Ssam cabbage; Turnip greens; Wasabi leaves; Wild Rocket
Subgroup 013C, Leaves of root and tuber vegetables	Sweet potato leaves or Arrowroot leaves	<u>Leaves of root and tuber vegetables (VL 2052)</u> : Alexanders leaves; Arrowroot leaves; Bell flower, Chinese leaves; Cassava leaves; Rampion leaves; Salsify leaves; Sweet potato, leaves; Tannia leaves; Taro leaves; Ullucu leaves; Velvet plant leaves; Yam leaves
Subgroup 013D, Leaves of trees, shrubs and vines	Grape leaves	<u>Leaves of trees, shrubs and vines (VL 2053)</u> : Acacia shoots; Ben moringa leaves; Grape leaves; Melientha; Monkey-bread tree leaves; Okazi leaves; Papaya leaves; Roselle leaves; Sichuan pepper sprouts; Toona sinensis; White lead tree
Subgroup 013E, Leafy aquatic vegetables	Kangkung or Water mimosa or Watercress	<u>Leafy aquatic vegetables (VL 2054)</u> : Kangkung; Water clover; Watercress; Water mimosa; Water shield
Subgroup 13 F, Witloof	Witloof chicory (sprouts)	<u>Witloof chicory sprouts (VL 2832)</u> : Witloof chicory (sprouts)

Codex Group / Subgroup	Examples of Representative Commodities <sup>1</sup>	Extrapolation to the following commodities
Subgroup 13 G, Leaves of Cucurbitaceae	Chayote leaves or Pumpkin leaves	<u>Leaves of Cucurbitaceae (VL 2056)</u> : Balsam pear leaves; Chayote leaves; Ivy gourd leaves; Kahurura; Pumpkin leaves
Subgroup 13 H, Baby leaves	Leaf lettuce or any crop intended to use as baby leaves (harvested up to 8 true leaf stage)	<u>Baby leaves (VL 2057)</u> : Baby leaves
Subgroup 13 I, Sprouts	Mungbean sprouts	<u>Sprouts (VL 2058)</u> : Alfalfa sprouts; Mungbean sprouts; Radish sprouts; Soya bean sprouts
<b>Group 14 Legume vegetables</b>	Beans with pods ( <i>Phaseolus</i> spp.) and/or Peas with pods (Garden pea or podded pea) and Succulent beans without pods ( <i>Phaseolus</i> spp.) and Garden pea and Bambara groundnut (immature seeds)	<u>Legume vegetables (VP 0060)</u> : Beans with and without pods ( <i>Phaseolus</i> spp.); Beans with and without pods ( <i>Vigna</i> spp.); Bambara groundnut; Ben moringa; Broad bean; Broad bean; Catjang; Chick-pea; Common bean (poroto); Cowpea; Garden pea; Goa bean; Grass pea; Guar; Jack bean; Lablab bean; Lentil; Lima bean; Lupin; Moth bean; Mung bean; Peas with and without pods ( <i>Pisum</i> spp.); Peanut (immature); Pigeon pea; Podded pea; Rice bean; Scarlet runner bean; Soya bean; Stink bean; Sword bean; Urd bean; Velvet bean; Winged pea; Yard-long bean;
Subgroup 14A, Beans with pods	Beans with pods ( <i>Phaseolus</i> spp.)	<u>Beans with pods (VP 2060)</u> : Beans with pods ( <i>Phaseolus</i> spp.); Beans with pods ( <i>Vigna</i> spp.); Broad bean; Catjang; Common bean (poroto); Cowpea; Goa bean; Guar; Jack bean; Lablab bean; Moth bean; Mung bean; Rice bean; Scarlet runner bean; Soya bean; Stink bean; Sword bean; Urd bean; Yard-long bean
Subgroup 14B, Peas with pods	Peas with pods (Garden pea or podded pea) and/or Beans with pods ( <i>Phaseolus</i> spp.)	<u>Peas with pods (VP2061)</u> : Peas with pods ( <i>Pisum</i> spp.); Ben Moringa; Chick-pea; Garden pea; Grass pea; Lentil; Pigeon pea; Podded pea; Winged pea
Subgroup 14C, Succulent beans without pods	Succulent beans without pods ( <i>Phaseolus</i> spp.)	<u>Succulent beans without pods (VP 2062)</u> : Beans, without pods ( <i>Phaseolus</i> spp.); Beans, without pods ( <i>Vigna</i> spp.); Broad bean, without pods; Catjang; Common bean; Cowpea; Goa bean; Jack bean; Lablab bean; Lima bean; Lupin; Moth bean; Scarlet runner bean; Soya bean; Stink bean; Velvet bean
Subgroup 14D, Succulent peas without pods	Garden pea	<u>Succulent peas without pods (VP 2063)</u> : Peas ( <i>Pisum</i> spp.) without pods; Chick-pea; Garden pea; Lentil; Pigeon pea

Codex Group / Subgroup	Examples of Representative Commodities <sup>1</sup>	Extrapolation to the following commodities
Subgroup 14E, Underground immature beans and peas	Bambara groundnut (immature seeds)	<u>Underground beans and peas (VC 2064)</u> : Bambara groundnut (immature seeds); Peanut (immature)
<b>Group 15 Pulses</b>	Beans, dry ( <i>Phaseolus</i> spp.) and/or Peas, dry ( <i>Pisum</i> spp.) and Soya bean, dry and Bambara groundnut (dry)	<u>Pulses (VD 0070)</u> : Beans ( <i>Phaseolus</i> spp.); Beans ( <i>Vigna</i> spp.); Adzuki bean; African yam bean; Bambara groundnut; Broad bean; Chick-pea; Common bean; Common Vetch; Cowpea; Field pea; Goa bean; Grass-pea; Guar; Horse gram; Jack bean; Kersting's groundnut; Lablab bean; Lentil; Lima bean; Lupin; Morama bean; Moth bean; Mung bean; Peas; Peas ( <i>Pisum</i> spp.); Pigeon pea; Rice bean; Scarlet runner bean; Soya bean; Sword bean; Tepary bean; Thick bean; Urd bean; Velvet bean; Vetches; Winged pea; Yardlong bean
Subgroup 15A, Dry beans	Beans, dry ( <i>Phaseolus</i> spp.) and/or Peas, dry ( <i>Pisum</i> spp.) and Soya bean, dry	<u>Dry beans (VD 2065)</u> : Beans ( <i>Phaseolus</i> spp.); Beans ( <i>Vigna</i> spp.); Adzuki bean; African yam bean; Broad bean; Common bean; Common Vetch; Cowpea; Goa bean; Guar; Horse gram; Jack bean; Lablab bean; Lima bean; Lupin; Morama bean; Moth bean; Mung bean; Rice bean; Scarlet runner bean; Soya bean; Sword bean; Tepary bean; Thick bean; Urd bean; Velvet bean; Vetches; Winged pea; Yardlong bean
Subgroup 15B, Dry peas	Peas, dry ( <i>Pisum</i> spp.) and/or Beans, dry ( <i>Phaseolus</i> spp.)	<u>Dry peas (VD 2066)</u> : Peas ( <i>Pisum</i> spp.); Chick-pea; Field pea; Grass-pea; Lentil; Pigeon pea
Subgroup 15C, Dry underground pulses	Bambara groundnut (dry)	<u>Dry underground pulses (VD 2067)</u> : Bambara groundnut (dry); Kersting's groundnut
<b>Group 16 Root and tuber vegetables</b>	Carrot and Radish and Sugar Beet or Beetroot and Potato or Sweet potato and Arrowhead	<u>Root and tuber vegetables (VR 0075)</u> : Alocasia; American potato bean; Arracacha; Arrowhead; Arrowroot; Arrowroot, Guinea; Arrowroot, Polynesian; Banana, Abyssinian; Beetroot; Bellflower, Chinese; Burdock, greater or edible; Canna, edible; Caraway, black root; Carrot; Cassava; Cattail; Celeriac; Chayote root; Chervil, Turnip-rooted; Chicory roots; Chinese artichoke; Chinese potato; Chinese water chestnut; Cowpea, wild; Dandelion root; Deodeok; Earthnut pea; Elephant foot yam; Gastrodia tuber; Giant swamp taro; Ginseng; Goa bean root; Horseradish; Jerusalem artichoke; Kaffir potato; Konjac; Kudzu; Ladybell root; Lotus tuber; Maca; Madeira vine; Mashua; Mauka; Murnong; Mustard, tuberous rooted Chinese; Oca; Olbanga; Parsley, Turnip-rooted; Parsnip; Pencil yam; Pignut; Potato; Radish; Radish, Black; Radish, Japanese; Rampion roots; Salsify; Salsify, Spanish; Scorzonera; Skirret; Sugar beet; Swede; Sweet potato; Tannia; Taro; Tiger nut; Ti palm; Turnip, Garden; Ullucu; Yacon; Yams; Yam vean

<b>Codex Group / Subgroup</b>	<b>Examples of Representative Commodities <sup>1</sup></b>	<b>Extrapolation to the following commodities</b>
Subgroup 16A, Root vegetables	Carrot and Radish and Sugar beet or Beetroot	<u>Root vegetables (VR 2070)</u> Beetroot; Bellflower, Chinese; Burdock, greater or edible; Caraway, black root; Carrot; Celeriac; Chervil, Turnip-rooted; Chicory roots; Dandelion root; Deodeok; Ginseng; Horseradish; Kudzu; Ladybell root; Maca; Madeira vine; Mauka; Murnong; Mustard, tuberous rooted Chinese; Parsley, Turnip-rooted; Parsnip; Pencil yam; Radish; Radish, Black; Radish, Japanese; Rampion roots; Salsify; Salsify, Spanish; Scorzonera; Skirret; Sugar beet; Swede; Ti palm; Turnip, Garden
Subgroup 16B, Tuberous and corm vegetables	Potato or Sweet potato	<u>Tuberous and corm vegetables (VR 2071):</u> Alocasia; American potato bean; Arracacha; Arrowroot; Arrowroot, Guinea; Arrowroot, Polynesian; Banana, Abyssinian; Canna, edible; Cassava; Chayote root; Chinese artichoke; Chinese potato; Cowpea, wild; Earthnut pea; Elephant foot yam; Gastrodia tuber; Giant swamp taro; Goa bean root; Jerusalem artichoke; Kaffir potato; Konjac; Mashua; Oca; Pignut; Potato; Sweet potato; Tannia; Taro; Tiger nut; Ullucu; Yacon; Yams; Yam bean
Subgroup 16C, Aquatic root and tuber vegetables	Arrowhead	<u>Aquatic root and tuber vegetables (VR 2072):</u> Arrowhead; Cattail; Chinese water chestnut; Lotus tuber; Olbanga
<b>Group 17 Stalk and stem vegetables</b>	Celery and Asparagus and/or Artichoke, globe	<u>Stalk and stem vegetables (VS 0078):</u> Agave; Artichoke, globe; Asparagus; Bamboo shoots; Burdock, edible, tops; Cardoon; Celery; Celtuce; Dokhwal shoot; Dureup young shoot; Eumnamu shoot; Fennel, Bulb; Ferns, edible; Giant butterbur; Palm hearts; Prickly pear pads; Rhubarb; Kale, sea; Sweet potato stems; Taro stems; Udo; Water celery; Zuiki
Subgroup 17A, Stems and petioles	Celery	<u>Stems and petioles (VS 2080):</u> Burdock, edible, tops; Cardoon; Celery; Celtuce; Fennel, Bulb; Giant butterbur; Rhubarb; Sweet potato stems; Taro stems; Zuiki
Subgroup 17B, Young shoots	Asparagus	<u>Young shoots (VS 2081):</u> Agave; Asparagus; Bamboo shoots; Dokhwal shoot; Dureup young shoot; Eumnamu shoot; Ferns, edible; Kale, sea; Udo
Subgroup 17C, Others	Artichoke, globe	<u>Other stalk and stem vegetables (VS 2082)</u> Artichoke, globe; Palm hearts; Prickly pear pads, Water celery

<b>Codex Group / Subgroup</b>	<b>Examples of Representative Commodities <sup>1</sup></b>	<b>Extrapolation to the following commodities</b>
<b>Group 18 Edible fungi</b>	Mushrooms	Edible fungi (VF 2084): Fungi, Edible, except mushrooms; Black poplar mushroom; Blewit; Bunashimeji; Cauliflower mushroom; Cep; Chanterelle; Enoki; Hirameola; Ink mushroom; Maitake; Morel; Mushrooms; Nameko; Net bearing Dictyophora; Oyster mushroom; Pine mushroom; Pom pom; Reishi mushroom; Shiitake mushroom; Shimeji; Straw mushroom; Stropharia; Truffle; Wangsongi; White jelly mushroom; Wood ears mushroom

APPENDIX IX

**EDITORIAL AMENDMENTS TO THE CLASSIFICATION OF FOOD AND FEED:  
FRUIT COMMODITY GROUPS  
(For adoption)**

**CITRUS FRUIT****Class A****Type 1                      Fruits                      Group 001                      Group Letter Code FC**

Citrus fruits are produced on trees or shrubs of the family Rutaceae. Aromatic oily peel, globular form and interior segments of juice-filled vesicles characterize these fruits. The fruit is fully exposed to pesticides during the growing season. Post-harvest treatments with pesticides and liquid waxes are often carried out to avoid deterioration during transport and distribution due to fungal diseases, insect pests or loss of moisture.

The fruit pulp may be consumed in succulent form and as juice. The entire fruit may be used for preserves.

Four subgroups are defined:

Subgroup 001A Lemons and Limes: Hybrids and related species similar to lemons and limes

Subgroup 001B Mandarins: Hybrids and related species similar to mandarins

Subgroup 001C Oranges, Sweet, Sour: Hybrids and related species similar to oranges

Subgroup 001D Pummelos: Hybrids and related species

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

**Group 001                      Citrus fruits****Code No.                      Commodity**

FC 0001                      **Group of Citrus Fruit**

(includes all commodities in this group)

**Subgroup 001A Lemons and Limes****Code No.                      Commodity**

FC 0002                      **Subgroup of Lemons and Limes** (including Citron)

- *Citrus limon* Burm.f.;
- *Citrus aurantiifolia* Swingle;
- *Citrus medica* L.;

Hybrids and related species similar to lemons and limes including *Citrus jambhiri* Lush *Citrus limetta* Risso; *Citrus limettoides* Tan.; *Citrus limonia* Osbeck.

Syn: see specific fruit species

(includes all commodities in this subgroup)

FC 2201                      **Australian blood lime**, see also Lemons and Limes, FC 0002

*Microcitrus australasica* (F. Muell.) Swingle

Syn: *Citrus australasica* F. Muell.

FC 2202                      **Australian desert lime**, see also Lemons and Limes, FC 0002

*Eremocitrus glauca* (Linl.) Swingle

Syn: *Citrus glauca* (Lindl) Burkill

FC 2203                      **Australian round lime**, see also Lemons and Limes, FC 0002

*Microcitrus australis* (A. Cunn. ex Mudie) Swingle

Syn: *Citrus australis* (A. Cunn. ex Mudie) *Planch.*

FC 2204                      **Brown River finger-lime**, see also Lemons and Limes, FC 0002

*Microcitrus papuana* Winters

*Citrus wintersii* Mabb.

- FC 0202     **Citron**, see also Lemons and Limes, FC 0002  
                   *Citrus medica* L.;  
                   Syn: *Citrus cedra* Link; *Citrus cedratus* Raf.;  
                   *Citrus medica genuina* Engl.; *Citrus medica* proper Bonavia
- FC 2206     **Kaffir lime**, see also Lemons and Limes, FC 0002  
                   *Citrus hystrix* DC.
- FC 0303     **Kumquats**  
                   *Fortunella japonica* (Thunberg) Swingle;  
                   *F. margarita* (Loureiro) Swingle
- **Kumquat, Marumi**, see Kumquats, FC 0303  
                   *Fortunella japonica* (Thunberg) Swingle
- **Kumquat, Nagami**, see Kumquats, FC 0303  
                   *Fortunella margarita* (Loureiro) Swingle
- FC 0204     **Lemon**, see also Lemons and Limes, FC 0002  
                   *Citrus limon* Burm. f.;  
                   Syn: *Citrus medica limon* L.; *Citrus limonum* Risso; *Citrus medica limonum* Hook. F.;  
                   *Citrus jambhiri* Lush.
- FC 0205     **Lime**, see Codex stan. 217-1999, Amd. 1-2005, see also Lemons and Limes, FC 0002  
                   *Citrus aurantiifolia* Swingle;  
                   Syn: *Limonia aurantiifolia* Christm.; *L. acidissima* Houtt. *Citrus lima* Lunan.; *Citrus acida*  
                   Roxb.; *Citrus limonellus* Hassk.
- FC 2205     **Lime, Sweet**, see also Lemons and Limes, FC 0002  
                   *Citrus limetta* Risso  
                   Syn: *Citrus limettioides* Tan., *Citrus lumia* Risso)
- FC 2207     **Limequats**  
                   *Citrus japonica* x *Citrus aurantiifolia*
- **Mexican Lime**, see Codex stan. 217-1999, see Lime, FC 0205  
                   *Citrus aurantifolia* Swingle see, Amd. 1-2005
- FC 2208     **Mount White-lime**, see also Lemons and Limes, FC 0002  
                   *Microcitrus garrowayae* (F. M. Bailey) Swingle
- FC 2209     **New Guinea wild lime**, see also Lemons and Limes, FC 0002  
                   *Microcitrus warburgiana* (F. M. Bailey) Tanaka
- FC 2210     **Russell River-lime**, see also Lemons and Limes, FC 0002  
                   *Microcitrus inodora* (F. M. Bailey) Swingle  
                   Syn: *Citrus inodora* (F. M. Bailey)
- FC 2211     **Tahiti Lime**, see Codex stan. 213-1999, Amd. 3-2005,  
                   see also Lemons and Limes, FC 0002  
                   *Citrus latifolia* Tan.
- **Yuja**, see Yuzu, FC 2212
- FC 2212     **Yuzu**, see also Lemons and Limes, FC 0002  
                   *Citrus junos* Siebold ex Tanaka

**Subgroup 001B Mandarins**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FC 0003	<p><b>Subgroup of Mandarins</b> (including Mandarin-like hybrids)</p> <ul style="list-style-type: none"> <li>- <i>Citrus reticulata</i> Blanco:</li> <li>Hybrids and related species including <i>Citrus nobilis</i> Lour.:</li> <li><i>Citrus deliciosa</i> Ten.; <i>Citrus tangerina</i> Hort.; <i>Citrus mitis</i> Blanco</li> <li>Syn: <i>Citrus madurensis</i> Lour.; <i>Citrus unshiu</i> Marcow;</li> <li>Syn: see specific fruit species Mandarin</li> <li>(includes all commodities in this subgroup)</li> </ul>
FC 0201	<p><b>Calamondin</b>, see also Mandarins, FC 0003</p> <ul style="list-style-type: none"> <li><i>Citrus mitis</i> Blanco;</li> <li>Syn: <i>Citrus madurensis</i> Lour. (hybrid of <i>Citrus reticulata</i> Blanco.</li> <li>var. <i>austera</i> Swing x <i>Fortunella</i> sp.)</li> </ul> <ul style="list-style-type: none"> <li>- <b>Clementine</b>, see Mandarins, FC 0003</li> <li><i>Citrus clementina</i> Hort. Ex Tanaka cultivar of <i>Citrus reticulata</i> Blanco (possibly natural hybrid of Mandarin x Orange, Sweet)</li> <li>- <b>Cleopatra mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus reshni</i> Hort. Ex Tan.</li> <li>- <b>Dancy or Dancy mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus tangerina</i> Hort.</li> <li>- <b>King mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus nobilis</i> Lour. (= hybrid of Mandarin x Orange, Sweet)</li> </ul>
FC 0206	<p><b>Mandarin</b>, see also see Mandarins, FC 0003</p> <ul style="list-style-type: none"> <li><i>Citrus reticulata</i> Blanco;</li> <li>Syn: <i>Citrus nobilis</i> Andrews (non Lour.); <i>Citrus poonensis</i> Hort. Ex Tanaka; <i>Citrus chrysocarpa</i> Lush.</li> </ul> <ul style="list-style-type: none"> <li>- <b>Mediterranean mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus deliciosa</i> Ten (= hybrid of Mandarin x Orange, Sweet)</li> <li>- <b>Satsuma or Satsuma mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus unshiu</i> Marcow.</li> <li>- <b>Tangelo</b>, small and medium sized cultivars, see Mandarins, FC 0003</li> <li>Hybrids of Mandarin x Grapefruit or Mandarin x Shaddock</li> <li>- <b>Tangerine</b>, see Mandarins, FC 0003</li> <li><i>Citrus reticulata</i> Blanco;</li> <li>Syn: <i>Citrus tangerina</i> Hort. Ex Tan. <i>Citrus ponnensis</i> Hort., <i>Citrus Chyrosocarpa</i> Lush., <i>Citrus Reshni</i> Hort.</li> <li>- <b>Tangors</b>, see Mandarins, FC 0003</li> <li><i>Citrus nobilis</i> Lour. (= Hybrid of Mandarin x Orange, sweet);</li> <li>- <b>Tankan mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus reticulate</i> Blanco <i>tankan</i> Hyata (= probably hybrid of Mandarin x Orange, Sweet)</li> </ul>
FC 2212	<p><b>Unshu orange</b>, see also Mandarins, FC 0003</p> <ul style="list-style-type: none"> <li><i>Citrus reticulata</i> Blanco ssp. <i>unshiu</i> (Marcow.) D.Rivera Núñez et al.</li> </ul> <ul style="list-style-type: none"> <li>- <b>Willowleaf mandarin</b>, see Mandarins, FC 0003</li> <li><i>Citrus deliciosa</i> Ten. (= hybrid of Mandarin and Orange, sweet)</li> </ul>



**Subgroup 001C Oranges, Sweet, Sour**

<u>Code No.</u>	<u>Commodity</u>
FC 0004	<b>Subgroup of Oranges, Sweet, Sour</b> (including Orange-like hybrids) several cultivars: - <i>Citrus sinensis</i> Osbeck; - <i>Citrus aurantium</i> L.; Hybrids and related species: <i>Citrus myrtifolia</i> Raf.; <i>Citrus salicifolia</i> Raf.; Syn: see specific fruit species (includes all commodities in this subgroup)
-	<b>Bergamot</b> , see Oranges, Sweet, Sour, FC 0004 <i>Citrus aurantium</i> ssp <i>bergamia</i>
-	<b>Bigarade</b> , see Orange, Sour FC 0207 <i>Citrus aurantium</i> L.
-	<b>Blood orange</b> , see Orange, Sweet, FC 0208 Cultivar of <i>Citrus sinensis</i> Osbeck
-	<b>Chinotto</b> , see Orange, Sour, FC 0207 <i>Citrus aurantium</i> L., var. <i>myrtifolia</i> Ker-Gawler; Syn: <i>Citrus myrtifolia</i> Raf.
-	<b>Chironja (orangelo)</b> , see Oranges, Sweet, Sour, FC 0004 <i>Citrus sinensis</i> x <i>Citrus paradise</i> (= Hybrid of Orange, Sweet x Mandarin) Ichang Bitter Orange, see Orange, Sweet, FC 0208 <i>Citrus ichangensis</i> Swingle
-	<b>Malta orange</b> , see Blood Orange
-	<b>Myrtle-leaf orange</b> , see Chinotto
-	<b>Orange, Bitter</b> , (=bigarade) see Orange, Sour FC 0207
FC 0207	<b>Orange, Sour</b> , see also Oranges, Sweet, Sour, FC 0004 <i>Citrus aurantium</i> L.; Syn: <i>Citrus vulgaris</i> Risso; <i>Citrus bigarradia</i> Loisel; <i>Citrus communis</i> Le Maout & Dec.
FC 0208 FC 0004	<b>Orange, Sweet</b> , See Codex stan. 245-2004 Amd 1-2005, see also Oranges, Sweet, Sour, <i>Citrus sinensis</i> Osbeck; Syn: <i>Citrus aurantium sinensis</i> L.; <i>Citrus dulcis</i> Pers.; <i>Citrus aurantium vulgare</i> Risso & Poit.; <i>Citrus aurantium dulce</i> Hayne
-	<b>Seville Orange</b> , see Orange, Sour, FC 0207
-	<b>Tachibana orange</b> see Oranges, Sweet, Sour, FC 0004 <i>Citrus tachibana</i> (Makino) Tanaka Syn: <i>Citrus aurantium</i> L. var. <i>tachibana</i> Makino; <i>Citrus depressa</i>
FC 2213	<b>Trifoliate orange</b> see also Oranges, Sweet, Sour, FC 0004 <i>Poncirus trifoliate</i> (L.) Raf.

**Subgroup 001D Pummelos****Code No.****Commodity**

- FC 0005      **Subgroup of Pummelo and Grapefruits** (including Shaddock-like hybrids, among others Grapefruit)  
                   *Citrus maxima* (Burm.) Merr.  
                   Syn: *Citrus Grandis* L. Osbeck; *Citrus paradisi* Macf.; *Citrus decumana* L.  
                   Hybrids and related species, similar to Shaddocks, including *Citrus natsudaikai* Hayata; Tangelos large sized (= hybrid, Grapefruit x Mandarin); Tangelolos: (hybrid, Grapefruit x Tangelo): Syn: see specific fruit species  
                   (includes all commodities in this subgroup)
- FC 0203      **Grapefruit**, see Codex stan. 219-1999 Amd 2-2005, see also Pummelo and Grapefruits, FC  
 0005  
                   Hybrid of Shaddock x Orange, Sweet  
                   *Citrus paradisi* Macf.;  
                   Syn: *Citrus maxima uvacarpa* Merr. & Lee.
- **Natsudaikai**, see Pummelo and Grapefruits, FC 0005  
                   *Citrus natsudaikai* Hayata (possibly natural hybrid of Mandarin x Shaddock)
- **Pomelo**, see Pummelo and Grapefruits, FC 0005
- FC 0209      **Pummelo**, see Codex stan. 214-1999, Amd 2-2005, see Pummelo and Grapefruits, FC  
 0005  
                   *Citrus maxima* (Burm.) Merr.  
                   Syn: *Citrus grandis* L. Osbeck; *Citrus aurantium decumana* L.; *Citrus decumana* Murr.
- **Shaddock**, see also Pummelo and Grapefruits, FC 0005  
                   *Citrus maxima* (Burm.) Merr.;
- **Tangelo**, large-sized cultivars, see Pummelo and Grapefruits, FC 0005  
                   *Citrus x tangelo* J.W. Ingram & H.E. Moore;
- **Tangelolo**, see Pummelo and Grapefruits, FC 0005  
                   Hybrids of Grapefruit x Tangelo
- **Ugli/Uniq fruit (=tangelo)**, see Pummelo and Grapefruits, FC 0005  
                   Cultivar of Tangelo, large sized fruit cultivar, see there  
                   *Citrus reticulate x Citrus paradisi*

**POME FRUITS****Class A****Type 1                      Fruits                      Group 002                      Group Letter Code FP**

Pome fruits are produced on trees and shrubs belonging to certain genera of the rose family (Rosaceae), especially the genera *Malus*, *Pyrus* and also Pome fruit- like fruits from temperate climates are included. They are characterized by fleshy tissue surrounding a core consisting of parchment-like carpels enclosing the seeds.

Pome fruits are fully exposed to pesticides applied during the growing season. Post-harvest treatments directly after harvest may also occur. The entire fruit, except the core, may be consumed in the succulent form or after processing.

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

**Group 002                      Pome fruits****Code No.                      Commodity**

FP 0009	<b>Group of Pome fruits</b> (includes all commodities in this group)
FP 0226	<b>Apple</b> <i>Malus domestica</i> Borkhausen
FP 2220	<b>Azarole</b> <i>Crataegus azarolus</i> L.
FP 2221	<b>Chinese quince</b> <i>Chaenomeles speciosa</i> (sweet) Nakai
FP 0227	<b>Crab-apple</b> <i>Malus</i> spp.; among other <i>Malus baccata</i> (L.) Borkh. var <i>baccata</i> ; <i>M. prunifolia</i> (Willd.) Borkh.
-	<b>Japanese medlar</b> , see Loquat, FP 0228
-	<b>Kaki or Kaki fruit</b> , See Persimmon, japanese, FP 0307
FP 0228	<b>Loquat</b> <i>Eriobotrya japonica</i> (Thunberg ex J.A. Murray) Lindley
FP 2222	<b>Mayhaw</b> <i>Crataegus</i> spp.
FP 0229	<b>Medlar</b> <i>Mespilus germanica</i> L.
-	<b>Nashi pear</b> , see Pear, Oriental
FP 0230	<b>Pear</b> <i>Pyrus communis</i> L.; <i>P. pyrifolia</i> (Burm.) Nakai; <i>P. bretschneideri</i> Rhd.; <i>P. sinensis</i> L.
-	<b>Pear, Oriental</b> , see Pear, FP 0230 <i>Pyrus pyrifolia</i> (Burm.) Nakai
-	<b>Persimmon, Chinese</b> , see Persimmon, Japanese, FP 0307
FP 0307	<b>Persimmon, Japanese</b> <i>Diospyros Kaki</i> Thunb.; syn: <i>D. chinensis</i> Blume

- FP 0231            **Quince**  
                      *Cydonia oblonga* P. Miller;  
                      Syn: *Cydonia vulgaris* Persoon
- **Sand pear**, see Pear, Oriental
- FP 2223            **Tejocote**  
                      *Crataegus mexicana* DC.
- FP2224            **Wild pear**  
                      *Pyrus elaeagrifolia* Pallas

**STONE FRUITS****Class A****Type 1                      Fruits                      Group 003                      Group Letter Code FS**

Stone fruits are produced on trees belonging to the genus *Prunus* of the rose family (Rosaceae) and also Stone fruit- like fruits from temperate climates are included. They are characterized by fleshy tissue surrounding a single hard shelled seed. The fruit is fully exposed to pesticides applied during the growing season (from fruit setting until harvest). Dipping of fruit immediately after harvest, especially with fungicides, may also occur.

The entire fruit, except the seed, may be consumed in a succulent or processed form.

Three subgroups are defined:

Subgroup 003 A Cherries: Cherry and related species of *Prunus*, which produce stone fruits similar to cherry

Subgroup 003 B Plums: Plum and related species of *Prunus*, which produce stone fruits similar to plum

Subgroup 003 C Peaches: Peach, nectarine, apricot and related species of *Prunus*, which produce stone fruits similar to peach, nectarine and apricot.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of stems and stones, but the residue is calculated and expressed on the whole commodity without stem.**

**Group 003                      Stone fruits****Code No.****Commodity**

FS 0012

**Group of Stone fruits**

*Prunus* spp. (includes all commodities in this group)

**Subgroup 003A****Cherries (includes all commodities in this subgroup)****Code No.****Commodity**

FS 0013

**Subgroup of Cherries**

-

**Capulin, see Cherry, black, FS 2230**

*Prunus serotina* Ehrh. subsp. *capuli*

FS 2230

**Cherry, black (including capulin)**

*Prunus serotina* Ehrh. subsp. *Serotina*;

*Prunus serotina* Ehrh. subsp. *capuli*

FS 2231

**Cherry, Nanking**

*Prunus tomentosa* Thunb.

FS 0243

**Cherry, Sour**

*Prunus cerasus* L.

FS 0244

**Cherry, Sweet**

*Prunus avium* L.

-

**Cherry, tart, see Cherry, Sour, FS 0243**

FS 2232

**Choke cherry**

*Prunus virginiana* L.

-

**Morello, see Cherry, Sour, FS 0243**

*Prunus cerasus* L., var. *austera* L.

**Subgroup 003B****Plums****Code No.****Commodity**

FS 0014

**Subgroup of Plums (including fresh Prunes)**

*Prunus domestica* L.; other *Prunus* spp and ssp.

(includes all commodities in this subgroup)

FS 0241	<b>Bullace</b> <i>Prunus insititia</i> L.; Syn: <i>Prunus domestica</i> L., ssp. <i>insititia</i> (L.) Schneider
FS 0242	<b>Cherry plum</b> <i>Prunus cerasifera</i> Ehrhart, syn: <i>P. divaricata</i> Ledebouer <i>P. salicina</i> Lindl., var. Burbank
-	<b>Chickasaw plum</b> , see Plum, Chickasaw, FS 0248
-	<b>Damsons (Damson plums)</b> , see Plum, Damson
FS 0302	<b>Jujube, Chinese</b> <i>Ziziphus jujuba</i> Mill.
-	<b>Greengages (Greengage plums)</b> , see Plum, Greengage
FS 2233	<b>Klamath plum</b> , <i>Prunus subcordata</i> Benth.
-	<b>Mirabelle</b> , see Plum, Mirabelle
-	<b>Myrobolan plum</b> , see Cherry plum, FS 0242
FS 2234	<b>Plum</b> <i>Prunus domestica</i> L.
-	<b>Plum, American</b> , see Sloe, FS 0249 <i>Prunus americana</i> Marshall
FS 2235	<b>Plum, beach</b> <i>Prunus maritime</i> Marshall
FS 0248	<b>Plum, Chickasaw</b> <i>Prunus angustifolia</i> Marsh.; Syn: <i>P. Chicasaw</i> Mich.
-	<b>Plum, Damson</b> , see Bullace, FS 0241
-	<b>Plum, Greengage</b> , see Plums, FS 0014 <i>Prunus insititia</i> L., var. <i>italica</i> (Borkh.) L.M Neum.
-	<b>Plum, Japanese</b> , see Plums, FS 0014 <i>Prunus salicina</i> Lindley; Syn: <i>P. triflora</i> Roxb.
-	<b>Plum, Mirabelle</b> , see Bullace, FS 0241 <i>Prunus insititia</i> L., var. <i>syriaca</i> ; Syn: <i>P. domestica</i> L., ssp <i>insititia</i> (L.) Schneider
FS 2236	<b>Plumcot</b> <i>Prunus domestica</i> x <i>P. armeniaca</i>
-	<b>Prunes</b> , see Plums, FS 0014
FS 0249	<b>Sloe</b> <i>Prunus spinosa</i> L.; several wild <i>Prunus</i> spp.
<b>Subgroup 003C</b>	<b>Peaches</b>
<b>Code No.</b>	<b>Commodity</b>
FS 2001	<b>Subgroup of Peaches</b> (including Nectarine and Apricots) (includes all commodities in this subgroup)

- FS 0240      **Apricot**  
                  *Prunus armeniaca* L.;  
                  Syn: *Armeniaca vulgaris* Lamarck
- FS 2237      **Japanese apricot**  
                  *Prunus mume* Siebold & Zucc.
- FS 0245      **Nectarine**  
                  *Prunus persica* (L.) Batch, var. *nectarina*
- FS 0247      **Peach**  
                  *Prunus persica* (L.) Batsch;  
                  Syn: *P. vulgaris* Mill.

**BERRIES AND OTHER SMALL FRUITS****Class A****Type 1                      Fruits                      Group 004                      Group Letter Code FB**

Berries and other small fruits are derived from a variety of perennial plants and shrubs having fruit characterized by a high surface: weight ratio. The fruits are fully exposed to pesticides applied during the growing season (blossoming until harvest).

The entire fruit, often including seed, may be consumed in a succulent or processed form.

Five subgroups are defined:

Subgroup 004 A Caneberries: includes berries originating from canes that are erect or trailing, mainly *Rubus* species

Subgroup 004 B Bushberries: includes berries originating from woody shrubs

Subgroup 004 C Large shrub/tree berries: includes berries originating from large shrubs or trees

Subgroup 004 D Small fruit vine climbing: includes berries originating from climbing vines

Subgroup 004 E Low growing berries: includes berries originating from low growing berries that are short shrubs or herbaceous plants

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of caps and stems. Currants, Black, Red, White: fruit with stem.**

**Group 004                      Berries and other small fruits****Code No.                      Commodity**

FB 0018                      **Group of Berries and other small fruits**  
(includes all commodities in this group)

**Subgroup 004A                      Cane berries****Code No.                      Commodity**

FB 2005                      **Subgroup of Cane berries**  
*Rubus* species (includes all commodities in this subgroup)

FB 0264                      **Blackberries**  
*Rubus fruticosus* auct. aggr., several ssp.

-                      **Boysenberry**, see Dewberries, FB 0266  
Hybrid of *Rubus* spp.

FB 0266                      **Dewberries** (including Boysenberry and Loganberry)  
*Rubus ceasius* L.; several *Rubus* ssp. and hybrids

-                      **Korean Black Raspberry**, see Raspberries, Red, Black FB 0272  
*Rubus coreanus* Miquel.

-                      **Korean Raspberry**, see Raspberries, Red, Black FB 0272  
*Rubus crataegifolius* Bunge

-                      **Loganberry**, see Dewberries, FB 0266  
*Rubus loganobaccus* L.H. Bailey, hybrid of *Rubus* spp.

-                      **Olallie berry**, see Dewberries, FB 0266

FB 0272                      **Raspberries, Red, Black**  
*Rubus idaeus* L.; *Rubus occidentalis* L.; several *Rubus* spp. and hybrids, including wild rasp berries *Rubus molluccanus* L.

-                      **Youngberry**, see Dewberries, FB 0266  
*Rubus ursinus* cv. Young



<b>Subgroup 004B</b>	<b>Bush berries</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FB 2006	<b>Subgroup of Bush berries</b> (includes all commodities in this subgroup)
FB 0019	<b>Vaccinium berries</b> , including Bearberry, except Cranberry <i>Vaccinium</i> spp.; <i>Arctostaphylos uva-ursi</i> (L.) Spreng.
FB 0020	<b>Blueberries</b> <i>Vaccinium corymbosum</i> L.; <i>Vaccinium angustifolium</i> Ait.; <i>Vaccinium virgatum</i> Aiton; <i>Gaylussacia</i> spp.
FB 2240	<b>Agritos</b> <i>Berberis trifoliolata</i> Moric
FB 2241	<b>Aronia berries</b> <i>Aronia</i> spp.
FB 0260	<b>Bearberry</b> <i>Arctostaphylos uva-ursi</i> (L.) Spreng.
FB 0261	<b>Bilberry</b> <i>Vaccinium myrtillus</i> L.
FB 0262	<b>Bilberry, Bog</b> <i>Vaccinium uliginosum</i> L.
FB 0263	<b>Bilberry, Red</b> <i>Vaccinium vitis-idaea</i> L.
-	<b>Blueberry, Highbush</b> , see Blueberries, FB 0020 <i>Vaccinium corymbosum</i> L.
-	<b>Blueberry, Lowbush</b> , see Blueberries, FB 0020 <i>Vaccinium angustifolium</i> Ait
-	<b>Blueberry, Rabbiteye</b> , see Blueberries, FB 0020 <i>Vaccinium virgatum</i> Aiton
FB 2242	<b>Buffalo currant</b> <i>Ribes aureum</i> var. <i>villosum</i> DC. (Syn: <i>Ribes odoratum</i> H.Wendl)
FB 2243	<b>Chilean guava</b> <i>Ugni molinae</i> Turcz. (Syn: <i>Myrtus ugni</i> Mol.)
-	<b>Cowberry</b> , see Bilberry, Red, FB 0263
FB 0021	<b>Currants, Black, Red, White</b> <i>Ribes nigrum</i> L.; <i>R. rubrum</i> L.
FB 0278	<b>Currant, Black</b> , see also Currants, Black, Red, White <i>Ribes nigrum</i> L.
FB 0279	<b>Currant, Red, White</b> , see also Currants, Black, Red, White <i>Ribes rubrum</i> L.
FB 0268	<b>Gooseberry</b> <i>Ribes uva-crispa</i> L. (Syn: <i>R. grossularia</i> L.)
FB 2244	<b>European barberry</b> <i>Berberis vulgaris</i> L.
-	<b>European Blueberry</b> , see bilberry FB 0261

FB 2245	<b>Huckleberries</b> 1. Blueberries, see above FB 0020 2. <i>Gaylussacia</i> spp., see Blueberries FB 0020 Red Huckleberry ( <i>Vaccinium parvifolium</i> L.)
FB 2246	<b>Jostaberries</b> <i>Ribes x nidigrolaria</i> Rud. Bauer & A. Bauer
FB 0270	<b>Juneberries</b> <i>Amelanchier</i> spp.
FB 2247	<b>Native currant</b> <i>Acrotriche depressa</i> R. Br.
FB 2248	<b>Riberries</b> <i>Syzygium leuhmannii</i>
FB 0273	<b>Rose hips</b> <i>Rosa</i> L., several spp.
FB 2249	<b>Salal</b> <i>Gaultheria shallon</i> Pursh
FB 2250	<b>Sea buckthorn</b> <i>Hippophae rhamnoides</i> L.
-	<b>Whortleberry, Red</b> , see Bilberry, Red, FB 0263
<b>Subgroup 004C</b>	<b>Large shrub/tree berries</b>
<b>Code No.</b>	<b>Commodity</b>
FB 2007	<b>Subgroup of Large shrub/tree berries</b> (includes all commodities in this subgroup)
FB 2251	<b>Bayberries</b> <i>Morella</i> spp.
FB 2252	<b>Buffaloberry</b> <i>Shepherdia argentea</i> (Pursh) Nutt.
FB 2253	<b>Che</b> <i>Maclura tricuspidata</i> Carrière
FB 0267	<b>Elderberries</b> <i>Sambucus</i> spp.
FB 2254	<b>Guelder rose</b> <i>Viburnum opulus</i> L.
FB 0271	<b>Mulberries</b> <i>Morus alba</i> L.; <i>Morus nigra</i> L.; <i>Morus rubra</i> L.
FB 2255	<b>Phalsa</b> <i>Grewia asiatica</i> L.
-	<b>Rowan</b> , see Service berries, FB 0274 <i>Sorbus aucuparia</i> L.
FB 0274	<b>Service berries</b> 1. see Juneberries 2. <i>Sorbus torminalis</i> (L.) Crantz; <i>Sorbus domestica</i> L. <i>S. aucuparia</i> L.
FB 2256	<b>Silverberry, Russian</b> <i>Elaeagnus augustifolia</i> L.

**Subgroup 004D Small fruit vine climbing****Code No.****Commodity**

FB 2008

**Subgroup of Small fruit vine climbing**

(includes all commodities in this subgroup)

FB 2257

**Arguta kiwifruit***Actinidia arguta* (Siebold & Zucc.) Planch. ex. Miq.

FB 2258

**Amur river grape***Vitus amurensis* Rupr.

FB 0269

**Grapes***Vitis vinifera* L., several cultivars

FB 2259

**Schisandrberry***Schisandra chinensis* (Turcz.) Baill.

FB 1235

**Table-grapes**Special cultivars of *Vitis vinifera* L., suitable for direct human consumption

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**Tara vine**, see Arguta kiwifruit, FB 2255

FB 1236

**Wine-grapes**Special cultivars of *Vitis vinifera* L., suitable for preparing juice and fermenting into wine**Subgroup 004E Low growing berries****Code No.****Commodity**

FB 2009

**Subgroup of Low growing berries**

(includes all commodities in this subgroup)

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**Bakeapple**, see Cloudberry, FB 0277

FB 0265

**Cranberry***Vaccinium macrocarpon* Aiton

FB 0277

**Cloudberry***Rubus chamaemorus* L.

FB 2260

**Muntries***Kunzea pomifera* F. Muell.

FB 2261

**Partridge berry***Mitchella repens* L.

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**Squaw vine**, see Partridge berry, FB 2259

FB 0275

**Strawberry***Fragaria x ananassa* Duchene ex Rozier

FB 0276

**Strawberries, Wild***Fragaria vesca* L.; *Fragaria moschata* Duchene

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**Strawberry, Musky**, see Strawberries wild, FB 0276*Fragaria moschata* Duchene

**ASSORTED TROPICAL AND SUB-TROPICAL FRUITS - EDIBLE PEEL****Class A****Type 1                      Fruits                      Group 005                      Group Letter Code FT**

The Assorted tropical and sub-tropical fruits - edible peel are derived from the immature or mature fruits of a large variety of perennial plants, usually shrubs or trees. The fruits are fully exposed to pesticides during the growing season (period of fruit development).

The whole fruit may be consumed in a succulent or processed form.

The group 005 Miscellaneous fruits – edible peel is divided in 3 subgroups:

Subgroup 005 A Assorted tropical and sub-tropical fruits - edible peel – small

Subgroup 005 B Assorted tropical and sub-tropical fruits - edible peel – medium to large

Subgroup 005 C Assorted tropical and sub-tropical fruits - edible peel – palms

Portion of the commodity to which the MRL applies (and which is analysed): Whole commodity. **Dates, olives and similar fruits with hard seeds: Whole commodity after removal of stems and stones but residue calculated and expressed on the whole fruit.**

**Group 005                      Assorted tropical and sub-tropical fruits - edible peel****Code No.                      Commodity**

FT 0026                      **Group of Assorted tropical and sub-tropical fruits - edible peel**

**Subgroup 005A Assorted tropical and sub-tropical fruits - edible peel – small****Code No.                      Commodity**

FT 2011                      **Subgroup of Assorted tropical and sub-tropical fruits - edible peel – small**

(includes all commodities in this subgroup)

-                      **Acerola**, see Barbados cherry, FT 0287

FT 2300                      **African plum**

*Vitex doniana* Sweet

FT 2301                      **Almondette**

*Buchanania lanzan* Spreng.

FT 2302                      **Apple berry**

*Billardiera scandens* Sm.

FT 0286                      **Arbutus berry**

*Arbutus unedo* L.

FT 0287                      **Barbados cherry**

*Malpighia emarginata* DC.; syn: *M. glabra* L.

FT 2303                      **Bayberry, Red**

*Morella rubra* Lour

FT 2304                      **Bignay**

*Antidesma bunius* (L.) Spreng.

FT 2305                      **Breadnut**

*Bosimum alicastrum* Sw.

-                      **Brazilian cherry**, see Grumichana, FT 0298

FT 2306                      **Cabeluda**

*Plinia glomerata* (O. Berg) Amshoff

-                      **Camu-camu**, see Rumberry, FT 2330

-                      **Caranda**, see Karanda FT 0290

FT 2307                      **Carandas plum**

*Carissa edulis* Vahl.

FT 2308	<b>Ceylon iron wood</b> <i>Manilkara hexandra</i> (Roxb.) Dubard
FT 2309	<b>Ceylon olive</b> <i>Elaeocarpus serratus</i> L.
FT 2310	<b>Cherry-of-the-Rio-Grande</b> <i>Eugenia aggregate</i> (Vell.) Kiaersk.
FT 0293	<b>Chinese olive, Black, White</b> <i>Canarium trandenum</i> C.D.Dai&Yakovlev; Syn: <i>C pimela</i> Koenig <i>Canarium album</i> (Lour.) Raeusch.
FT 2311	<b>Chiraulinut</b> <i>Buchanania latifolia</i> Roxb.
FT 0294	<b>Coco plum</b> <i>Chrysobalanus icaco</i> L.
FT 0296	<b>Desert date</b> <i>Balanites aegyptiaca</i> (L.) Delile
FT 2312	<b>False sandalwood</b> <i>Ximenia americana</i> L.
FT 2313	<b>Fragrant manjack</b> <i>Cordia dichotoma</i> G. Forst.
FT 2314	<b>Gooseberry, Abyssinian</b> <i>Dovyalis abyssinica</i> (A. Rich.) Warb.
FT 2315	<b>Gooseberry, Ceylon</b> <i>Dovyalis hebecarpa</i> (Gardner) Warb.
FT 2316	<b>Governor's plum</b> <i>Flacourtia indica</i> (Burm.f) Merr.; <i>Flacourtia inermis</i> Roxb.; <i>Flacourtia rukam</i> Zoll.&Moritzi; <i>Flacourtia jangomas</i> (Lour.) Raeusch.
FT 0298	<b>Grumichama</b> <i>Eugenia brasiliensis</i> Lam. Syn: <i>Eugenia dombeyi</i> (Spreng.) Skeels
FT 2317	<b>Guabiroba</b> <i>Campomanesia xanthocarpa</i> O. Berg
FT 2318	<b>Guava berry</b> <i>Myrciaria floribunda</i> (H. West ex Willd.) O. Berg
-	<b>Herbert river cherry</b> , See Bignay, FT 2304
FT 0299	<b>Hog plum</b> <i>Spondias mombin</i> L.; syn: <i>S. lutea</i> L.
-	<b>Icaco plum</b> , See Coco plum, FT 0294
FT 2319	<b>Illawara plum</b> <i>Podocarpus elatus</i> R. Br. Ex Endl.
-	<b>Indian plum</b> , See Governor's plum, FT 2316

FT 2320	<b>Jamaica cherry</b> <i>Muntingia calabura</i> L.
FT 0339	<b>Jambolan</b> <i>Zyzigium cumini</i> (L.) Skeels; syn: <i>Eugenia cuminii</i> (L.) Druce;
FT 0340	<b>Java apple</b> <i>Zyzigium samarangense</i> (Bl.) Merr. & Perry; Syn: <i>Eugenia javanica</i> Lam
FT 2321	<b>Kaffir plum</b> <i>Harpephyllum caffrum</i> Bernh. Ex C. Krauss
FT 2322	<b>Kakadu plum</b> <i>Terminalia latipes</i> Benth. Subsp. <i>psilicarpa</i> Pedley
FT 2323	<b>Kapundung</b> <i>Baccaurea racemosa</i> (Reinw.) Müll. Arg.
FT 0290	<b>Karanda</b> <i>Carissa carandas</i> L.
FT 2324	<b>Lemon aspen</b> <i>Acronychia acidula</i> F. Muell.
-	<b>Maya breadfruit</b> , See Breadnut, FT 2305
-	<b>Mombin, yellow</b> , See Hog plum FT 0299
FT 2326	<b>Monos plum</b> <i>Pseudanmomis umbellulifera</i> (Kunth) Kausel
FT 2327	<b>Mountain cherry</b> <i>Bunchosia cornifolia</i> Kunth
-	<b>Olives, table</b> , see Table olives FT 0305
FT 0306	<b>Otaheite gooseberry</b> <i>Phyllanthus acidus</i> (L.) Skeels syn: <i>Ph. distichus</i> (L.) Muell.-Arg.
-	<b>Olives for oil production</b> , see Group 023 Oilseed
FT 2328	<b>Persimmon, Black</b> <i>Diospyros texana</i> Scheele
-	<b>Pitanga</b> , see Surinam Cherry, FT 0311
FT 2329	<b>Pitomba</b> <i>Eugenia luschnathiana</i> Klotzsch ex O. Berg
-	<b>Plum-of-Martinique</b> , See Governor's plum, FT 2316
-	<b>Rukam</b> , See Governor's plum, FT 2316
FT 2330	<b>Rumberry</b> <i>Myrciaria dubia</i> (Kunth) Mc Vaugh
FT 0310	<b>Sea grape</b> <i>Coccoloba uvifera</i> Jacq.
FT 2331	<b>Sete-capotes</b> <i>Campomanesia guazimifolia</i> (Cambess.) O. Berg
FT 2332	<b>Silver aspen</b> <i>Acronychia wilcoxiana</i> (F. Muell.) T.G. Hartley

FT 0311	<b>Surinam cherry</b> <i>Eugenia uniflora</i> L.
FT 0305	<b>Table Olives</b> <i>Olea europaea</i> L., var. <i>europaea</i>
-	<b>Tree strawberry</b> , see Arbutus berry, FT 0286
FT 2333	<b>Water apple</b> <i>Syzygium aqueum</i> (Burm. F.) Alston
FT 2334	<b>Water berry</b> <i>Syzygium cordatum</i> Hochst. Ex C. Krauss
FT 2335	<b>Water pear</b> <i>Syzygium guineense</i> (Willd.) DC
-	<b>Wax jambu</b> , see Java apple FT 0340
-	<b>Yumberry</b> , see Bayberry, Red, FT 2303
<b>Subgroup 005B</b>	<b>Assorted tropical and sub-tropical fruits - edible peel – medium to large</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FT 2012	<b>Subgroup of Assorted tropical and sub-tropical fruits - edible peel – large</b> (includes all commodities in this subgroup)
FT 0285	<b>Ambarella</b> <i>Spondias dulcis</i> Sol. Ex Parkinson; syn: <i>S. cytherea</i> Sonn.
-	<b>Aonla</b> , See Gooseberry, Indian, FT 2356
FT 2350	<b>Arazá</b> <i>Eugenia stipitata</i> Mac Vaugh
FT 2351	<b>Babaco</b> <i>Vasconcella x heilbornii</i> (V.M. Badillo) V.M. Badillo
FT 0288	<b>Bilimbi</b> <i>Averrhoa bilimbi</i> L.
FT 2352	<b>Cajou (pseudofruit)</b> <i>Anacardium giganteum</i> Hance ex Engl.
FT 2353	<b>Cambucá</b> <i>Marlierea edulis</i> Nied.
FT 0289	<b>Carambola</b> <i>Averrhoa carambola</i> L.
FT 0291	<b>Carob</b> <i>Ceratonia siliqua</i> L.
FT 0292	<b>Cashew apple</b> <i>Anacardium occidentale</i> L.
FT 2354	<b>Ciruela verde</b> <i>Bunchosia armeniaca</i> (Cav.) DC.
FT 2355	<b>Davidson plum</b> <i>Davidsonia pruriens</i> F. Muell
FT 0297	<b>Fig</b> <i>Ficus carica</i> L.

FT 2356	<b>Gooseberry, Indian</b> <i>Phyllanthus emblica</i> L.
FT 0336	<b>Guava</b> <i>Psidium guajava</i> L.
FT 2357	<b>Guava, Brazilian</b> <i>Psidium guineense</i> Sw.
FT 2358	<b>Guava, Cattley</b> <i>Psidium cattleianum</i> Sabine
FT 2359	<b>Guava, Costa Rican</b> <i>Psidium friedrichsthalianum</i> (O. Berg) Nied.
FT 2360	<b>Guava, Para</b> <i>Psidium acutangulum</i> DC.
FT 2361	<b>Guayabillo</b> <i>Psidium sartorianum</i> (O. Berg) Nied.
FT 2362	<b>Imbé</b> <i>Garcinia livingstonei</i> T. Anderson
FT 2363	<b>Imbu</b> <i>Spondias tuberosa</i> Arruda ex Kost.
-	<b>Indian mulberry</b> , See Noni, FT 2371
FT 0300	<b>Jaboticaba</b> <i>Myrciaria cauliflora</i> O. Berg.; syn: <i>Eugenia cauliflora</i> DC.
FT 0301	<b>Jujube, Indian</b> <i>Ziziphus mauritania</i> Lam.; syn: <i>Z. jujuba</i> (L.) Lam. Gaertn.
FT 2364	<b>Kwai muk</b> <i>Artocarpus hypargyreus</i> Hance ex Benth.
-	<b>Locust tree</b> , See carob, FT 0291
FT 2365	<b>Mangaba</b> <i>Hancornia speciosa</i> Gomes
FT 2366	<b>Marian plum</b> <i>Bouea macrophylla</i> Griff
FT 2367	<b>Mombin, Malayan</b> <i>Spondias pinnata</i> (J. Koenig. ex L. f.) Kurz
FT 2368	<b>Mombin, Purple</b> <i>Spondias purpurea</i> L.
FT 2369	<b>Monkey fruit</b> <i>Autocarpus lacucha</i> Buch.-Ham.
-	<b>Muriti</b> , See Nance, FT 2370
FT 2370	<b>Nance</b> <i>Byrsonima crassifolia</i> (L.) Kunth
FT 0304	<b>Natal plum</b> <i>Carissa macrocarpa</i> (Eckl.) A.DC. Syn: <i>C. grandiflora</i> (E, Mey) A.DC.



FT 2371	<b>Noni</b> <i>Morinda citrifolia</i> L.
FT 2372	<b>Papaya, Mountain</b> <i>Vasconcellea pubescens</i> A. DC.
FT 0308	<b>Pomerac</b> <i>Syzygium Malaccense</i> (L.) Merr. et Perry; syn: <i>Eugenia malaccensis</i> L.
-	<b>Pomarrosa</b> , see Rose apple, FT 0309
-	<b>Pomarrosa, Malay</b> , see Pomerac, FT 0308
-	<b>Purple strawberry guava</b> , See Guava, Cattley, FT 2358
FT 2373	<b>Rambai</b> <i>Baccaurea motleyana</i> (Müll. Arg.) Müll. Arg
FT 0309	<b>Rose apple</b> <i>Syzygium jambos</i> (L.) Alston; syn: <i>Eugenia jambos</i> L.
FT 0364	<b>Sentul</b> <i>Sandoricum koetjape</i> (Burm.F) Merr.
-	<b>Strawberry guava</b> , See Guava, Cattley, FT 2358
-	<b>St. John's bread</b> , see Carob, FT 0291
-	<b>Umbu</b> , See Imbu FT 2363
FT 2374	<b>Uvalha</b> <i>Eugenia pyriformis</i> Cambess
-	<b>Yellow strawberry guava</b> , See Guava, Cattley, FT 2358
<b>Subgroup 005C</b>	<b>Assorted tropical and sub-tropical fruits - edible peel – palms</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FT 2013	<b>Subgroup of Assorted tropical and sub-tropical fruits - edible peel - palms</b> (includes all commodities in this subgroup)
FT 2400	<b>Açaí</b> <i>Euterpe oleracea</i> Mart.
FT 2401	<b>Apak palm</b> <i>Brahea dulcis</i> (Kunth) Mart.
-	<b>Assai palm</b> , see Açaí, FT 2400
FT 2402	<b>Bacaba palm</b> <i>Oenocarpus bacaba</i> Mart.
FT 2403	<b>Babaca-de-leque</b> <i>Oenocarpus distichus</i>
FT 0295	<b>Date</b> <i>Phoenix dactylifera</i> L.
FI 0333	<b>Doum or Dum palm</b> <i>Hyphaene thebaica</i> (L.) Mart.
FT 2404	<b>Jelly palm</b> <i>Butia capitata</i> (Mart.) Becc.
FT 2405	<b>Patauá</b> <i>Oenocarpus bataua</i> Mart.
FT 2406	<b>Peach palm</b> <i>Bactris gasipaes</i> Kunth var. <i>Gasipaes</i>

**ASSORTED TROPICAL AND SUB-TROPICAL FRUITS - INEDIBLE PEEL****Class A****Type 1                      Fruits                      Group 006                      Group Letter Code FI**

The Assorted tropical and sub-tropical fruits - inedible peel are derived from the immature or mature fruits of a large variety of perennial plants, usually shrubs or trees. Fruits are fully exposed to pesticides applied during the growing season (period of fruit development) but the edible portion is protected by skin, peel or husk. The edible part of the fruits may be consumed in a fresh or processed form.

The group Miscellaneous fruits – inedible peel is divided in 6 subgroups:

Subgroup 006A Assorted tropical and sub-tropical fruits - inedible peel – small

Subgroup 006B Assorted tropical and sub-tropical fruits - inedible smooth peel - large

Subgroup 006C Assorted tropical and sub-tropical fruits - inedible rough or hairy peel - large

Subgroup 006D Assorted tropical and sub-tropical fruits - inedible peel - cactus

Subgroup 006E Assorted tropical and sub-tropical fruits - inedible peel - vines

Subgroup 006F Assorted tropical and sub-tropical fruits - inedible peel - palms

Portion of the commodity to which the MRL applies (and which is analysed): **Whole fruit unless qualified: e.g., banana pulp. Pineapple after removal of crown. Avocado, mangos and similar fruit with hard seeds: Whole commodity after removal of stone but residue calculated and expressed on whole fruit.**

**Group 006                      Assorted tropical and sub-tropical fruits - inedible peel****Code No.                      Commodity**

FI 0030                      **Group of Assorted tropical and sub-tropical fruits - inedible peel**

**Subgroup 006A                      Assorted tropical and sub-tropical fruits - inedible peel – small****Code No.                      Commodity**

FI 2021                      **Subgroup of Assorted tropical and sub-tropical fruits - inedible peel – small**  
(includes all commodities in this subgroup)

FI 2450                      **Aisen**  
*Boscia senegalensis* (Pers.) Lam

FI 2451                      **Bael fruit**  
*Aegle marmelos* (L.) Corrêa

FI 2452                      **Burmese grape**  
*Baccaurea ramiflora* Lour.

-                      **Cat's eyes**  
*Dimocarpus Longan* Lour. subsp. *malesianus* Leenh., see Longan FI 0342

FI 2453                      **Ingá**  
*Inga vera* Willd. subsp. *affinis* (DC.) T.D. Penn.

FI 0343                      **Litchi**  
*Litchi chinensis* Sonn.;  
syn: *Nephelium litchi* Camb.

FI 0342                      **Longan, see Codex stan. 220-1999**  
*Dimocarpus longan* Lour.  
syn: *Nephelium longana* (Lam.) Camb.; *Euphoria longana* Lam.

FI 2454                      **Madras-thorn**  
*Pithecellobuim dulce* (Roxb.) benth

FI 2455                      **Manduro**  
*Balanites maughamii* Sprague

FI 2456	<b>Matisia</b> <i>Matisia cordata</i> Humb. & Bonpl.
FI 2457	<b>Mesquite</b> <i>Prosopis juliflora</i> (Sw.) DC.
FI 2458	<b>Mongongo</b> <i>Schinziophyton rautanenii</i> (Schinz) Radcl.-Sm
FI 2459	<b>Pawpaw, Small-flower</b> <i>Asimina parviflora</i> (Michx.) Dunal
FI 2460	<b>Satinleaf</b> <i>Chrysophyllum oliviforme</i> L.
FI 2461	<b>Sierra Leone-tamarind</b> <i>Dallium guineense</i> Willd.
FI 0366	<b>Spanish lime</b> <i>Melicoccus bijugatus</i> Jacq.; syn: <i>Melicocca bijuga</i> L.
FI 0369	<b>Tamarind</b> , see also Subgroup 28B Spices: Fruit or berry <i>Tamarindus indica</i> L., sweet varieties
FI 2462	<b>Velvet tamarind</b> <i>Dallium indicum</i> L.
FI 2463	<b>Wampi</b> <i>Clausena lansium</i> (Lour.) Skeels
FI 2464	<b>White star apple</b> <i>Chrysophyllum albidum</i> G. Don
<b>Subgroup 006B</b>	<b>Assorted tropical and sub-tropical fruits - inedible smooth peel - large</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FI 2022 <b>large</b>	<b>Subgroup of Assorted tropical and sub-tropical fruits - inedible smooth peel –</b>  (includes all commodities in this subgroup)
FI 2480	<b>Abiu</b> <i>Pouteria caimito</i> (Ruiz & Pav.) Radlk.
FI 0325	<b>Akee apple</b> <i>Blighia sapida</i> K.D. Koenig
FI 0326	<b>Avocado</b> <i>Persea americana</i> Mill.
FI 2481	<b>Bacuri</b> <i>Platonia insignis</i> Mart.
FI 0327	<b>Banana</b> Subsp. and cultivars of <i>Musa</i> ssp. and hybrids
-	<b>Banana, Dwarf</b> , See Banana, FI 0327 <i>Musa</i> hybrids, AAA group; syn: <i>M. cavendishii</i> Lambert; <i>M. nana</i> Lour.
FI 2482	<b>Binjai</b> <i>Mangifera caesia</i> Jack

FI 0715	<b>Cacao</b> (pulp) <i>Theobroma cacao</i> L.
FI 0330	<b>Canistel</b> <i>Pouteria campechiana</i> (Kunth.) Baenhi; this species includes former <i>Lacuma nervosa</i> A.DC. and <i>L. salicifolia</i> Kunth.
FI 2483	<b>Cupuaçu</b> <i>Theobroma grandiflorum</i> (Willd. ex Spreng.) K. Schum.
-	<b>Egg fruit</b> , see Canistel, FI 0330
FI 2484	<b>Etambe</b> <i>Mangifera zeylanica</i> (Blume) Hook. F.
FI 0335	<b>Feijoa</b> <i>Acca sellowiana</i> (O. Berg) Burret syn: <i>Feijoa sellowiana</i> (O. Berg) O. berg
FI 2485	<b>Jatobá</b> <i>Hymenaea courbaril</i> L.
FI 2486	<b>Kei apple</b> <i>Dovyalis caffra</i> (Hook. F. & Harv.) Warb.
FI 2487	<b>Kokam</b> <i>Garcinia indica</i> (Thouars) Choisy
FI 2488	<b>Langsat</b> <i>Lansium domesticum</i> Corrêa Syn: <i>Aglaiia domestica</i> ; <i>A. dookoo</i>
FI 2489	<b>Lanjut</b> <i>Mangifera legenifera</i> Griff.
FI 2490	<b>Lucuma</b> <i>Pouteria lucuma</i> (Ruiz & Pav.) Kuntze
-	<b>Lulo</b> , see Naranjilla, FI 0349
FI 2491	<b>Mabolo</b> <i>Diospyros blancoi</i> A. DC.
FI 0345	<b>Mango</b> <i>Mangifera indica</i> L.
FI 2492	<b>Mango, Horse</b> <i>Mangifera foetida</i> Lour.
FI 2493	<b>Mango, Saipan</b> <i>Mangifera odorata</i> Griff.
-	<b>Mangostan</b> , see Mangosteen, FI 0346
FI 0346	<b>Mangosteen</b> <i>Garcinia mangostana</i> L.
FI 0349	<b>Naranjilla</b> <i>Solanum quitoense</i> Lam.
FI 2494	<b>Paho</b> <i>Mangifera altissima</i> Blanco
FI 0350	<b>Papaya</b> <i>Carica papaya</i> L.

FI 2495	<b>Pawpaw</b> <i>Asimina triloba</i> (L.) Dunal
FI 2496	<b>Pelipisan</b> <i>Mangifera casturi</i> Kosterm.
FI 2497	<b>Pequi</b> <i>Caryocar brasiliense</i> Cambess.; <i>C. villosum</i> (Aubl.) Pers
FI 0352	<b>Persimmon, American</b> <i>Diospyros virginiana</i> L.
-	<b>Plantain</b> , See Banana, FI 0327 <i>Musa x paradisiaca</i> L., var. <i>sapientum</i> (L.) Kuntze
FI 0355	<b>Pomegranate</b> <i>Punica granatum</i> L.
FI 2498	<b>Quandong</b> <i>Santalum acuminatum</i> (R. Br.) DC.
-	<b>Quito orange</b> , see Naranjilla, FI 0349
FI 0360	<b>Sapote, Black</b> <i>Diospyros digyna</i> Jacq. Syn: <i>D. ebenaster</i> Retz.
FI 0361	<b>Sapote, Green</b> <i>Pouteria viridis</i> (Pittier) Cronquist Syn: <i>Calocarpum viride</i> Pitt.
FI 0363	<b>Sapote, White</b> <i>Casimiroa edulis</i> La Llave & Lex
FI 2499	<b>Sataw</b> <i>Parkia speciosa</i> Hassk
FI 0367	<b>Star apple</b> <i>Chrysophyllum cainito</i> L.
FI 0312	<b>Tamarillo</b> , <i>Solanum betaceum</i> Cav. Syn: <i>Cyphomandra betacea</i> (Cav.) Sendt
FI 2500	<b>Tamarind-of-the-Indies</b> <i>Vangueria madagascariensis</i> J.F/Gmel.
-	<b>Tree tomato</b> , See Tamarillo, FI 0312
FI 2501	<b>Wild loquat</b> <i>Uapaca kirkiana</i> Müll. Agr.
<b>Subgroup 006C</b>	<b>Assorted tropical and sub-tropical fruits – inedible rough or hairy peel - large</b>
<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
FI 2023 peel - large	<b>Subgroup of Assorted tropical and sub-tropical fruits – inedible rough or hairy</b>  (includes all commodities in this subgroup)
FI 2520	<b>Atemoya</b> <i>Annona x atemoya</i> Mabb.
-	<b>Baobab fruit</b> , see Monkey-bread tree FI 2524

FI 2521	<b>Biriba</b> <i>Rollinia mucosa</i> (Jacq.) Baill.
FI 0329	<b>Breadfruit</b> <i>Artocarpus altilis</i> (Parkinson) Fosberg syn: <i>Artocarpus communis</i> J.R. et G. Forster;
FI 2522	<b>Champedak</b> <i>Artocarpus integer</i> (Thunb.) Merr.
FI 0331	<b>Cherimoya</b> <i>Annona cherimola</i> Mill.
FI 0332	<b>Custard apple</b> <i>Annona reticulata</i> L
FI 0334	<b>Durian</b> <i>Durio zibethinus</i> L..
FI 0371	<b>Elephant apple</b> <i>Limonia acidissima</i> L. syn: <i>Feronia limonia</i> (L.) Swing; <i>Feronia elephantum</i> Corrêa
-	<b>Guanabana</b> , see Soursop, FI 0365
FI 0337	<b>Ilama</b> <i>Annona macrophyllata</i> Donn. Sm. Syn: <i>A. diversifolia</i> Saff.
-	<b>Indian wood apple</b> , see Elephant apple, FI 0371
FI 0338	<b>Jackfruit</b> <i>Artocarpus heterophyllus</i> Lam.; syn: <i>A. integrifolius</i> auct
FI 0344	<b>Mammey apple</b> <i>Mammea americana</i> L.
FI 2523	<b>Marang</b> <i>Artocarpus odoratissimus</i> Blanco
FI 0347	<b>Marmalade-box</b> <i>Genipa americana</i> L.
FI 2524	<b>Monkey-bread tree</b> <i>Adansonia digitata</i> L.
FI 0353	<b>Pineapple</b> <i>Ananas comosus</i> (L.) Merrill;
FI 2525	<b>Poshte</b> <i>Annona liebmaniana</i> Baill.
FI 0357	<b>Pulasan</b> <i>Nephelium ramboutan-ake</i> (labill.) Leenh.
FI 0358	<b>Rambutan</b> <i>Nephelium lappaceum</i> L.
FI 0359	<b>Sapodilla</b> <i>Manilkara zapota</i> (L.) P. Royen syn: <i>Manilkara achras</i> (Mill.) Fosberg; <i>Achras zapota</i> L.

FI 0362	<b>Sapote, Mammey</b> <i>Pouteria sapota</i> (Jacq.) H.E. Moore & Stearn Syn: <i>Calocarpum sapota</i> (Jacq.) Merr.
FI 2526	<b>Screwpine</b> <i>Pandanus tectorius</i> Parkinson; <i>P. utilis</i> Bory; <i>P. Ieram</i> Jones ex Fontana; <i>P. julianettii</i> Martelli
FI 2527	<b>Soncoya</b> <i>Annona purpurea</i> Moc. & Sessé ex Dunal
FI 0365	<b>Soursop</b> <i>Annona muricata</i> L.
FI 0368	<b>Sugar apple</b> <i>Annona squamosa</i> L.
FI 2528	<b>Sun sapote</b> <i>Licania platypus</i> (Hemsl.) Fritsch
-	<b>Sweetsop</b> , see Sugar apple, FI 0368

**Subgroup 006D Assorted tropical and sub-tropical fruits - inedible peel - cactus**

<u>Code No.</u>	<u>Commodity</u>
FI 2024	<b>Subgroup of Assorted tropical and sub-tropical fruits - inedible peel - cactus</b> (includes all commodities in this subgroup)
-	<b>Dragon fruit</b> , see Pitaya, FI 2540 <i>H. undatus</i> (Haw.) Britton & Rose
-	<b>Indian fig</b> , see Prickly pear, FI 0356
FI 2540	<b>Pitaya</b> <i>Hylocereus spp.</i> ; <i>H. undatus</i> (Haw.) Britton & Rose; <i>H. Megalanthus</i> (K. Schum. Ex Vaupel) Ralf Bauer; <i>H. Polyrhizus</i> (F.A.C. Weber) Britton & Rose; <i>H. Ocamponis</i> (Salm-Dyck) Britton & Rose <i>H. triangularis</i> (L.) Britton & Rose
FI 0356	<b>Prickly pear</b> <i>Opuntia ficus-indica</i> (L.) P. Miller; <i>O. Engelmannii</i> Salm-Dyck ex Engelm. var. <i>Lindheimeri</i> (Engelman.) B.D. Parfitt & Pinkava
FI 2541	<b>Saguaro</b> <i>Carnegiea gigantea</i> (Engelm.) Britton & Rose

**Subgroup 006E Assorted tropical and sub-tropical fruits - inedible peel - vines**

<u>Code No.</u>	<u>Commodity</u>
FI 2025	<b>Subgroup of Assorted tropical and sub-tropical fruits - inedible peel - vines</b> (includes all commodities in this subgroup)
-	<b>Chinese gooseberry</b> , see Kiwifruit, FI 0341
FI 2560	<b>Granadilla</b> <i>Passiflora ligularis</i> Juss.
FI 2561	<b>Granadilla, Giant</b> <i>Passiflora quadrangularis</i> L.
FI 0341	<b>Kiwifruit</b> <i>Actinidia deliciosa</i> (A. Chev.) C. F. Liang & A. R. Ferguson; <i>A. chinensis</i> Planch. and hybrids
FI 2562	<b>Monstera</b> <i>Monstera deliciosa</i> Liebm.

FI 2563	<b>Passionflower fruit, Winged-stem</b> <i>Passiflora alata</i> Curtis
FI 2564	<b>Passion fruit, Banana</b> <i>Passiflora tripartita</i> (Juss.) Poir. Var. <i>mollissima</i> (Kunth) Holm-Niels & P. Jørg.
FI 0351	<b>Passion fruit</b> Cultivars of <i>Passiflora edulis</i> Sims

**Subgroup 006F Assorted tropical and sub-tropical fruits - inedible peel - palms**

<u>Code No.</u>	<u>Commodity</u>
FI 2026	<b>Subgroup of Assorted tropical and sub-tropical fruits - inedible peel -palms</b> (includes all commodities in this subgroup)
FI 2580	<b>Coconut, Young</b> <i>Cocos nucifera</i> L.
FI 2581	<b>Guriri</b> <i>Allagoptera arenaria</i> (Gomes) Kuntze
FI 2582	<b>Moriche palm fruit</b> <i>Mauritia flexuosa</i> L.f.
FI 2583	<b>Muriti</b> <i>Mautitia flexuosa</i> L.f.
FI 2584	<b>Palmyra palm fruit</b> <i>Borassus flabellifer</i> L.
FI 2585	<b>Salak</b> <i>Salacca zalacca</i> (Gaertn.) Voss



**APPENDIX X**

**NOTES TO BE ADDED IN THE DATABASE TO THE EXISTING SUBGROUP CXLs  
WHEN A NEW CROP IS RELOCATED TO THIS GROUP  
(AS A RESULT OF THE REVISION OF THE CLASSIFICATION OF FOOD AND FEED)**

**(For information)**

subgroup		Notes to be added to the group-CXL	number of CXLs
VA 0035	Bulb vegetables	excluding Chives; Chives, Chinese	5
VB 0040	Brassica (except Brassica leafy vegetables)	excluding Chinese cabbage (type Pe-tsai)	20
VB 2036	Head brassica's	excluding Chinese cabbage (type Pe-tsai)	12
VL 0053	Leafy vegetables (including Brassica leafy vegetables)	excluding Witloof; Broccoli, Chinese	21
VL 0054	Leaves of Brassica	excluding Broccoli, Chinese	2
VS 0078	Stalk and stem vegetables	excluding Fennel, bulb; Kale, sea	2
GC 0080	Cereal grains	excluding Subgroup 020F Sweet corns	33
HH 0092	Herbs	excluding Pepper, leaves	4
HS 0093	Spices	excluding Galangal, greater and lesser	9

Remark: notes are not necessary for new created subgroups, because no group-CXLs are established yet, and so new commodities don't have to be excluded.

**APPENDIX XI**

**Part A**

**DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED:**

**CLASS A: PRIMARY FOOD COMMODITIES OF PLANT ORIGIN**

**TYPE 03: GRASSES**

**(For adoption at Step 8)**

**TYPE 03 GRASSES**

Grasses are herbaceous annual and perennial monocotyledonous plants of different kinds, cultivated extensively for their ears (heads) of starchy seeds used directly for the production of food. Grasses used for animal feed are classified under Class C: Primary Animal feed commodities, Group 051.

The plants are fully exposed to pesticides applied during the growing season.

**Cereal grains**

Class A

**Type 3 Grasses Group 020 Group Letter Code GC**

Group 020. Cereal grains are derived from the ears (heads) of starchy seeds produced by a variety of plants, primarily of the grass family (Gramineae).

Pseudocereals or pseudograins, are not grasses, but have similar uses and are generally considered with cereal grains. Pseudo-cereals, produce dry fruit referred to as seed, nutlets, grains or achenes and are found in families such as Amaranthaceae (amaranths), Chenopodiaceae (Canihua) and Polygoniaceae (buckwheat). This group also includes the small seeded crop chia (Lamiaceae).

The edible seeds are protected to varying degrees from pesticides applied during the growing season by husks. Husks are removed before processing and/or consumption.

Cereal grains are often exposed to post-harvest treatment with pesticides. Six subgroups are defined:

Subgroup 020A Wheat, similar grains, and pseudocereals without husks

Subgroup 020B Barley, similar grains, and pseudocereals with husks

Subgroup 020C Rice Cereals

Subgroup 020D Sorghum Grain and Millet

Subgroup 020E Maize Cereals

Subgroup 020F Sweet Corns

Portion of the commodity to which the MRL applies (and which is analyzed): Whole commodity in trade. Wheat, rye, triticale, maize, sorghum, pearl millet and other similar cereals with husks readily separable from kernels during threshing: kernels. Barley, oats, rice and other similar cereals with husks that remain attached to kernels even after threshing: kernels with husks (Note: For rice, only about 10% of traded grains is with husk). Corn-on-the-cob (kernels plus cob with husk removed).

For Fodders and straw of cereals, see Class C, Type 11 Group 051

**Group 020 Cereal grains**

<u>Code No.</u>	<u>Commodity</u>
GC 0080	<b>Group of Cereal grains</b> Seeds of <i>gramineous</i> plants and of dicotyledonous plants with similarities in size and type of the seed, residue pattern and the use of the commodity (includes all commodities in this group)
GC 0081	<b>Cereal grains</b> , cereal grains except pseudocereals
GC 0082	<b>Pseudocereals</b> , or pseudograins, produce dry fruit referred to as seed, nutlets, grains or achenes and are found in families such as Amaranthaceae (amaranths), Chenopodiaceae (Canihua) and Polygoniaceae (buckwheat). This group also includes the small seeded crop chia (Lamiaceae).

**Subgroup 020A Wheat, similar grains, and pseudocereals without husks**

<b>Code No.</b>	<b>Commodity</b>
GC 2086	<b>Subgroup of Wheat, similar grains, and pseudocereals without husks</b> (includes all commodities in subgroup 020A)
GC 3080	<b>Amaranth, grain</b> <i>Amaranthus</i> spp.
-	<b>Amaranth, purple</b> , see Amaranth grain, GC 3080 <i>Amaranthus cruentus</i> L.
GC 0642	<b>Cañihua</b> <i>Chenopodium pallidicaule</i> Aellen
GC 3084	<b>Chia</b> <i>Salvia hispanica</i> L.
GC 3085	<b>Cram-cram</b> <i>Cenchrus biflorus</i> Roxb.
-	<b>Durum wheat</b> , see Wheat, GC 0654 syn: <i>Triticum durum</i> Desf.
-	<b>Einkorn wheat</b> , see Wheat, GC 0654 <i>Triticum monococcum</i> L. subsp. <i>monococcum</i>
-	<b>Emmer</b> , see Wheat, GC 0654 <i>Triticum turgidum</i> L. subsp. <i>dicoccon</i> (Schrank) Thell.
GC 3086	<b>Huauzontle</b> <i>Chenopodium berlandieri</i> Moq. subsp. <i>nuttalliae</i> (Saff.) H. D. Wilson & Heiser
-	<b>Inca wheat</b> , see Amaranth grain, GC 3080 <i>Amaranthus caudatus</i> L.
-	<b>Khorasan wheat</b> , see Wheat, GC 0654 <i>Triticum turgidum</i> L. subsp.
-	<b>Princess-feather</b> , see Amaranth grain, GC 3080 <i>Amaranthus hypochondriacus</i> L.
GC 3087	<b>Psyllium sp.</b> <i>Plantago</i> spp
-	<b>Psyllium</b> , see Psyllium sp. GC 3087 <i>Plantago arenaria</i> Waldst. & Kit.
-	<b>Psyllium, blond</b> , see Psyllium sp. GC 3087 <i>Plantago ovata</i> Forssk.
GC 0648	<b>Quinoa</b> <i>Chenopodium quinoa</i> Willd.
GC 0650	<b>Rye</b> <i>Secale cereale</i> L.
-	<b>Spelt</b> , see Wheat, GC 0654 <i>Triticum spelta</i> L.

GC 0653	<b>Triticale</b> Hybrid of Wheat and Rye
GC 0654	<b>Wheat</b> Cultivars of <i>Triticum aestivum</i> L.; syn: <i>T. sativum</i> Lam.; <i>T. vulgare</i> Vill.; <i>Triticum</i> spp., as listed

**Subgroup 020B Barley, similar grains, and pseudocereals with husks**

<u>Code No.</u>	<u>Commodity</u>
GC 2087	<b>Subgroup of Barley, similar grains, and pseudocereals with husks</b> (includes all commodities in subgroup 020B)
GC 0640	<b>Barley</b> <i>Hordeum vulgare</i> L.;
GC 0641	<b>Buckwheat</b> <i>Fagopyrum esculentum</i> Moench;
GC 3082	<b>Buckwheat, tartary</b> <i>Fagopyrum tataricum</i> (L.) Gaertn.
GC 3083	<b>Canarygrass, annual</b> <i>Phalaris canariensis</i> L.
GC 0647	<b>Oats</b> <i>Avena sativa</i> L.; <i>A. abyssinica</i> Hochst.
-	<b>Oat, naked</b> , see Oats, GC 0647 <i>Avena nuda</i> L.
-	<b>Oat, Red</b> , see Oats, GC 0647 <i>Avena byzantina</i> Koch

**Subgroup 020C Rice Cereals**

<u>Code No.</u>	<u>Commodity</u>
GC 2088	<b>Subgroup of Rice cereals</b> (includes all commodities in subgroup 020C)
GC 0649	<b>Rice</b> <i>Oryza sativa</i> L.; several ssp. and cultivars
GC 3088	<b>Rice, African</b> <i>Oryza glaberrima</i> Steud.
GC 0655	<b>Wild rice</b> <i>Zizania palustris</i> L.
-	<b>Wild Rice, Eastern</b> , see wild rice GC 0655 <i>Zizania aquatica</i> L.

**Subgroup 020D Sorghum Grain and Millet**

<u>Code No.</u>	<u>Commodity</u>
GC 2089	<b>Subgroup of Sorghum Grain and Millet</b> (includes all commodities in subgroup 020D)
-	<b>Acha</b> , see Hungry Rice, GC 0643
-	<b>Adlay</b> , see Job's Tears, GC 0644

- **African millet**, see Millet, GC 0646
- **Brown-corn millet**, see Millet, GC 0646
- **Bulrush millet**, see Millet, GC 0646
- **Cat-tail millet**, see Millet, GC 0646
- **Chicken corn**, see Sorghum Grain, GC 0651  
*Sorghum drummondii* (Steud.) Millsp. & Chase
- **Dari seed**, see Sorghum Grain, GC 0651
- **Durra**, see Sorghum Grain, GC 0651  
syn: *Sorghum durra* (Forsk.) Stapf.
- **Feterita**, see Sorghum Grain, GC 0651  
syn: *Sorghum caudatum* Stapf.
- **Finger millet**, see Millet, GC 0646
- **Fonio**, see Hungry Rice, GC 0643
- **Fonio, black**, see Hungry Rice, GC 0643  
*Digitaria iburua* Stapf
- **Fonio, white**, see Hungry Rice, GC 0643  
*Digitaria exilis* (Kippist) Stapf
- **Foxtail millet**, see Millet, GC 0646
- **Fundi**, see Hungry Rice, GC 0643
- **Guinea corn**, see Sorghum Grain, GC 0651  
syn: *Sorghum guineense* Stapf.
- **Hog millet**, see Millet, GC 0646
- GC 0643 **Hungry rice**  
*Digitaria exilis* Stapf.; *D. iburua* Stapf.
- GC 0644 **Job's tears**  
*Coix lacryma-jobi* L.
- **Kaffir corn**, see Sorghum Grain, GC 0651  
syn: *Sorghum caffrorum* P. Beauv.
- **Kaoliang**, see Sorghum Grain, GC 0651  
syn: *Sorghum nervosum* Bess. ex Schult. & Schult. f.
- GC 0646 **Millet**  
Including Barnyard Millet, Bulrush Millet, Common Millet, Finger Millet, Foxtail Millet, Little Millet; (see for scientific names, specific commodities listed as Millet, followed by a specific denomination)
- **Millet, Barnyard**, see Millet, GC 0646  
*Echinochloa crus-galli* (L.) Beauv.;  
syn: *Panicum crus-galli* L.;  
*E. frumentacea* (Roxb.) Link;  
syn: *Panicum frumentaceum* Roxb.
- **Millet, Bulrush**, see Millet, GC 0646  
*Pennisetum glaucum* (L.) R. Br.  
syn: *P. typhoides* (Burm. f.) Stapf. & Hubbard; *P. americanum* (L.) K. Schum.; *P. spicatum* (L.) Koern.

- **Millet, Common**, see Millet, GC 0646  
*Panicum miliaceum* L.
  - **Millet, Finger**, see Millet, GC 0646  
*Eleusine coracana* (L.) Gaertn.
  - **Millet, Foxtail**, see Millet, GC 0646  
*Setaria italica* (L.) Beauv.;  
syn: *Panicum italicum* L.; *Chaetochloa italica* (L.) Scribn.
  - **Millet, Kodo**, see Millet, GC 0646  
*Paspalum scrobiculatum* L.
  - **Millet, Little**, see Millet, GC 0646  
*Panicum sumatrense* Roth
  - **Millet, Pearl**, see Millet, GC 0646
  - **Milo**, see Sorghum Grain, GC 0651  
syn: *Sorghum subglabrescens* (Steud.) Schweinf. & Asch.
  - **Pearl millet**, see Millet, GC 0646
  - **Proso millet**, see Millet, GC 0646
  - **Russian millet**, see Millet, GC 0646
  - **Shallu**, see Sorghum Grain, GC 0651  
syn: *Sorghum roxburghii* Stapf.
  - **Sorgo**, see Sorghum Grain, GC 0651
  - GC 0651 **Sorghum Grain**  
*Sorghum bicolor* (L.) Moench; several *Sorghum* ssp. and cultivars
  - **Spiked millet**, see Millet, GC 0646
  - GC 0652 **Teff or Tef**  
*Eragrostis tef* (Zucc.) Trotter;  
syn: *E. abyssinica* (Jacq.) Link
- Subgroup 020E Maize Cereals**
- | <u>Code No.</u> | <u>Commodity</u>  |
|-----------------|---|
| GC 2091         | <b>Subgroup of Maize Cereals</b><br>(includes all commodities in subgroup 020E)   |
| -               | <b>Corn</b> , see Maize, GC 0645  |
| -               | <b>Indian corn</b> , see Maize, GC 0645<br>syn: <i>Zea indurata</i> Sturtev.  |
| GC 0645         | <b>Maize</b><br><i>Zea mays</i> L., several cultivars, not including Sweet corn   |
| GC 0656         | <b>Popcorn</b><br><i>Zea mays</i> L., var. <i>everta</i> Sturt.;<br>syn: <i>Zea mays</i> L., var. <i>praecox</i>  |
| GC 0657         | <b>Teosinte</b><br><i>Zea mays</i> ssp. <i>mexicana</i> (Schrader) Iltis;<br>syn: <i>Zea mexicana</i> (Schrader) Kunze; <i>Euchlaena mexicana</i> Schrader. |

**Subgroup 020F Sweet Corns**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
GC 2090	<b>Subgroup of Sweet Corns</b> (includes all commodities in subgroup 020F)
GC 3081	<b>Baby corn</b> <i>Zea mays</i> L., several cultivars
-	<b>Corn-on-the cob</b> , see Sweet corn (Corn-on-the-cob), GC 0447
GC 0447	<b>Sweet corn (Corn-on-the-cob) (kernels plus cob with husk removed)</b> <i>Zea mays</i> L., several cultivars, not including popcorn
GC 1275	<b>Sweet corn (whole kernel without cob or husk)</b> <i>Zea mays</i> L., several cultivars, not including popcorn

**GRASSES FOR SUGAR OR SYRUP PRODUCTION**Class A**Type 3                      Grasses    Group 021            Group Letter Code GS**

Group 021, Grasses for sugar or syrup production, includes species of grasses with a high sugar content especially in the stem. The stems are mainly used for sugar or syrup production, and to a small extent as vegetables or sweets. The leaves, ears and several wastes of the sugar or syrup manufacturing process are used, among others, as animal feed (see Group 052: Miscellaneous fodder and forage crops).

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity: Sorgo or Sorghum, Sweet (Stalk); Sugar cane (cane)**

**Group 021            Grasses for sugar or syrup production****Code No.                      Commodity**

GS 0658                      **Sorgo or Sorghum, Sweet**

varieties and cultivars of Sorghum of which the stems contain considerable amounts of sweet juice. Among others cultivars of

*Sorghum bicolor* (L.) Moench.

*S. dochna* (Forsk.) Snowden

GS 0659                      **Sugar cane**

*Saccharum officinarum* L.



**APPENDIX XI****Part B****PROPOSED DRAFT TABLE 3 ON EXAMPLES OF SELECTION OF REPRESENTATIVE COMMODITIES  
(GRASS COMMODITY GROUPS)**for inclusion in the *Principles and Guidance for the Selection of Representative Commodities for the  
Extrapolation of Maximum Residue Limits for Pesticides for Commodity Groups (CAC/GL 84-2012)*

(For adoption at Step 5/8)

<b>Codex Group / Subgroup</b>	<b>Examples of Representative Commodities<sup>1</sup></b>	<b>Extrapolation to the following commodities</b>
<b>Group 020 Cereal Grains</b>	Wheat and Barley and Rice and Sorghum Grain and Maize and Sweet corn	<u>Cereal grains (GC 0080)</u> : Amaranth, grain; Baby corn (immature corn); Barley; Buckwheat; Buckwheat, tartary; Canarygrass, annual; Cañihua; Chia; Corn-on-the-cob (kernels plus cob with husk removed); Cram-cam; Hungry rice; Huauzontle; Job's tears; Maize; Millet; Oats; Popcorn; Psyllium sp., Quinoa; Rice; Rice, African; Rye; Sorghum; Sweet corn (whole kernel without cob or husk); Teff or Tef; Teosinte; Triticale; Wheat; Wild rice
Subgroup 020A, Wheat, similar grains and pseudocereals without husks	Wheat	<u>Wheat, similar grains, and pseudocereals without husks (GC 2086)</u> : Amaranth, grain; Cañihua; Chia; Cram-cam; Huauzontle; Psyllium sp., Quinoa; Rye; Triticale; Wheat
Subgroup 020B, Barley, similar grains, and pseudocereals with husks	Barley	<u>Barley, similar grains, and pseudocereals with husks (GC 2087)</u> : Barley; Buckwheat; Buckwheat, tartary; Canarygrass, annual; Oats
Subgroup 020C Rice cereals	Rice	<u>Rice Cereals (GC 2088)</u> : Rice; Rice, African; Wild rice
Subgroup 020D Sorghum Grain and Millet	Sorghum Grain	<u>Sorghum Grain and Millet (GC 2089)</u> : Hungry rice; Job's tears; Millet; Sorghum Grain; Teff or Tef;
Subgroup 020E Maize Cereals	Maize	Maize; Popcorn; Teosinte
Subgroup 020F Sweet corns	Sweet corn (Corn-on-the-cob) (kernels plus cob with husk removed)	<u>Sweet corns (GC 2090)</u> : Baby corn; Sweet corn (Corn-on-the-cob) (kernels plus cob with husk removed); Sweet corn (whole kernel without cob or husk)
<b>Group 021 Grasses for sugar production and grasses and other plants for syrup production</b>	Sugar cane or Sorgo or Sorghum, Sweet	Sorgo or Sorghum, Sweet; Sugar cane

<sup>1</sup> Alternative representative commodities may be selected based on documented regional/country differences in dietary consumption and/or areas of production.

**APPENDIX XII****PROPOSED DRAFT REVISION OF THE CLASSIFICATION OF FOOD AND FEED:****CLASS A: PRIMARY FOOD COMMODITIES OF PLANT ORIGIN****TYPE 04: NUTS, SEED AND SAPS – GROUP 024 SEED FOR BEVERAGES AND SWEETS****(For adoption at Step 5)****Type 04                      Nuts, seeds and saps                      Group 024                      Group Letter Code SB**

The seeds for beverages and sweets are derived from tropical and sub-tropical trees and shrubs. After processing the seeds are used in the production of beverages and sweets.

These seeds are protected from pesticides applied during the growing season by the shell or other parts of the fruit.

Portion of the commodity to which the MRL applies (and which is analysed): **Unless specified, whole commodity (seed only, other parts of the fruit not included).**

**Group 024                      Seed for beverages and sweets**

<b><u>Code No.</u></b>	<b><u>Commodity</u></b>
SB 0091	<b>Group of Seed for beverages</b>
SB 0715	<b>Cacao beans</b> <i>Theobroma cacao</i> L.; several ssp.
SB 0716	<b>Coffee beans</b> among others <i>Coffea arabica</i> L.; <i>C. canephora</i> Pierre ex Froehner <i>C. liberica</i> Bull ex Hiern.; ssp. and cultivars
SB 0717	<b>Cola nuts</b> <i>Cola nitida</i> (Vent.) Schott & Endl.; <i>C. acuminata</i> (P. Beauv.) Schott & Endl.; <i>C. anomala</i> K. Schum.; <i>C. verticillata</i> (Thonn.) Stapf ex A. Chev.
-	<b>Kola</b> , see Cola nuts
SB 0718	<b>Senna seeds</b> <i>Senna obtusifolia</i> (L.) H. S. Irwin & Barneby.

**APPENDIX XIII****DRAFT GUIDELINES ON PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR THE DETERMINATION OF PESTICIDE RESIDUES IN FOOD AND FEED****(For adoption at Step 8)****TABLE OF CONTENTS**

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**OBJECTIVE**

1. The purpose of these guidelines is to define and describe the performance criteria, which should be met by methods to analyse pesticide residues in foods and feed (hereafter referred to as food). It addresses the characteristics/parameters to provide scientifically acceptable confidence in the analytical method that is fit for the intended use and may be used to reliably evaluate pesticide residues for either domestic monitoring and/or international trade.
2. This document is applicable to both single residue methods and multi-residue methods (MRMs) that analyse target compounds in all food commodities per the residue definition.
3. These guidelines cover qualitative and quantitative analyses, each having their own method performance criteria. Performance criteria of methods for analyte identification and confirmation are also addressed.

**PRINCIPLES FOR THE SELECTION AND VALIDATION OF METHODS****A. Defining the Purpose of the Method and Scope**

4. The intended purpose of the method is usually described in a statement of scope, which defines the analytes (residues), the matrices, and the concentration ranges. It also states whether the method is intended for screening, quantification, identification, and/or confirmation of results.
5. In regulatory applications, the maximum residue limit (MRL) is expressed in terms of the residue definition. Residue analytical methods should be able to measure all components of the residue definition.
6. *Fitness-for-purpose* is the extent to which the performance of a method meets the end-user's needs, and matches the criteria (data quality objectives) agreed between the laboratory and the end-user (or client) of the data, within technical and resource constraints. *Fitness-for-purpose* criteria could be based on some of the characteristics described in this document, but ultimately will be expressed in terms of acceptable combined uncertainty<sup>1</sup>.

<sup>1</sup> Harmonized IUPAC Guidelines For Single-Laboratory Validation of Methods of Analysis, Pure & Appl. Chem., 74(5), 2002; 835 – 855

7. Selection of methods is based on analytes and the intended purpose of the analyses<sup>2</sup>.

#### **B. Supplementing other Codex Alimentarius Commission Guidelines**

8. The Codex Alimentarius Commission (CAC) has issued a guideline<sup>3</sup> for laboratories involved in the testing of foods for import/export which recommends that such laboratories should:

- a. use internal quality control procedures, such as those described in the “Harmonized Guidelines for Internal Quality Control in Analytical Chemistry Laboratories;”
- b. participate in appropriate proficiency testing schemes for food analysis which conform to the requirement laid out in “The International Harmonized Protocol for Proficiency Testing of (Chemical) Analytical Laboratories (Pure Appl. Chem., vol 78, No. 1, pp.145-186, 2006);” and
- c. whenever available, use methods which have been validated according to principles provided by the CAC.

9. The analytical methods should be used within the internationally accepted, approved, and recognized laboratory Quality Management System<sup>4</sup> to be consistent with the principles in the document for quality assurance (QA) and quality control (QC) referenced above.

#### **C. Method Validation**

10. The process of method validation is intended to demonstrate that a method is *fit-for-purpose*. This means that when a test is performed by a properly trained analyst using the specified equipment and materials and exactly following the method protocol, accurate, reliable, and consistent results can be obtained within specified statistical limits for sample analysis. The validation should demonstrate the identity and concentration of the analyte, taking into account for matrix effects, provide a statistical characterization of recovery results, and indicate if the frequency of false positives and negatives are acceptable. When the method is followed using suitable analytical standards, results within the established performance criteria should be obtained on the same or equivalent sample material by a trained analyst in any experienced residue testing laboratory. To ensure method performance remains appropriate over time, method validation should be continuously assessed (e.g. recovery spikes).

### **PERFORMANCE PARAMETERS FOR ANALYTICAL METHODS**

11. The general requirements for the individual performance criteria of a method are summarized below<sup>1,5</sup>

#### **A. Method Documentation**

12. After validation, the method documentation should provide, in addition to performance criteria (data quality objectives), the following information:

- a. Identity of the analytes included in the residue definition.
- b. Concentration range covered by the validation;
- c. Matrices used in the validation (representative commodity categories, e.g., similar agricultural products based on characteristics including moisture, fat, and sugar content, pH);
- d. Protocol describing the equipment, reagents, detailed step-by-step procedure including permissible variations (e.g. “heat at  $100 \pm 5$  °C for  $30 \pm 5$  min”), calibration and quality procedures, special safety precautions required, and intended application and critical uncertainty requirements;
- e. quantitative result of the expanded measurement uncertainty (MU) for the method should be calculated in the validation procedure and reported, if required.

<sup>2</sup> OECD Guidance Document on Pesticide Residue Analytical Methods, ENV/JM/MONO (2007)17

<sup>3</sup> [Guidelines for the Assessment of the Competence of Testing Laboratories Involved in the Import and Export Control of Food \(CAC/GL 27-1997\)](#)

<sup>4</sup> [General requirements for the competence of testing and calibration laboratories](#), ISO/IEC 17025 (2005).

<sup>5</sup> OECD Guidance Document for Single Laboratory Validation of Quantitative Analytical Method-Guidance used in support of pre-and post-registration data requirements for plant protection and biocidal products ENV/JM/MONO(2014)20

**B. Selectivity**

13. Ideally, selectivity should be evaluated to demonstrate that no interferences occur which significantly affect the analysis. It is impractical to test the method against every potential interferant, but it is required that common interferences are checked by analysing a reagent (process) blank for every batch of reagents. When reagents and/or solvents are changed between batches of samples, additional reagent blank evaluations could be performed. Background levels of plasticizers, septa bleed, cleaning agents, reagent impurities, laboratory contamination, carry-over, etc. tend to show up in reagent blanks and must be recognized by the analyst when they occur. Also, analyte-to-analyte interferences must be known by checking individual analytes in mixed standard solutions. Matrix interferences are evaluated by analyses of samples known to be free of the analytes and a matrix blank is required with each batch of samples or a standard addition approach to quantification is adopted (see Section E).
14. As a general principle, selectivity should be such that interferences have no impact on method performance. The ultimate test of selectivity involves the rates of false positives and negatives in the analyses. To estimate rates of false positives and negatives during method validation, an adequate number of blanks per matrix [not from the same source] should be analysed along with spiked matrices at the analyte reporting level.

**C. Calibration**

15. With the exception of errors in preparation of calibration materials, calibration errors are usually a minor component of the total uncertainty, and can be safely assigned into other categories. For example, random errors resulting from calibration are part of the uncertainty, while systematic errors cause analytical bias, both of which are assessed as a whole during validation and on-going quality control. Nevertheless, there are some characteristics of calibration that are useful to know at the outset of method validation because they affect optimization of the final protocol. For example, it must be known in advance whether the calibration curve is linear or quadratic, passes through the origin, and is affected by the sample matrix or not. The described guidelines in this document relate more to validation, which may be more detailed than the calibration undertaken during routine analysis.
16. Replicate measurements are needed to provide an empirical estimate of uncertainty. The following calibration procedures are recommended for the initial method validation:
  - a. determinations at five or more concentrations should be performed (consider multiple injections per concentration);
  - b. the reference standards should be evenly spaced over the concentration range of interest and the calibration range should encompass the entire concentration range likely to be encountered;
  - c. the reference standards should be dispersed over the whole sequence, or encompass the beginning and end of the run to demonstrate that calibration integrity is maintained over the entire sequence; and the fit of the calibration function must be plotted and inspected visually and/or by calculation of the residuals (differences between the actual and calculated concentrations of the standards), avoiding over-reliance on correlation coefficients. If residuals of the calibration curve deviate by more than  $\pm 20 - 30\%$  (30% for calibration concentrations near the instrument LOQ), statistical consideration of outliers should be made, possibly leading to re-analysis of the sequence if quality control criteria are not met.

**D. Linearity**

17. Linearity can be tested 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 a *lack of fit* due to a nonlinear calibration function. If this is the case, another function such as quadratic should be tested and applied, using at least five concentration levels. Despite its current widespread use as an indication of quality of fit, the coefficient of determination ( $R^2$ ) may be misleading because it places greater significance on standards with higher concentrations. In this case, an appropriate weighting factor such as  $1/x$  or  $1/x^2$  should be considered to minimize the potential impact of the relative concentration range
18. In general, the use of weighted-linear regression or weighted-quadratic function is recommended rather than linear regression for low part per billion ( $\mu\text{g}/\text{kg}$ ) concentration determinations. Ideally, the value of the intercept should be close to zero to reduce errors in calculating residue concentrations at low levels, although the calibration curve should not be forced through the origin without justification

**E. Matrix Effects**

19. Matrix-matched calibration is commonly used to compensate for matrix effects. Extracts of blank matrix, preferably of the same or similar type as the sample, should be used for calibration. An alternative practical approach to compensate for matrix effects in gas chromatographic (GC) analyses is the use of chemical components (analyte protectants) that are added to both the sample extracts and the calibration solutions in order to (ideally) maximize equally the response of pesticides in calibrants in solvent and sample extracts. Alternative ways to compensate for matrix effects involve the use of standard addition, isotopically labeled internal standards (IS), or chemical analogues. However, these approaches are often difficult in MRMs because there are too many residues in different matrices at different levels to devise routine procedures, and the lack of isotopically-labelled standards for so many analytes. Ideally, if isotopically labelled standards are available, such standards should represent the range of target compounds and recoveries should fall within the criteria for samples spiked with non-isotopically labelled standards. If solvent-only calibration is used, a measurement of matrix effects must be made to demonstrate equivalence of results by comparing responses of matrix-matched with solvent-only standards.

**F. Trueness and Recovery**

20. 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 certified (if available) reference material with a known value assigned to the material. Multi-laboratory testing is recommended ideally. 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 from analysing the reference material. In the absence of certified reference materials<sup>1,5</sup> guidelines recommend use of an available reference material that is well characterized for the purpose of the validation study.
21. Recovery refers to the proportion of analyte determined in the final result compared with the amount added (usually to a blank) sample prior to extraction, generally expressed as a percentage. Errors in measurement will lead to biased recovery figures that will deviate from the actual recovery in the final extract. Routine recovery refers to the determination(s) performed in quality control spikes in the analysis of each batch of samples.

**G. Precision**

22. Precision is the closeness of agreement between independent (replicate) test results obtained under stipulated conditions. It is usually specified in terms of standard deviation (SD) or relative standard deviation (RSD), also known as coefficient of variation (CV). The distinction between precision and bias depends on the level at which the analytical system is viewed. Thus, from the viewpoint of a single determination, any deviation affecting the calibration used in the analysis would be seen as a bias. From the point of view of the analyst reviewing a year's work, the analytical bias will be different every day and should act like a random variable with an associated precision, incorporating any stipulated conditions for the estimation of this precision.
23. For single-laboratory validation, two types of precision sets of conditions are relevant: (a) repeatability, the variability of measurements within the same analytical sequence, and (b) within-laboratory reproducibility, the variability of results among multiple sets of the same sample. It is important that the precision values are representative of likely test conditions. First of all, the variation in conditions among the runs should represent what would normally happen in the laboratory during routine use of the method. This can be done by on-going method performance validation/verification. For instance, variations in reagent batches, analysts, and instruments should be measured in ongoing quality control. Secondly, 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 real applications.
24. In single-laboratory validations, precision often varies with analyte concentration. Typical assumptions are that: (a) there is no change in precision with analyte level, or (b) 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 (i.e. when analyte level approaches LOQ).

25. 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, or to have an indication of 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. The initial validation should be conducted at the targeted limit of quantification (LOQ) or reporting limit of the method, and at least one other higher level, for example, 2-10x the targeted LOQ or the MRL.

#### H. Limit of Quantification (LOQ)

26. By long-standing definition among analytical chemists, the LOQ is the concentration at which the average signal/noise ratio (S/N) equals 10 in the analysis. The LOQ in practice can only be estimated because precise determination of the actual LOQ requires many analyses of spiked samples and matrix blanks but the LOQ can change day-to-day due to the performance state of the instrument, among many other factors. Some validation guidelines require that the LOQ be verified to meet method performance criteria via spiking experiments at the LOQ, however day-to-day variations in LOQ tend to force the analyst to greatly over-estimate the actual method LOQ, which can be difficult to implement the strict definition of the LOQ (S/N = 10). Thus spiking at the Lowest Validated Level (LVL) is the more descriptive and proper approach. Furthermore, quantification of analytes should not be made below the lowest validated level (LVL) in the same analytical sequence. The S/N at the lowest calibrated level (LCL) must be  $\geq 10$  (conc.  $\geq$  LOQ), which can be set as a system suitability check required for each analytical sequence. A quality control matrix spike can also be included in each sequence to verify that the reporting limit is achieved in the analysis (an action level that is typically  $\geq$  the LCL). In essence, the point of the validation is not to determine the LOQ, but to demonstrate that the lowest reported concentration is meeting the need for the analysis. While not useful for quantification, some analysts may wish to calculate the limit of detection (LOD) (S/N = 3) to infer the presence of the analyte at concentrations too low to permit an estimate of analyte concentration.

#### I. Analytical Range

27. The validated range is the interval of analyte concentration within which the method can be regarded as validated. The LVL is the lowest concentration assessed during validation that meets method performance criteria. It is important to realize that the validated range is not necessarily identical to the useful range of the instrumental calibration. While the calibration may cover a wide concentration range, the validated range (which is usually more important in terms of uncertainty) will typically cover a more restricted range. In practice, most methods will be validated for at least two levels of concentration. The validated range may be taken as a reasonable extrapolation between these points of concentration, but many laboratories choose to validate at a third level to demonstrate linearity. For monitoring residue concentrations with respect to Codex standards, the analytical method must be sensitive enough so that the LVL for each analyte is at or below the current Codex maximum residue limit (CXL). The validation range should cover the existing CXL. When a CXL does not exist, the lowest level may be MRLs established by a national regulatory authority. If no CXL or MRL exists for a given analyte/matrix pair, then 0.01 mg/kg or the LOQ (whichever is greater) generally serves as the desirable LVL. In MRMs, the typical analytical goal is to set the LVL (and reporting level) at 0.01 mg/kg in diverse, yet representative commodities.

#### J. Ruggedness

28. The ruggedness (often synonymous with robustness) of an analytical method is the resistance to change in the results produced by the analytical method when 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 would not meet the data quality objectives defined by the *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.
29. Examples of the factors that a ruggedness test could address are: small changes in the instrument,, brand/lot of reagent or changes in operator; concentration of a reagent; pH of a solution; temperature of a reaction; time allowed for completion of a process, and/or other pertinent factors.

**K. Measurement Uncertainty (MU)**

30. The formal approach to measurement uncertainty estimation is a calculated estimate from an equation or mathematical model, around which the true value can be expected to lie within a defined level of probability. The procedures described in 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 recognized and significant effects upon the result. Further considerations and description of the measurement uncertainty are provided in "Guidelines on Estimation of Uncertainty of Results"<sup>6</sup>.
31. It is preferable 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. One possibility is to calculate MU from proficiency test data<sup>6</sup>.

**PERFORMANCE CRITERIA OF SCREENING METHODS**

32. Screening methods are usually either qualitative or semi-quantitative in nature, with the objective being to discriminate samples which contain no residues above a threshold value ("negatives") from those which may contain residues above that value ("indicated positives"). The validation strategy therefore focuses on establishing a threshold concentration above which results are "potentially positive," determining a statistically based rate for false detect (positive or negatives), testing for interferences and establishing appropriate conditions of use. The screening concept offers laboratories an 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 monitored using validated quantitative MRMs. As in quantitative methods, screening methods should also be checked in terms of selectivity and sensitivity. In some applications, commercial test kits may be useful, but current techniques have rarely met multi-residue screening needs economically in practice. Selectivity and analytical scope are often improved when chromatography or other form of separation is used prior to detection. Another approach is to use screening methods that involve mass spectrometry (MS)-based detection, which is able to distinguish particular chemicals from each other.
33. The selectivity of screening methods must be able to distinguish the presence of the target compound, or group of compounds, from other substances that may be present in the sample material. Selectivity of screening methods is normally less than that of a quantitative method. Screening methods can take advantage of a structural feature common to a group or class of compounds and may be based on immunoassays or spectrophotometric responses which may not unambiguously identify a compound.
34. The validation of a screening method based on a screening detection limit (SDL) can be focused on detectability. For each representative type of matrix (commodity group)<sup>7</sup>, a minimal validation should involve analysis of at least 5 samples spiked at the estimated SDL. The samples and at least 5 matrix blanks from different sources (e.g. obtained from different markets or different agricultural fields, etc.). More replicates of greater diversity provide for a better validation. A minimum of two different samples for each type of matrix should be suitable for the intended scope of the laboratory. Additional validation data can be collected from on-going QC-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 (e.g. an acceptable false-negative rate of 5%).

**PERFORMANCE CRITERIA OF QUANTITATIVE METHODS**

35. Selectivity is of particular importance in defining the performance criteria of quantitative methods used in regulatory control programs for pesticide residues in foods. Ideally, the method needs to provide a signal response that is free from interferences from other analytes and matrix compounds that 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 MS-based detectors which are better able to distinguish a particular compound or structure, combined with chromatographic separation, improves the selectivity of quantitative methods.
36. The requirement to recover a range of different pesticide residues in one extraction increases the potential for compromised selectivity in MRMs compared to single residue 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 based on the matrix, method, and analytes of interest. Care is therefore required when setting criteria for the precision and trueness of MRMs to ensure that quantification will not be affected by chemical interferences.

<sup>6</sup> *Estimation of Uncertainty of Results* (CAC/GL 59-2006)

<sup>7</sup> Table 5, *Guidelines on Good Laboratory Practice in Pesticide Residue Analysis* (CAC/GL 40-1993)



37. In addition to the selectivity of a method, the ability of the method to provide a reliable quantitative result must be demonstrated (i.e. trueness - see section F and precision – see section G). Ideally, the relative standard deviation between the original sample and replicates will be less than 20 percent.
38. Acceptability criteria for a quantitative analytical method should be demonstrated at both initial and ongoing validation stages, as being capable of providing acceptable mean recovery values at each spiking level. For validation, it is recommended that a minimum of 5 replicates be analysed (to check the recovery and precision) at the targeted LVL, LOQ, or reporting limit of the method, and at least one additional higher level, for example, 2-10x the LVL or the MRL. If a method is being used for compliance testing (i.e. if a commodity is compliant with an established MRL) the MRL (or CXL) should fall within the validated concentration range. When the residue definition includes two or more analytes, the method should be validated for all analytes.
39. The trueness 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 criteria have previously been rigorously established (typically a collaboratively studied method), or by determination of the recovery of analyte fortified into known blank sample material. Acceptable mean recoveries for enforcement purposes should normally range from 70-120% with a RSD  $\leq$ 20%. For very low concentrations (e.g. <0.01 mg/kg) some laboratories may accept method performance criteria that fall outside of these criteria (e.g. 60 – 120% with a RSD <30%). In certain cases (typically with MRMs), recoveries outside this range may be acceptable, such as when recovery is lower but consistent (e.g. demonstrating good precision). This is more justifiable if the reason for the systematic low bias is well established by chemistry (e.g. known analyte distribution between phases in a partitioning step). However, a more accurate method should be used, if practicable. Recoveries >120% are likely to be attributable to a positive interference or bias that should be investigated.
40. Analysis of incurred matrix to support method validation is encouraged. For interpreting recoveries, it is necessary to recognize that analyte spiked into a test sample may not behave in the same manner as the biologically incurred analyte (pesticide residue). In many situations, the amount of an extracted incurred residue is less than the total incurred residues actually 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 using analyte-fortified blank matrices. Often radio-labelled incurred residues or standard reference materials are required to assess recoveries of incurred residues.
41. 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 than at higher concentrations. Regardless of what average recoveries are observed, recovery with low variability is desirable so that a reliable correction for recovery can be made to the final result, when required.
42. In general, residue data do not have to be adjusted for recovery when the mean recovery is within the range of 70-120%. Recovery corrections should be made consistent with the guidelines provided by the CAC/GL 37-2001<sup>8</sup>. This will facilitate direct comparison of data sets. Correcting functions should be established on the basis of appropriate statistical considerations and documented, archived and made available to clients and reviewers. Data should (a) be clearly identified as to whether or not a recovery correction has been applied and (b) if applicable, include the amount of the correction and the method by which it was derived. This will promote direct comparability of data sets. Correction functions should be established on the basis of appropriate statistical considerations, and documented, archived and made available to the client.
43. In accordance with ISO IEC17025<sup>4</sup>, participation in a proficiency testing program should be done. Many proficiency testing schemes are available for laboratories worldwide that conduct pesticide residue monitoring. Inter-laboratory testing may also be performed.

#### **PERFORMANCE CRITERIA OF METHODS FOR ANALYTE IDENTIFICATION AND CONFIRMATION**

44. By far, gross errors (spurious mistakes made during sample preparation) are the greatest source of misidentifications in MS-based methods. For this reason, all regulatory enforcement actions (above an MRL or for those with no MRL on that commodity) require confirmation of the result via re-extraction of a replicate test portion of the original sample and re-analysis, ideally using different sample preparation and/or analysis.

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<sup>8</sup> Harmonized IUPAC Guidelines for the use of Recovery Information in Analytical Measurement. Pure & Appl. Chem., 71,1999; 337 – 348. CAC/GL 37-2001

45. Selectivity is the primary consideration for methods of identification. The method should be sufficiently selective to provide unambiguous identification. MS coupled to a chromatographic separation method is a very powerful combination for identification of an analyte in the sample extract. This method provides information about the structure of the analyte that is not obtainable with chromatography alone. GC-MS and LC-MS tools (full-scan, selected ion mode, high-resolution, tandem MS/MS, hybrid systems, among other advanced techniques) provide many measurable parameters, such as retention times, chromatographic peak shapes, ion intensities and relative abundances/ratios, mass accuracies, and other useful aspects to help make analyte identifications. However, successful methods can be developed and applied using non-MS based techniques (e.g. HPLC with photo-diode array detection, GC with element selective detection), especially if confirmation of the test result is done with alternative column chemistries.<sup>9</sup>

#### A. MS-Based Identification

46. There are no universally accepted criteria for identification. Table 1 gives examples of criteria.

47. Current practices in qualitative and quantitative analysis of pesticide residues commonly involve chromatography + selected ion monitoring (SIM) or MS/MS techniques. Full-spectral MS is also an acceptable tool that uses spectral library matching factors and/or relative abundances of major ions within the full spectra. The latter case can be treated as ion ratios in the criteria given below using at least 3 ions. In the former case, matching factors should be used for regulatory identification purposes, and the library reference spectra should be obtained from background-subtracted high purity standards on the same instrument using the same conditions as in the sample analysis. The following identification criteria should be met:

- a. Analyte retention time reference values should be determined from contemporaneously analysed (within the same batch) high concentration matrix-matched calibration standards. Otherwise, if it is known that no interferences are present, solvent-based standard solutions can be used
- b. Ion ratio reference values are to be set in the same way as in paragraph 47 a. The different ions used for identification must co-elute and have similar peak shapes. The ion from the calibration standard with the higher average intensity is to be used as the denominator in the ion ratio, expressed in percentage (due to signal fluctuations, matrix effects, etc.... deviations of ion ratios up to 30% are acceptable).
- c. The signal to noise ratios for measured peaks must be greater than 3 and/or the signal should exceed the threshold intensity level as compared to the signal of a suitable calibration standard or control encompassing the level of interest.
- d. The ion transitions chosen for identification purposes should make chemical/structural sense (be sure that the ions chosen do not originate from a degradant, impurity, or confusion with a different chemical than the analyte).
- e. All measured reagent and matrix blank samples should be free of carry-over, contamination, and/or interferences with a response  $\geq 20\%$  of the LOQ. For matrix blank samples, 30% of LOQ may be acceptable.
- f. For MS analyses, it is preferable to monitor ions with a mass/charge ratio greater than 100.

48. The minimum acceptable retention time for the analyte(s) should be at least twice the retention time corresponding to the void (dead) volume of the column. The retention time of the analyte in the extract should correspond to that of the reference value (47a) within  $\pm 0.2$  min or 0.2% relative retention time, for both gas and liquid chromatography (preferably  $\pm 0.1$  min if possible).

49. Methods based on high-resolution mass spectrometry are considered to provide improved reliability through accurate measurement of the mass/charge of the ion than cannot otherwise be obtained using unit-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 example criteria for identification provided in Table 1 should only be regarded as guidelines for identification, not as absolute criteria to prove presence or absence of a compound.

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<sup>9</sup> *Guidelines on Good Laboratory Practice in Pesticide Residue Analysis (CAC/GL 40-1993)*

## B. Confirmation

50. If the initial analysis does not provide unambiguous identification or does not meet the requirements for quantitative analysis, a confirmatory analysis is required. This may involve re-analysis of the extract or the sample. When a CXL/MRL is exceeded, a confirmatory analysis of another portion of the sample is required. For unusual pesticide/matrix combinations, a confirmatory analysis is also recommended.

51. If the initial confirmatory method is not based on an MS technique, the confirmatory methods should involve MS-based analyte identification. Moreover, the confirmatory methods should use an independent approach based on different chemical mechanisms (such as LC and GC separations). In some situations, confirmation by independent laboratories may be appropriate. Examples of analytical techniques that may be suitable to meet criteria for confirmatory analytical methods are summarized in Table 2.

**Table 1. Identification criteria for different MS techniques**

MS detector / characteristics	Typical systems (examples)	Acquisition	Requirements for identification	
			minimum number of ions	other
Unit mass resolution	quadrupole, ion trap, TOF	full scan, limited m/z range, SIM	3 ions	S/N ≥ 3 <sup>e</sup>  Analyte peaks in the extracted ion chromatograms must fully overlap.  Ion ratio within <b>±30% (relative)</b> of average of calibration standards from same sequence <sup>f</sup>
MS/MS	triple quadrupole, ion trap, Q-trap, Q-TOF, Q-Orbitrap	selected or multiple reaction monitoring, mass resolution for precursor-ion isolation equal to or better than unit mass resolution	2 product ions	
Accurate mass measurement	High resolution MS: TOF or Q-TOF Orbitrap or Q-Orbitrap FT-ICR-MS sector MS	full scan, limited m/z range, SIM, fragmentation with or without precursor-ion selection, or combinations thereof	2 ions with mass accuracy ≤ 5 ppm <sup>a,b,c</sup>	
		combined single stage MS and MS/MS with mass resolution for precursor-ion isolation equal to or better than unit mass resolution	2 ions: 1 molecular ion, (de)protonated molecule or adduct ion with mass acc. ≤ 5 ppm <sup>a,c</sup> <i>plus</i> 1 MS/MS product ion <sup>d</sup>	

<sup>a)</sup> preferably including the molecular ion, (de)protonated molecule or adduct ion

<sup>b)</sup> including at least one fragment ion

<sup>c)</sup> < 1 mDa for m/z < 200

<sup>d)</sup> ≤ 5 ppm

<sup>e)</sup> in case noise is absent, a signal should be present in at least 5 subsequent scans

<sup>f)</sup> if the mass accuracy of a precursor and its product ion is ≤ 5 ppm, ion ratio tolerance is optional.

**Table 2. Examples of detection methods suitable for the confirmatory analysis of substances**

Detection method	Criterion
LC or GC and MS	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
LC-immunoaffinity	In combination with other techniques
LC-UV/VIS (single wavelength)	In combination with other techniques

**DEFINITIONS**

**Analyte:** The chemical substance sought or determined in a sample (CAC/GL 72-2009).

**Analyte protectant:** Compounds that strongly interact to fill active sites in the gas chromatographic system, thereby reducing the analyte interactions with those active sites and yielding less peak tailing or losses, thus a higher analyte response.

**Applicability:** The analytes, matrixes, and concentrations for which an analytical method can be used satisfactorily (CAC/GL 72-2009).

**Coefficient of Variation (CV):** Often referred to as the Relative Standard Deviation (RSD). This is a measure of precision in quantitative studies comparing the variability of sets with different means.

**Confirmation:** The combination of two or more analyses that are in agreement with each other, at least one of which meets identification criteria.

**Confirmatory method:** A method that is capable of providing 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.

**Degradate (degradant, degradation product):** Component of a pesticide residue occurring in a commodity as a result of abiotic transformation of the pesticide (e.g. heat, light, moisture, pH, etc.)

**False positive:** A result wrongly indicating that the analyte is present or exceeds a specified concentration (e.g. CXL/MRL or reporting level).

**False negative:** A result wrongly indicating that the analyte is not present or does not exceed a specified concentration (e.g. CXL/MRL or reporting level).

**Fortification:** Addition of analytes for the purposes of determining the recovery (also known as spiking).

**Identification:** Process of unambiguously determining the chemical identity of all or any components of the residue definition.

**Incurred residue:** Residue occurring 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 present due to laboratory fortification of samples.

**Interference:** Intrinsic or extrinsic response unrelated to an analyte (e.g. noise) due to electronic, chemical, or other factors related to the instrumentation, environment, method, or sample.

**Interferent:** A chemical or other factor causing an interference

**Internal standard (IS):** A chemical added at a known amount to samples and/or standards in a chemical analysis, including the blank and calibration standards. This substance can then be used for calibration by plotting the ratio of the analyte signal to the internal standard signal as a function of the concentrations. This ratio for the samples is then used to obtain the analyte concentrations. The internal standard used needs to provide a signal that is similar to the analyte signal in most ways but sufficiently different so that the two signals are readily distinguishable from each other.

**Limit of Detection (LOD):** The lowest concentration or mass of the analyte that can be detected (but not quantified) in a sample. In practice, this is typically the analyte concentration at which the average signal/noise is 3.

**Limit of quantification (LOQ):** The smallest concentration of the analyte that can be quantified. It is commonly defined as the minimum concentration of the analyte in the test sample that can be determined with acceptable precision (repeatability) and accuracy under the stated conditions of the test. For the scope of this document, this is typically the analyte concentration at which the average signal/noise is 10. [See also paragraph 26].

**Linearity:** The ability of a method of analysis, within a certain range, to provide an instrumental response or results, proportional to the quantity of analyte to be determined in the laboratory sample (CAC/GL 72-2009).

**Lowest Calibrated Level (LCL):** The lowest concentration (or mass), which the determination system is successfully calibrated, through the analysis batch.

**Lowest Validated Level (LVL):** The lowest validated spiking level meeting the method performance criteria.

**Matrix:** The material or component (e.g. the food) that is sampled for pesticide residue studies.

**Matrix blank:** Sample material or sample portion containing no detectable concentration of the analytes of interest.

**Matrix effect:** An influence of the one or more undetected components from the sample on the measurement of the analyte concentration or mass.

**Matrix-matched standards:** Standard solutions prepared in final extracts of matrix blanks similar to that of the sample

**Metabolite:** Component of a pesticide residue occurring in a commodity as a result of biotic transformation (metabolism) of a pesticide in a biological system (e.g. plant, animal).

**Multiresidue method (MRM):** A method which can determine a large number of compounds typically from different chemical classes

**Precision:** Degree of variability of a measurement around a mean.

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

**Recovery:** Amount measured as a percentage of the amount of analyte(s) (as per residue definition) originally added to a sample of the appropriate matrix, which contains either no detectable level of the analyte or a known detectable level. Recovery experiments provide information on both precision and trueness and thereby the accuracy of the method.

**Relative Standard Deviation (RSD):** The standard deviation, divided by the absolute value of the arithmetic mean, expressed in percentage. It refers to the precision of the method (also known as coefficient of variation-CV).

**Repeatability:** Precision usually expressed as RSD, obtained from the same measurement procedure or test procedure; the same operator; the same measuring or test equipment used under the same conditions; the same location and repetition over a short period of time (CAC/GL 72-2009).

**Reproducibility:** Precision (typically expressed as RSD) from observation conditions where independent test/measurements results are obtained with the same method on identical test/measurement items in different test or measurement facilities with different operators using different equipment (CAC/GL 72-2009).

**Residue Definition:** the spectrum of compounds to be analysed which may include the parent compound, metabolites, isomers, reaction products and/or degradants. The residue definition is typically determined by a regulatory body.

**Ruggedness:** A measure of the capacity of an analytical procedure to remain unaffected by small but deliberate various in method parameters and provides an indication of its reliability during normal usage (CAC/GL 72-2009).

**Sample preparation:** Involves the extraction of a test portion of the sample, its clean-up and other steps that lead to the sample solution for analysis.

**Screening Detection Limit (SDL):** Lowest level of fortification that has been shown to have certainty at a 95% confidence level.

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

**Selectivity:** The extent to which a method can determine particular analyte(s) in a mixture(s) or matrices(s) without interferences from other components of similar behaviour (CAC/GL 72-2009).

**Sensitivity:** Quotient of the change in the indication of a measuring system and the corresponding change in the value of the quantity being measured (CAC/GL 72-2009).

**SIM:** selected ion monitoring, a mass spectrometry detection technique

**Single Residue Method:** A method which determines a single analyte or a small group of analytes with similar physico-chemical properties.

**Standard addition:** The method of standard addition is a type of quantitative analysis approach sometimes used in analytical chemistry whereby a known quantity of analyte is added directly to the aliquots of final extracts.

**TOF: Time of flight, a detection methodology used in mass spectrometry.**

**Trueness:** The closeness of agreement between the average of an infinite number of replicate measured quantity value and a reference quantity value (CAC/GL 72-2009).

**Uncertainty:** A parameter associated with the result of a measurement that characterizes the dispersion of values that could reasonably be attributed to the measurement.

**APPENDIX XIV**  
**(Part A)**

**TABLE 1: CCPR SCHEDULE AND PRIORITY LISTS OF PESTICIDES (NEW COMPOUNDS, NEW USES AND OTHER EVALUATIONS)**  
**2018 CCPR SCHEDULE OF JMPR EVALUATIONS (PROPOSED) - NEW COMPOUND EVALUATIONS**  
**(For approval)**

Date Stamp	TOXICOLOGY	RESIDUE	Prioritisation criteria	Commodities	Residue trials provided
<b>No. 1</b> <b>Circa 2012</b>	Chlorfenapyr Tox 2012	Chlorfenapyr [BASF] (254)	Registered MRLs > LOQ ??	Soybean, tea	Soybean (10), tea (6)
<b>No. 2</b> <b>6 Dec 2013</b>	Ethiprole (999) (insecticide) [Bayer CropScience] – Germany	Ethiprole (999)	Registered MRLs > LOQ	Coffee; rice and food of animal origin	Coffee (15); rice (12)
<b>No. 3</b> <b>Pre 2014</b> <b>[moved from 2015 at the request of manufacturer]</b> <b>Request by US / Japan to reschedule the residue evaluation to 2019 but keep the toxicology evaluation for 2018, if the full evaluation is not possible given the prioritization criteria</b>	Pyriproxyfen (999) (insecticide) [Nihon Nohyaku] Japan	Pyriproxyfen	Registered Japan; KOREA; Expected U.S. registrations by 5/22/2018 MRLs > LOQ ??	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
<b>No. 4</b> <b>27 Nov 2014</b>	XDE-777 (999) Dow AgroSciences United Kingdom fungicide	XDE-777 (999) Dow AgroSciences; France	Registered - Soon MesoAndean countries (2015-6); UK (2018) MRLs > LOQ – Y	Bananas,	Banana – 8 trials,
<b>No. 5</b> <b>25 March 2015</b>	Norflurazon USA (herbicide) (999) [TessenderloKerley Inc.]	Norflurazon (Moved from 2016 at request of nominator)	Registered MRLs > LOQ	Almond; apple; apricot; asparagus; avocado; blackberry; blueberry; cranberry; cherry (sweet /tart); citrus fruits group; cottonseed; grape; hazelnut; hops; nectarine; peach; peanut; pear; pecan; plums and prunes; raspberry; soybean; 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

Date Stamp	TOXICOLOGY	RESIDUE	Prioritisation criteria	Commodities	Residue trials provided
<b>No. 6</b> <b>2 Sept 2015</b> <b>[Moved from 2017 on request]</b>	Pydiflumetofen SYN545794 (999) (fungicide) Canada [Syngenta]	Pydiflumetofen SYN545794 (999)	Registered in Argentina MRL>LOQ	Soybean seed; Pulses (dry beans, dry peas, lentils, chickpeas), grapes; fruiting vegetables; cucurbits; leafy vegetables; potato; corn; wheat; barley; oats, peanuts, apples, canola	Wheat (33 trials), barley (21 trials), oats (22 trials), canola (21 trials), grapes (12 trials), apples (8 trials), dry beans (11 trials), dry peas (10 trials), fruiting vegetables (tomato (12 trials), bell and non-bell peppers (9 trials)), leafy vegetables (head and leaf lettuce (16 trials), spinach (8 trials), celery (8 trials)), cucurbits (cucumber (7 field and 3 protected), squash (6 trials), cantaloupe (6 trials)), corn (field and popcorn (23 trials), peanuts (12 trials), soybeans (21 trials), potatoes (26 trials)
<b>No. 7</b> <b>30 October 2015</b> <b>and revised nomination form on 25 Nov 2015</b>	Fluazinam (999) [ISK Biosciences; Ishihara Sangyo Kaisha] USA (fungicide)	Fluazinam (999)	Registered MRLs > LOQ	USA- Apples; Mayhaw; Brassica (Cole) Leafy Vegetables plus Turnip greens; Bushberry; Carrot; Ginseng; Lettuce, Head and Leaf; Edible-podded Legume Vegetables, Except Peas; Succulent Bean, includes Lima Bean, Except Peas; Dry Beans, Except Peas and Soybeans; Onions, Bulb; Melons; Squashes/ Cucumbers; Peppers/ Eggplants; Peanuts; Tuberous and Corm vegetables; Soybean; Wine grape; Tea	USA&CAN: Apple (20); Broccoli (13); Cabbage (20); Mustard greens (11); Blueberry (13); Carrot (13); Ginseng (5); Head lettuce (7); Leaf lettuce (7); Succulent beans (11); Lima beans (7); Dried beans (18); Onion (9); Cantaloupe (11); Cucumber (6); Summer squash (6); Bell pepper (9); Non-bell pepper (4); Peanut (10); Potato (12); Soybean (16); USA, CAN, GRC, FRA, ITA, DEU, ESP, CHL: Grape (23) JPN: Tea (5)
<b>No. 8</b> <b>30 Oct 2015</b>	Pyriofenone (999) [IshiharaSangyoKaisha/ISK Biosciences] USA	Pyriofenone(999)	Registered in EU, JP and CA MRLs > LOQ	USA- Berries and other small fruits; Fruiting vegetables; Mango	USA&CAN: Grape (12); Strawberry (9); Blueberry (10); Blackberry (6); Kiwi (3); Cucumbers (9); Summer Squash (9); Cantaloupe (5); BRA: Mango (4); EU: Table and Wine Grapes (20)
<b>RESERVE</b> <b>3 Nov 2015</b>	Tioxazafen(999) [Monsanto]- USA (nematicide)	Tioxazafen and its metabolite benzamidine(999)	Registered? no MRLs > LOQ? Corn, cotton seed no, soybean seed yes	USA- Corn, cotton, soybean	Corn (22), Cotton (13), Soybean (22)
<b>RESERVE</b> <b>4 Dec 2015</b>	Mandestrobin (999) Canada - USA (fungicide) [Sumitomo Chemical]	Mandestrobin	Registered, MRLs>LOQ	Canola, Grape, Strawberry	Canola (23); Grape (16); Strawberry (10)

**2018 NEW USES AND OTHER EVALUATIONS**

DATE	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
<b>1 - Priority 1 24/10/2015</b>		Cyantranilprole [DuPont] USA	USA- FRUITING VEGETABLES, OTHER THAN CUCURBITS (EXCEPT SWEETCORN); GRAPES; STRAWBERRIES; CUCURBIT VEGETABLES (GREENHOUSE); OLIVES; ARTICHOKE, GLOBE; MANGOS; CRANBERRIES; RICE	[fruiting vegetables - tomatoes (19), peppers (24)]; grapes (18); strawberries (29); [cucurbit vegetables (greenhouse cucumbers) (5)]; olives (9); artichokes, Globe (5); mangos (8); cranberries (6); rice (6)
<b>2- Priority 1 11 June 2015 Moved from 2017</b>		Isoxaflutole [Bayer CropScience] (268)	SOYA BEAN (LABEL REVIEW)	
<b>3- Priority 1 30/09/2016</b>		Abamectin [Syngenta] (177)	CANE BERRY, SWEETCORN, GREEN ONION, BEANS - SHELLED, SOYBEAN, PINEAPPLE GRAPE, MANDARIN, PUMMELO (THAILAND) SPINACH (ALTERNATIVE GAP)	Caneberry (7), sweetcorn (12), green onions (5), lima bean (7), soybean (20), pineapple (8), grape (13)
<b>4 - Priority 1 30/09/2016</b>		Fludioxonil [Syngenta]	CARROTS, CELERY, GUAVA, PINEAPPLE, KALE, POMEGRANATE DRY PEAS (CANADA)	Carrots (4), celery (8), guava (5), pineapple (4), mustard green (7), cabbage (6), broccoli (6), pomegranate (4) Dry peas (8 trials)
<b>5- Priority 1 30/09/2016</b>		Lufenuron [Syngenta]	CITRUS, COFFEE, CORN, APPLE CARAMBOLA (MALAYSIA) [LABEL SUBMITTED]	citrus (12), coffee (7), corn (4), Carambola (4)
<b>6 -Priority 1 30/09/2016</b>		Metalaxyl-M [Syngenta] (212)	COCOA BEANS (4 YEAR RULE GRANTED IN 2014), REPUBLIC OF KOREA (GINSENG)	Syngenta Cocoa (8) Korea Ginseng (4)
<b>7 - Priority 1 30/09/2016</b>		Diquat [Syngenta] (031)	CEREALS–WHEAT, BARLEY, OAT (AUSTRALIA); PULSE (CANADA)–4 YEAR RULE (2014)	Dry peas (8 trials), dry beans (10 trials), lentils (8 trials), chickpeas (9 trials)
<b>8 - Priority 1 9 Nov 2016</b>		Oxathiapiprolin (999) [Syngenta]	DUPONT: POPPY, HOPS, SUNFLOWER, SOYBEAN SYNGENTA – POTATO, CITRUS (BOTH SOIL USES); SYNGENTA/IR-4: ASPARAGUS, CANEBERRY, MUSTARD GREENS, BASIL,	DuPont: poppy (5), hops (5), sunflower (8), soybean (8) Potato (16), Citrus (12 orange, 6 grapefruit, 5 lemon); Syngenta/IR-4: asparagus (10), caneberry (5), mustard greens (10), basil (8)
<b>9 - Priority 1 28 Nov 2016 Moved from 2017 on request</b>	Pyraclostrobin (210) [BASF] Partly applicable: Evaluation of metabolite data being relevant for new uses	Pyraclostrobin (210) Registered? Yes MRLs > LOQ? Yes - all commodities listed for evaluation:	POME FRUITS, OLIVES, PERSIMMON, TROPICAL FRUITS (MANGO, PAPAYA, PASSION FRUIT, PINE APPLE), LEEK, BRASSICA VEGETABLES, FRUITING VEGETABLES, CORN SALAD (LAMB'S LETTUCE), SPINACH, LEGUME VEGETABLES (BEANS AND PEAS), ROOT AND TUBER VEGETABLES, STEM VEGETABLES, RICE, SUGAR CANE, PEANUTS, CACAO, COFFEE, TEA	Pome fruits (20), avocado (4), olives (12), persimmon (3), tropical fruits (mango (8-10), papaya (4-8), passion fruit (8), pine apple (8)), leek (8), brassica vegetables (20), fruiting vegetables (15), corn salad (lamb's lettuce) (4), spinach (extrapolation from lettuce, head (29)), legume vegetables (beans and peas) (43), root and tuber vegetables (46), stem vegetables (33), rice (about 20), sugar cane (48), peanuts (31), cacao (4), coffee (7), tea (8 - 10)
<b>10 - Priority 1 30/11/2016</b>		Cyazofamid [ISK Biosciences] USA	USA- HERBS, BULB VEGETABLES	USA- Fresh Chive (9); Dried Chive (5) Green Onions (5); Dry Bulb Onions (10)
<b>11 - Priority 1 30/11/2016</b>		Isofetamid [IshiharaSangyoKaisha] USA	USA- POME FRUITS; STONE FRUITS; BERRIES AND OTHER SMALL FRUITS; LEGUME VEGETABLES; PULSES; SOYBEAN	USA&CAN: Apple (20); Pear (10); Peach (13); Plum (9); Cherry (15); Blueberry (10); Raspberry (5); Kiwi (3); Dry pea (11); Dry bean (15); Succulent pea (10); Succulent bean (13); BRA: Soybean (4)
<b>12 - Priority 1 16 Nov 2016</b>		Mandipropamid [Syngenta]	COCOA, POTATO	Cocoa (8), potato (26)
<b>13 - Priority 1 28 Nov 2016</b>		Profenofos (171) Brazil Syngenta	COFFEE – REGISTERED IN BRAZIL	Syngenta Coffee (7)
<b>14 - Priority 1 Moved from 2017 on request 01/01/17</b>		Fluxapyroxad (256) [BASF]	CITRUS, CITRUS OIL, COFFEE, SUCCULENT BEANS AND PEAS, COTTONSEED, POTATO, MANGO, PAPAYA, ALFALFA, WHEAT, PEANUT OIL	Citrus (26), citrus oil (2), coffee (5), succulent beans and peas (18), cottonseed (14), potato (16), alfalfa (10), wheat (10), peanut oil (2), mango, papaya



DATE	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
<b>15 - Priority 1 01/01/17</b>		Bentazone [BASF] (172)	FIELD PEA (USA) - 4 year rule granted in 2014	
<b>16 - Priority 1 9 March 2017</b>		Propamocarb (148) [Bayer CropSciences]	FEEDING STUDIES	
<b>17 - Priority 1 12 April 2017</b>	Spiromesifen (294) India	Spiromesifen (294) India	<b>BASIL [Thailand]</b>  Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes, tea	Await field trial information  NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED
<b>18 - Priority 1 12 April 2017</b>	EU (tox) PROCEED WITH TOX REVIEW	Lambda-cyhalothrin (146) India	<b>CHINESE BRASSICA [Thailand]</b>  Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes, Tea, cumin	Await field trial information  NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED
<b>19- Priority 1 14 Apr 2017</b>	[Valent USA Corporation; subsidiary of Sumitomo Chemical Co., Ltd.]- USA	Pyriproxyfen (200) - Costa Rica (from 2016 on request)	COSTA RICA: BANANA; PHILIPPINES: PAPAYA; MALAYSIA/SINGAPORE: MANGO; PANAMA: PINEAPPLE USA- CUCURBIT VEGETABLES CANADA - GREENHOUSE TOMATOES, AND GREENHOUSE BELL PEPPERS	Summer Squash (6), Cucumber (6), Cantaloupe (7) Greenhouse tomatoes (11), greenhouse bell peppers (8) Banana (12), papaya (6), mango (6), pineapple (6)
<b>20 - Priority 1 24 April 2017</b>	Sulfoxaflor (252) [Dow AgroSciences] USA - Re- evaluation of developmental tox, new data	Sulfoxaflor [Dow AgroSciences] USA Request for new MRLs, based upon new residue data	Kenya, Tanzania, Uganda: passion fruit; Ghana and Senegal: mango TREE NUTS (USA), RICE, CORN, SORGHUM, COCOA, PINEAPPLE, BEAN	Passion fruit (6); mango (6)

**2018 PERIODIC REVIEW**

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
Bromopropylate (70)  <b>Not supported by the manufacturer</b>  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 <a href="http://www.efsa.europa.eu/en/efsajournal/doc/1640.pdf">http://www.efsa.europa.eu/en/efsajournal/doc/1640.pdf</a> .	1993	0.03 - 1993	N/A
Kresoxim-methyl (199) Periodic evaluation (BASF) <b>FROM 2017</b>	Kresoxim-methyl (199) Registered? Yes MRLs > LOQ? fungicide	Citrus, pome fruits, stone fruits, strawberry, small berries, sunflower, grapes, grape leaves, dried grapes, bulb vegetables, leek, cucurbits - inedible peel, cucurbits - edible peel, wheat, barley, straw and fodder of cereals, olives, mango, pecans, beetroots, bell peppers, tomato, egg plants, animal products	Citrus (19), pome fruits (37), stone fruits (10), strawberry (24), small berries (6), sunflower (10), grapes (12), grape leaves (16), bulb vegetables (16), leek (16), cucurbits - inedible peel (14), cucurbits - edible peel (8), wheat (20), barley (14), straw and fodder of cereals (34), olives (8), mango (4), pecans (6), beetroots (10), bell peppers (10), tomato (12)	1998	0.4 (1998)	NR (1998)
Clethodim (187) USA Arysta LifeScience <b>From 2017</b>	Clethodim (187)	Bean; broccoli; cabbage; carrot; cranberry; cucurbits; hops; lettuce; pea; strawberry; blueberry USA – Artichoke; Caneberry; Safflower, Apple, Pear, Cherry, Peach, Plum	Blueberry (9) – Awaiting further advice Artichoke (3); Caneberry (6); Safflower (4); Apple (14), Pear (6), Cherry (15), Peach (9), Plum (6)	1994	0.01 1994	NR 2004
Metalaxyl (138) Quimicas del Vallés - SCC GmbH <i>CCPR49 agreed that no further postponement of this review will be acceptable. The advancement of metalaxyl-M MRLS at step 7 since 2004 is contingent upon the metalaxyl review.</i>	Metalaxyl (138)	Review in 2004 for residues was for evaluation of metalaxyl-M; support from Quimicas del Vallés - SCC GmbH; USA – Grapes; tomatoes; potatoes; lettuce; oranges; strawberries; broccoli; cauliflower; head cabbage; onion Supervised trials by Thailand – PINEAPPLES	Grapes (21); tomatoes (20); potatoes (16); lettuce (10); oranges (4); strawberries (8); broccoli (8); cauliflower (4); head cabbage (4); onion (8) Thailand – pineapples (confirmed)	2004	0.08 2004	NR 2004
Flumethrin (195) [Bayer CropScience]	Flumethrin (195)	Cattle milk; cattle meat		1996	0.004, 1996	N/A

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
<p>Imazalil (110) [Janssen] First reserve for 2017</p>	<p>Imazalil (110)</p>	<p>Support / Retain: Banana, Citrus fruits (Grapefruit, oranges, lemons, limes mandarins), Cucumber, Melons, except watermelons, Pome fruits (Apples, pear), Potato, Wheat, Wheat straw &amp; fodder, dry</p> <p>Add Gerkin, Courgette (zucchini), Barley, Maize, Millet, Oats, Rye, Sorghum, Barley straw fodder dry, tomato</p> <p>Not supported Persimmon, Raspberry, Strawberry</p>	<p>Pome fruit: 39, Banana: 8, Cereal (seed treatment): 8, Citrus: 36, Cucurbits (edible peel plus melon): 17, Potatoes: 24, Tomatoes: 10 EU – public health concerns - <i>The active substance has not been re-evaluated for residues since it was included the first time in 1977. Toxicological re-evaluation was done in 2000 and an ARfD was derived in 2005. (seeCX/PR 12/44/14-Add.1 March 2012)</i> <i>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 residue took place since 35 years all MRLs should be reviewed.</i> From EFSA evaluation an ADI of 0,025 mg/kg bw and an ARfD of 0.05 mg/kg bw was derived in 2010. This is in line with the current JMPR values of 0.03 mg/kg bw (ADI, 2001) and 0.05 mg/kg bw (ARfD, 2005). A risk assessment was performed using the EFSA PRIMo including the current CXLs for banana, citrus fruit, cucumber, gherkins, melons exc. watermelons, Japanese persimmons, pome fruit, potato, raspberries, strawberries and wheat. Due to the rather old residue evaluation a refinement using HR and STMR values was impossible. Distribution between pulp and peel was not taken into account. As can be seen from this rather rough estimation ADI is exceed for a couple of WHO clusters, i. e. cluster B, E, F, D, with residues in potatoes account for a major part of the residues. It can also be stated that for European consumers children are most likely at risk. For European consumers the ARfD is exceeded for potatoes, pome fruit, Japanese persimmon as well as for citrus fruit, banana and melons, not taking into account distribution between peel and pulp. Changing the variability factor to 3 as used by JMPR will change the outcome of the assessment dramatically. Potatoes, pome fruits as well as citrus fruit, bananas and melons, not taking into account distribution between peel and pulp are still exceeding the ARfD. <b>Await advice from JMPR on public health concerns</b></p>	<p>1994R, 2005T</p>	<p>0.03 2001</p>	<p>0.05 2005</p>

**APPENDIX XIV  
(Part B)**

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

**2019 NEW COMPOUND EVALUATIONS**

Date Stamp	TOXICOLOGY	RESIDUE	Prioritisation criteria	Commodities	Residue trials provided
Pre 2014 [moved from 2015 at the request of manufacturer] Request by US / Japan to reschedule the residue evaluation to 2019 but keep the toxicology evaluation for 2018, if the full evaluation is not possible given the prioritization criteria	Pyrifluquinazon (999) (insecticide) [Nihon Nohyaku] Japan	Pyrifluquinazon	Registered Japan; KOREA; Expected U.S. registrations by 5/22/2018  MRLs > LOQ ??	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
5 April 2015 Not confirmed	SYN546330 [Syngenta] (insecticide)	SYN546330	Registered? No MRLs > LOQ? Yes	Soybean dry, Pome fruit, Citrus, Cotton, Fruiting vegetables, Cucurbits, Okra	Soybean dry (8), Pome fruit (8), Citrus (16), Cotton (4), Fruiting vegetables (Tomato 13, Pepper 13), Cucurbits (Cucumber 8, Melon 8), Okra (8)
4 Dec 2015 Not confirmed	Afidopyropen (999) [Meiji SeikaPharma/ BASF] [USA] (insecticide)	Afidopyropen [BASF] (999)	Registered? N March 18 MRLs>LOQ? y	USA- Citrus fruits, Pome fruits, Stone fruits, Brassica (Head, flowering), Fruiting vegetables (tomatoes, peppers), Fruiting vegetables (Cucurbits), Leafy (head, leafy lettuce, spinach), Brassica, leafy (Mustard greens), Soybeans, Potatoes, Celery, Tree nuts, Cotton	Citrus (lemon, 8; oranges, 12; grapefruit, 6); pome fruit (apple, 15; pear, 9); stone fruit (peaches, 13; plum, 10; cherry, 8); Brassica (head cabbage, 10; broccoli, 10); cucurbits (cucumber, 9; cantaloupe, 8, squash, 10); fruiting vegetables (tomatoes, 20; sweet bell peppers, 7; nonbell peppers, 3); leafy lettuce (8); head lettuce (9); spinach (9); mustard greens (8); soybean (20); potato (20); celery (10); tree nuts (almonds, 5; pecans, 5; pistachios, 3); cotton

Date Stamp	TOXICOLOGY	RESIDUE	Prioritisation criteria	Commodities	Residue trials provided
<p>4 Dec 2015 Priority 1 22 Nov 2016 Request to reschedule from 2018 to 2019</p>	<p>Metconazole (999) [Valent USA Corporation, on behalf of Kureha Corporation Japan] (fungicide)</p>	<p>Metaconazole [Valent USA Corporation] (999)</p>	<p>Registered US MRLs &gt; LOQ</p>	<p>USA- Stone fruit group; Blueberry; Banana; Garlic; Onion, Bulb; Legume vegetables; Pulses; Soya bean; Root and tuber vegetables1 (except Sugar beet (root)); Sugar beet (roots); Barley; Maize; Oats; Rye; Triticale; Wheat; Sugar cane; Tree nuts; Oilseed (except Cotton seed, Peanuts, Soya bean and Sunflower)**; Cotton seed; Peanuts; Sunflower seed; Meat (from mammals other than marine mammals); Mammalian fats (except milk fats); Edible offal (Mammalian); Milks; Poultry meat; Poultry fats; Poultry, Edible offal; Egg; Peanut oil, crude</p>	<p>USA- Banana (12), barley grain (28), blueberry (11), cotton seed (12), corn/maize (20), sweet corn (12), tree nuts (10), peanuts (14), soya bean (30), stone fruits (22), sugar beet roots (12), sugarcane cane (8), sunflower (12), oats (12), rape oilseed (16), dried shelled peas pulses (15), dry beans (19), triticale wheat (31), potato (32), fresh legumes, peas without pod (13), onion (4), garlic (3)</p>
<p>19 April 2016 Priority 1</p>	<p>Triflumuron [Bayer]</p>	<p>Triflumuron [Bayer]</p>	<p>Registered Y</p>	<p>Soybean</p>	
<p>30 Nov 2016</p>	<p>Orthosulfamuron (999) (herbicide) [Nihon Nohyaku Co., Ltd.] US, Brazil</p>	<p>Orthosulfamuron</p>	<p>Registered US, Brazil MRLs &gt; LOQ</p>	<p>Rice (US, Brazil); Sugarcane (Brazil)</p>	<p>Rice (16 US, 4 Brazil); Sugarcane (8 Brazil)</p>
<p>28 Nov 2016</p>	<p>Pyflubumide (999), (insecticide), [Nihon Nohyaku Co., Ltd.] Japan</p>	<p>Pyflubumide</p>	<p>Registered Japan MRLs &gt; LOQ</p>	<p>Tea</p>	<p>Tea (6)</p>
<p>16 March 2017</p>	<p>Pyridate [Belchim Crop Protection]</p>	<p>Pyridate</p>	<p>Registered Y MRL &gt; LOQ</p>	<p>Alfalfa, cabbage, kale/collard, clover, Leek /spring onion/chive, Onion/shallot/garlic, chickpea</p>	<p>Alfalfa, cabbage, kale/collard, clover, Leek /spring onion/chive,, Onion/shallot/garlic, chickpea Number of field trials to be advised</p>
<p>16 March 2017</p>	<p>Valifenalate [Belchim Crop Protection]</p>	<p>Valifenalate</p>	<p>Registered Y MRL &gt; LOQ</p>	<p>Grape, Tomato/aubergine, Onion/shallot/garlic</p>	<p>Grape, Tomato/aubergine, Onion/shallot/garlic Number of field trials to be advised</p>

**2019 NEW USES AND OTHER EVALUATIONS**

Date Stamp	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
1- Priority 1 18 July 2016		Chlorantraniliprole (230) [Dupont]	PALM OIL (MALAYSIA) LABEL PROVIDED ON 18 JULY 2016 Pulses	Palm oil (8)
2 - Priority 1 30/09/2016 Syngenta requested move from 2018	Chlorothalonil (81); (fungicide) [Syngenta]	Chlorothalonil (81); (fungicide) [Syngenta]	orange; lemon; grapefruit; lettuce; strawberry; almond; radish (root veg); mustard greens; guava; lychee, USA- CRANBERRY (under the 4 year rule).	Orange (12), Lemon (5), Grapefruit (6), Lettuce (13), Strawberry (8), Almond (5) radish (7); mustard greens (9); guava (5); lychee (4) cranberry (5)
3 - Priority 1 30/09/2016 Syngenta requested move from 2018		Mesotrione [Syngenta]	CITRUS, POME FRUIT, STONE FRUIT, TREE NUTS	Citrus – orange, grapefruit, lemon (23), Pome fruit – apple, pear (18), Stone fruit – cherry, peach, plum (21), Tree nuts – almond, pecan (10)
4- Priority 1 30/09/2016		Thiabendazole [Syngenta]	LEGUMES AND PULSES	Legumes and pulses (48)
5 - Priority 1 21 Nov 2016		S-Methoprene Wellmark International - EPA Reg. No. 2724-442	PEANUTS	Peanuts (1) - (4 farm sites, 5 different peanut varieties)
6 - Priority 1 25 Nov 2016		Tebuconazole [Bayer] (189)	CITRUS	4 trials orange, 4 trials mandarin, 3 processing trials (orange)
7 - Priority 1 25 Nov 2016		Flupyradifurone [Bayer] (285)	BLACKBERRY, RASPBERRY, AVOCADO, POMEGRANATE, HOP, COCOA AND COFFEE	Blackberry (4), raspberry (7), avocado (4), pomegranate (4), hop (11+2p), cocoa (9+2P) and coffee
8 - Priority 1 30 Nov 2016	Boscalid Evaluation of metabolite data being relevant for new uses	Boscalid (221) [BASF]	Yes - all commodities listed for evaluation: POME FRUITS, TROPICAL FRUITS (AVOCADO, MANGO, PAPAYA, POMEGRANATE), CUCURBITS, SUGAR CANE, TEA, HERBAL INFUSIONS (GINSENG)POME FRUITS, TROPICAL FRUITS (AVOCADO, MANGO, PAPAYA, POMEGRANATE), CUCURBITS, SUGAR CANE, TEA, HERBAL INFUSIONS (GINSENG)	Pome fruits (54 field and 6 postharvest trials), cherry (55), tropical fruits (avocado (7) mango (9)), berries (strawberry (54 field and 31 greenhouse trials), raspberry (37), blackberry (4), blueberry (20)), cucurbits edible peel (22 greenhouse and 35 field trials), cucurbits inedible peel (54 field and 6 greenhouse trials), ginseng (extrapolation from carrot, 8 field trials), tea (8)
9- Priority 1 1 Dec 2016		Mandestrobin Canada (999)	STRAWBERRY, GRAPE, CANOLA	Strawberry (10), grape (16), canola (23)
10 - Priority 1 6 Dec 2016		Pendimethalin (292) (herbicide) [BASF] – USA	CANE BERRIES (FB 2005), BUSH BERRIES (FB 2006),	Raspberry (3), Blackberry (4), Blueberry (7), Strawberry (8), Mint (4)
11 - Priority 1 8 Dec 2016		Fosetyl-Al [Bayer] (999)	PEACH, BLACKBERRY, RASPBERRY, BLUEBERRY, CRANBERRY, KIWI, CABBAGE, BROCCOLI, CAULIFLOWER, GREEN MUSTARD, KALE, CELERY, CHICORY WITLOOF, COFFEE, SPICES	Peach (9), blackberry (12), raspberry (6), blueberry (3), cranberry (5), kiwi (8), cabbage (28), broccoli (10), cauliflower (15), green mustard (14), kale (4), celery (5), chicory witloof (8), coffee (5), spices (7)
12 -Priority 1 March 2017		Cyantraniliprole [DuPont] USA	CRANBERRY, BLUEBERRY, ALMOND	cranberry (7), blueberry (8), almond (12)
13 - Priority 1 25 April 2017		Cyprodinil (207) [Syngenta]	SOYBEAN (Brazil)	TBA
14 - Priority 1 25 April 2017		Azoxystrobin (229) [Syngenta]	COFFEE (Brazil) higher GAP	TBA

Date Stamp	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
15 - Priority 1 26 April 2017		Dicamba (240) USA [Monsanto]	COTTON, SOYBEAN	Cotton (13), soybean (22)
<b>Priority 1 30/09/2016 NOT FOR EXTRA MEETING</b>		Trinexapac [Syngenta]	RICE, RYE	Rice (16), rye (extrapolation from wheat barley)
23 Nov 2016		Acetochlor (280) [Monsanto Co.]	Soya bean	Soybean (21)
30/09/2016 Syngenta requested move from 2018		Benzovindiflupyr (261) [Syngenta]	Blueberry, onion (dry), onion (green), sugar cane	Blueberry, onion (dry and green) (14), sugar cane (8)
<b>Moved from 2018 - quota full</b>		Bifenthrin [FMC] (178)	Barley; barley (straw fodder); - 4 year rule granted in 2014 strawberry, Lettuce head, celery (alternative GAP) okra - India	
<b>Moved from 2018- quota full</b>	Moved from 2017	Penthiopyrad (253) USA	USA – Blueberry; Caneberry	Blueberry (9) and Cranberry (7)
<b>Moved from 2018 - quota full</b>		Fluensulfone (265) [Adama]	cereal, tree nut, stone fruit, pome fruit, corn, guava, cotton	Cereal (56), tree nut (10), stone fruit (21), pome fruit (26), corn (21), guava (4), cotton (4)
<b>Moved from 2018 - quota full</b>	Isoprothiolane (999) Costa Rica and Guatemala (registration expected in 4Q2017), Colombia and Ecuador (registration expected in 2018) fungicide Nihon Nohyaku	Isoprothiolane (999) Costa Rica and Guatemala (registration expected in 4Q2017), Colombia and Ecuador (registration expected in 2018)	banana	Banana (16)
1 July 2016		Clofentezine (156) [ADAMA]	Hops (IR4)	Hops (5)
22 Nov 2016		Cyclaniliprole [Ishihara Sangyo Kaisha] USA (Cpd no. not assigned yet)	Berries and other small fruits, Citrus Fruits, Root and tuber vegetables	Blueberry (10), Raspberry (5), Strawberry (9), Kiwi (3), Orange (12), Grapefruit (6), Lemon (5), Potato (25)
		Cypermethrins (118) [BASF], [FMC]	Public health concerns - acute dietary risk- Netherlands – check uses for peach based on existing residue data and labels; Republic of Korea (ginseng)	Ginseng (4)
23 Nov 2016		Fenpyroximate (193) (acaricide) [Nihon Nohyaku Co., Ltd.] USA	Citrus; Banana; Celery; Caneberry; Summer squash; Watermelon	Citrus (24 US) [Orange (13 US), Grapefruit (6 US), Lemon (5 US)]; (Banana (5 US); Caneberry (7 US) [Blackberry (3 US) Raspberry (4 US)]; Celery (8 US); Summer Squash (5 US); Watermelon (4 US)

Date Stamp	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
28 Nov 2016		Fluazifop-p-butyl (999) (herbicide) [Syngenta] USA	Blueberry; Caneberry; Lettuce; Strawberry; Onion; Mustard Greens; papaya	Blueberry (9); Caneberry (6); Lettuce (26); Strawberry (6); Onion, green (4); Mustard Greens (12); papaya (8)
20 Apr 2016		Fluensulfone (265) [ADAMA]	Grapes, peanuts	Grapes (12), peanuts (12)
30/09/2016 Syngenta requested move from 2018		Lambda-cyhalothrin (146) [Syngenta]	pineapple	Pineapple 8
22 Nov 2016		Pyriofenone [Ishihara Sangyo Kaisha] USA (Cpd no. not assigned yet)	Fruiting vegetables, other than Cucurbits	Tomato (23), Bell pepper (9), Non-bell pepper (3)
23 Nov 2016 Request by US to reschedule the residue evaluation currently schedule for the 2018 new compound evaluation to 2019		Pyrifluquinazon (999) (insecticide) [Nihon Nohyaku Co., Ltd.] USA, Japan	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 (US); Tea (Japan)	Almonds (5); pecans (5); grape (table) (12); raisin, juice (if MRL not included under table grape); plum (6); peach (9); cherry (6); apple (12); pear (6); lemon (5); grapefruits (6); oranges (12); cantaloupe (6); cucumbers (6); summer squash (5); peppers (12); tomatoes (8); leaf lettuce (7); head lettuce (7); celery (8); spinach (7); cauliflower (6); cabbage (8); mustard greens (5); potatoes (16); cotton seed (12); tea (6) and corresponding animal commodity MRLs
1 July 2016		Spirotetramat (234) [Bayer]	Strawberry; carrot; sugarbeet	Strawberry (10); carrot (24); sugarbeet (19)
1 July 2016		Thiamethoxam(245) [Syngenta]	Persimmon (Korea); Rice [Syngenta] <b>Strawberry; Cherry tomato</b>	Persimmon (6); Rice (8) <b>Strawberry(6); Cherry tomato(6);</b>
23 Nov 2016		Tolfenpyrad (269) (insecticide) [Nihon Nohyaku Co., Ltd.] USA	Pome fruit; Cucurbits; Fruiting veg.; Brassica; Citrus; Avocado; Onion; Blueberry; Strawberry; Caneberry; Greenhouse Tomato; Greenhouse Cucumber	Apples (16); Cucumbers (6); Cantaloupe (6); Summer Squash (5); Tomatoes (12); Peppers (9); Cauliflower (6); Cabbage (6); Mustard Greens (5); Orange (12); Lemon (5); Grapefruit (6); Avocado (5); Onion (10); Blueberry (11); Strawberry (8); Caneberry (6); Greenhouse tomato (4); Greenhouse cucumber (4)
27 Nov 2014	XDE-777 (999) Dow AgroSciences United Kingdom fungicide	XDE-777 (999) Dow AgroSciences; France	Wheat, triticale, rye and durum	Cereals (Wheat 8 trials)
		Picoxystrobin- [Dupont] - USA (258)	TBA	TBA
		Buprofezin (173) [Nihon Nohyaku] Japan	Grape, apple, olive, tomato, citrus, otton, pistachio, walnut, rice, tea, coffee (including processed commodities)	
		Acephate (95) India	Rice, grapes, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum)  Curry leaves, Dry chilli, Cumin, Fennel, fenugreek, dry ginger	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019  Monitoring data



Date Stamp	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
		Acetamiprid (246) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes,  Cumin	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019  Monitoring data
		Bifenthrin (178) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes, tea,  Curry leaves	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019  Monitoring data
		Carbendazim (72) India	Dried ginger, dried chilli, cumin	Monitoring data
		Chlorpyrifos (017) India	fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), rice, grapes  Curry leaves, Dry chilli, Cumin, Fennel, fenugreek, dry ginger	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019  Monitoring data
		Clofenapyr (254) India	Dried chilli	Monitoring data
		Clothianidin (238) India	Cumin	Monitoring data
		Cypermethrin (118) India	Curry leaves, Dry chilli,	Monitoring data
		Deltamethrin (35) India	Dried chilli	Monitoring data
	Moved on request	Diazinon (22) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019
		Dicofol (26) India	Black pepper, fennel, fenugreek	Monitoring data
		Dimethoate (27) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes, Tea	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019
		Fenpropathrin (185)	Dried chilli, cumin	Monitoring data
		Imidacloprid (206) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes,	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019
		Metalaxyl (138) India	Dried ginger	Monitoring data
		Methomyl (94) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019
		Parathion (59) India	Curry leaves	Monitoring data
		Phosalone (60) India	Cardamom, dried chilli	Monitoring data
		Phorate (112) India	Dried ginger, cumin	Monitoring data
		Profenofos (171) India	fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), Tea,  curry leaves, dried chilli, cumin, cardamom, fennel, fenugreek, black pepper, ginger powder	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019  Monitoring data
		Propiconazole (160) India	Fennel, fenugreek	Monitoring data
		Thiamethoxam (245) India	Cumin	Monitoring data

Date Stamp	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
		Triazophos (143) India	Rice, fresh vegetables (cabbage, cauliflower, okra, green chilli, green pea, bitter gourd, cucumber, brinjal and capsicum), grapes  Curry leaves, Dry chilli, Cumin, Fennel, fenugreek, dry ginger	NO LABEL OR EVIDENCE OF NATIONAL REGISTRATION PROVIDED – DEFERRED TO 2019  Monitoring data

**2020 NEW COMPOUND EVALUATIONS**

Date Stamp	TOXICOLOGY	RESIDUE	Prioritisation criteria	Commodities	Residue trials provided
6 Dec 2016	Ethalfuralin [Gowan] - Canada	Ethalfuralin	Registered MRLs = LOQ	Pulses	
8 Sept 2016 Not confirmed	SYN407 (999) (insecticide) [Syngenta]	SYN407 (999) (insecticide) [Syngenta]	Registered – No (status 2016) MRLs > LOQ	Rice, Soybean, Citrus, Cotton, Fruiting vegetables (Tomato, Pepper), Cucurbits (Cucumber/squash, Melon)	Rice (8), Soybean (20), Citrus (16), Cotton (4), Fruiting vegetables (Tomato (13), Pepper (13)), Cucurbits (Cucumber/squash (8), Melon (8))
8 Nov 2016	Fluazaindolizine (XXX) (nematicide) [DuPont] – USA	Fluazaindolizine (XXX)	Registered n MRLs > LOQ y	Treated crops: Eg. Fruiting vegetables, cucurbit vegetables, carrots, potatoes; Rotational crops: Eg., tomatoes, strawberries, carrots, radish, turnip, sugarbeet, celery, broccoli, leaf lettuce, Swiss chard, peas (dry), soybeans, oilseed rape; field corn (maize), wheat	Treated crops: tomatoes (27), peppers (26), cucumbers (18), melons (18), squash (17), carrots (11), potatoes (22), Rotational crops: tomatoes (10), Strawberries (10), Carrots (3), Radish (2); Turnip/Sugarbeet (5), Celery (5), Broccoli (10), Leaf Lettuce (10), Swiss chard (5), Peas (dry) (10), soybeans (5), oilseed rape (5), field corn (maize) (10), wheat (10)
21 March 2017	BCS-CN88460 [Bayer CropScience] fungicide Germany	BCS-CN88460	Not registered MRLs > LOQ	wheat grain, triticale grain, barley grain, rye grain, oats grain, corn/maize grain, sweet corn, cereals straw, by-products of cereals and corn/maize, as well as products of animal origin	
4 Dec 2015 Not confirmed  Moved from 2019 on request	Broflanilide(999) (insecticide) [Landis International on behalf of Mitsui Chemicals] [USA]	Broflanilide (999)	Registered? No (first registration expected in 2019) MRLs > LOQ? Yes, for majority of crops and food of animal origin	USA- Brassica vegetables; Fruiting vegetables; Leafy vegetables; Legume vegetables; Pulses; Root vegetables	Brassica vegetables (35 + 16 trials), Fruiting vegetables(35 trials), Leafy vegetables (35 + 10 trials), Soybean with pod (3 trials), Pulses: Soybeans (31trials), dry beans (7 trials), Root vegetables: Potatoes (25 trials), radishes (6 trials), sweet potato(6 trials), turnip(3 trials), Stalk / stem vegetables: Leek (3 trials), green onion (3 trials), Cereals: Grain/Hay/Straw/Fodder (50 trials); Sugarcane (6 trials); Coffee (9 trials), Tea (6 trials), Feeding studies in cow and hen
4 Dec 2015 Not confirmed  Moved from 2019 on request	BAS 750 F (fungicide) (999) [USA] 4 Dec 2015	BAS 750 F [BASF] (999)	Registered? NO MRLs > LOQ? YES	USA- wheat, field corn, rice, sorghum, barley, sweet corn, dried beans, succulent beans, dried peas, succulent peas, lentils, soybean, sugar beet, peanut, canola, apple, pear, almond, pecan, pistachio, cherry, peach, plum, grape	US- Wheat, 25 (US/CA), 16 (EU); Field corn, 16; Rice, 12; Sorghum, 9; Barley, 16 (US/CA), 16 (EU); Sweet corn, 12; dried bean, 10; dry pea, 9; succulent pea, 9; lentil, 8; soybean, 20; sugar beet, 15; peanut, 12; canola, 13; apple, 15; pear, 10; almond, 5; pecan, 5; pistachio, 3; cherry, 8; peach, 12; plum, 8; grape, 13

**2020 NEW USES AND OTHER EVALUATIONS**

Date Stamp	TOXICOLOGY	RESIDUE	Commodities	Residue trials provided
5 April 2017		Pyraclostrobin (210) BASF	Ginseng (Rep of Korea)	
16 March 2017		Thiamethoxam(245) [Syngenta]	Ginseng (Rep of Korea)	Ginseng(6)

**TABLE 2A: PRIORITY LISTS OF PERIODIC REVIEWS – 2019-2021**

**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”

**2019 PERIODIC REVIEW**

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
Aldicarb (117) [AgLogic Chemical LLC] Tox conducted in 1997	aldicarb	Awaiting advice on commodities to be supported	Yes	1995	0.003 - 1992	0.003 - 1995
Amitraz (122) [Arysta Lifesciences]	Amitraz (122)		<p>Falls under the 15-year rule (listed in Table 2B), last evaluation in 1998. The EU proposes to submit a concern form on the basis of public health concerns.</p> <p>The EU and JMPR ARfD and ADI for amitraz are equal. All EU MRLs are set at LOQ.No EU evaluation of residue trials is available. Therefore the acute risk assessment was performed with the existing CXLs.However, when applied in the EFSA PRIMo model exceedances are observed for oranges (663%), apples (490%), pear (455%), peaches (297%), cucumber (292%), tomatoes (291%) for children. Refinement (IESTI 2) of the variability factors would still lead to exceedances of the ARfD for the same crops (211-480%). In addition, even without including the LOQs for the crops without MRLs, the highest calculated TMDI values in % ADI are 254 and 146 in DE and NL child, with pome fruit attributing the most (&gt;100 % of the ADI). It is acknowledged that the use of the STMRs would lower the long-term dietary exposure by approximately a factor of 4-5, whereby exceedance of the ADI is no longer envisaged.</p> <p>Using the FAO IESTI spreadsheets and JMPR ARfD, the ARfD is exceeded in case of oranges (150-290%), apple (280-360%), pear (280-290%), peaches (150-260%), cucumber (130-200%), tomatoes (110-320%). It is acknowledged that the use of HRs would lower the dietary exposure by approximately a factor of 2, but this would still result in exceedances of the ARfD.</p>	1998	1998 0.01	1998 0.01

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
Azinphos-methyl (2) Not supported JMPR JMPR 2007 ARfD0.1	Azinphos-methyl (2)		The EU submitted a concern form in October 2015. Azinphos-methyl was re-evaluated concerning toxicology in 2007 with concerns mentioned by EU in CCPR 2008 due to the use of human data. The re-evaluation for residue behaviour was announced for 2010 but then did not take place as the substance was no longer supported. The substance is not authorised in the EU. It is of public health concern as the ARfD established by JMPR is exceeded for several commodities when using EU consumption data: 185% of ARfD for pears; 135% oranges which might be of no concern taking into account distribution between peel and pulp; Peaches (120%); Pine apples (105%). As the substance is falling under the 15 year rule and it has been confirmed at several meetings of the CCPR that it is no longer supported worldwide, the existing CXLs should urgently been withdrawn (2010 CCPR, para 178; 2011 CCPR, Appendix X; 2012 CCPR, para 166; 2014 CCPR, Appendix XV; 2015 CCPR, Appendix XV).		2007 0.03	2007 0.1
Carbosulfan (145) Carbofuran (96) [FMC Corporation]	Carbosulfan Carbofuran	Awaiting advice on supported commodities  <b>ASPARAGUS; EGG PLANT, MANGO (Thailand)</b>	Netherlands – public health concerns Carbosulfan: Not approved (September 2007, RMS BE) - Information insufficient with regard to consumer exposure. Concerns identified with regard to toxicity of the substance and presence of unknown levels of carcinogenic impurities which may increase during storage, Consumers exposure inconclusive due to uncertainties regarding the effects of certain metabolites, some of which could be genotoxic Carbofuran: Not approved (September 2007, RMS BE) - Information insufficient with regard to consumer exposure. Concerns identified - High toxicity of the substance and some of its metabolites, Consumer exposure inconclusive	1997	0.01 (1986)  0.001 (1996)	0.02 (2003)  0.001 (2009)
Dicloran (83)	Dicloran (83)		Not approved (April 2008 and May 2011, RMS ES)  - Concerns identified with regard to the the toxicological relevance of several impurities in the technical material (relevant for residues in food?) and with regard to consumer risk assessment in following crops.	1998	0.01 (1998)	NR (2003)
Dimethoate [Cheminova] [FMC] (027)	Dimethoate	<b>Pulses (Canada) - Dry beans (3 trials), succulent beans (3 trials), dry peas (5 US trials and 10 EU trials), succulent peas (3 US trials and 2 EU trials), edible-podded peas (6 US trials)</b> <b>Thailand – yard-long beans</b>	EU concerns ARfD JMPR 2003 Acute risk for citrus and cherries Sum of dimethoate and omethoate expressed as dimethoateIn the 2003 evaluation by JMPR an ARfD was established. However, in the exposure assessment for the acute risk the highest residue was not used in the case of citrus. Using the HR would lead to an exceedance of the ARfD of 230%. Furthermore, the CXL of 2 mg/kg for cherries leads to an unacceptable acute risk for children and should be revised. Await advice from JMPR on public health concerns		0.002, 1996	0.02, 2003

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 <a href="http://www.efsa.europa.eu/en/efsajournal/doc/161r.pdf">http://www.efsa.europa.eu/en/efsajournal/doc/161r.pdf</a> .	1995	0.01 - 1995	N/A
Phosalon (60) [Cheminova]	Phosalon (60)		Falls under the 15-year rule (listed in Table 2B), last evaluation in 1997. The EU proposes submit a concern form on the basis of public health concerns. The substance is not authorised in the EU. EU has established a lower ADI and ARfD than JMPR. Using the EU ARfD and ADI of 0.01 mg/kg, the EU MRLs and the Codex MRL for apple and pome fruit for phosalone leads to exceedance of ADI, with apple contributing most (114-639 %) in various populations. In the short-term dietary risk assessment these MRLs lead to exceedances of the EU ARfD not only in apples (490%), but also in pears (180%) and peaches (120%). The impact of the metabolite oxaphosalone has not been taken into account, but will only add to the dietary exposure. With the ARfD of the JMPR at 0.3 mg/kg bw and the ADI at 0.02 mg/kg bw/day, there are no exposure concerns. Awaiting advice on supported commodities Durian (Thailand)	1997	1997 0.02	2001 0.3
Tolclofos-methyl (191) [Sumitomo Chemical] – deferred to 2019 on request	Tolclofos-methyl (191)	Lettuce head; lettuce leaf; potato; radish	Await advice – moved from 2017 on request	1994	0.07 1994	N/A

## 2020 PERIODIC REVIEW

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
Diazinon (22) [Makhteshim– Agan]	Diazinon	Note: Diazinon is already scheduled for toxicological and residue assessment by an interim JMPR to be held in Spring 2016, based on concerns raised by IARC on the possible carcinogenic properties of the substance (see Summary Report JMPR2015).	Falls under the 15-year rule (listed in Table 2B), last evaluation in 1996. EU Concerns are as follows: The substance is not authorised in the EU. The EU-ADI of 0.0002 mg/kg bw/day) is much lower than the JMPR ADI (0.005 mg/kg bw/day). Using the existing CXLs and the EU ARfD/ADI in the EFSA PRIMo model, serious public health concerns are identified after long-term dietary exposure of diazinon. An acute dietary risk assessment was performed using CXLs. When using the JMPR IESTI model, the JMPR-ARfD is not exceeded. By using the EFSA PRIMo model and the CXLs, the EU-ARfD is exceeded (IESTI 1) in case of scarole (175%), plums (132%), carrots (127%), melons (121%), apples (118%), broccoli (117%), tomatoes (116%), pears (105%), head cabbage (105%), bovine meat (102%). Refinement (IESTI 2) of the variability factors would still lead to exceedances of the ARfD for scarole, melons, plums and bovine meat (102-175%). Use of the HR would lower the short term exposure by a factor of 2 which would not result in an exceedance of ARfD. Even without including the LOQs for the crops without MRLs, the highest calculated TMDI values in % (EU) ADI are 376-4990% in various populations (child, toddlers, general public) and countries, with meats, pome fruit, carrots and sugar beets contributing the most (all >>100 % of the ADI). It is acknowledged that the use of the STMRs would lower the long-term dietary exposure by approximately a factor of 4-5, but this would still lead to an exceedance of the ADI.	1996	2006 0.005	2006 0.03
Ethoxyquin (35) One CXL - pear	Ethoxyquin (35)		The substance is not authorised in the EU and no import tolerances exist. EFSA concluded that the metabolism data used by JMPR for establishing the residue definition for enforcement and risk assessment could not be confirmed as the metabolism data showed deficiencies using the JMPR residue definition. EFSA concluded that the CXL for pears exceeded the ARfD (109%) and proposed to lower the EU MRL to the LOD. The last periodic review of residues was performed by JMPR in 1999 and of toxicology in 1998. This is approximately 15 years ago. It seems that Japan has recently performed a toxicological evaluation of the substance. COMMENT: a toxicological review occurred in 2005 – reviewed ADI and set ARfD		0.005, 2005	0.5, 2005
202 – Fipronil [BASF]	202 - Fipronil		006 Assorted tropical and sub-tropical fruits – inedible Peel; 006 Assorted tropical and sub-tropical fruits – inedible Peel; 006 Assorted tropical and sub-tropical fruits – inedible Peel; 006 Assorted tropical and sub-tropical fruits – inedible Peel; 015 Pulses; 016 Root and tuber vegetables; 020 Cereal grains; 021 Grasses for sugar or syrup production; 04 Nuts and seeds; 023 Oilseeds	2000/01	2000 0.0002	2000 0.003
Iprodione (111) (FMC) Moved at the request of manufacturer – await completion of EU, Canada and US reviews	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)	<u>FMC Trials:</u> 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

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
Methidathion (51) Manufacturer support from Zenno Chem for mango and peach scheduled for 2020 If no support for existing CXLs, then revocation of CXLs at CCPR49.	Methidathion (51) insecticide	Peach, mango, apple, pear, cherry, mandarin, tea	The active substance has been re-evaluated for residues (after its 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 that the ADI for 5 European diets was exceeded (up to 301%). For further details see EFSA evaluation on the internet at <a href="http://www.efsa.europa.eu/en/efsajournal/doc/1639.pdf">http://www.efsa.europa.eu/en/efsajournal/doc/1639.pdf</a> .	1992	0.001 - 1997	0.01 - 1997
Pirimicarb (101) Syngenta	Pirimicarb (101)	Supported by the manufacturer	Public health concerns - acute dietary risk– Netherlands – check uses for peach and lettuce based on existing residue data and labels Moved from 2017 New use and other evaluations	2004		
Prochloraz (142) [Bayer CropScience]			Last reviewed by JMPR in 2001. In 2011, Prochloraz was re-evaluated in the EU and a lower acute toxicological endpoint of 0.025 mg/kg/bw/d was established compared to a value of 0.1 set by JMPR in 2001. From the JMPR report (2004) the IESTI was calculated to be greater than 25% of the ARfD at 0.1 for several commodities. With a lowering of the ARfD by a factor of 4, the CXLs for banana, edible offal (mammalian), grapefruit, mandarin, orange, papaya, pineapple, shaddocks/pomelos are expected to be of concern. The EU values were derived from 2 studies that do not appear to have featured in the JMPR evaluation. The multi-generation rat study "Reader 1993" submitted as part of a dossier by a notifier and a 90 day dog study "Lancaster 1979" submitted by another notifier. In addition a change in the interpretation the significance of extended gestation in both the "Cozen 1980 study" and the "Reader 1993" study also impacted. It should also be noted the many papers reviewed as part of the literature search around prochloraz were also considered when the list of endpoints and critical values were set.		0.01, 1983 confirmed 2001	0.1, 2009
Quintozene (64) [Crompton–AMVAC]	quintozene		Falls under the 15-year rule (listed in Table 2B), last evaluation in 1995. The EU proposes submit a concern form on the basis of public health concerns. Quintozene containing more than 0.1% hexachlorobenzene is banned in the EU. For quintozene (containing less than 0.1% hexachlorobenzene), the necessity for deriving an ARfD has not been assessed (EU or JMPR). Using the CXLs, the JMPR IESTI model and the ADI as surrogate ARfD, an exceedance of the ARfD is found for ginger root (240%); no exceedance is found for the EFSA PRIMo model. Using the (temporary) ADI of 0.01 mg/kg bw/day, the TMDI in the long-term dietary risk assessment does not exceed the ADI using the Codex MRLs and the EFSA PRIMo model. However, there are many uncertainties regarding the metabolites that can be formed, depending on application of the active substance at growth stage and on type of plant. There is a lack of sufficient data to exclude consumer risks.	1995	1995 0.01	1995 n/a

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
<p>Dithiocarbamates (105) [Taminco] (ferbam, maneb/mancozeb, propineb, thiram, ziram)</p> <p><b>MOVE to 2020 22 2016 Additional advice; US Supports Mancozeb, Metiram, Propineb, Thiram, Ziram</b></p>	<p>Dithiocarbamates (105)</p>	<p><b>Longan (Thailand – mancozeb)</b>  <b>Mancozeb:</b> Oranges (24), Mandarins (16), Nuts (10), Apples (48), Pears (4), Peaches (8), Apricot (8), Plums (28), Cherries (16), Grapes (2*), small fruits and berries (25), Potato (16), Carrot (24), Onions (24), Tomatoes (31), Pepper (18), Courgette (14), Cucumber (36), Melon (20), Broccoli (24), Cauliflower (20), Head cabbage (32), Lettuce (22), Witloof (4), Beans/Peas, fresh with pods (29), Beans, fresh without pods (8), Peas, fresh without pods (16), Asparagus (10), Leeks (19), Pulses, dry (24), Olives (15), Wheat (26), Barley (16), Sugar beet (16)                      *Additional trials in progress  <b>Metiram:</b> Grape (23); Potato (23); Apple (15); Tomato (15); Onions (8); Lettuce (20); Cucurbits edible peel (8); Cucurbits inedible peel (8); Passion Fruit (4); Banana (12); Pineapple (4)  <b>Propineb:</b> apples (50); grape (54); mango (5); citrus (31); tomato (36); potato (31); chili pepper (11); cucumber (27); rice (8); shallot (8)  <b>Thiram (foliar):</b> Apple (25); Pear (10); Apricot (7); Peach (12); Cherry (28); Strawberry (40); Plum (12); Olive (8); Grape (13); Eggplant (2); Lettuce (9); Sunflower (4); Avocado (6); Mango (1); Banana (17)  <b>Thiram (seed):</b> Sugar beet (4); Maize (8); Oilseed rape (8)  <b>Ziram (foliar):</b> Peach (6); Apricot (4); Plum (11); Pear (21); Cherry (11); Grape (5); Tomato (7); Blueberries (4)</p>	<p>Residue definition applies to all DTC – propineb; mancozeb; ferbam; ziram; thiram; maneb; metiram; zineb</p> <p><b>Netherlands - public health concerns</b>                      Several (serious) public health risks have been identified for several dithiocarbamates (Maneb/mancozeb, propineb, thiram, ziram) using EU data (ARfD and MRLs with conversion factor corrections).</p> <p>JMPR has not derived ARfDs for these substances (except an interim ARfD of 0.1 mg/kg bw for propineb) nor performed acute dietary risk assessment as it was not yet done at that time (before 2000). Various group ADI's for several dithiocarbamates (e.g. 0.03 mg/kg for maneb, mancozeb, metiram and zineb, 0.007 mg/kg for propineb, 0.003 mg/kg for ziram and ferbam, and 0.01 mg/kg for thiram).</p> <p>We acknowledge that a periodic review of propineb has been performed in 2004. Still a risk has been identified for peppers and (dried) tomatoes using the HR for peppers of 13 mg/kg and the HR for tomatoes of 2.9 mg/kg for propineb and the interim ARfD of 0.1 mg/kg bw. Processing data have not been included in this calculation.</p> <p>For <u>thiram</u> risks have been identified for e.g. use on apples and pears (recommended MRL of 5 mg/kg listed under ziram, no STMR or HR listed, Annex I, JMPR report 2004 from <a href="http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Reports_s_1991-2006/report2004jmpr.pdf">http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Reports_s_1991-2006/report2004jmpr.pdf</a>) falling back on the use of the ADI of 0.01 mg/kg bw/day (no ARfD exists). Using the EU ARfD of 0.6 mg/kg bw no risks are identified any more.</p> <p>For <u>ziram</u> risk are identified e.g. use pome fruit, even if making use of the EU ARfD (0.08 mg/kg bw) instead of falling back on the ADI of 0.003 mg/kg bw/d in the absence of an JMPR ARfD.</p> <p>Due to time constraints, we have not yet further explored the risks identified for maneb / mancozeb. The majority of the dithiocarbamates have been evaluated prior to the date that acute dietary risk assessment became part of the JMPR evaluations.</p> <p>We propose therefore to update the evaluations with regard to the acute dietary risk assessment of all the dithiocarbamates in one overall assessment. This would enable identification of all the possible risks, establish whether re-evaluation of the existing data for specific uses is appropriate, whether an ARfD should be derived, and to determine whether they should subsequently be placed on the priority lists.</p> <p>Conversion factors (from CS<sub>2</sub> to active substance) are not listed in the Annex: Mancozeb: 1.783, Maneb: 1.743, Propineb: 1.904, Thiram: 1.580, Ziram: 2.009</p>	<p>1996T, 1993R, (2004 propineb)</p>	<p>Range of group ADIs</p>	<p>Interim ARfD propineb 0.1 mg/kg 1995</p>



**2021 PERIODIC REVIEW**

TOXICOLOGY	RESIDUE	Commodities	Comments	Previous evaluation	ADI	ARfD
Bromide ion (47)	Bromide ion (47)		No Croplife manufacturer responsible Last reviewed over 25 years ago - Not cleared toxicologically by JMPR Bromide ion from all sources but not including covalently bound bromine, Methyl bromide (52) – guideline CXLs	1988	1.0 - 1988	N/A
Fenbutatin oxide (109)	Fenbutatin oxide		National registrations - Y No supporting member country No longer supported by manufacturer	1992	0.03 - 1992	N/A
Guazatine (114)	Guazatine (114)		Guazatine was first discarded as not having an ADI/ARfD at all. However, this appears to be a special case. In 1978 an ADI was derived, which was withdrawn in 1997 since “The Meeting concluded that it could not establish an ADI for guazatine owing to the inadequate information on its composition and concerns about the production of rare malignant tumours in mice”. “The Meeting estimated the maximum residue level shown in Annex I. As the Meeting withdrew the ADI for guazatine this is recorded only as a Guideline Level”. As such no CXLs are supposed to be available. However, a CXL for cereal grains (0.05* mg/kg G = guideline value) and citrus fruit (5 mg/kg Po = post harvest use) can still be found in the Codex Alimentarius. Annex 1 and Annex 2 of the JMPR 1997 evaluation, show that the CXL for Citrus fruits of 5 mg/kg Po is withdrawn, but that for cereals a maximum residue level of 0.05* mg/kg is proposed. The CXL of 5 mg/kg has been adopted by the CCPR in 1999. It is unclear which discussion is behind this. The problem is that this specific MRL-crop combination gives rise to a human health risk. Only “guideline levels” (5 mg/kg) for citrus exist since the ADI was withdrawn in 1997. It was recommended that these guideline levels would remain until a new ADI is recommended. It is proposed either to delete the guideline level or request sponsors to support a re-evaluation of guazatine. There are no CXLs in place in CX/PR 14/46/5 – instead guideline levels are set – clarification from Codex Secretariat is sought.		Withdrawn 1997	N/A
Hydrogen phosphide, (zinc and aluminium salts) (46)	Hydrogen phosphide (46)	Cereal grains, citrus, almonds	No Croplife manufacturer responsible – request for additional preparation time	1971	NR	N/A
Permethrin (120)	Permethrin (120)	Not supported	Not supported by manufacturer Last reviewed over 25 years ago	1987	0.05 - 1999	NR - 1999

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

Compounds listed in this table have not been evaluated for at least 15 years. Decisions on the prioritization of these compounds should be based on the relevant criteria specified in pp159-161 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	Current national registrations	Previous evaluation	ADI	ARfD
Fenthion (39)	fenthion	No longer supported by the manufacturer	yes	1995	0.007 - 1995	0.01 - 1997
Disulfoton (74)	disulfoton	No longer supported by the manufacturer	yes	1996	0.0003 - 2006	0.003 - 2006
Fenbuconazole (197) [Dow AgroSciences]	fenbuconazole	Awaiting advice on supported commodities	yes	1997	0.03 (1997)	0.2 (2012)
Dinocap (87)	dinocap	No longer supported by the manufacturer	yes	1998	0.008 - 1998	0.008 WCBA 0.03 general
Maleic hydrazide (102) [Chemtura]	maleic hydrazide	Awaiting advice on supported commodities	yes	1998	0.3 (1996)	N/A
Amitrole (79) [Nufarm]	amitrole	Awaiting advice on supported commodities	yes	1998	0.002 (1997)	N/A
Pyriproxyfen [Sumitomo] (200)	pyriproxyfen	Awaiting advice on supported commodities	yes	1999	0.1 (1999)	NR (1999)
Malathion [Cheminova] (049)	malathion	Awaiting advice on supported commodities	yes	1999	0.3 (1997)	2.0 (2003)
2-phenylphenol (056) [???	2-phenylphenol	manufacturer unkown	yes	1999	0.4, 1999	NR 1999
Parathion-methyl (059) [Cheminova]	Parathion-methyl	Awaiting advice on supported commodities	yes	1994R, 1995T	0.003, 1995	0.03, 1995
Bitertanol (144) [Bayer CropScience]	Bitertanol	Awaiting advice on supported commodities	Yes	1998T, 1999R	0.01, 1998	NR 1998
2,4-D [Dow AgroSciences] (020)	2,4-D	Awaiting advice on supported commodities	yes	1996T, 1998R, 2001T(ARfD),	0.01, 1996	NR
Diphenylamine [Cerex Agri] (030)	Diphenylamine	Awaiting advice on supported commodities	yes	1998T, 2001R	0.08, 1998	NR
Piperonyl butoxide [Endura] (062)	Piperonyl butoxide	Awaiting advice on supported commodities	yes	1995T, 2001T(ARfD), 2001R	0.2, 1995	NR
Methomyl [DuPont] (094)	Methomy	Awaiting advice on supported commodities	yes	2001	0.02, 2001	0.02, 2001
Spinosad [Dow AgroSciences] (203)	Spinosad	Awaiting advice on supported commodities	yes	2001	0.02, 2011	NR
Imidacloprid [Bayer CropScience] (206)	Imidacloprid	Awaiting advice on supported commodities	yes	2001	0.06, 2002	0.4, 2002
Esfenvalerate [Sumitomo] (204)	Esfenvalerate	Awaiting advice on supported commodities	yes	2002	0.02, 2002	0.02, 2002
Flutolanil [Nihon Nohyaku] (206)	Flutolanil	Awaiting advice on supported commodities	yes	2002	0.09, 2002	NR, 2002

TABLE 3: RECORD OF PERIODIC REVIEWS

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
007	Captan	1963	1995T, 2004T(ARfD), 2000R			Arysta Life Science
008	Carbaryl	1965	2001T(ADI, ARfD), 2002R			Bayer CropScience
017	Chlorpyrifos	1972	1999T, 2000R, 2006 (ARfD)			Dow AgroSciences
025	Dichlorvos	1965	2011T, 2012R			AMVAC
026	Dicofol	1968	1992, 2011T			Not supported by manufacturer
031	Diquat	1970	1993T, 1994R, 2013			Syngenta
032	Endosulfan	1965	1998T, 2006R			Makhteshim Agan
037	Fenitrothion	1969	2007T(ADI, ARfD), 2003R			Sumitomo
041	Folpet	1969	1995T, 2007T(ARfD), 1998R			Makhteshim Agan
048	Lindane	1965	2002T, 2003R, 2015			EMRLs proposed
057	Paraquat	1970	2003T, 2004R			Syngenta
063	Pyrethrins	1965	2003T, 2000R			No manufacturer
065	Thiabendazole	1970	1997T, 1997R, 2006T(ARfD)			Syngenta
067	Cyhexatin	1970	2005T, 2005R			Cerex Agri
081	Chlorothalonil	1974	2009T, 2010R			Syngenta
084	Dodine	1974	2000T, 2003R			AgriPhar SA
085	Fenamiphos	1974	1997T, 1999R, 2006T(ARfD)			Makhteshim Agan
086	Pirimiphos-methyl	1974	1992T, 2006T(ARfD), 2003R			Syngenta
090	Chlorpyrifos-methyl	1975	2009			Dow AgroSciences
095	Acephate	1976	2005T, 2003R			Arysta Life Science
100	Methamidophos	1976	2002T, 2003R			Bayer CropScience
103	Phosmet	1976	1994T, 2003T, 1997R 2002R			Gowan
106	Ethephon	1977	2002T(ARfD), 2015			Bayer CropScience
112	Phorate	1977	2004T, 2005R			BASF / AMVAC
113	Propargite	1977	1999T, 2002R			Chemtura
116	Triforine	1977	1997T, 2014			Support from Sumitomo Co.
118	Cypermethrin	1979	2006T, 2008R			FMC / AgriPhar
119	Fenvalerate	1979	2012			Sumitomo Chemical
129	Azocyclotin	1979	2005T, 2005R			Cerex Agri
132	Methiocarb	1981	1998T, 1999R, 2005R (ARfD)			Bayer CropScience
133	Triadimefon/triadimenol	1979	2004T, 2007R			133 /168 - Bayer CropScience
135	Deltamethrin	1980	2000T, 2002R			Bayer CropScience
143	Triazophos	1982	2002T, 2007R			Bayer CropScience
146	Lambda-cyhalothrin	1984	2007T, 2008R			Syngenta
147	Methoprene	1984	2001T, 2005R			Dow AgroSciences
148	Propamocarb	1984	2005T, 2006R			Bayer CropScience
149	Ethoprophos	1983	1999T, 2004R			Bayer CropScience
151	Dimethipin	1985	1999T, 2004T(ARfD), 2001R			Chemtura
155	Benalaxyl	1986	2005T, 2009R			FMC
156	Clofentezine	1986	2005T, 2007R			Makhteshim Agan
157	Cyfluthrin	1986	2006T, 2007R			Makhteshim Agan / Bayer
158	Glyphosate	1986	2004			Monsanto
160	Propiconazole	1987	2004T, 2007R			Syngenta
165	Flusilazole	1989	2007			DuPont
166	Oxydemeton-methyl	1989	2002T, 1998R			United Phosphorous

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
167	Terbufos	1989	2003T			AMVAC
169	Cyromazine	1990	2006T, 2007R			Syngenta
171	Profenofos	1990	2007T, 2008R			Syngenta
172	Bentazone	1991	2012T, 2004T(ARfD), 2013			BASF
173	Buprofezin	1991	2008			Nihon Nohyaku
174	Cadusafos	1991	2009T, 2010R			FMC
175	Glufosinate-ammonium	1991	2012			Bayer CropScience
176	Hexythiazox	1991	2008T, 2009R			Nippon Soda
177	Abamectin	1992	1997T, 2015			Syngenta
178	Bifenthrin	1992	2009T, 2010R			FMC
179	Cycloxydim	1992	2009T, 2012R			BASF
180	Dithianon	1992	2010T, 2013R			BASF
181	Myclobutanil	1992	2014			Support from Dow AgroSciences
182	Penconazole	1992	2016			Syngenta
184	Etofenprox	1993	2011T,R			Mitsui Chemical Inc
185	Fenpropathrin	1993	2012T, 2014			Sumitomo Chemical
189	Tebuconazole	1994	2010T, 2011R			Bayer CropScience
190	Teflubenzuron	1994	2016			Support unknown
194	Haloxfop	1995	2006T, 2009R			Dow AgroSciences
196	Tebufenozide	1996	2003T(ARfD)			Dow AgroSciences
201	Chlorpropham	2000	2005T(ADI, ARfD)			Cerex Agri
015	Chlormequat	1970	1997T, 1999T(ARfD) 1994	2017	2017	Support from BASF
051	Methidathion	1972	1997T, 1992	2017	2017	Not supported
072	Carbendazim	1973	1995T, 2005T(ARfD), 1998R	2017	2017	Nippon Soda
126	Oxamyl	1980	2002	2017	2017	Dupont
188	Fenpropimorph	1994	2004T(ARfD)	2017	2017	Support from BASF
193	Fenpyroximate	1995	2007T(ARfD)	2017	2017	Nihon Nohyaku
199	Kresoxim-methyl	1998	None	2017	2017	BASF
070	Bromopropylate	1973	1993	2018	2018	not supported
110	Imazalil	1977	1977, 2000T, 2005T(ARfD)	2018	2018	Janssen
138	Metalaxyl	1982	2002T	2018	2018	Quimicas del Vallés - SCC GmbH
187	Clethodim	1994	1999T(ARfD)	2018	2018	Support from USA
195	Flumethrin	1996	None	2018	2018	Bayer CropScience
002	Azinphos-methyl	1965	2007T	2019	2019	Makhteshim
027	Dimethoate	1965	1996T, 2003T(ARfD), 1998R	2019	2019	
060	Phosalone	1972	1997T, 2001T(ARfD), 1994R	2019	2019	Cheminova
083	Dicloran	1974	1998	2019	2019	Gowan
096	Carbofuran	1976	1996T, 2008T(ARfD), 1997R	2019	2019	FMC
117	Aldicarb	1979	1992T, 1995T(ARfD), 1994R	2019	2019	AgLogicChemcial LLC
122	Amitraz	1980	1998T	2019	2019	Arysta Lifesciences
145	Carbosulfan	1984	2003T, 1997R	2019	2019	
191	Tolclofos-methyl	1994	None	2019	2019	Sumitomo Chemical
192	Fenarimol	1995	None	2019	2019	
022	Diazinon	1965	2006T, 1993	2020	2020	Makhteshim-Agan
035	Ethoxyquin	1969	2005T, 1999R	2020	2020	No manufacturer
064	Quintozene	1969	1995	2020	2020	Chemtura
101	Pirimicarb	1976	2004	2020	2020	Syngenta

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
105	Dithiocarbamates - incl propineb, ferbam, ziram	1965	1993R/1996T ferbam/ziram, 2004 propineb	2020	2020	Individual DTCs are evaluated, propineb 2004, ferbam/ziram 1996
111	Iprodione	1977	1995T, 1994R	2020	2020	Support from BASF
142	Prochloraz	1983	2001T, 2004R	2020	2020	Bayer CropScience
202	Fipronil	2000/2001	None	2020	2020	BASF
046	Hydrogen phosphide	1965	1966T	2021	2021	Support unknown
047	Bromide ion	1968	1988T	2021	2021	Support unknown
109	Fenbutatin oxide	1977	1992T, 1993R	2021	2021	Not supported by BASF
114	Guazatine	1977	1997	2021	2021	Guideline limits – citrus, pome fruit
120	Permethrin	1979	1999T	2021	2021	Not supported by manufacturer
130	Diflubenzuron	1981	2001T, 2002R	JECFA comments		Chemtura
020	2,4-D	1970	1996T, 1998R, 2001T(ARfD),	Listed-not scheduled	Listed-not scheduled	Dow AgroSciences
030	Diphenylamine	1969	1998T, 2001R	Listed-not scheduled	Listed-not scheduled	Cerex Agri
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	
056	2-phenylphenol	1969	1999	Listed-not scheduled	Listed-not scheduled	No manufacturer
059	Parathion-methyl	1965	1995T, 2000R	Listed-not scheduled	Listed-not scheduled	Chemnova
062	Piperonyl butoxide	1965	1995T, 2001T(ARfD), 2001R	Listed-not scheduled	Listed-not scheduled	Endura
074	Disulfoton	1973	1996T(ARfD)	Listed-not scheduled	Listed-not scheduled	Bayer CropScience
079	Amitrole	1974	1997T, 1998R	Listed-not scheduled	Listed-not scheduled	Nufarm
087	Dinocap	1969	1998T, 2000T(ARfD)	Listed-not scheduled	Listed-not scheduled	Not supported by manufacturer
094	Methomyl	1975	2001	Listed-not scheduled	Listed-not scheduled	DuPont
102	Maleic hydrazide	1976	1996T, 1998R	Listed-not scheduled	Listed-not scheduled	Chemtura
144	Bitertanol	1983	1998T, 1999R	Listed-not scheduled	Listed-not scheduled	Bayer CropScience
197	Fenbuconazole	1997	None	Listed-not scheduled	Listed-not scheduled	Dow AgroSciences
200	Pyriproxyfen	1999	None	Listed-not scheduled	Listed-not scheduled	Sumitomo Chemical / Valent Canada
203	Spinosad	2001	None	Listed-not scheduled	Listed-not scheduled	Dow AgroSciences
206	Imidacloprid	2001	None	Listed-not scheduled	Listed-not scheduled	Bayer CropScience
204	Esfenvalerate	2002	None	Listed-not scheduled	Listed-not scheduled	Sumitomo Chemical
205	Flutolanil	2002	None	Listed-not scheduled	Listed-not scheduled	Nilhon Nohyaku
207	Cyprodinil	2003	None	Never scheduled	Never scheduled	Syngenta
208	Famoxadone	2003	None	Never scheduled	Never scheduled	DuPont
209	Methoxyfenozone	2003	None	Never scheduled	Never scheduled	Dow AgroSciences
210	Pyraclostrobin	2003	None	Never scheduled	Never scheduled	BASF
211	Fludioxonil	2004	None	Never scheduled	Never scheduled	Syngenta
212	Metalaxyl-M	2002	None	Never scheduled	Never scheduled	Syngenta
213	Trifloxystrobin	2004	None	Never scheduled	Never scheduled	Bayer CropScience
214	Dimethenamid-P	2005	None	Never scheduled	Never scheduled	BASF
215	Fenhexamid	2005	None	Never scheduled	Never scheduled	Bayer CropScience
216	Indoxacarb	2005	None	Never scheduled	Never scheduled	DuPont
217	Novaluron	2005	None	Never scheduled	Never scheduled	Makhteshim-Agan
218	Sulfuryl fluoride	2005	None	Never scheduled	Never scheduled	Dow AgroSciences
219	Bifenazate	2006	None	Never scheduled	Never scheduled	Chemtura
220	Aminopyralid	2007	None	Never scheduled	Never scheduled	Dow AgroSciences
221	Boscalid	2006	None	Never scheduled	Never scheduled	BASF
222	Quinoxifen	2006	None	Never scheduled	Never scheduled	Dow AgroSciences
223	Thiacloprid	2006	None	Never scheduled	Never scheduled	Bayer CropScience

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
224	Difenoconazole	2007	None	Never scheduled	Never scheduled	Syngenta
225	Dimethomorph	2007	None	Never scheduled	Never scheduled	BASF
226	Pyrimethanil	2007	None	Never scheduled	Never scheduled	Bayer CropScience
227	Zoxamide	2007	None	Never scheduled	Never scheduled	Gowan
229	Azoxystrobin	2008	None	Never scheduled	Never scheduled	Syngenta
230	Chlorantraniliprole	2008	None	Never scheduled	Never scheduled	DuPont
231	Mandipropamid	2008	None	Never scheduled	Never scheduled	Syngenta
232	Prothioconazole	2008	None	Never scheduled	Never scheduled	Bayer CropScience
233	Spinetoram	2008	None	Never scheduled	Never scheduled	Dow AgroSciences
234	Spirotetramat	2008	None	Never scheduled	Never scheduled	Bayer CropScience
235	Fluopicolide	2009	None	Never scheduled	Never scheduled	Bayer CropScience
236	Metaflumizone	2009	None	Never scheduled	Never scheduled	BASF
237	Spirodiclofen	2009	None	Never scheduled	Never scheduled	Bayer CropScience
238	Clothianidin	2010	None	Never scheduled	Never scheduled	Sumitomo Chemical
239	Cyproconazole	2010	None	Never scheduled	Never scheduled	Syngenta
240	Dicamba	2010	None	Never scheduled	Never scheduled	BASF
241	Etoxazole	2010	None	Never scheduled	Never scheduled	Sumitomo Chemical
242	Flubendiamide	2010	None	Never scheduled	Never scheduled	Nihon Nohyaku
243	Fluopyram	2010	None	Never scheduled	Never scheduled	Bayer CropScience
244	Meptyldinocap	2010	None	Never scheduled	Never scheduled	Dow AgroSciences
245	Thiamethoxam	2010	None	Never scheduled	Never scheduled	Syngenta
246	Acetamiprid	2011	None	Never scheduled	Never scheduled	Nippon Soda
247	Emamectin-benzoate	2011	None	Never scheduled	Never scheduled	Syngenta
248	Flutriafol	2011	None	Never scheduled	Never scheduled	Chemnova
249	Isopyrazam	2011	None	Never scheduled	Never scheduled	Syngenta
250	Propylene oxide	2011	None	Never scheduled	Never scheduled	Aberco
251	Saflufenacil	2011	None	Never scheduled	Never scheduled	BASF
252	Sulfoxaflor	2011	None	Never scheduled	Never scheduled	Dow AgroSciences
253	Penthiopyrad	2011	None	Never scheduled	Never scheduled	DuPont
253	Ametoctradin	2012	None	Never scheduled	Never scheduled	[BASF] – USA
254	Chlorfenapyr	2018 R, 2012T	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
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

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
272	Aminocyclopyrachlor	2014	None	Never scheduled	Never scheduled	DuPont
273	Cyflumetofen	2014	None	Never scheduled	Never scheduled	BASF
274	Dichlobenil	2014	None	Never scheduled	Never scheduled	Chemtura
275	Flufenoxuron	2014	None	Never scheduled	Never scheduled	BASF
276	Imazamox	2014	None	Never scheduled	Never scheduled	BASF
277	Mesotrione	2014	None	Never scheduled	Never scheduled	Syngenta
278	Metrafenone	2014	None	Never scheduled	Never scheduled	BASF
279	Pymetrozine	2014	None	Never scheduled	Never scheduled	Syngenta
280	Acetochlor	2015	None	Never scheduled	Never scheduled	Monsanto
281	Cyazofamid	2015	None	Never scheduled	Never scheduled	Ishihara Sangyo Kaisha
282	Flonicamid	2015	None	Never scheduled	Never scheduled	Ishihara Sangyo Kaisha
283	Fluazifop-p-butyl	2015	None	Never scheduled	Never scheduled	Syngenta
284	Flumioxazin	2015	None	Never scheduled	Never scheduled	Sumitomo
285	Flupyradifurone	2015	None	Never scheduled	Never scheduled	Bayer CropScience
286	Lufenuron	2015	None	Never scheduled	Never scheduled	Syngenta
287	Quinclorac	2015	None	Never scheduled	Never scheduled	BASF
288	Acibenzolar-S methyl	2016	None	Never scheduled	Never scheduled	Syngenta
289	Imazethapyr	2016	None	Never scheduled	Never scheduled	BASF
290	Isofetamid	2016	None	Never scheduled	Never scheduled	Ishihara Sangyo Kaisha
291	Oxathiapiprolin	2016	None	Never scheduled	Never scheduled	DuPont
292	Pendimethalin	2016	None	Never scheduled	Never scheduled	BASF
293	Pinoxaden	2016	None	Never scheduled	Never scheduled	Syngenta
294	Spiromesifen	2016	None	Never scheduled	Never scheduled	Bayer CropScience
999	Bicyclopyrone	2017	none	Never scheduled	Never scheduled	Syngenta
999	Cyclaniliprole	2017	None	Never scheduled	Never scheduled	Ishihara Sangyo Kaisha
999	Fenazaquin	2017	None	Never scheduled	Never scheduled	Gowan
999	Fenpyrazamine	2017	None	Never scheduled	Never scheduled	Sumitomo chemical
999	Isoprothiolane	2017	None	Never scheduled	Never scheduled	Nihon Nohyaku
999	Natamycin	2017	none	Never scheduled	Never scheduled	DSM Food Specialities
999	Phosphorous acid / fosetyl	2017	None	Never scheduled	Never scheduled	Nufarm / Bayer CropScience
999	Triflumezopyrim	2017	None	Never scheduled	Never scheduled	DuPont
999	Ethiprole	2018	None	Never scheduled	Never scheduled	Bayer CropScience
999	Fluazinam	2018	None	Never scheduled	Never scheduled	ISK Biosciences / Ishihara Sangyo Kaisha
999	Mandestrobin	2018	None	Never scheduled	Never scheduled	Sumitomo Chemical
999	Norflurazon	2018	None	Never scheduled	Never scheduled	Tessenderlo Kerley Inc.
999	Pydiflumetofen SYN545794	2018	None	Never scheduled	Never scheduled	Syngenta
999	Pyriofenone	2018	None	Never scheduled	Never scheduled	ISK Biosciences / Ishihara Sangyo Kaisha
999	Tioxazafen	2018	None	Never scheduled	Never scheduled	Monsanto
999	XDE-777	2018	None	Never scheduled	Never scheduled	Dow AgroSciences
999	Pyrifluquinazon	2018 2019T	None	Never scheduled	Never scheduled	Nihon Nohyaku
999	Metconazole	2019	None	Never scheduled	Never scheduled	Valent USA / Kureha
999	Afidopyropen	2019	None	Never scheduled	Never scheduled	Meiji SeikaPharma / BASF
999	BAS 750F	2019	None	Never scheduled	Never scheduled	BASF
999	Broflalinide	2019	None	Never scheduled	Never scheduled	Landis Internaitonal / Mitsui Chemicals
999	SYN546330	2019	None	Never scheduled	Never scheduled	Syngenta

Code	Chemical	Initial JMPR evaluation	Periodic reviews	Scheduled (Tox)	Scheduled (Residues)	Notes
999	Triflururon	2019	None	Never scheduled	Never scheduled	Bayer
999	orthosulfamuron	2019	none	Never scheduled	Never scheduled	Nihon Nohyaku
999	SYN407	2020	None	Never scheduled	Never scheduled	Syngenta
999	Ethafuralin	2020	none	Never scheduled	Never scheduled	Gowan
999	Fluazaindolizine	2020	none	Never scheduled	Never scheduled	DuPont
999	BCS-CN88460	2020	none	Never scheduled	Never scheduled	Bayer CropScience

**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)