CODEX ALIMENTARIUS COMMISSION E

Food and Agriculture Organization of the United Nations

World Health Organization

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REP21/PR

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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Virtual
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REPORT OF THE 52nd SESSION OF THE CODEX COMMITTEE ON PESTICIDE RESIDUES

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LIST OF ABBREVIATIONS

ACRONYM	FULL NAME
ADI	Acceptable Daily Intake
ALARA	As low as reasonably achievable
AMR	Antimicrobial Resistance
ARfD	Acute Reference Dose
AU	African Union
CAC	Codex Alimentarius Commission
CCEXEC	Executive Committee
CCMAS	Codex Committee on Methods of Analysis and Sampling
CCPR	Codex Committee on Pesticide Residues
CCRVDF	Codex Committee on Residues of Veterinary Drugs in Foods
cGAP	Critical GAP
CL	Circular Letter
CLI	CropLife International
CRD	Conference Room Document
CRM	Certified Reference Material
CXL	Codex Maximum Residue Limit for Pesticide (as adopted by CAC)
DIE	Daily Intake Estimate
ED	Endocrine Disruptors
EDCs	Endocrine Disrupting Chemicals
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 Program
GLP	Good Laboratory Practices
GRIN	Germplasm Resources Information Network (GRIN Database)
HCD	Historical Control Data
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
KMD	Kinetically-derived Maximum Dose
LOQ	Limit of Quantification
MRL	Maximum Residue Limit
MS	Mass Spectrometry

ACRONYM	FULL NAME
MTD	Maximum Tolerable Dose
NHF	National Health Federation
NOAEL	Non-Observed Adverse Effect Level
NRD	National Registration Database
OECD	Organization for Economic Co-operation and Development
OIE	World Organization for Animal Health
PAD	Pesticide Attributes Database
PWG	Physical Working Group
RIVM	National Institute for Public Health and the Environment
SD	Standard Deviation
STMR	Supervised Trial Median Residues
TBPE	Tertiary butylphenylethanol
TFAMR	Codex Task Force on Antimicrobial Resistance
TDI	Tolerable Daily Intake
TOR	Terms of Reference
TTC	Threshold of Toxicological Concern
USA	United States of America
WG	Working Group
WHO	World Health Organization
WTO	World Trade Organization

LIST OF CRDs

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27	7a, 7c	USA and The Netherlands as Chair and Co-Chair of the EWG on the revision of the Classification of Food and Feed (CXG 4-1989) Revised Class C – Processed foods of plant origin and Table 7 – Representative commodities for Class D
28	7b, 7c	USA and The Netherlands as Chair and Co-Chair of the EWG on the revision of the Classification of Food and Feed (CXG 4-1989) Revised Class D – Processed foods of plant origin and Table 8 – Representative commodities for Class D
29	11	EU, Brazil and Uganda as Chair and Co-Chairs of the EWG on the Review of the IESTI equations Recommendations on the Review of the IESTI equations
30	16	New Zealand Mitigation of trade impacts associated with the use of environmental inhibitors in agriculture

INTRODUCTION

1. The Codex Committee on Pesticide Residues (CCPR) held its fifty-second session virtually, on 26 - 30 July and 3 August 2021, at the kind invitation of the Government of China. Professor Xiongwu QIAO, Counsellor of the Government of Province Shanxi, chaired the session. The Chairperson was assisted by Dr Guibiao YE, Director of the CCPR Secretariat, Institute for Control of Agrochemicals, Ministry of Agriculture and Rural Affairs the People's Republic of China. The session was attended by 82 Member Countries, one Member Organization, and 15 Observer Organizations. The list of participants is contained in Appendix I.

OPENING OF THE SESSION

2. Mr Taolin Zhang, Vice Minister of Agriculture and Rural Affairs of the People's Republic of China, opened the meeting, welcoming participants, stressing the important role of CCPR in strengthening exchange and cooperation in pesticide regulation among different countries. He expressed China's commitment towards the work of Codex and stressed the Chinese Government's commitment to continue supporting CCPR activities.

3. Mr Carlos Watson, FAO Representative to China and DPR Korea, Mr. Soren Madsen on behalf WHO and Tom Heilandt, Codex Secretary, also addressed the Committee.

Division of Competence

4. CCPR 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)[1]

5. CCPR adopted the Provisional Agenda as its Agenda for the Session.

6. CCPR agreed to discuss the following under Agenda Item 16 "Other Business" subject to availability of time:

- Mitigation of trade impacts associated with the use of environmental inhibitors in agriculture.
- Modification of Group 14 (Assorted fruits – inedible peel) of *the Guideline on the portion of commodities to which MRLs apply and which is analyzed* (CXG 41-1993).
- Specific operational procedures to resolve CCPR backlog in MRL adoption, triggered by COVID-19 pandemic.

APPOINTMENT OF RAPPORTEURS (Agenda Item 2)

7. CCPR appointed Julian Cudmore (UK) and David Lunn (NZ) to act as rapporteurs.

MATTERS REFERRED TO CCPR BY CAC AND/OR OTHER SUBSIDIARY BODIES (Agenda Item 3)[2]

8. CCPR noted that the document was mainly for information. Specific consideration was given to the following:

CAC's decision relevant to CCPR's work

9. CCPR noted the information referred by CAC in relation to the decisions on MRLs for pesticides, in particular the virtual procedure on the submission of the priority list to CCEXEC/CAC for approval of new work to ensure workflow between CCPR and JMPR in view of the postponement of CCPR52 from 2020 to 2021;

CCEXEC - Work management review: Regular review of Codex standards

10. CCPR noted that CCPR has procedures in place for the regular review of MRLs for pesticides (i.e. periodic review). CCPR continues to explore ways to keep Codex standards for pesticides relevant to public health and international trade;

CCEXEC - Timeliness of working documents

11. CCPR noted that the Codex Secretariat continues to work closely with the Chair of CCPR, Chairs of EWGs and the Host Country Secretariat on ways forward to improve work management of CCPR;

CCEXEC – Coordination of work between CCPR and CCRVDF

12. CCPR:

(i) noted the recommendations of CCEXEC in relation to cooperation of work on issues of common interests between CCPR/CCRVDF;

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1 CX/PR 21/52/1
2 CX/PR 21/52/2

(ii) noted the decision of CCRVDF25 on the definition of edible offal and that this matter would be further considered under Agenda Item 7(e);

(iii) supported CCRVDF's request for advice from CCEXEC on a mechanism for cooperation between CCPR and CCRVDF on the establishment of harmonized MRLs for compounds with dual uses, and encouraged innovative ways of working to facilitate and promote cooperation on cross-sectoral issues between CCRVDF and CCPR as needed and to the extent possible; and

(iv) noted that issues related to coordination of work between CCPR and CCRVDF would be further considered under Agenda Item 7(e) (e.g. definition for edible offal).

MATTERS OF INTEREST ARISING FROM FAO AND WHO (Agenda Item 4a)[3]

13. CCPR noted the information provided on FAO and WHO activities other than JMPR.

14. The Representative of FAO informed CCPR that FAO was also developing a new FAO Food Safety Strategy for 2022-2031 to support Members to improve food safety at all levels by providing scientific advice and strengthening food safety capacities for sustainable and resilient agri-food systems.

15. A delegation drew attention to the FAO study "*Understanding international harmonization of pesticide maximum residue limits with Codex standards*: *A case study on rice*" and noted that this study indicated the low use of Codex MRLs by certain countries which could lead to problems in trade. He therefore urged members to adopt Codex MRLs or to express their reservations in order to provide a signal that they do not intend to adopt Codex MRLs.

16. The Representative of WHO summarized the information contained in the working document and highlighted the updates to the chapters of the Environmental Health Criteria - Principles and methods for the risk assessment of chemicals in food (EHC 240)[4] and drew the attention of delegations to the request to update or withdraw the Guidelines for predicting dietary intake of pesticide residues vis-à-vis the update of EHC 240.

Guidelines for Predicting Dietary Intake of Pesticide Residues and
Chapter 6 of the EHC 240 (Dietary exposure assessment for chemicals in food (revised, 2020

17. A delegation noted that there were overlaps between the two publications which might be confusing. Since the revised Chapter 6 of the EHC240 contained all the elements of consumer health assessment for pesticides, the Guidelines should be withdrawn. Nevertheless, as this document would still be relevant to trace the historical development of dietary intake assessments at Codex level, the delegation proposed to keep the Guidelines accessible for consultation.

Conclusion

18. CCPR:

(i) welcomed the report provided by FAO and WHO and noted the comments made; and

(ii) agreed to recommend WHO to withdraw the "Guidelines for Predicting Dietary Intake of Pesticide Residues" from the list of publications following the publication of the revised Chapter 6 of the EHC240 (Dietary exposure assessment for chemicals in food – 2020).

MATTERS OF INTEREST ARISING FROM OTHER INTERNATIONAL ORGANIZATIONS (Agenda Item 4b)[5]

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

19. CCPR noted the information provided by the Representative of the Joint FAO/IAEA Centre in particular the support provided to several developing countries on building and strengthening capacities for pesticide residue analysis, monitoring and control, as well as relevant research activities and networks.

Conclusion

20. CCPR thanked the Joint FAO/IAEA Center for the important contribution to capacity building and networking and encouraged further cooperation in this regard.

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3 CX/PR 21/52/3

4 The revised EHC240 can be downloaded from: https://www.who.int/publications/i/item/9789241572408 or https://www.who.int/joint-fao-who-meeting-on-pesticide-residues

5 CX/PR 21/52/4

REPORT ON ITEMS OF GENERAL CONSIDERATION ARISING FROM THE 2019 JMPR EXTRAORDINARY AND REGULAR MEETINGS (Agenda Item 5a)[6]

21. CCPR noted the information provided by the FAO and WHO JMPR Secretariats including comments made by delegations as follows:

1.0 Extraordinary (extra) meetings

22. The JMPR Secretariat presented feedback on the 2019 JMPR Extraordinary Meeting. Positive outcomes of this extraordinary meeting were the increased output of JMPR in 2019 and providing valuable opportunities for the new experts to gain practical experience. The meeting also noted that the extraordinary meetings were not suitable for complex evaluations and might reduce the capacity of the regular annual JMPR meeting to conduct complex evaluations.

1.1 Update to Chapter 5 of the EHC 240: Dose–response assessment and derivation of health-based guidance values

23. As mentioned under Agenda Item 4(a), the updating of EHC 240 Chapter 5 had been completed and available on the WHO website.

1.2 Combined exposure to multiple chemicals

24. The 2019 JMPR Meeting (regular) agreed to pilot the approach based on chronic dietary exposure for compounds being evaluated for the first time.

25. The only relevant compound on the 2019 agenda for which the estimated dietary exposure exceeded 10% of the upper bound of the ADI was pyflubumide. However, this compound did not belong to an established assessment group for combined exposure to multiple pesticides. The pilot would continue in future meetings for compounds where the described criteria are met. The EU provided information on the studies developed in this area and the EU Action Plan to accelerate the work on cumulative risk assessment.

1.3 Guidance for the evaluation of genotoxicity of chemical substances in food

26. As already mentioned, the updating of EHC 240 sub-chapter 4.5 had been completed and was available on the WHO website.

1.4 Results for probabilistic modelling of acute dietary exposure to evaluate the IESTI equations

27. CCPR noted that this subject would be discussed under Agenda Item 11 in the context of the reporting from the EWG.

1.5 Need for a guidance on toxicological interpretation due to the shift from MTD-based to KMD-based evaluation of pesticide residues

28. This subject is slotted for further discussions at JMPR in 2021.

1.6 Comments on Chlorpyrifos

29. In subsequent discussions in JMPR, it was noted that Chlorpyrifos and Methyl-chlorpyrifos should be evaluated together. This was due to workload optimization and chemical similarity including metabolites and degradants.

1.7 Possible need for amendments to the EHC 240 guidance on appropriate use of HCD

30. This subject will be discussed further at JMPR in 2021.

1.8 Use of monitoring data for the estimation of maximum residue levels

31. The 2019 JMPR received monitoring data on a number of spice commodities including dried chili peppers and fresh curry leaves. The Meeting stressed its preference for supervised trials as the basis for estimating maximum residue levels and confirmed the previous decisions made by CCPR to use monitoring data only for estimation of extraneous residue levels and in general for the estimation of maximum residue levels for spices. For estimation of maximum residue levels for dried chili peppers, supervised residue trials on peppers conducted according to GAP should be the basis.

32. The EU supported the JMPR request for supervised trials and the JMPR principle in using monitoring data only in the mentioned circumstances.

[6] Section 2 of the JMPR Report (2019, regular meeting)

REPORT ON RESPONSES TO SPECIFIC CONCERNS RAISED BY CCPR ARISING FROM THE 2019 JMPR REGULAR MEETING (Agenda Item 5b[7])

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

34. The request[8] from CCPR concerning okra would be considered under Agenda Item 7.

PROPOSED MRLs FOR PESTICIDES IN FOOD AND FEED (at Steps 7 and 4) (Agenda Item 6)[9]

General Remarks

35. The EU advised CCPR that they would be introducing reservations for a number of proposed MRLs during the discussions on the individual compounds and that the reasons for these reservations were outlined in CRD22.

36. The EU explained to CCPR 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.

37. In the interest of transparency, the Delegation advised CCPR that they would be making reservations during the discussions on the individual compounds where they considered the third criterion had not been met (CRD22).

38. Norway and Switzerland advised CCPR that they would be supporting all the EU reservations as their residue risk assessment approach was the same as that of the EU.

39. CCPR welcomed these clarifications, agreed that these reservations, where relevant, would be noted in the report and that general reservations related to policy differences would not be discussed further at this meeting.

40. The EU also explained that the MRLs and the currently taken positions for Thiabendazole (65), Tebuconazole (189) and Metconazole (313) might be revised in future, pending an evaluation of triazole derivative metabolites in the EU. An assessment strategy for triazole derivative metabolites has recently been adopted in the EU and is applicable since September 2019, toxicological reference values have been endorsed for these metabolites.

DIMETHOATE (27)/OMETHOATE (55)

41. CCPR was informed that the 2019 JMPR was unable to conclude on residue definitions for risk assessment for both plants and animal commodities due to genotoxicity concerns. A member referred to the report of JMPR that dimethoate was unlikely to pose a carcinogenic risk to humans and only the omethoate is still need further data on mutagenic potential.

42. The manufacturer informed the CCPR that additional toxicology data were available, and this would be submitted to the JMPR. CCPR agreed to maintain all the CXLs under the 4-year rule, awaiting the outcome of the JMPR evaluation of the new data.

THIABENDAZOLE (65)

43. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXL for mango as recommended by the 2019 JMPR.

CARBENDAZIM (72)

44. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRLs for spices, seeds (subgroup), pending the outcome of their ongoing evaluation of Benomyl (69), Carbendazim (72), Thiophanate-methyl (77).

45. CCPR noted the concern form submitted by the EU relating to on Benomyl, Carbendazim and Thiophanate-Methyl and that the re-evaluation of the toxicological properties and MRLs for carbendazim and Thiophanate-Methyl is ongoing in the EU.

46. CCPR agreed to advance the proposed MRLs for spices, seeds for adoption at Step 5/8, as recommended by the 2019 JMPR.

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7 Section 3 of the JMPR Report (2019, regular meeting)

8 REP19/PR, paras. 43-47

9 CX/PR 21/52/5; CL 2020/6-PR; CX/PR 21/52/5-Add.1 (Australia, Brazil, Canada, Chile, Egypt, EU and USA); CX/PR 21/52/5-Add.2 (UK)

CHLOROTHALONIL (81)

47. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRL for cranberry because a genotoxic concern could not be excluded for residues of metabolites consumers would be exposed to, and the EU did not establish toxicological reference values for the metabolite SDS-3701.

48. CCPR noted the concern form submitted by the UK on the chronic exposures for metabolite R613636, formed on processing, that exceeded the generic threshold. The UK also raised a concern that the chronic exposures for this metabolite were only estimated for cranberries, and not for other crops for which CXLs are already established, and there was no acute exposure assessment.

49. The Observer from CropLife informed CCPR that data were available to refine the exposure assessments for evaluation by JMPR.

50. The JMPR Secretariat confirmed that the additional data would be considered during the regular JMPR meeting in September.

51. An observer expressed similar concerns as those raised by the UK.

52. CCPR agreed to retain the draft MRL for cranberry at Step 4, awaiting the re-evaluation by the 2021 JMPR.

PHOSMET (103)

53. CCPR noted that when discussing Agenda Item 11 on the IESTI equation, Australia had advised that the CXL listed in the Codex database for phosmet in pome fruit (10 mg/kg) was incorrect and that the CXL should be 3 mg/kg. CCPR agreed to revise the database accordingly.

IPRODIONE (111)

54. CCPR noted the concern form submitted by the EU on the safety of iprodione residues as a result of exceedances of the EU ADI and ARfD.

55. The JMPR Secretariat informed CCPR that the JMPR did not have access to the iprodione toxicological database evaluated by the EU and strongly recommended that iprodione be prioritized for periodic re-evaluation.

56. CCPR noted Iprodione had been included in the list of 2022 periodic re-evaluations.

CYPERMETHRIN (including alpha- and zeta-cypermethrin) (118)

57. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRL for ginseng, dried (including red ginseng), pending the outcome of the ongoing periodic re-evaluation in the EU.

58. CCPR agreed to advance the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

DIFLUBENZURON (130)

59. In response to the concern from the EU relating to the plant metabolite (4-chloroaniline), the JMPR Secretariat advised that the re-evaluation conducted by JECFA had concluded that this metabolite was not a significant health concern but exposure from different sources could be a concern.

METHOPRENE (147)

60. CCPR noted the reservation of the EU, Norway and Switzerland on the advancement of the proposed MRL for peanut, whole due to a chronic risk from existing EU MRLs for European consumers, and a lack of studies on the metabolic behaviour after post-harvest treatment and on the nature and magnitude of residues in processed products.

61. CCPR agreed to advance the proposed MRL for peanut, whole for adoption at Step 5/8, as recommended by the 2019 JMPR.

GLYPHOSATE (158)

62. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRLs for dry beans (subgroup) (except soya beans); dry peas(subgroup), pending the outcome of the ongoing periodic re-evaluation in the EU.

63. The Observer from NHF did not agree in principle to MRLs being adopted for this compound because in their view it is an endocrine disruptor and when combined with other formulations, its toxicity is increased thousandfold, and this cumulative effect/toxicity had not been tested.

64. The Observer from CropLife informed CCPR that in its view, regulatory authorities around the world have routinely evaluated the safety of glyphosate and end use products containing glyphosate. No regulatory authority in the world has classified glyphosate as an endocrine disruptor. Recent conclusions outlined in the EU draft renewal assessment state that glyphosate did not meet the EU criteria for endocrine disruption.

65. CCPR agreed to advance the proposed MRLs for dry beans(subgroup) (except soya beans); and dry peas (subgroup) for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by the 2019 JMPR.

PROPICONAZOLE (160)

66. The JMPR Secretariat informed CCPR that in response to a request from the CCPR51, a new MRL recommendation was proposed for peaches (including apricots and nectarine) (subgroup) (Po), based on a "mean + 4*SD" calculation rather than a "3*mean" value.

67. CCPR noted the reservation of the EU, Norway and Switzerland on the advancement of the proposed MRL for peach owing to the EU consumer risk assessment not being finalized due to the potential genotoxicity and toxicological concerns of several metabolites and due to data gaps. The EU has submitted a concern form. In addition, for peaches, an acute risk for EU consumers has been identified in an indicative risk assessment and the number of residue trials was found to be insufficient.

68. CCPR agreed to advance the proposed MRL for peaches (including apricots and nectarine) (subgroup) (Po), with the subsequent revocation of the CXL for peach and withdrawal of the previous MRLs for peach, as recommended by the 2019 JMPR.

BUPROFEZIN (173)

69. The JMPR Secretariat informed CCPR that in response to a concern form submitted by the EU, new data were considered by the 2019 JMPR for aniline and toxicological reference values were established. The 2019 JMPR concluded that exposure to aniline in processed commodities did not represent a public health concern.

70. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRLs for tree nuts (group); eggs; mammalian fats (except milk fats); poultry fats; poultry meat and poultry, edible offal of, due to the potential formation of aniline from residues of buprofezin in commodities during processing. The EU noted that the JMPR evaluated new data including a new in vivo genotoxicity study not yet assessed in the EU.

71. An observer had similar concerns to those expressed by the EU on the consumer exposure to residues of buprofezin and its metabolite.

72. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by the 2019 JMPR.

BIFENTHRIN (178)

73. CCPR noted the 2019 JMPR conclusion that the estimated acute dietary exposure to residues of bifenthrin in strawberries may present a public health concern.

74. For strawberries, CCPR agreed to revoke the CXL, withdraw the draft MRL currently at Step 4 and to retain the proposed MRL of 3 mg/kg at Step 4 waiting for advice on the availability of an alternative GAP or other information.

75. For celery and lettuce, head, CCPR agreed to keep the proposed MRLs at Step 4, waiting one year for advice on the availability of additional data or alternative GAP information to resolve the acute intake concerns identified by the 2015 JMPR.

76. For okra, CCPR agreed to withdraw the draft MRL because of the insufficient number of trials submitted to JMPR and based on confirmation from the sponsor they had no additional data and no new GAP information.

77. CCPR agreed to revoke the CXLs for barley and barley straw and fodder, dry as recommended by the 2019 JMPR.

78. CCPR agreed to advance the proposed MRL for straw and fodder (dry) of cereal grains for adoption at Step 5/8, as recommended by the 2019 JMPR and to include a note that this MRL excluded barley straw and fodder, dry.

CLETHODIM (187)

79. CCPR noted that the 2019 JMPR could not reach a conclusion on a residue definition for dietary risk assessment for plant and animal commodities.

80. CCPR was advised that the manufacturer would submit additional toxicology data for the metabolites of clethodim to the JMPR. CCPR agreed to retain all the CXLs under the 4-year rule, awaiting the re-evaluation by the JMPR.

TEBUCONAZOLE (189)

81. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRLs, pending the outcome of the ongoing periodic re-evaluation in the EU.

82. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

TOLCLOFOS-METHYL(191)

83. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRL for potato due to their acute consumer risk for European consumers.

84. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by the 2019 JMPR.

KRESOXIM-METHYL (199)

85. CCPR agreed to advance the proposed MRL for pome fruits (group), except Japanese persimmon, for adoption at Step 5/8, with the subsequent revocation of the associated CXL, as recommended by the 2019 JMPR.

86. An observer did not support the advancement of the MRL as it was their view that the compound was a carcinogen and posed an occupational risk through inhalation or dermal contact. However, it was clarified that occupational health issues were outside the remit of CCPR and Codex.

PYRIPROXIFEN (200)

87. CCPR agreed to advance the proposed MRL for mango for adoption at Step 5/8, as recommended by the 2019 JMPR.

CYPRODINIL (207)

88. CCPR noted the comment of the EU, Norway and Switzerland on the proposed MRL for soya bean (dry), relating to the use of the proportionality approach despite the trials deviating by more than one parameter from the GAP.

89. The Observer from NHF expressed concerns relating to the carcinogenicity of cyprodinil. The JMPR Secretariat informed the CCPR that new toxicological data were evaluated and the JMPR had concluded that no revisions of the existing ADI or ARfD were required. Any new data to support this concern should be submitted to the JMPR for a scientific assessment.

90. CCPR agreed to advance the proposed MRL for soya bean (dry) for adoption at Step 5/8, as recommended by 2019 JMPR.

PYRACLOSTROBIN (210)

91. CCPR noted that in response to a request from CCPR51, the 2019 JMPR had reviewed the data for spinach and the US GAP for root and tuber vegetables, and had proposed new MRLs for these commodities.

92. CCPR agreed to advance the proposed MRLs for root vegetables (subgroup) except sugar beet and spinach for adoption at Step 5/8, with the subsequent revocation of the associated CXLs and withdrawal of the associated MRLs, as recommended by the 2019 JMPR.

BOSCALID (221)

93. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRL for pome fruit, because a lower MRL could be derived using the OECD calculator.

94. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by the 2019 JMPR.

AZOXYSTROBIN (229)

95. CCPR agreed to advance the proposed MRL for guava for adoption at Step 5/8, as recommended by 2019 JMPR.

CHLORANTRANILIPROLE (230)

96. CCPR noted the comment from the EU that palm fruit (oil) is a major crop and therefore there were insufficient residue trials to derive an MRL from palm fruit. For palm kernels and the related processed products, further discussion would be required.

97. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

SPIROTETRAMAT (234)

98. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by 2019 JMPR.

METAFLUMIZONE (236)

99. CCPR noted the reservation of the EU, Norway and Switzerland on the advancement of the proposed MRL for grape, due to their acute consumer risk for European consumers.

100. An observer shared similar concerns as the EU.

101. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by 2019 JMPR.

DICAMBA (240)

102. CCPR noted the reservation from the EU, Norway and Switzerland on the advancement of the proposed MRLs for cotton seed; maize; and soya bean (dry), pending the outcome of the ongoing periodic re-evaluation in the EU.

103. CCPR noted the comment by the EU that the processing factor of soya bean hulls; and soya bean meal was derived from trials on dicamba-tolerant soya beans, while the cGAP in soya beans refers to conventional crops.

104. The Observer from NHF raised issues on the use of the compound in the USA and proposed withdrawal of the MRLs. Australia and the USA confirmed that the issues raised by the Oserver did not relate to food safety. The JMPR Secretariat informed CCPR that the JMPR had evaluated additional toxicological data and the 2019 JMPR had concluded that no revisions of the ARfD and ADI were necessary.

105. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by 2019 JMPR.

ACETAMIPRID (246)

106. CCPR agreed to advance the proposed MRLs for spices, seeds for adoption at Step 5/8 and to revoke the CXL for cardamom, as recommended by the 2019 JMPR.

PENTHIOPYRAD (253)

107. CCPR noted the reservation from the EU, Norway and Switzerland on the advancement of all proposed MRLs due to different residue definitions for risk assessment and the extrapolation methods. The EU proposed to discuss the extrapolation principle from blueberries to elderberries and guelda rose within the EWG on the revision of the Classification (Agenda item 7).

108. An observer noted that the JMPR had flexibility to decide on group extrapolation when applying extrapolation rules as there might be similar situations for other group MRLs and this did not necessarily imply revision of the Classification groups nor the tables of representative commodities.

109. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

FLUXAPYROXAD (256)

110. The JMPR Secretariat informed CCPR that in response to the specific concern regarding fluxapyroxad raised during CCPR51, the 2019 JMPR had reviewed and analyzed all available data for residues of fluxapyroxad in citrus fruit, and confirmed that for foliar uses, extrapolation of residue estimates from lemon or limes to mandarins is reasonable. A technical document elaborated these issues was included in the 2019 JMPR report. CCPR noted that the EU indicated that the extrapolations from lemons to mandarins are not in accordance with the agreed extrapolation rules.

111. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent withdrawal of the associated MRLs and the revocation of the CXL for oranges, sweet, sour (including orange-like hybrids) (subgroup) as recommended by the 2018 and 2019 JMPRs.

PICOXYSTROBIN (258)

112. The JMPR Secretariat indicated that in response to a public health concern raised by the EU, the 2019 JMPR had concluded that Picoxystrobin and its IN-8612 metabolite were unlikely to be genotoxic; that the EU specific data requirements (such as for endocrine disruption) were included as part of their risk assessments and that the concerns identified about dietary exposures to picoxystrobin were unlikely to represent a public health concern.

113. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRLs for coffee beans; cotton seed; edible offal (mammalian); mammalian fats (except milk fats); meat (from mammals other than marine mammals) (fat); milks; sorghum; tea, green, black (black, fermented and dried) due to several health concerns identified in the EFSA peer review, including possible genotoxicity of picoxystrobin and its main plant metabolites.

114. In response to the reservation of the EU, the JMPR Secretariat indicated that JMPR and EFSA differed in their interpretations of the genotoxicity data for picoxystrobin and metabolites.

115. CCPR agreed to advance all the proposed MRLs as recommended by the 2019 JMPR for adoption at Step 5/8, with the subsequent revocation of the associated CXLs.

BENZOVINDIFLUPYR (261)

116. CCPR agreed to advance the proposed MRLs for bulb onions (subgroup); sugar cane to Step 5/8 with the subsequent revocation of the associated CXL for sugar cane, as recommended by the 2019 JMPR.

FLUENSULFONE (265)

117. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of all the proposed MRLs due to the metabolism studies are not representative for the residue behaviour observed in the residue trials. The EU considered that the genotoxic potential of MeS cannot be excluded and that further genotoxicity tests would be needed to follow up on the positive results in vitro.

118. In response to the concern form submitted by the USA relating to the residue database used to recommend the pome fruit MRL and to the need for a citrus juice MRL, the JMPR Secretariat indicated that these concerns would be considered by the 2021 JMPR.

119. An observer had similar concerns to those expressed by the EU.

120. CCPR agreed to retained the proposed MRLs for apple juice; apples, dried and pome fruits (group) to Step 4, awaiting the evaluation by the 2021 JMPR and advance the other proposed MRLs for adoption at Step 5/8, as recommended by 2019 JMPR.

TOLFENPYRAD (269)

121. CCPR noted the 2019 JMPR conclusion that the estimated acute dietary exposure to residues of tolfenpyrad in tomatoes and eggplants may present a public health concern. The Observer from CropLife advised CCPR that no new information or alternative GAP was available at the moment.

122. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of all proposed MRLs pending the outcome of their ongoing import tolerance requests and that for mandarins, oranges and peppers they had identified acute consumer risks.

123. CCPR agreed to withdraw the proposed MRLs for tomatoes (subgroup) and eggplants (subgroup) and advance the other proposed MRLs for adoption at Step 5/8, as recommended by 2019 JMPR.

MESOTRIONE (277)

124. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

ACETOCHLOR (280)

125. CCPR noted the reservations from the EU, Norway and Switzerland on the advancement of the proposed MRLs for soya bean (dry) and edible offal (mammalian) because of their different residue definition for enforcement.

126. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by the 2019 JMPR.

FLONICAMID (282)

127. CCPR noted the reservations from the EU, Norway and Switzerland on the advancement of the proposed MRLs because of their different residue definition for enforcement and that for oranges, they had identified an acute consumer risk for oranges.

128. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

FLUAZIFOP-P-BUTYL (283)

129. CCPR noted the reservation from the EU, Norway and Switzerland on the advancement of the proposed MRLs for elderberries (extrapolation from blueberries) and strawberry (acute and chronic consumer risk identified).

130. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXLs, as recommended by the 2019 JMPR.

FLUPYRADIFURONE (285)

131. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

ISOFETAMID (290)

132. The JMPR Secretariat explained that in response to a concern form submitted by the EU, the 2019 JMPR had re-evaluated the data for bush berries and pulses, resulting in new recommendations.

133. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent withdrawal of the associated MRLs, as recommended by the 2019 JMPR.

PENDIMETHALIN (292)

134. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

CYCLANILIPROLE (296)

135. CCPR noted the reservation from the EU, Norway and Switzerland on the advancement of all the proposed MRLs because their the consumer risk assessment could not be finalized and no conclusion could be drawn on the genotoxicity and the general toxicity of several metabolites and that for leaves of Brassicaceae (subgroup), the number of trials were insufficient to recommend an MRL.

136. An obsever supported the retention of the MRLs at Step 4 in view of data gaps as indicated by the EU.

137. The JMPR Secretariat, in response to the EU comment on data gaps for leaves of Brassicaceae, explained that the recommendations were based on 5 trials, while only 4 trials are required

138. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent withdrawal of the associated MRLs, as recommended by the 2019 JMPR.

FENAZAQUIN (297)

139. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

FOSETYL-ALUMINIUM (302)

140. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRL for coffee beans because of insufficient number of residue trials.

141. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, with the subsequent revocation of the associated CXL for mammalian fats (except milk fat), as recommended by the 2019 JMPR.

MANDESTROBIN (307)

142. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of the proposed MRL for rape seed due to their different residue definition for risk assessment.

143. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

PYDIFLUMETOFEN (309)

144. CCPR noted the 2019 JMPR conclusion that the estimated acute dietary exposure to residues of pydiflumetofen in leafy greens (subgroup) may present a public health concern. The Observer from CropLife advised CCPR that no new information or alternative GAP was available at the moment.

145. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of all the proposed MRLs pending the outcome of the ongoing approval procedure in the EU and that they had identified an acute intake concern for the subgroup of stems and petioles.

146. CCPR agreed to withdraw the proposed MRLs for leafy greens (subgroup) and advance the other proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

PYRIOFENONE (310)

147. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

AFIDOPYROPEN (312)

148. CCPR noted that the concern form on Afidopyropen submitted by the USA was withdrawn during this Session because JMPR had agreed to review their dietary intake assessment to take into account the scaling factor used when calculating the sum of parent plus M4401007 residues and consider the practicality of the low MRL proposed for milk.

149. CCPR noted the reservations of the EU, Norway and Switzerland on the advancement of all the proposed MRLs due to their concern on the evaluation of metabolites, their acute consumer risk concern (for leaves of Brassicaceae), and the representative crop selection (for herbs).

150. In response to a question from Republic of Korea, the JMPR Secretariat clarified that since the US pome fruits group did not include Japanese persimmon, the MRL was proposed for pome fruits except persimmon. Republic of Korea expressed concerns about the exclusion of a minor crop such as Japanese persimmon from the Group MRLs.

151. CCPR agreed to advance all the proposed MRLs to Step 5/8, as recommended by the 2019 JMPR.

METCONAZOLE (313)

152. CCPR noted that in response to the concern form submitted by the USA, JMPR had agreed to reconsider the data available to support an MRL for wheat grain.

153. CCPR noted the reservations from the EU, Norway and Switzerland on the advancement of all the proposed MRLs pending the outcome of the ongoing periodic re-evaluation in the EU.

154. CCPR was informed by EU that they considered that the proposed MRL for peach should be lower (according to the OECD calculator) and that the number of residue trials were insufficient to support an MRL for plums (subgroup), in line with EU policies. The EU also noted that for cherries, sunflower and sugar beet, fewer residue trials had been considered by JMPR than by the EU for import tolerance requests for the same commodities. The EU considered that JMPR should base its recommendations on the most comprehensive dataset possible.

155. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

PYFLUBUMIDE (314)

156. CCPR noted the 2019 JMPR conclusion that the estimated acute dietary exposure to residues of pyflubumide in apples and tea, green, black may present a public health concern. The Observer from CropLife advised CCPR that within the next 12 months, new toxicology data would be available for evaluation by JMPR.

157. CCPR agreed to retain the proposed MRLs for apple; tea, green, black (black, fermented and dried) to Step 4, awaiting the JMPR re-evaluation.

PYRIDATE (315)

158. CCPR noted that the 2019 JMPR had established an ADI of 0-0.2 mg/kg bw and an ARfD of 2 mg/kg bw for pyridate and that these differed from the toxicological reference values derived in the EU.

PYRIFLUQUINAZON (316)

159. CCPR noted that the 2019 JMPR was not able to derive a residue definition for dietary risk assessment for animal commodities.

160. In response to a question from the Observer from CropLife on whether an MRL could be proposed for tea (not an animal feed commodity), the JMPR Secretariat indicated that 2019 JMPR did not propose any MRL without the completion of the residue definition for dietary risk assessment.

TRIFLUMURON (317)

161. CCPR noted that the 2019 JMPR was not able to derive a residue definition for dietary risk assessment for plant and animal commodities and that new toxicology (genotoxicity) data would be re-evaluated by the 2021 JMPR.

VALIFENALATE (318)

162. CCPR agreed to advance all the proposed MRLs for adoption at Step 5/8, as recommended by the 2019 JMPR.

Conclusion

163. CCPR:

(i) agreed to forward to CAC44:

a) MRLs for adoption by CAC44 at Step 5/8 (Appendix II).

b) CXLs for revocation by CAC44 (Appendix III).

(ii) noted that:

a) MRLs retained at 4 and 7 are attached as Appendices IV and V (for information).

b) MRLs in the Step Procedure which have been withdrawn are attached as Appendix VI (discontinuation of work).

REVISION OF THE CLASSIFICATION OF FOOD AND FEED (Agenda Item 7)

General Remarks

164. The USA and The Netherlands, as Chair and co-Chair of the EWG, introduced the item and explained the key points of discussions, outcomes and outstanding issues identified by the EWG in revising Class C/D and the corresponding tables of representative commodities as identified in the working documents listed in the Agenda.

165. The EWG Chairs further explained that comments submitted in reply to CL 2021/37-PR, as contained in CX/PR 21/52/6-Add.1 and various CRDs, on additional proposals for inclusion in Class C/D and the tables of representative commodities, as well as feedback on questions raised by the EWG under Agenda Item 7(d) in CX/PR 21/52/7, were addressed in a pre-meeting to facilitate discussion and decision-making by CCPR.

166. The EWG Chairs further clarified that the revised Class C/D and their associated tables on representative commodities, as presented in CRDs 27 and 28, addressed all written comments submitted by Codex members and observers to this Session.

167. CCPR agreed to consider the revised Class C/D, and the associated tables of representative commodities, as presented in CRDs 27/28 and made the following decisions and agreed with/noted the following comments:

CLASS C: PRIMARY FEED COMMODITIES (Agenda Item 7a)[10]

Revised Class C and Table 7

168. CCPR noted general support for the revised Class C and Table 7 on examples of representative commodities for this class as presented in CRD27.

169. CCPR made a correction to Subgroup 052A, by the addition of sweet potato, vines and made the consequential amendment to Table 7 on examples of representative commodities (Agenda Item 7c).

Conclusion

170. CCPR agreed to forward the revised Class C: Primary animal feed commodities and Table 7: Examples of representative commodities for Class C as amended to Step 5/8 for adoption by CAC44 and to include Table 7 in the *Principles and Guidelines for the Selection of Representative Commodities for the extrapolation of MRLs for Pesticides to Commodity Group* (CXG 84-2012) (Appendix VII).

CLASS D: PROCESSED FOODS OF PLANT ORIGIN (Agenda Item 7b)[11]

Revised Class C and Table 8

171. CCPR noted general support for the revised Class D and Table 8 on examples of representative commodities for this class as presented in CRD28, and made additional amendments as follows:

- Transferred tomato juice to the group fruit juices to align with the *General Standard for Fruit Juices and Nectars* (CXS 247-2005) where tomato juice was considered and standardized as a fruit juice.
- Deleted Ginseng (dried) from Subgroup 066C Teas – Herbal teas from roots as it was already included under Group 056, Dried vegetables, noting that it was not possible to have a commodity under more than one group.
- Referred to ginger rhizome, dried under Group 056 and ginger leaves under Subgroup 057A, dried herbs of herbaceous plants, to clearly distinguish the two commodities from each other.
- Deleted Group of fruit and vegetable, juices (JF0175), noting that the group was split and that where fruit juices have to fulfill the requirements of CXS 247, no standards for vegetable juices exist.
- Made the consequential amendments to Table 8 on examples of representative commodities for this class (Agenda Item 7c).

Transfer of commodities from Class D to Class C

172. CCPR noted general support for the transfer of commodities from Class D to Class C as presented in CX/PR 21/52/7-Appendix II.

Conclusion

173. CCPR:

10 CX/PR 21/52/6 ; CX/PR 21/52/6 Add.1 (Australia, Canada, Egypt, Iran, Japan, Thailand, IFU)
11 CX/PR 21/52/7 ; CX/PR 21/52/6 Add.1 (Australia, Canada, Egypt, Iran, Japan, Thailand, IFU)

(i) agreed to forward the revised Class D: Processed food of plant origin and Table 8: Examples of representative commodities for Class D as amended to Step 5/8 for adoption by CAC44 and to include Table 8 in the *Principles and Guidelines for the Selection of Representative Commodities for the extrapolation of MRLs for Pesticides to Commodity Group* (CXG 84-2012) (Appendix VIII); and

(ii) agreed with the transfer of commodities from Class D to Class C (Appendix IX)

TABLES ON EXAMPLES OF REPRESENTATIVE COMMODITIES FOR COMMODITY GROUPS IN DIFFERENT TYPES UNDER CLASS C AND CLASS D (FOR INCLUSION IN THE *PRINCIPLES AND GUIDELINES FOR THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MRLs FOR PESTICIDES TO COMMODITY GROUPS* (CXG 84-2012) (Agenda Item 7c)[12]

174. CCPR recalled that some of the commodity groups did not include examples of representative commodities, but that alternative approaches were available for extrapolation as per the footnotes 1 and 2. In order to allow flexibility, CCPR agreed to amend Footnote 2 of Table 8 to allow also for consideration of OECD guideline to be considered for extrapolation of processed commodities.

Conclusion

175. See Agenda Items 7(a/b).

IMPACT OF THE REVISED CLASS C AND CLASS D ON CXLs (Agenda Item 7d)[13]

Impact of the revised Class C/D on CXLs

176. CCPR agreed with the recommendations on the impact of the revised Class C/D on CXLs as described in CX/PR 21/52/9, Appendices I and II (Appendix X).

Removal of the term "fodder" from the revised Class C

177. The EWG Chairs further drew the attention of CCPR to the paper prepared by Japan (*CX/PR* 21/52/9, Appendix II) to address the implications for CXLs following the decision to replace the term "fodder" by other terms more specific to describe feed commodities such as silage, straw or hay, and agreed to forward this paper to JMPR for their use when setting MRLs for feed commodities under the revised Class C vis-à-vis existing CXLs for "fodder" (Appendix XI).

Other matters: Okra

178. CCPR recalled its previous discussion[14] on extrapolation of MRLs for okra, martynia and roselle and the feedback[15] from JMPR concerning the difficulties to extrapolate MRLs for this commodity from the Subgroup Pepper, and agreed that the EWG on the revision of the Classification should consider representative commodities from which MRLs for okra could be extrapolated. Recalling the decision of CCPR51 that monitoring data on residues of pesticides in okra should be submitted, CCPR agreed that the EWG should take into account this monitoring data when considering this matter. Delegations expressed the importance to resolve this matter as okra was an important commodity for their countries and it would be difficult to establish single MRLs for this commodity.

General Conclusion on Item 7:
ToR of the EWG on the revision of the Classification

179. CCPR agreed to re-establish the EWG on the revision of the Classification, chaired by USA and co-chaired by The Netherlands, working in English with the following TORs:

(i) Consider the issue of okra and an appropriate representative commodity taking into account monitoring data submitted.

(ii) Continue to work on edible animal tissues (including edible offal) in collaboration with the CCRVDF/EWG on edible offal (see Agenda Item 7e, paragraph 185).

(iii) Initiate consideration of Class B, Primary Food Commodities of Animal Origin and Class E, Processed Foods of Animal Origin.

12 CX/PR 21/52/8; CX/PR 21/52/6 Add.1 (Australia, Canada, Egypt, Iran, Japan, Thailand, IFU)
13 CX/PR 21/52/9
14 REP19/PR, paras. 43-47
15 Report of the 2019 JMPR Regular Meeting, Chapter 3, Replies from JMPR to CCPR Concerns, Section 3.9

CLASS B – PRIMARY FOOD COMMODITIES OF ANIMAL ORIGIN: Harmonization of meat mammalian MRLs between CCPR and CCRVDF (Agenda Item 7e)[16]

180. The Codex Secretariat introduced the item and provided an account of the previous discussion at CCPR51 as described in CL 2020/13-PR concerning the general recommendation of CCEXEC in relation to collaboration and synchronization of work between CCPR and CCRVDF on issues of common interest to both committees such as the harmonization of a definition for edible offal (and other edible tissues of animal origin) to establish harmonized MRLs for compounds with dual uses for edible tissues/food of animal origin.

181. The Secretariat informed CCPR of the decision of CCRVDF25 (2021) to send a definition for edible offal based on a proposal from CCPR51 as contained in REP21/RVDF, Appendix IV, to CAC44 for final adoption. CCRVDF had encouraged CCPR to adopt the same definition in the framework of collaboration on issues of common interests to both committees i.e. definition of edible offal for the establishment of harmonized MRLs for edible tissues/food of animal origin.

182. The Secretariat further recalled that the adoption of the same definition by CCPR would be dependent on the decision on whether CCPR would align the terminology used for setting MRLs for food of animal origin, in particular the use of the term "muscle" applied by CCRVDF/JECFA as opposed to the term "meat" customarily used by CCPR/JMPR for MRLs, and other descriptors such as "fat" and "skin" which are also used when establishing MRLs for food of animal origin in CCPR/CCRVDF or agreement on definitions that would enable a common understanding on these terms as proposed by the JECFA/JMPR Working Group on the Revision of the Guidance Document for Residue Definition which was distributed for comments under CL 2020/13-PR as instructed by CCPR51.

183. On the question on situations where the skin could be considered as edible offal, the Secretariat clarified that the definition as proposed by CCRVDF clarified that the skin attached to the muscle/fat would be excluded from the definition of edible offal to differentiate from situations where skin could be considered as edible offal and that this discussion was recorded in REP21/RVDF.

184. The Secretariat indicated that it might be difficult for CCPR to discuss the replies to CL 2020/13-PR and the definition for edible offal as agreed by CCRVDF25 in this plenary meeting. As the EWG/Classification would start the revision of Class B – Primary Food Commodities of Animal Origin, the consideration of the definition of edible offal, and the related harmonized terminology for the use of the terms meat/muscle, fat and skin in CCPR/CCRVDF could be charged to the EWG/Classification who can continue to liaise with the CCRVDF EWG/Edible Offal established by CCRVDF25 to collaborate on issues of common interest to these committees.

Conclusion

185. CCPR agreed to task the EWG/Classification with the consideration of this issue in view of the revision of Class B – Primary Food Commodities of Animal Origin as follows:

(i) Consider the replies to CL 2020/13-PR on the harmonization of meat mammalian MRLs between CCPR and CCRVDF (Classification of Food and Feed: Class B – Primary Commodity of Animal Origin) and the definition of edible offal as recommended by CCRVDF and to continue to cooperate with the CCRVDF-EWG/edible offal to facilitate the harmonization of terminology/definitions that can facilitate the establishment of harmonized MRLs for compounds with dual uses for food of animal origin (See Agenda Item 7, paragraph 179, point (ii)).

IMPACT OF THE REVISED CLASS A ON CXLs IN THE CODEX DATABASE FOR MRLs OF PESTICIDES IN FOOD AND FEED (Agenda Item 7f)[17]

186. The Codex Secretariat introduced the item and explained that in 2018 CCPR concluded the revision of Class A – Primary Commodities of Plant Origin. Following the revision of the different types/groups under the different classes, the EWG on the revision of the Classification led by the USA and the Netherlands had provided a description of the impact of the revised Types/Groups under Class A on the CXLs. This implied a thorough review of the commodity codes and associated CXLs currently available in the Database (DB) to adjust the CXLs to the new commodity codes without losing CXLs nor expanding the CXLs to commodities without undergoing a JMPR safety assessment. This exercise may lead to situations where CCPR could be informed of the adjustments while others where such adjustments may require further discussion by CCPR before proceeding further.

16 REP19/PR, paras.157-165, Appendix VIII; CL 2020/13-PR; CX/PR 21/52/10 (Australia, Canada, Chile, Costa Rica, Egypt, EU, Iran, Thailand and Uruguay)

17 CX/PR 21/52/11

187. In order to assess the impact of the revised Class A on the existing CXLs, the Codex Secretariat hired a consultant, Dr Jeevan Khurana, to conduct a thorough review of the CXLs in the database vis-à-vis the revised Class A. His report was presented in the Annex (CX/PR 21/52/11) to this document for information. The Secretariat further explained that a Circular Letter (CL) would be distributed requesting comments on the issues raised in the document, in particular Part II which may require advice from CCPR before implementation. Following endorsement and agreement by CCPR, the CXLs in the database would be adjusted accordingly.

188. Dr Khurana made a brief presentation of the revision of the Classification of Food and Feed in relation to Class A: Primary Food Commodities of Plant Origin, the impact of the revised Class A on existing CXLs in the Codex database and how they could be implemented as described in Part I (for information and endorsement by CCPR) and Part II (for discussion and agreement by CCPR) of the document.

Conclusion

189. CCPR thanked the Codex Secretariat and Dr Khurana for the information provided and agreed to consider this matter further at its next session.

GUIDELINES FOR COMPOUNDS OF LOW PUBLIC HEALTH CONCERN THAT MAY BE EXEMPTED FROM THE ESTABLISHMENT OF CXLs OR DO NOT GIVE RISE TO RESIDUES (AT STEP 4) (Agenda Item 8)[18]

190. Chile, as Chair of the EWG, introduced the item and summarized the information provided in the working document i.e. background, work process, key points of discussion in the EWG, conclusions and recommendations for consideration by CCPR. He further introduced the results of the pre-meeting session recalling the general support expressed by members and observers on the work carried out by the EWG.

191. The EWG Chair noted that in the pre-meeting session:

- Comments were received on the scope; definitions; criteria; and examples of compounds that fit in the different criteria proposed in the Guidelines.
- Clarification was provided vis-à-vis CCPR51's decision[19], that the examples would not remain as an integral part of the Guidelines; however, they were useful to support the development of the Guidelines and could be made available on the Codex website as a reference once the Guidelines were completed.
- There was general agreement to re-establish the EWG to continue the work on the Guidelines based on the comments received in reply to CL 2021/38-PR.

192. The EWG Chair proposed that the Guidelines be advanced to Step 5 for adoption by CAC44 and to re-establish the EWG to further refine the document taking into account all the written comments submitted to the session and additional comments made during the pre-meeting session and the plenary session.

193. There was general support to advance the Guidelines to Step 5 and to re-establish the EWG. However, Japan proposed to return the Guidelines to Step 2/3 for further discussion and drafting by the EWG in view of the substantial written comments received.

Conclusion

194. CCPR agreed to:

(i) advance the Guidelines for adoption at Step 5 for adoption by CAC 44 (Appendix XII); and

(ii) re-establish the EWG, chaired by Chile and co-chaired by India and USA, working in English and Spanish, with the following Terms of Reference (TORs):

- To further develop the Guidelines as presented in Appendix XII and taking into consideration the written comments submitted and those received during the pre-meeting and plenary sessions.
- To provide examples of compounds to facilitate the development of the Guidelines. Examples will not remain in the final document, but they could be made available to Codex members, on the Codex website.
- Based on the above considerations, to present a revised proposal with a view to finalizing the Guidelines at CCPR53.

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18 CX/PR 21/52/12; CX/PR 21/52/12-Add.1 (Australia, Canada, Chile, Egypt, Iran, Indonesia, Thailand, USA, CropLife International and FoodDrinkEurope)

19 REP19/PR, para. 206

REVIEW OF MASS SPECTROMETRY PROVISIONS IN THE *GUIDELINES ON THE USE OF MASS SPECTROMETRY FOR THE IDENTIFICATION, CONFIRMATION AND QUANTITATIVE DETERMINATION OF PESTICIDE RESIDUES* (CXG 56- 2005) AND THE *GUIDELINES ON PERFORMANCE CRITERIA OF PESTICIDE RESIDUES IN FOOD AND FEED* (CXG 90-2017) (Agenda Item 9)[20]

195. Iran, as Chair of the EWG introduced the item and reminded CCPR of the background for the work, the process followed by the EWG and the key comments received to a questionnaire circulated to members of the EWG on the opportunity to revoke CXG56 and whether there was room to transfer some provisions from CXG56 to CXG90 for completeness. He explained that the mandate[21] of the EWG had not been fully addressed and proposed that the EWG be re-established to complete its mandate as agreed by CCPR51.

Discussion

196. CCPR noted general support to continue working on this matter. In general, delegations supported revocation of CXG56 and the transfer of relevant provisions to CXG90 if appropriate to avoid duplication. The following views were expressed:

- CXG90 was a more updated, complete, and robust document in general and with respect to mass spectrometry. CXG56 should be revoked, however, some provisions from CXG56 should be transferred to CX90 e.g. other detection and confirmatory methods contained in CXG56 including Table 6 on Detection methods suitable for screening (Phase 1) and confirmation (Phase 2) of residues. In addition, the acceptance criteria in CXG90 should be updated taking into account the latest guide SANTE/12682/2019.
- CXG90 adequately addressed mass spectrometry and took into account provisions described in CXG56. CXG56 should thus be revoked to avoid duplication. Some other methods such as thin layer chromatography and derivatization could be included in CXG90.
- The timeliness and correctness of CXG56 should be assessed vis-à-vis provisions for mass spectrometry in CXG90 in order to transfer relevant provisions to CXG90 and to revoke CXG56. Likewise, provisions for mass spectrometry in CXG90 should be assessed in order to determine whether they need to be updated or whether other provisions, could be included for completeness.
- Specific technical comments should be addressed in the EWG to enable completion of work in accordance with its mandate, in particular the second part of the mandate.

Conclusion

197. CCPR agreed to re-establish the EWG, chaired by Iran, and co-chaired by India, working in English only, with the following TORs:

(i) To determine if CXG 90-2017 adequately cover mass spectrometry and if so, to propose revocation of CXG 56-2005.

(ii) If there are provisions from CXG 56-2005 that could be relevant but not included in CXG 90-2017, to look into the feasibility to merge the two documents, and:

a) if appropriate to present a proposal for new work, and

b) if possible, to present an outline of the merged guidelines for consideration at CCPR53.

MONITORING THE PURITY AND STABILITY OF CERTIFIED REFERENCE MATERIAL OF MULTI-CLASS PESTICIDES DURING PROLONGED STORAGE (Agenda Item 10)[22]

198. India, also on behalf of Argentina, introduced the item, reminded CCPR of the background for the work, the work process followed in the development of the discussion paper and key issues discussed in the paper. He informed CCPR that further work was needed on this topic and recommended that the EWG be established to further develop the discussion paper for consideration by CCPR53.

Discussion

199. CCPR noted the general support to continue with this work in the EWG and noted the following views:

- To consider the opportunity to broaden the scope of the work as CRMs were also used in the analysis of other analytes, such as contaminants, food additives, etc., and to request the advice of the Codex Committee on Methods of Analysis and Sampling (CCMAS) in this regard.

20 CX/PR 21/52/13
21 REP19/PR, para. 185
22 CX/PR 21/52/14

- To limit the scope of the work to pesticide residues only as, although CRMs also applied to other analytes and it might be preferable to develop horizontal guidance in this regard, there were likely to be many specific issues related to pesticide residues which might require special attention by CCPR and to keep CCMAS informed of this work.
- The guidance could be further expanded to other analytes by CCMAS if Codex members wish to do so.
- This work would be useful to harmonize criteria amongst regulatory agencies on the use of CRMs beyond the expiry date with regard to their purity and stability after long storage period and might thus significantly reduced testing costs.
- The guidance should also cover intermediate and working standards related to CRMs as they greatly impact on their purity and stability for prolonged storage conditions.
- It might be difficult to establish harmonized criteria for the use/validity of CRMs after their expiry date as these materials already came labelled with expiry dates and storage conditions which are specific to certain pesticides or food matrices as prescribed by the manufacturer. In addition, the use of CRMs differed from laboratory to laboratory. These issues should be thoroughly discussed in the EWG in order to start work on this matter.

Conclusion

200. CCPR agreed to establish an EWG chaired by India, and co-chaired by Argentina and Iran, working in English and Spanish, with the following TORs:

(i) To further develop the discussion paper to consider the need, feasibility and relevance:

a) To develop harmonized guidelines/analytical protocol on the monitoring of purity and stability of CRMs and stock solutions of multi-class pesticides during prolonged storage, including intermediate and working standards.

b) To develop harmonized criteria for the use of CRMs and stock solutions beyond the expiry date as per certified analysis.

(ii) Should there be support in the EWG to develop such work, to submit a project document for the new work proposal as an annex to the discussion paper for consideration by CCPR53.

201. CCPR further agreed to inform CCMAS about this work.

REVIEW OF THE IESTI EQUATIONS (Agenda Item 11)[23]

202. The EU, as Chair of the EWG, introduced the item, provided background and history of discussions on this issue to date, the work process in the EWG, key points of discussion as well as discussions in the pre-meeting session and its recommendations. She indicated to CCPR that the delegations in the pre-meeting session had concluded that discussion in the EWG should be suspended and that pending feedback from JMPR a decision could be taken at CCPR53 if any further work was needed.

Discussion

Recommendations of the EWG

203. While there was agreement on forwarding the sections as recommended by the EWG to JMPR for their further consideration, there were diverse views expressed on the need for the EWG to continue discussions on the IESTI equations.

204. The USA noted that it had been an active participant in the EWG and that while there were divergent views on the conservatism of the IESTI calculations, it believed that:

- the EWG paper provided a complete summary of the discussion of the advantages and challenges of the current IESTI equations; and
- the EWG was able to collect information to help substantiate the degree of bulking and blending of commodities that are evaluated by JMPR using the Case 3 IESTI Equation; and that the work was complete and should be submitted to JMPR for their evaluation of the degree to which commodities are bulked and blended before entering international trade.

23 CX/PR 21/52/15; CL 2021/42-PR; CX/PR 21/52/15-Add.1 (Canada, Chile, Cuba, Egypt, EU, Iraq, Japan, Thailand, Philippines, Uruguay, USA and CropLife International)

205. The USA, supported by other delegations and observers, noted that given the exploratory EWG had completed its terms of reference and that FAO/WHO's published findings concluded that the current equations already provided a high level of protection, no additional exploratory work on the IESTI equations was necessary at this time.

206. These delegations and observers were therefore of the view that the current IESTI equations were protective; that they were still valid for risk assessment and so provided a conservative estimation of short-term exposure; that over-estimation of the actual acute dietary exposure might be deleterious and could result in overly conservative MRLs; that all necessary exploratory work had been done by the EWG, so no further work was required at this time. CCPR should await feedback from JMPR on the information provided in *CX/PR* 21/52/15 to consider pursuing this work further in the Committee.

207. The EU, supported by Switzerland and Norway, considered that the publication of Crépet *et al* was not robust enough to provide risk managers with all the necessary information to conclude that the current IESTI equations are sufficiently protective. The EU had identified what they considered some serious deficiencies in the study design and the methodology used that compromised the validity of the study. In particular, the exposure calculation was based on a limited subset of food products not sufficiently representative for the total food intake, and therefore, was likely to underestimate the overall exposure. The EU considered that the benchmark of the outcomes of the IESTI equations to probabilistic distribution of actual exposure was not finalized with this paper and that TOR(i) – Part 3 was not sufficiently addressed in their view.

208. The EU agreed with the advantages and challenges identified in the discussion paper, CX/PR 21/52/15. Addressing these challenges, including those related to risk communication, to ensure consumer protection should remain a high priority for CCPR. The EU therefore strongly supported the follow-up by JMPR on the work presented in the discussion paper analyzing the strengths and weaknesses of the parameters of the IESTI equations. The EU was of the view that risk communication remained an issue that could only be addressed with a more substantial review of the existing equations. The EU therefore strongly supported the re-establishment of the EWG to continue work towards an internationally harmonized and reliable IESTI methodology underpinned by robust scientific evidence and was willing to chair the EWG and to drive the work forward at the international level as it was important to have a harmonized approach at international level. However, regardless of the decision of CCPR, and independently of the re-establishment of the EWG, the EU would consider how to address the identified challenges, which might lead to the modification of the methodology at EU level.

209. A delegation further pointed out that at the national level, they were facing issues with management and communication of risks on the basis of the existing IESTI equations and that an increasing number of private operators were using these equations to sell results of pesticide residues along with the question on a toxicological value of acute exposure that is derived by these equations. Inspection services were called upon to intervene when residues exceeded the MRL, therefore work should continue to respond to the problems of risk management and communication.

210. These delegations were therefore of the view that there were still issues related to the level of protection and risk communication in relation to the IESTI equations and therefore the EWG should continue its work on the review of the IESTI equations to further explore the challenges identified in the paper and their communication, which could only be addressed with a more comprehensive review of the methodology.

211. Another delegation agreed that there was still need for further work to address the risk management and risk communication challenges and also acknowledged the fact that quantitative consumer protection goals had not been clearly formulated by CCPR and information on actual level of protection from the current IESTI equation had not been available in the past. This delegation also raised an issue that for the exposure assessment all countries need to be considered so that the current equation allows exposure to actual distribution.

212. An observer clarified that that there were problems with the residue values exceeding the MRL because there were two IESTI equations used, one at JMPR with certain variability factors, and in the EU, using different variability factors and therefore when complaints on risk communication made, it was because the EU was using a different version and that this muddles the discussion in CCPR.

FAO/WHO benchmarking exercise

213. Australia noted that the FAO/WHO benchmarking exercise utilized an incorrect MRL for phosmet and that this information should be passed on to JMPR. The CXL listed in the Codex database for phosmet in pome fruit (10mg/kg) is incorrect. The CXL should be 3mg/kg as adopted by CAC in 2008. The delegation noted that phosmet was one of the pesticides included in the FAO/WHO benchmarking exercise and apple was the main source of exposure.

214. The USA disagreed that the FAO/WHO benchmarking of the IESTI equations was deficient and did not provide realistic exposure estimates to evaluate the IESTI methodology. This delegation highlighted that the FAO/WHO benchmarking of the IESTI equation culminated in a 2020 publication in the Journal of Food Control. This published work was led by a scientist from the French Agency for Food, Environmental and Occupation Health and Safety (ANSES) contracted to do this by FAO/WHO. It concluded extensive technical consultation with an international group of dietary exposure assessment experts from Canada, Korea, Australia, The Netherlands, the UK, and the USA. The publication supports the draft FAO/WHO findings that were discussed at CCPR51 (2019), concluding "our results indicate that, with only a few exceptions, most of the CXLs established by the Codex Alimentarius Commission would provide a high level of protection even if risk managers do not request a specific level of protection from risk assessors." This delegation further stated that it believed that scientific assessment of the FAO/WHO approach was the remit of JMPR and therefore, CCPR, was not the appropriate forum for scientific deliberation and should base its conclusions on the guidance and recommendations of JMPR.

Consideration by JMPR

215. The WHO JMPR Secretariat expressed his appreciation for the discussion paper and indicated that JMPR would take a look at the different elements in the paper and provide its views to CCPR53 under the General Considerations of the 2021 JMPR report.

Conclusion

216. CCPR agreed to:

(i) make available as information documents on the Codex website the following (Appendix XIII):

a) Section 1 - *Benefits/advantages and challenges of the current IESTI methodology*; and

b) Section 3 - *Review of the parameters of the IESTI equations: findings of FAO/WHO and of published in peer reviewed literature*.

(ii) forward sections 1, 2, 3 and 4 of *CX/PR* 21/52/15 (Appendix XIII) to JMPR as follows:

a) Section 1 - *Benefits/advantages and challenges of the current IESTI methodology*: To forward this section to JMPR to further discuss the challenges identified in Table 2 of the discussion paper and consider a possible way forward to address the challenges on issues that fall under the remit of JMPR.

b) Section 2 - *Benchmarking of IESTI calculations against probabilistic exposure estimates*: To forward this section and the comments submitted in response to CL 2021/42-PR (*CX/PR* 21/52/15-Add. 1) to JMPR for further consideration to support the discussion on the need for a possible revision of the IESTI equations and to consider the final version of the acute probabilistic exposure assessment published in the paper of Crépet et al (2021).

c) Section 3 - *Review of the parameters of the IESTI equations: findings of FAO/WHO and of published in peer reviewed literature*: To forward this section to JMPR for further follow-up discussions (e.g. to discuss the need for developing further guidance on how to derive certain input values such as LP, U, Ue, VF).

d) Section 4 - *Information on bulking and blending relevant for IESTI Case 3*: To forward this section and Appendix I of the discussion paper to JMPR for further evaluation/consideration. The information should support discussions in JMPR to decide whether the list of commodities for which the exposure calculation is performed according to IESTI Case 3 needs to be revised.

(iii) request JMPR to report their considerations on the benchmarking of the IESTI equations to the probabilistic distribution of actual exposures presented in Crépet *et al* the back to CCPR53; and

(iv) suspend the work of the EWG awaiting the feedback from JMPR. Based on the feedback from JMPR a decision should be taken at CCPR53 if the EWG needs to continue the work.

ENGAGEMENT OF JMPR IN PARALLEL REVIEWS OF NEW COMPOUNDS: PROCEDURES AND PRINCIPLES (Agenda Item 12)[24]

217. Canada, as the Chair of the EWG, introduced the item, stressing that the parallel reviews of new compounds was initially drafted to grant countries more timely access to new compounds, to harmonize MRLs to facilitate trade and to optimize resources between national agencies and JMPR reviews.

[24] CX/PR 21/52/16; CL 2021/43-PR CX/PR 21/52/16-Add.1 (Australia, Cuba, Egypt, Japan, Thailand, Philippines, USA, CropLife International and IFT)

218. The EWG Chair further presented the document, highlighting key principles and procedures to carry out the parallel reviews as described in Section 2-7 of CX/PR 21/52/16 and recommended CCPR to test the procedure through a pilot project to determine its feasibility for implementation and the need for further refinements. He also recommended to re-establish the EWG to consider criteria for the selection of a global project manager, for consideration by CCPR53. He noted that the parallel process should not add to the workload of JMPR nor delay ongoing activities; and that early identification of parallel reviews was necessary to enable scheduling by JMPR. He reemphasized the pilot would only occur when there was sufficient capacity or ability of JMPR to participate in a parallel review.

219. CCPR noted the overall support for the parallel review and the pilot as well as further work in the EWG to clarify the selection of a global project manager.

220. CCPR further noted the following views expressed by member country delegations:

- Support for the recommendations of the EWG and to move forward with the pilot to test the proposed process to ensure that it is feasible to apply in the real world, that it reflects current practices on establishment of MRLs for international trade and that the process does contribute to the use of JMPR resources efficiently.
- Parallel reviews should not add to the current workload of JMPR and the pilot should be tested when JMPR was able to effectively participate in this exercise.
- Parallel reviews would contribute to give flexibility to the establishment of harmonized safe MRLs to ensure public health and fair practices in trade and to shorten the time for their establishment, the proposed process should therefore be supported.
- Comments/concerns that may have been expressed in comments submitted to this Session could be addressed by testing the proposed process through the pilot.

221. CCPR also noted the following views from observers:

- Different national/registration systems could present a challenge to the establishment of the pilot, overloading the already busy agenda of JMPR.
- Accelerating the approval of new MRLs should be considered carefully and rather be done in a slow and deliberate way.
- Parallel reviews could be beneficial for trade to get harmonized safe MLRs adopted within the framework of CCPR in a timely manner. As parallel reviews apply to new compounds, they are usually much less toxic to animals, plants, humans and the environment than a number of the older compounds and so this process would be beneficial to the industry and consumers. In addition, given the constraints of JMPR, it might help to increase the capacity of JMPR to recommend more MRLs for to protect public health and facilitate international trade and so the pilot should proceed when resources are available.
- In addition to facilitate MRL harmonization and trade, parallel reviews could assist in ensuring food security and food safety for a growing population, e.g. by harmonizing toxicology end points. The same approach had been carried out successfully in other committees such as CCRVDF.

222. The WHO JMPR Secretariat indicated its willingness to engage in a pilot test of a parallel review and explained that the rationale for wanting a parallel review path and the desire to get Codex MRLs earlier than it is presently possible for new compounds was understood. The JMPR also recognized that it could be useful to have the procedure in place for quick operationalization. However, some context pertaining to the current situation of JMPR was needed.

223. The capacity of JMPR was determined by several factors, including:

- Availability of a sufficiently complete data packages.
- Availability of enough evaluators with the right professional profiles (monographer, reviewers and specialists).
- Availability of time for discussions and drawing up conclusions in the annual meeting itself.

224. With the operational setup and current resource availability in JMPR, and in a situation where there was a list of compounds waiting to be evaluated or re-evaluated, the JMPR Secretariat clarified that establishing a parallel review stream would not lead to more evaluations. Rather, it would change the sequence of the evaluations by establishing a fast lane for selected compounds.

225. In case a parallel review candidate did not deliver a sufficiently complete data package upfront, or if, for other reasons, its evaluation would stretch over multiple annual JMPR meetings, it might reduce the resources available for evaluation of other new compound.

Conclusion

226. CCPR agreed:

(i) to encourage data sponsors to nominate compounds for the parallel review pilot in coordination with the Chair of the EWG/Priorities and the FAO/WHO JMPR Secretariats for consideration by CCPR53 (2022);

(ii) to test the procedure through a pilot project in order to refine the proposed process to reflect practical, real-world considerations, and ensure that JMPR resources continue to be used efficiently;

(iii) that the proposed principles and procedures would document the actual outcomes as to accelerate the establishment of Codex MRLs and harmonization with international MRLs; and

(iv) to keep the principles and procedures for parallel reviews of a new compounds available as a reference for CCPR (Appendix XIV).

227. CCPR also agreed to re-establish the EWG, chaired by Canada and co-chaired by Costa Rica and Kenya, working in English and Spanish, with the following TOR:

(i) To develop a discussion paper outlining the criteria for selecting a global project manager. The global project manager would be responsible for overseeing the parallel review in close collaboration with the JMPR Secretariat, JMPR reviewers, national authorities involved in the parallel review as well as the manufacturer of the nominated pesticide.

MANAGEMENT OF UNSUPPORTED COMPOUNDS WITHOUT PUBLIC HEALTH CONCERN SCHEDULED FOR PERIODIC REVIEW (Agenda Item 13)[25]

228. Chile, as Chair of the EWG, introduced the item, provided the background to discussions on this issue, the work process of the EWG, key findings, conclusions and recommendations. The EWG Chair recommended CCPR to decide on an approach for the management of unsupported compounds without public health concern scheduled for periodic review based on the proposals presented by the EWG Appendix I, Section II, TOR (iv), taking into account the advantages and challenges arising from Options 2b and 3 as described in Appendix I: Section I, TOR (iii).

Discussion

229. CCPR considered the two options and noted diverse views in support for Option 2b or Option 3.

230. Those delegations supporting Option 2b noted that this option would:

- allow for the maintenance of CXLs for pesticides that were widely used and having no public health concern; and in this way would not impede international trade nor negatively impact on farmers;
- allow that only CXLs for pesticides that have registered uses and are listed in the national registration database would be maintained; and
- help to maintain more CXLs which helps to facilitate international trade, to reduce the existing gap between developed and developing countries, and to simplify the procedure for periodic review. It was preferable for JMPR to review the updated GAP information and propose new recommended CXLs rather than the deletion of CXLs for compounds without public health concern.

231. Those delegations supporting Option 3 noted the following:

- The current procedure to periodically re-evaluate safety of pesticides should be retained in order to protect the health of consumers as well as the reliability of Codex. Pesticides with very old CXLs were likely to be phased out and were no longer subject to re-evaluation process in many countries, as information or health concern is often discovered during the evaluation process; and that since the CXLs were established, the science / risk assessments have changed and the JMPR evaluation of 15/20 years ago might no longer be valid. Updated reviews by JMPR using more modern standards were necessary.
- Option 3 was more realistic, was consistent with the Risk Analysis Principles in the Procedural Manual, and would therefore not require any changes to the Procedural Manual. This option would allow work on the national registration database to identify compounds that might need a specific way to deal with them.
- Option 3 would provide trust in Codex safety standards vis-à-vis protection of public health. The 4-year rule was sufficient to address data requirements to ensure that only CXLs that had been periodically re-evaluated and proven to be sufficiently health protective based on the latest science available would remain in use.

[25] CX/PR 21/52/17; CL 2021/44-PR; CX/PR 21/52/17-Add.1 (Australia, Canada, Chile, Egypt, Iran, Thailand and USA)

- Option 3 would ensure that CXLs would not be retained for compounds that may not have been reviewed against updated safety standards/protocols for several years.
- Countries should make sure that the toxicological data on which the CXL is based is relevant and up to date. CCPR should therefore keep the periodic review under its purview to enable re-evaluation of toxicological data at some point. With Option 3, where toxicological data would become available at 15 years, but allowing for the use of these compounds up to a period of 25 years after its re-assessment could be an option, because it would give countries 10 years to generate and submit the required data or for countries to adapt their agriculture to no longer use these compounds.
- Option 2b might be a disincentive to manufacturers to support compounds for periodic reviews going forward and could result in unnecessary maintenance of CXLs which did not reflect current state of the art in science. This option did not follow the current Risk Analysis Principles which should not be amended to allow the implementation of this option.

232. A delegation supported the efforts to develop a clear process for managing unsupported compounds and determining when CXLs are retained, and that selecting a management option would require balancing the need for a robust listing of CXLs that supported international trade while ensuring that the risk assessments are not based on obsolete chemistry, toxicology or GAP information. Therefore, CXLs should not be revoked unless clear public health concerns were raised and evaluated by JMPR. Recognizing that some members support option 3 and given that this option might result in the loss of CXLs with no impact on public health, it was necessary for CCPR to (i) further define the scope of the problem, (ii) understand the barriers that limit support, and (iii) propose solutions that might be adopted by CCPR to expand the capacity to generate data required by JMPR on unsupported compounds; and proposed that the EWG should be re-established to consider these questions before option 3 could be fully considered by CCPR.

233. Views were also expressed that regardless of the option chosen:

- Capacity building and collaboration between national authorities and the industry to generate relevant data were of upmost importance to implement either option to enable countries, in particular developing countries, to support the evaluation of compounds for periodic reviews.
- It was important to have precise information on the studies that are necessary in order to support a compound for review by JMPR especially for crops of interest for developing countries or a given region.

234. In view of the divergent views expressed in support of either options, CCPR agreed to re-establish the EWG to further explore options 2b and 3.

Conclusion

235. CCPR agreed to re-establish the EWG, chaired by Chile, and co-chaired by Australia, India and Kenya, working in English and Spanish, with the following TORs:

(i) To further develop a management proposal for unsupported compounds without public health concern scheduled for periodic review based on Option 2b and 3:

a) Option 2b - Only those CXLs for which there are registrations listed in the national registration database (NRD) will be retained and if so, to outline the amendments required in the Risk Analysis Principles applied by CCPR to operate this option.

and

b) Option 3 - Codex members and observers are granted 4 years to fulfil the data requirements to maintain the CXLs. (i.e., 4-year rule). If members or observers are unable to address the data requirements, all CXLs are to be revoked.

(ii) The proposal should take into consideration the discussion paper presented in CX/PR 21/52/17, Appendix I, and the written comments submitted and those received during the plenary session.

(iii) To further develop the recommendations under CX/PR 21/52/17, Appendix I, TOR (ii) – explore options for efficient data support that could be addressed by Codex, FAO/WHO, JMPR, governments and the industry to further assist countries in implementing either options.

(iv) Based on the above considerations, to present a management proposal for consideration by CCPR53.

NATIONAL REGISTRATIONS OF PESTICIDES (Agenda Item 14)[26]

236. Germany, as Chair of the EWG, introduced the item, recalling the progress in the past years by CCPR to improve the administration and management of the schedules and priority lists of pesticides for evaluation by JMPR in particular the periodic review of pesticides. Based on the comments received in the EWG, the EWG Chair proposed to reconvene the EWG under the same Terms of Reference[27] as agreed by CCPR51.

Discussion

237. CCPR noted support for this work especially in light of its usefulness to contribute to the work on the management of unsupported compounds without public health concern schedule for periodic review; and therefore support for the proposal to re-establish the EWG and further noted that more data were required to complete the work of the EWG on tables 2A list of compounds for periodic review by JMPR and 2B list of compounds that have been last evaluated 15 years ago or more but not yet scheduled for period review.

238. The Codex Secretariat clarified that the four compounds revoked by CCPR would consequently be removed from the National Registration Database. She further clarified that two compounds which had been put under the 4-year rule, would be included in the database (see Agenda Item 15). She further informed CCPR that the Codex Secretariat would issue a CL requesting comments on selected compounds including reporting problems with the current approach and encouraged countries to provide relevant information and data for assessment by the EWG and further consideration by CCPR53.

Conclusion

239. CCPR agreed to re-establish the EWG, chaired by Germany and co-chaired by Australia, working in English, with the following ToRs:

(i) To provide an improved National Registration Database with about 20 compounds every year from Tables 2A and 2B for which data are requested.

(ii) To compile the data from all respondents.

(iii) To analyze the compiled data in view of the needs for the establishment of the Codex schedules and priority lists of pesticides for evaluation by JMPR.

(iv) To report back on the findings to CCPR53.

ESTABLISHMENT OF CODEX SCHEDULES AND PRIORITY LISTS OF PESTICIDES FOR EVALUATION BY JMPR (Agenda Item 15)[28]

240. Australia, as Chair of the EWG on Priorities, introduced the item on Codex Schedules and Priorities and introduced the revised Schedules and Priority Lists of Pesticides.

2022 Schedule for JMPR evaluations

241. The EWG Chair provided the list of 6 compounds proposed for the 2022 Schedule of new compounds. The Observer from CropLife questioned the status of compounds from the 2021 schedule for JMPR evaluations. The JMPR Secretariat clarified that JMPR would manage scheduling of all compounds that had been identified in the JMPR call for data - and complete these evaluations when possible. CCPR was advised not to reschedule onto the 2022 list any compounds not yet evaluated but for which a call for data had already been issued.

242. The EWG Chair advised CCPR that there were 20 confirmed nominations listed in the proposed 2022 Schedule for new use and other evaluations, with four reserve compounds.

243. CCPR was advised that CRD02 listed 6 nominations in the 2022 Schedule of Periodic Reviews, however a recent request to implement the 4-year rule had been received for Pirimicarb (101), in addition to the previously received 4-year rule requests for Clethodim (187), Hydrogen Phosphide (46) and Guazatine (114). These extensions would allow the sponsors time to compile the necessary data for JMPR assessment. After removal of pirimicarb under the 4-year rule, the proposed schedule for Periodic Reviews would include five compounds.

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26 CX/PR 21/52/18

27 REP19/PR, para. 232

28 CX/PR 21/52/19; CX/PR 21/52/19-Add.1 (Public health concerns to schedule compounds for periodic review by JMPR submitted by the EU); CRD02-Appendix A

244. A member noted the complexity associated with periodic review of dithiocarbamates, which comprised a number of compounds, making it more complicated than periodic review of a single compound. The Observer from CropLife advised CCPR that a number of their members were working cooperatively towards provision of data to support an evaluation of dithiocarbamates in 2022 and hoped that this evaluation would proceed on schedule. The JMPR Secretariat reminded CCPR of difficulties in conducting complex reviews in virtual meetings due to the COVID-19 restrictions and highlighted the limitation on statistical resources available to JMPR.

Public Health Concerns

245. The EWG Chair reminded CCPR of the procedure for raising public health concerns as outlined in the *Risk Analysis Principles applied by CCPR* (Procedural Manual). CCPR was advised of the public health concern raised by the EU against Propiconazole (160), Chlorothalonil (81), Chlorpyrifos (17) and Chlorpyrifos-Methyl (90). In addition, a PHC was raised by the UK for Chlorothalonil. JMPR indicated that it would provide an independent assessment of the issues raised in the concern forms.

Unsupported Compounds Designated for Deletion from CCPR Pesticide List

246. The EWG Chair reminded CCPR that six compounds: Amitraz (122), Bromide ion (47), Bromopropylate (70), Dichloran (83), Fenarimol (192) and Fenbutatin Oxide (109), were flagged for removal from the CCPR Pesticide List at earlier meetings on the basis of public health concerns and/or lack of support.

247. The EWG Chair noted that unsupported compounds would be discussed further under Agenda Item 13, but proposed to CCPR that Bromide Ion (47), Bromopropylate (70), Dichloran (83) and Fenarimol (192) be removed from the CCPR Pesticide List and that two compounds, Amitraz (122) and Fenbutatin Oxide (109), be retained under the 4-year rule assuming a sponsor was identified and agreed to conduct any necessary studies to update any requisite information. The EU advised CCPR that it supported removal of the compounds that are no longer supported by a manufacturer and for which public health concerns have been identified. The USA and Canada supported the proposal to retain amitraz (122) and fenbutatin oxide (109) assuming a sponsor was identified.

Other matters

248. The Observer from CropLife recognized the full schedule of JMPR and hoped that it be could managed in a virtual setting. The Observer enquired how the backlog would be handled in case the evaluations could not be completed and referred to CRD11 where some thoughts were given on how the backlog that had built up due to the COVID19 pandemic for CCPR and JMPR could be resolved or reduced by proposing pragmatic solutions to allow CCPR and JMPR to work more effectively and efficiently in emergency situations and thus become more resilient. The Observer indicated its support to any undertaking that could be put in place by CCPR and/or JMPR to address this issue and provide constructive input to help meet the objective of the Codex and CCPR mandates to ensure public health and trade facilitation The Observer looked forward to further discussion on this matter under Agenda Item 16 (see Agenda Item 1).

Conclusion

249. CCPR agreed to:

(i) forward the proposed Schedule of Pesticides for evaluation by the 2022 JMPR to CAC for approval (Appendix XV);

(ii) remove from the CCPR Pesticide List the compounds: Bromide Ion (47), Bromopropylate (70), Dichloran (83) and Fenarimol (192) and retain Amitraz (122) and Fenbutatin Oxide (109) under the 4-year rule pending identification of a sponsor by the next meeting of CCPR; and

(iii) re-convene the EWG on Priorities, chaired by Australia and working in English. The EWG will be tasked with providing a report on the schedules and priority list for consideration at the next meeting of CCPR.

OTHER BUSINESS AND FUTURE WORK (Agenda Item 16)

250. CCPR noted that due to time limitations, the three items proposed under Agenda Item 1 would be discussed at its next session.

DATE AND PLACE OF THE NEXT SESSION (Agenda Item 17)

251. CCPR was informed that its 53rd Session was tentatively scheduled to be held in China, in 2022, the final arrangements being subject to confirmation by the Host Country and the Codex Secretariats.

APPENDIX I

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APPENDIX II

MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(At Step 5/8)
(For adoption by CAC)

	Commodity		MRL (mg/kg)	Step	Note
65	**Thiabendazole**				
	VP 2060	Beans with pods (subgroup)	0.01 (*)	5/8	
	VD 2065	Dry beans (subgroup)	0.01 (*)	5/8	
	VD 2066	Dry peas (subgroup)	0.01 (*)	5/8	
	FI 0345	Mango	7 (Po)	5/8	
	VP 2061	Peas with pods (subgroup)	0.01 (*)	5/8	
	VP 2062	Succulent beans without pods (subgroup)	0.01 (*)	5/8	
	VP 2063	Succulent peas without pods (subgroup)	0.01 (*)	5/8	
	VR 0508	Sweet potato	9 (Po)	5/8	
72	**Carbendazim**				
	HS 0190	Spices, seeds (subgroup)	5	5/8	
118	**Cypermethrins (including alpha- and zeta- cypermethrin)**				
	VR 0604	Ginseng	0.03 (*)	5/8	
	DV 0604	Ginseng, dried including red ginseng	0.15	5/8	
	DM 0604	Ginseng, extracts	0.06 (*)	5/8	
147	**Methoprene**				
	SO 0703	Peanut, whole	5 (Po)	5/8	
158	**Glyphosate**				
	VD 2065	Dry beans (subgroup)	15	5/8	(except soya beans)
	VD 2066	Dry peas (subgroup)	10	5/8	
160	**Propiconazole**				
	FS 2001	Peaches (including apricots and nectarine) (subgroup)	4 (Po)	5/8	
173	**Buprofezin**				
	AM 0660	Almond hulls	3	5/8	
	OR 0001	Citrus oil, edible	6	5/8	
	AB 0001	Citrus pulp, dry	5	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.01 (*)	5/8	
	OC 0305	Olive oil, virgin	20	5/8	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01	5/8	
	TN 0085	Tree nuts (group)	0.05 (*)	5/8	

	Commodity		MRL (mg/kg)	Step	Note
178	**Bifenthrin**				
	AS 0081	Straw and fodder (dry) of cereal grains	1 (dw)	5/8	(except barley straw and fodder, dry)
189	**Tebuconazole**				
	AB 0001	Citrus pulp, dry	3 (dw)	5/8	
	FC 0003	Mandarins (including mandarin-like hybrids) (subgroup)	0.7 (Po)	5/8	
	OR 0004	Orange oil, edible	10	5/8	
	FC 0004	Oranges, sweet, sour (including Orange-like hybrids) (subgroup)	0.4 (Po)	5/8	
191	**Tolclofos-Methyl**				
	MO 0105	Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	VL 2050	Leafy greens (subgroup)	0.7	5/8	(except spinach, pursiane and chard)
	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	
	VR 0589	Potato	0.3	5/8	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
199	**Kresoxim-Methyl**				
	FP 0009	Pome fruits (group)	0.15	5/8	(except Japanese persimmon)
200	**Pyriproxyfen**				
	FI 0345	Mango	0.02 (*)	5/8	
207	**Cyprodinil**				
	VD 0541	Soya bean (dry)	0.3	5/8	
210	**Pyraclostrobin**				
	VR 2070	Root vegetables (subgroup)	0.5	5/8	(except sugar beet)
	VL 0502	Spinach	0.6	5/8	
221	**Boscalid**				
	FS 0013	Cherries (subgroup)	5	5/8	
	FI 0345	Mango	2	5/8	
	FS 2001	Peaches (including apricots and nectarine) (subgroup)	4	5/8	
	FS 0014	Plums (including fresh prunes) (subgroup)	1.5	5/8	
	FP 0009	Pome fruits (group)	2	5/8	
	DF 0014	Prunes,dried	5	5/8	
	DT 1114	Tea, green, black (black, fermented and dried)	40	5/8	

	Commodity		MRL (mg/kg)	Step	Note
229	**Azoxystrobin**				
	FT 336	Guava	0.2	5/8	
230	**Chlorantraniliprole**				
	VD 2065	Dry beans (subgroup)	0.3	5/8	(except soya beans)
	VD 2066	Dry peas (subgroup)	0.3	5/8	
	SO 3160	Palm fruit (African oil palm)	0.8	5/8	
	OC 1240	Palm kernel oil, crude	2	5/8	
234	**Spirotetramat**				
	VR 0577	Carrot	0.04	5/8	
	FB 0275	Strawberry	0.3	5/8	
	VR 0596	Sugar beet	0.06	5/8	
	AV 0596	Sugar beet leaves or tops (dry)	8 (dw)	5/8	
	DM 0596	Sugar beet molasses	0.3	5/8	
236	**Metaflumizone**				
	FP 0226	Apple	0.9	5/8	
	SB 0716	Coffee beans	0.15	5/8	
	DF 0269	Dried grapes (=currants, raisins and sultanas)	13	5/8	
	MO 0105	Edible offal (mammalian)	0.02 (*)	5/8	
	PE 0112	Eggs	0.02	5/8	
	FB 0269	Grapes	5	5/8	
	FC 0002	Lemons and limes (including citron) (subgroup)	2	5/8	
	GC 0645	Maize	0.04	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.6	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.02 (*)(fat)	5/8	
	VC 0046	Melons, except watermelon	1	5/8	
	FM 0183	Milk fats	0.7	5/8	
	ML 0106	Milks	0.02	5/8	
	OR 0004	Orange oil, edible	100	5/8	
	FC 0004	Oranges, sweet, sour (including Orange-like hybrids) (subgroup)	3	5/8	
	PF 0111	Poultry fats	0.08	5/8	
	PM 0110	Poultry meat	0.02 (*)(fat)	5/8	
	PO 0111	Poultry, edible offal of	0.02 (*)	5/8	
	VD 0541	Soya bean (dry)	0.2	5/8	
	GS 0659	Sugar cane	0.02 (*)	5/8	

	Commodity		MRL (mg/kg)	Step	Note
240	**Dicamba**				
	SO 0691	Cotton seed	3	5/8	
	GC 0645	Maize	0.01 (*)	5/8	
	AS 0645	Maize fodder (dry)	0.6 (*)	5/8	
	VD 0541	Soya bean (dry)	10	5/8	
	AL 0541	Soya bean fodder	150 (dw)	5/8	
	AB 0541	Soya bean hulls	15	5/8	
	AB 1265	Soya bean meal	15	5/8	
246	**Acetamiprid**				
	HS 0190	Spices, seeds (subgroup)	2	5/8	
253	**Penthiopyrad**				
	FB 2006	Bush berries (subgroup)	7	5/8	
	FB 2005	Cane berries (subgroup)	10	5/8	
	FB 0267	Elderberries	7	5/8	
	FB 2254	Guelder rose	7	5/8	
256	**Fluxapyroxad**				
	OR 0001	Citrus oil, edible	90	5/8	
	AB 0001	Citrus pulp, dry	8	5/8	
	FC 0002	Lemons and limes (including citron) (subgroup)	1	5/8	
	FC 0003	Mandarins (including mandarin-like hybrids) (subgroup)	1	5/8	
	FC 0004	Oranges, sweet, sour (including Orange-like hybrids) (subgroup)	1.5	5/8	
	FC 0005	Pummelo and grapefruits (including Shaddock-like hybrids, among others Grapefruit) (subgroup)	0.6	5/8	
258	**Picoxystrobin**				
	AL 1020	Alfalfa fodder	10 (dw)	5/8	
	SB 0716	Coffee beans	0.04	5/8	
	SO 0691	Cotton seed	2	5/8	
	MO 0105	Edible offal (mammalian)	0.02	5/8	
	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	
	GC 0651	Sorghum	0.02	5/8	
	AS 0651	Sorghum straw and fodder, dry	1 (dw)	5/8	
	DT 1114	Tea, green, black (black, fermented and dried)	15	5/8	

	Commodity		MRL (mg/kg)	Step	Note
261	**Benzovindiflupyr**				
	VA 2031	Bulb onions (subgroup)	0.02	5/8	
	GS 0659	Sugar cane	0.4	5/8	
265	**Fluensulfone**				
	AM 0660	Almond hulls	7 (dw)	5/8	
	GC 2087	Barley, similar grains, and pseudocereals with husks	0.08 (subgroup)	5/8	
	FC 0001	Citrus fruits (group)	0.2	5/8	
	OR 0001	Citrus oil, edible	1.5	5/8	
	AB 0001	Citrus pulp, dry	1.5	5/8	
	SB 0716	Coffee beans	0.05	5/8	
	DF 0269	Dried grapes (=currants, raisins and sultanas)	2	5/8	
	AS 0162	Hay or fodder (dry) of grasses	15	5/8	(except maize fodder and rice straw and fodder, dry)
	GC 2091	Maize cereals (subgroup)	0.15	5/8	
	AS 0645	Maize fodder (dry)	0.6 (dw)	5/8	
	DF 0014	Prunes,dried	0.3	5/8	
	GC 2088	Rice cereals (subgroup)	0.04	5/8	
	AS 0649	Rice straw and fodder, dry	0.06 (dw)	5/8	
	FB 2008	Small fruit vine climbing (subgroup)	0.7	5/8	
	GC 2089	Sorghum grain and millet (subgroup)	0.04	5/8	
	FS 0012	Stone fruits (group)	0.09	5/8	
	AS 0081	Straw and fodder (dry) of cereal grains	6 (dw)	5/8	(except maize fodder and rice straw and fodder dry)
	GS 0659	Sugar cane	0.06	5/8	
	DM 0659	Sugar cane molasses	0.5	5/8	
	GC 2090	Sweet corns (subgroup)	0.15	5/8	
	TN 0085	Tree nuts (group)	0.025 (*)	5/8	
	GC 2086	Wheat, similar grains, and pseudocereals without husks	0.08 (subgroup)	5/8	
269	**Tolfenpyrad**				
	VA 2031	Bulb onions	0.09	5/8	
	OR 0001	Citrus oil, edible	80	5/8	
	AB 0001	Citrus pulp, dry	6	5/8	
	MO 0105	Edible offal (mammalian)	0.4	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	FC 0002	Lemons and limes (including citron) (subgroup)	0.9	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.01 (*)	5/8	

	Commodity		MRL (mg/kg)	Step	Note
	FC 0003	Mandarins (including mandarin-like hybrids) (subgroup)	0.9	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.01 (*)	5/8	
	ML 0106	Milks	0.01 (*)	5/8	
	FC 0004	Oranges, sweet, sour (including Orange-like hybrids) (subgroup)	0.6	5/8	
	VO 0051	Peppers (subgroup)	0.5	5/8	(except martynia, okra and roselle)
	HS 0444	Peppers chili, dried	5	5/8	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
	FC 0005	Pummelo and grapefruits (including Shaddock-like hybrids, among others grapefruit) (subgroup)	0.6	5/8	
277	**Mesotrione**				
	AM 0660	Almond hulls	0.04 (dw)	5/8	
	FC 0001	Citrus fruits (group)	0.01 (*)	5/8	
	FP 0009	Pome fruits (group)	0.01 (*)	5/8	
	FS 0012	Stone fruits (group)	0.01 (*)	5/8	
	TN 0085	Tree nuts (group)	0.01 (*)	5/8	
280	**Acetochlor**				
	AL 3350	Alfalfa hay	30 (dw)	5/8	
	MO 0105	Edible offal (mammalian)	0.05	5/8	
	AL 0157	Legume animal feeds	3 (dw)	5/8	(except alfalfa hay)
	VD 0541	Soya bean (dry)	1.5	5/8	
282	**Flonicamid**				
	AB 0001	Citrus pulp, dry	3 (dw)	5/8	
	FC 0002	Lemons and limes (including citron) (subgroup)	1.5	5/8	
	FC 0004	Oranges, sweet, sour (including Orange-like hybrids) (subgroup)	0.4	5/8	
	FC 0005	Pummelo and grapefruits (including Shaddock-like hybrids, among others Grapefruit) (subgroup)	0.3	5/8	
283	**Fluazifop-p-butyl**				
	FB 2006	Bush berries (subgroup)	0.3	5/8	
	FB 2005	Cane berries (subgroup)	0.08	5/8	
	FB 0267	Elderberries	0.3	5/8	
	FB 2254	Guelder rose	0.3	5/8	
	FB 0275	Strawberry	3	5/8	

	Commodity		MRL (mg/kg)	Step	Note
285	**Flupyradifurone**				
	FI 0326	Avocado	0.6	5/8	
	SB 0715	Cacao beans	0.01 (*)	5/8	
	FB 2005	Cane berries (subgroup)	6	5/8	
	SB 0716	Coffee beans	0.9	5/8	
	DH 1100	Hops, dry	10	5/8	
290	**Isofetamid**				
	FB 2006	Bush berries (subgroup)	4	5/8	
	VD 2065	Dry beans (subgroup)	0.09	5/8	(except soya beans)
	VD 2066	Dry peas (subgroup)	0.09	5/8	
292	**Pendimethalin**				
	FB 2006	Bush berries (subgroup)	0.05 (*)	5/8	
	FB 2005	Cane berries (subgroup)	0.05 (*)	5/8	
	HH 0738	Mints	0.2	5/8	
	OR 0738	Peppermint oil, edible	6	5/8	
	FB 0275	Strawberry	0.05 (*)	5/8	
296	**Cyclaniliprole**				
	AM 0660	Almond hulls	6	5/8	
	AS 0081	Straw and fodder (dry) of cereal grains	0.45 (dw)	5/8	
	TN 0660	Almonds	0.03	5/8	
	FB 2006	Bush berries (subgroup)	1.5	5/8	
	VB 0041	Cabbages, head	0.7	5/8	
	FB 2005	Cane berries (subgroup)	0.8	5/8	
	FS 0013	Cherries (subgroup)	0.7	5/8	
	FC 0001	Citrus fruits (group)	0.4	5/8	
	OR 0001	Citrus oil, edible	50	5/8	
	MO 0105	Edible offal (mammalian)	0.2	5/8	
	VO 2046	Eggplants (subgroup)	0.15	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	FB 0267	Elderberries	1.5	5/8	
	VB 0042	Flowerhead brassicas (subgroup)	0.8	5/8	
	VC 2039	Fruiting vegetables, cucurbits - cucumbers and summer squashes (subgroup)	0.05	5/8	
	VC 2040	Fruiting vegetables, cucurbits – melons, pumpkins and winter squashes (subgroup)	0.1	5/8	
	FB 0269	Grapes	0.6	5/8	
	FB 2254	Guelder rose	1.5	5/8	

	Commodity		MRL (mg/kg)	Step	Note
	VL 2050	Leafy greens (subgroup)	7	5/8	
	VL 0054	Leaves of Brassicaceae	10	5/8	
	FB 2009	Low growing berries (subgroup)	0.4	5/8	(except cranberries)
	MF 0100	Mammalian fats (except milk fats)	0.25	5/8	
	MM 0095	Meat (from mammals other than marine mammals)	0.25 (fat)	5/8	
	FM 0183	Milk fats	0.2	5/8	
	ML 0106	Milks	0.01	5/8	
	FS 2001	Peaches (including apricots and nectarine) (subgroup)	0.3	5/8	
	VO 0051	Peppers (subgroup)	0.15	5/8	(except martynia, okra and roselle)
	HS 0444	Peppers chili, dried	1.5	5/8	
	FS 0014	Plums (including fresh prunes) (subgroup)	0.15	5/8	
	FP 0009	Pome fruits (group)	0.2	5/8	(excluding Japanese persimmons)
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
	DF 0014	Prunes, dried	0.6	5/8	
	DT 1114	Tea, green, black (black, fermented and dried)	50	5/8	
	DV 0448	Tomato, dried	0.35	5/8	
	VO 2045	Tomatoes (subgroup)	0.08	5/8	
	VR 2071	Tuberous and corm vegetables (subgroup)	0.01 (*)	5/8	
297	**Fenazaquin**				
	AM 0660	Almond hulls	4 (dw)	5/8	
	MO 0105	Edible offal (mammalian)	0.02 (*)	5/8	
	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	
	FM 0183	Milk fats	0.02 (*)	5/8	
	ML 0106	Milks	0.02 (*)	5/8	
	TN 0085	Tree nuts (group)	0.02	5/8	
302	**Fosetyl Al**				
	FB 0264	Blackberries	70	5/8	(Based on Fosetyl-Al use)
	SB 0716	Coffee beans	30	5/8	(Based on Fosetyl-Al use)
	PE 0112	Eggs	0.05 (*)	5/8	
	VB 0042	Flowerhead brassicas (subgroup)	0.2 (*)	5/8	(Based on Fosetyl use)
	VB 2036	Head brassicas (subgroup)	0.2 (*)	5/8	(Based on Fosetyl use)

	Commodity		MRL (mg/kg)	Step	Note
	VL 0480	Kale (including among others: Collards, curly kale, Scotch kale, thousand-headed kale; not including Marrow-stem kele)	0.2 (*)	5/8	(Based on Fosetyl use)
	FI 0341	Kiwifruit	150	5/8	(Based on Fosetyl-Al use)
	MF 0100	Mammalian fats (except milk fats)	0.3	5/8	
	FI 0353	Pineapple	15	5/8	(Based on Fosetyl-Al use)
	PF 0111	Poultry fats	0.05 (*)	5/8	
	PM 0110	Poultry meat	0.05 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.05 (*)	5/8	
307	**Mandestrobin**				
	DF 0269	Dried grapes (=currants, raisins and sultanas)	10	5/8	
	MO 0105	Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	FB 0269	Grapes	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	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
	SO 0495	Rape seed	0.2	5/8	
	FB 0275	Strawberry	3	5/8	
309	**Pydiflumetofen**				
	AS 0640	Barley straw and fodder, dry	50 (dw)	5/8	
	GC 2087	Barley, similar grains, and pseudocereals with husks (subgroup)	3	5/8	
	VB 0040	Brassica vegetables (except Brassica leafy vegetables) (group)	0.1	5/8	(except Brassica leafy vegetables)
	SO 0691	Cotton seed	0.3	5/8	
	VD 2065	Dry beans (subgroup)	0.4	5/8	
	VD 2066	Dry peas (subgroup)	0.4	5/8	
	MO 0105	Edible offal (mammalian)	0.1	5/8	
	PE 0112	Eggs	0.02	5/8	
	VC 0045	Fruiting vegetables, cucurbits (group)	0.4	5/8	
	VO 0050	Fruiting vegetables, other than cucurbits (group)	0.5	5/8	(except martynia, okra and roselle)
	VL 0054	Leaves of Brassicaceae	0.1	5/8	

Commodity		MRL (mg/kg)	Step	Note
VL 2052	Leaves of root and tuber vegetables (subgroup)	0.07	5/8	(except leaves of tuber vegetables)
AL 0157	Legume animal feeds	30 (dw)	5/8	
VP 0060	Legume vegetables (group)	0.02	5/8	
GC 2091	Maize cereals (subgroup)	0.04	5/8	
CF 1255	Maize flour	0.07	5/8	
AS 0645	Maize fodder (dry)	18 (dw)	5/8	
OR 0645	Maize oil, edible	0.08	5/8	
MF 0100	Mammalian fats (except milk fats)	0.1	5/8	
VO 2709	Martynia	0.02	5/8	
MM 0095	Meat (from mammals other than marine mammals)	0.1 (fat)	5/8	
ML 0106	Milks	0.01 (*)	5/8	
AS 0646	Millet fodder, dry	0.3 (dw)	5/8	
AS 0647	Oat straw and fodder, dry	50 (dw)	5/8	
VO 0442	Okra	0.02	5/8	
SO 0697	Peanut	0.05	5/8	
OR 0697	Peanut oil, edible	0.15	5/8	
HS 0444	Peppers chili, dried	5	5/8	
DV 589	Potato, dried	0.5	5/8	
PF 0111	Poultry fats	0.01 (*)	5/8	
PM 0110	Poultry meat	0.01 (*)	5/8	
PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
GC 2088	Rice cereals (subgroup)	0.03	5/8	
AS 0649	Rice straw and fodder, dry	0.3 (dw)	5/8	
VR 2070	Root vegetables (subgroup)	0.1	5/8	
VO 0446	Roselle	0.02	5/8	
AS 0650	Rye straw and fodder, dry	50 (dw)	5/8	
SO 2090	Small seed oilseeds (subgroup)	0.9	5/8	
GC 2089	Sorghum grain and millet (subgroup)	0.03	5/8	
AS 0651	Sorghum straw and fodder, dry	0.3 (dw)	5/8	
VS 2080	Stems and petioles (subgroup)	15	5/8	
SO 2091	Sunflower seeds (subgroup)	0.3	5/8	
GC 2090	Sweet corns (subgroup)	0.03	5/8	
DV 0448	Tomato, dried	7	5/8	
AS 0653	Triticale straw and fodder, dry	50 (dw)	5/8	
VR 2071	Tuberous and corm vegetables (subgroup)	0.1	5/8	
CF 0654	Wheat bran, processed	1	5/8	

	Commodity		MRL (mg/kg)	Step	Note
	CF 1210	Wheat germ	0.6	5/8	
	AS 0654	Wheat straw and fodder, dry	50 (dw)	5/8	
	GC 2086	Wheat, similar grains, and pseudocereals without husks (subgroup)	0.4	5/8	
310	**Pyriofenone**				
	MO 0105	Edible offal (mammalian)	0.01 (*)	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.01 (*)	5/8	
	ML 0106	Milks	0.01 (*)	5/8	
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
312	**Afidopyropen**				
	AM 0660	Almond hulls	0.6 (dw)	5/8	
	DF 0226	Apples, dried	0.02	5/8	(peeled)
	VB 0041	Cabbages, head	0.5	5/8	
	FS 0013	Cherries (subgroup)	0.03	5/8	
	FC 0001	Citrus fruits (group)	0.15	5/8	
	AB 0001	Citrus pulp, dry	0.4	5/8	(Based on processing studies on oranges)
	HH 3209	Coriander, leaves	5	5/8	
	AB 1204	Cotton gin trash	1.5	5/8	
	SO 0691	Cotton seed	0.08	5/8	
	VC 0424	Cucumber	0.7	5/8	
	HH 0730	Dill, leaves	5	5/8	
	MO 0105	Edible offal (mammalian)	0.2	5/8	
	VO 2046	Eggplants (subgroup)	0.15	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	VB 0042	Flowerhead brassicas (subgroup)	0.4	5/8	
	VC 2040	Fruiting vegetables, cucurbits – melons, pumpkins and winter squashes (subgroup)	0.05	5/8	
	HS 0784	Ginger, rhizomes	0.01 (*)	5/8	(fresh)
	VL 2050	Leafy greens (subgroup)	2	5/8	
	VL 0054	Leaves of Brassicaceae	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	0.001 (*)	5/8	

	Commodity		MRL (mg/kg)	Step	Note
	OR 0004	Orange oil, edible	0.7	5/8	(Based on processing studies on oranges)
	HH 0740	Parsley	5	5/8	(leaves)
	FS 2001	Peaches (including apricots and nectarine) (subgroup)	0.015	5/8	
	VO 0051	Peppers (subgroup)	0.1	5/8	(excluding martynia, okra and roselle)
	HS 0444	Peppers chili, dried	1	5/8	
	FS 0014	Plums (including fresh prunes) (subgroup)	0.01 (*)	5/8	
	FP 0009	Pome fruits (group)	0.03	5/8	(excluding persimmon)
	PF 0111	Poultry fats	0.01 (*)	5/8	
	PM 0110	Poultry meat	0.01 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
	VD 0541	Soya bean (dry)	0.01 (*)	5/8	
	VC 0431	Squash, summer	0.07	5/8	
	VS 2080	Stems and petioles (subgroup)	3	5/8	
	DV 0448	Tomato, dried	0.7	5/8	
	VO 2045	Tomatoes (subgroup)	0.15	5/8	
	TN 0085	Tree nuts (group)	0.01 (*)	5/8	
	VR 2071	Tuberous and corm vegetables (subgroup)	0.01 (*)	5/8	
	HS 0794	Turmeric, root	0.01 (*)	5/8	(fresh)
313	**Metconazole**				
	FI 0327	Banana	0.1 (*)	5/8	
	AS 0640	Barley straw and fodder, dry	25 (dw)	5/8	
	VP 0061	Beans with pods (Phaseolus spp.) immature pods and succulent seeds)	0.05 (*)	5/8	
	FB 0020	Blueberries	0.5	5/8	
	FS 0013	Cherries (subgroup)	0.3	5/8	
	AB 1204	Cotton gin trash	10 (dw)	5/8	
	SO 0691	Cotton seed	0.3	5/8	
	VD 2065	Dry beans (subgroup)	0.04 (*)	5/8	(except soya beans)
	VD 2066	Dry peas (subgroup)	0.15	5/8	
	MO 0105	Edible offal (mammalian)	0.04 (*)	5/8	
	PE 0112	Eggs	0.04 (*)	5/8	
	VA 0381	Garlic	0.05 (*)	5/8	
	GC 0645	Maize	0.015	5/8	
	AS 0645	Maize fodder (dry)	7 (dw)	5/8	
	MF 0100	Mammalian fats (except milk fats)	0.04 (*)	5/8	

	Commodity		MRL (mg/kg)	Step	Note
	MM 0095	Meat (from mammals other than marine mammals)	0.04 (*)	5/8	
	ML 0106	Milks	0.04 (*)	5/8	
	AS 0647	Oat straw and fodder, dry	25 (dw)	5/8	
	VA 0385	Onion, bulb	0.05 (*)	5/8	
	FS 2001	Peaches (including apricots and nectarine) (subgroup)	0.2	5/8	
	SO 0697	Peanut	0.04 (*)	5/8	
	OR 0697	Peanut oil, edible	0.06	5/8	
	FS 0014	Plums (including fresh prunes) (subgroup)	0.1	5/8	
	PF 0111	Poultry fats	0.04 (*)	5/8	
	PM 0110	Poultry meat	0.04 (*)	5/8	
	PO 0111	Poultry, edible offal of	0.04 (*)	5/8	
	DF 0014	Prunes,dried	0.5	5/8	
	SO 0495	Rape seed	0.15	5/8	
	OR 0495	Rape seed oil, edible	0.5	5/8	
	AS 0650	Rye straw and fodder, dry	25 (dw)	5/8	
	VD 0541	Soya bean (dry)	0.04	5/8	
	AL 3354	Soya bean hay	8 (dw)	5/8	
	VR 0596	Sugar beet	0.07	5/8	
	GS 0659	Sugar cane	0.06	5/8	
	SO 2091	Sunflower seeds (subgroup)	1.5	5/8	
	GC 0447	Sweet corn (corn on the cob) (kernels plus cob with husk removed)	0.015	5/8	
	TN 0085	Tree nuts (group)	0.04 (*)	5/8	
	AS 0653	Triticale straw and fodder, dry	25 (dw)	5/8	
	VR 2071	Tuberous and corm vegetables (subgroup)	0.04 (*)	5/8	
	AS 0654	Wheat straw and fodder, dry	25 (dw)	5/8	
318	**Valifenalate**				
	MO 0105	Edible offal (mammalian)	0.01 (*)	5/8	
	VO 0440	Eggplant	0.4	5/8	
	PE 0112	Eggs	0.01 (*)	5/8	
	FB 0269	Grapes	0.3	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	0.5	5/8	

Commodity		MRL (mg/kg)	Step	Note
PF 0111	Poultry fats	0.01 (*)	5/8	
PM 0110	Poultry meat	0.01 (*)	5/8	
PO 0111	Poultry, edible offal of	0.01 (*)	5/8	
VA 0388	Shallot	0.5	5/8	
VO 0448	Tomato	0.4	5/8	

APPENDIX III

MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(Recommended for revocation)
(For approval by CAC)

	Commodity		MRL (mg/kg)	Step	Note
47	**Bromide Ion**				
	FI 0326	Avocado	75	CXL-D	
	VP 0522	Broad bean (green pods and immature seeds)	500	CXL-D	
	VB 0400	Broccoli	30	CXL-D	
	VB 0041	Cabbages, head	100	CXL-D	
	VS 0624	Celery	300	CXL-D	
	GC 0080	Cereal grains	50	CXL-D	
	FC 0001	Citrus fruits (group)	30	CXL-D	
	VC 0424	Cucumber	100	CXL-D	
	DF 0295	Dates, dried or dried and candied	100	CXL-D	
	DF 0167	Dried fruits	30	CXL-D	(except as otherwise listed)
	DF 0269	Dried grapes (=currants, raisins and sultanas)	100	CXL-D	
	DH 0170	Dried herbs	400	CXL-D	
	DF 0297	Figs, dried or dried and candied	250	CXL-D	
	AO 0002	Fruits	20	CXL-D	(except as otherwise listed)
	VP 0528	Garden pea (young pods (=succulent, immature seeds)	500	CXL-D	
	VL 0482	Lettuce, head	100	CXL-D	
	VO 0442	Okra	200	CXL-D	
	DF 0247	Peach, dried	50	CXL-D	
	HS 0444	Peppers chili, dried	200	CXL-D	
	VO 0445	Peppers, sweet (including pimento or pimiento)	20	CXL-D	
	FS 4072	Prunes (see plums)	20	CXL-D	
	VR 0494	Radish	200	CXL-D	
	HS 0093	Spices	400	CXL-D	
	VC 0431	Squash, summer	200	CXL-D	
	FB 0275	Strawberry	30	CXL-D	
	VO 0448	Tomato	75	CXL-D	
	VL 0506	Turnip greens	100	CXL-D	
	VR 0506	Turnip, Garden	200	CXL-D	
	CF 1212	Wheat wholemeal	50	CXL-D	

	Commodity		MRL (mg/kg)	StepNote
65	**Thiabendazole**			
	FI 0345	Mango	5 (Po)	CXL-D
70	**Bromopropylate**			
	FC 0001	Citrus fruits (group)	2	CXL-D
	VP 0526	Common bean (pods and/or immature seeds)	3	CXL-D
	VC 0424	Cucumber	0.5	CXL-D
	FB 0269	Grapes	2	CXL-D
	VC 0046	Melons, except watermelon	0.5	CXL-D
	FS 0014	Plums (including fresh prunes) (subgroup)	2	CXL-D
	FP 0009	Pome fruits (group)	2	CXL-D
	VC 0431	Squash, summer	0.5	CXL-D
	FB 0275	Strawberry	2	CXL-D
83	**Dichloran**			
	VR 0577	Carrot	15 (Po)	CXL-D
	FB 0269	Grapes	7	CXL-D
	FS 0245	Nectarine	7 (Po)	CXL-D
	VA 0385	Onion, bulb	0.2	CXL-D
	FS 0247	Peach	7 (Po)	CXL-D
158	**Glyphosate**			
	VD 0071	Beans (dry)	2	CXL-D
	VD 0533	Lentil (dry)	5	CXL-D
	VD 0072	Peas (dry)	5	CXL-D
160	**Propiconazole**			
	FS 0247	Peach	5 (Po)	CXL-D
173	**Buprofezin**			
	AM 0660	Almond hulls	2	CXL-D
	TN 0660	Almonds	0.05 (*)	CXL-D
	AB 0001	Citrus pulp, dry	2	CXL-D
178	**Bifenthrin**			
	GC 0640	Barley	0.05 (*)	CXL-D
	AS 0640	Barley straw and fodder, dry	0.5	CXL-D
	FB 0275	Strawberry	1	CXL-D
191	**Tolclofos-Methyl**			
	VL 0482	Lettuce, head	2	CXL-D
	VL 0483	Lettuce, leaf	2	CXL-D
	VR 0589	Potato	0.2	CXL-D
	VR 0494	Radish	0.1	CXL-D

	Commodity		MRL (mg/kg)	StepNote
192	**Fenarimol**			
	VS 0620	Artichoke, globe	0.1	CXL-D
	FI 0327	Banana	0.2	CXL-D
	MO 1280	Cattle kidney	0.02 (*)	CXL-D
	MO 1281	Cattle liver	0.05	CXL-D
	MM 0812	Cattle meat	0.02 (*)	CXL-D
	FS 0013	Cherries	1	CXL-D
	DF 0269	Dried grapes (=currants, raising and sultanas)	0.2	CXL-D
	FB 0269	Grapes	0.3	CXL-D
	DH 1100	Hops, Dry	5	CXL-D
	VC 0046	Melons, except watermelon	0.05	CXL-D
	FS 0247	Peach	0.5	CXL-D
	TN 0672	Pecan	0.02 (*)	CXL-D
	HS 0444	Peppers Chili, dried	5	CXL-D
	VO 0445	Peppers, sweet (including pimento or pimiento	0.5	CXL-D
	FP 0009	Pome fruits	0.3	CXL-D
	FB 0275	Strawberry	1 (T)	CXL-D
	AS 0447	Sweet corn fodder	5	CXL-D
199	**Kresoxim-Methyl**			
	FP 0009	Pome fruits (group)	0.2	CXL-D
210	**Pyraclostrobin**			
	VR 0577	Carrot	0.5	CXL-D
	VR 0494	Radish	0.5	CXL-D
	VR 0596	Sugar beet	0.2	CXL-D
221	**Boscalid**			
	FP 0226	Apple	2	CXL-D
	DF 0014	Prunes,dried	10	CXL-D
	FS 0012	Stone fruits (group)	3	CXL-D
236	**Metaflumizone**			
	MO 0105	Edible offal (mammalian)	0.02 (*)	CXL-D
	MO 0105	Meat (from mammals Other than marine mammals)	0.02 (*)(fat)	CXL-D
	FM 0183	Milk fats	0.02	CXL-D
	ML 0106	Milks	0.01 (*)	CXL-D

	Commodity		MRL (mg/kg)	StepNote
240	**Dicamba**			
	SO 0691	Cotton seed	0.04 (*)	CXL-D
	GC 0645	Maize	0.01 (*)	CXL-D
	AS 0645	Maize fodder (dry)	0.6	CXL-D
	VD 0541	Soya bean (dry)	10	CXL-D
246	**Acetamiprid**			
	HS 0775	Cardamom	0.1	CXL-D
256	**Fluxapyroxad**			
	FC 0004	Oranges, sweet, sour (including Orange-like hybrids) (subgroup)	0.3	CXL-D
258	**Picoxystrobin**			
	MO 0105	Edible offal (mammalian)	0.02	CXL-D
	MF 0100	Mammalian fats (except milk fats)	0.02	CXL-D
	MO 0105	Meat (from mammals other than marine mammals)	0.02	CXL-D
	ML 0106	Milks	0.01 (*)	CXL-D
261	**Benzovindiflupyr**			
	GS 0659	Sugar cane	0.04	CXL-D
280	**Acetochlor**			
	MO 0105	Edible offal (mammalian)	0.02 (*)	CXL-D
	AL 0157	Legume animal feeds	3	CXL-D
283	**Fluazifop-p-butyl**			
	FB 2005	Cane berries (subgroup)	0.01 (*)	CXL-D
	FB 0021	Currants, black, red, white	0.01 (*)	CXL-D
	FB 0268	Gooseberry	0.01 (*)	CXL-D
	FB 0275	Strawberry	0.3	CXL-D
302	**Fosetyl Al**			
	MF 0100	Mammalian fats (except milk fats)	0.3	CXL-D

APPENDIX IV

MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(Retained at Step 7)
(For information)

	Commodity	MRL (mg/kg)	Source	Step	Note
212	**Metalaxyl-M**				
	FP 0226 Apple	0.02 (*)		7	
	SB 0715 Cacao beans	0.02		7	
	FB 0269 Grapes	1		7	
	VL 0482 Lettuce, head	0.5		7	
	VA 0385 Onion, bulb	0.03		7	
	VO 0445 Peppers, sweet (including pimento or pimiento)	0.5		7	
	VR 0589 Potato	0.02 (*)		7	
	VL 0502 Spinach	0.1		7	
	SO 0702 Sunflower seed	0.02 (*)		7	
	VO 0448 Tomato	0.2		7	

APPENDIX V

MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(Retained at Step 4)
(For information)

	Commodity		MRL (mg/kg)	Source	Step	Note
81	**Chlorothalonil**					
	FB 0265	Cranberry	15		4	
178	**Bifenthrin**					
	VS 0624	Celery	3		4	
	VL 0482	Lettuce, head	4		4	
	FB 0275	Strawberry	3		4	
193	**Fenpyroximate**					
	FS 0240	Apricot	0.4		4	
	FS 0013	Cherries (subgroup)	2		4	
	FS 0247	Peach	0.8		4	
	FS 0014	Plums (including fresh prunes) (subgroup)	0.8		4	
	VC 0432	Watermelon	0.05		4	
265	**Fluensulfone**					
	JF 0226	Apple juice	0.4		4	
	DF 0226	Apples, dried	1		4	
	FP 0009	Pome fruits (group)	0.2		4	(except Japanese persimmons)
314	**Pyflubumide**					
	FP 0226	Apple	1		4	
	DT 1114	Tea, green, black (black, fermented and dried)	80		4	

APPENDIX VI

MAXIMUM RESIDUE LIMITS FOR PESTICIDES

(Withdrawn by CCPR)
(For information)

	Commodity		MRL (mg/kg)	Step	Note
178	**Bifenthrin**				
	FB 0275	Strawberry	3	MRL-W	
	VO 0442	Okra	0.2	MRL-W	
296	**Cyclaniliprole**				
	MF 0100	Mammalian fats (except milk fats)	0.01 (*)	MRL-W	
	VO 2046	Eggplants (subgroup)	0.1	MRL-W	
	VC 2039	Fruiting vegetables, cucurbits - cucumbers and summer squashes (subgroup)	0.06	MRL-W	
	AS 0081	Straw and fodder (dry) of cereal grains	0.45 (dw)	MRL-W	
	VO 0448	Tomato	0.1	MRL-W	
	FB 0269	Grapes	0.8	MRL-W	
	DF 0014	Prunes	0.8	MRL-W	
	HS 0444	Peppers chili, dried	2	MRL-W	
	ML 0106	Milks	0.01 (*)	MRL-W	
	VL 0054	Leaves of Brassicaceae (subgroup)	15	MRL-W	
	MM 0095	Meat (from mammals other than marine mammals)	0.01 (*)(fat)	MRL-W	
	MO 0105	Edible offal (mammalian)	0.01 (*)	MRL-W	
	DV 0448	Tomato, dried	0.4	MRL-W	
	VO 2700	Cherry tomato	0.1	MRL-W	
	FS 0013	Cherries (subgroup)	0.9	MRL-W	
	FM 0183	Milk fats	0.01 (*)	MRL-W	
	VB 2036	Head brassicas (subgroup)	0.7	MRL-W	
	VC 2040	Fruiting vegetables, cucurbits – melons, pumpkins and winter squashes (subgroup)	0.15	MRL-W	
	FS 2001	Peaches (including apricots and nectarine) (subgroup)	0.3	MRL-W	
	VO 0051	Peppers (subgroup)	0.2	MRL-W	(except martynia, okra and roselle)
	FP 0009	Pome fruits (group)	0.3	MRL-W	
	FS 0014	Plums (including fresh prunes) (subgroup)	0.2	MRL-W	
	VB 0042	Flowerhead brassicas (subgroup)	1	MRL-W	

	Commodity		MRL (mg/kg)	Step	Note
256	**Fluxapyroxad**				
	FC 0001	Citrus fruits (group)	1	MRL-W	
	OR 0001	Citrus oil, edible	60	MRL-W	
290	**Isofetamid**				
	VD 2065	Dry beans (subgroup)	0.05	MRL-W	(except soya beans (dry))
	VD 2066	Dry peas (subgroup)	0.05	MRL-W	
	FB 2006	Bush berries (subgroup)	5	MRL-W	
160	**Propiconazole**				
	FS 0247	Peach	1.5 (Po)	MRL-W	
	FS 0247	Peach	0.7 (Po)	MRL-W	
309	**Pydiflumetofen**				
	VL 2050	Leafy greens (subgroup)	40	MRL-W	
210	**Pyraclostrobin**				
	VL 0502	Spinach	1.5	MRL-W	
	VR 2070	Root vegetables (subgroup)	0.5	MRL-W	
269	**Tolfenpyrad**				
	VO 2045	Tomatoes (subgroup)	0.7	MRL-W	
	VO 2046	Eggplants (subgroup)	0.7	MRL-W	

APPENDIX VII
Part 1

REVISION OF THE CLASSIFICATION OF FOODS AND ANIMAL FEEDS (CXA4 – 1989)

CLASS C – PRIMARY FEED COMMODITIES
TYPE 11 – PRIMARY FEED COMMODITIES OF PLANT ORIGIN

(At Step 5/8)
(For adoption by CAC)

Type	No.	Group	Group Letter Code
11 Primary feed commodities of plant origin			
	050	Legume feed products	
		Subgroup 050A: Products of legume feeds with high water (≥20%) content (forage and silage)	AL
		Subgroup 050B: Products of legume feeds with low water (<20%) content (hay)	AL
		Subgroup 050C: Processed products of legume feeds (such as meal, hulls)	AL
	051	Cereal grains (including pseudocereals) and grass feed products	
		Subgroup 051A: Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage)	AS
		Subgroup 051B: Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay, straw)	AS
		Subgroup 051C: Cereal grains (including pseudocereals) processed products (such as bran, hulls)	AS
		Subgroup 051D: Grasses for Animal Feed	AS
	052	Miscellaneous feed products	
		Subgroup 052A: Miscellaneous feed products with high water (≥20%) content (forage, beet tops)	AM
		Subgroup 052B: Miscellaneous feed products with low water (<20%) content (hay)	AM
		Subgroup 052C: Miscellaneous processed products (such as meal, hulls, dried pulp)	AM

CLASS C PRIMARY FEED COMMODITIES

For the purpose of the Codex Alimentarius the term “primary feed commodity” means the product in or nearly

in its natural state intended for sale to:

(a) the stock farmer as feed which is used without further processing for livestock animals or after silaging or similar farm processes.

(b) to the animal feed industry as a raw material for preparing compounded feeds.

Legume feeds

Class C

Type 11 Primary feed commodities of plant origin Group 050 Group Letter Code AL

Group 050. Legume animal feeds include various species of leguminous plants used for animal forage, grazing, hay or silage, with or without seed and processed products. Several species are grown exclusively for animal feeding purposes, whereas some others are grown primarily as food crops. The “waste” parts of the latter crops are often used as animal feed, either in the fresh form or as hay.

The entire commodity may be consumed by livestock animals.

Portion of the commodity to which the MRL applies (and which is analyzed): **Whole commodity as presented for wholesale or retail distribution.**

In view of the wide range of moisture contents in most animal feeds, except straws, moving in commerce, the MRLs should preferably be set and expressed on a “dry-weight” basis.

A “dry-weight” basis implies that the commodity is analyzed for pesticide residues as received, that the moisture content is determined, preferably by a standard method for use on the relevant commodity, and the residue content is then calculated as if it were wholly contained in the dry matter.

The residues are expressed on a dry-weight basis if not otherwise stated. To avoid confusion caused by the not always consistent commodity description, the “dry-weight” basis, will be indicated, if relevant, with the designation “dry-weight” after the residue figure e.g.

pea vines (green)	;	x mg/kg dry weight
pea hay	;	x mg/kg dry weight

This Group is divided into 3 subgroups:

	Code
Subgroup 050A: Products of legume feeds with high water (≥20%) content (forage and silage)	AL
Subgroup 050B: Products of legume feeds with low water(<20%) content (hay)	AL
Subgroup 050C: Processed products of legume feeds (such as meal, hulls)	AL

Group 050 LEGUME FEED PRODUCTS

AL 0157 **Group of Legume animal feeds**

Subgroup 050A, Products of legume feeds with high water (≥20%) content (forage and silage)

Code No.	Commodity
AL 3300	**Subgroup of Products of legume feeds with high water (≥20%) content (forage and silage) (includes all commodities in this subgroup)**
AL 1021	**Alfalfa, forage**
	Medicago sativa L., subsp. *sativa* L.
AL 3493	**Alfalfa, silage**
	Medicago sativa L., subsp. *sativa* L.
AL 3494	Anil indigo, forage
	Indigofera suffruticosa Mill.
AL 1030	**Bean, forage**
	Phaseolus spp.
AL 3495	**Bean, forage**
	Vigna spp.
-	**Bean, Adzuki**, forage, see Bean, forage, AL 3495
	Vigna angularis (Willd.) Ohwi & H. Ohashi var. *angularis*
AL 3496	**Berlandier acacia, forage**
	Senegalia berlandieri (Benth.) Britton & Rose
AL 3497	**Black medic, forage**
	Medicago lupulina L.
AL 3498	**Black wattle, forage**
	Acacia mearnsii DeWild.
AL 3499	**Brazilian stylo, forage**
	Stylosanthes guianensis (Aubl.) Sw.
	Stylosanthes hamata (L.) Taub.
AL 3500	**Burclover, forage**
	Medicago spp.; Burclover, California, *Medicago polymorpha* L.; Burclover, spotted, *Medicago arabica* (L.) Huds.
AL 3501	**Butterfly pea, forage**
	Centrosema pubescens Benth.
-	**Chickling vetch, forage**, see Vetch, forage, AL 1029
AL 3502	**Chick-pea**, **forage**
	Cicer arietinum L.

AL 1023 **Clover, forage**

Trifolium spp. and Melilotus spp.; Clover, alsike, *Trifolium hybridum* L.; Clover, alyce, *Alysicarpus vaginalis* (L.) DC.; Clover, arrowleaf, *Trifolium vesiculosum* Savi; Clover, ball, *Trifolium nigrescens* Viv.; Clover, Beirut, *Trifolium berytheum* Boiss. & Blanche; Clover, berseem, *Trifolium alexandrinum* L.; Clover, bigflower, *Trifolium michelianum* Savi; Clover, clustrer, *Trifolium glomeratum* L.; Clover, crimson, *Trifolium incarnatum* L.; Clover, Egyptian, *Trifolium alexandrinum* L.; Clover, hop, *Trifolium campestre* Schreb.; Clover, Kura, *Trifolium ambiguum* M. Bieb.; Clover, lappa, *Trifolium lappaceum* L.; Clover, large hop, *Trifolium aureum* Pollich; Clover, Persian, *Trifolium resupinatum* L.; Clover, red, *Trifolium pratense* L.; Clover, rose, *Trifolium hirtum* All.; Clover, Rueppell's, *Trifolium rueppellianum* Fresen.; Clover, sea, *Trifolium squamosum* L.; Clover seaside, *Trifolium wormskioldii* Lehm.; Clover, small hop, *Trifolium dubium* Sibth.; Clover, sour, *Melilotus indicus* (L.) All.; Clover, strawberry, *Trifolium fragiferum* L.; Clover striate, *Trifolium striatum* L.; Clover sub, *Trifolium subterraneum* L.; Clover, tall yellow sweet, *Melilotus altissimus* Thuill.; Clover, tomcat, *Trifolium willdenovii* Spreng.; Clover, white, *Trifolium repens* L.; Clover, white sweet, *Melilotus albus* Medik.; Clover, whitetip, *Trifolium variegatum* Nutt.; Clover, yellow sweet, *Melilotus officinalis* Lam.; Clover, zigzag, *Trifolium medium* L.; Spärrklöver, *Trifolium squarrosum* L.

AL 3503 **Clover, silage**

Trifolium spp. and *Melilotus* spp. (see AL 1023, Clover, forage for included species)

- **Cowpea, forage,** see Bean, forage, AL 3495

Vigna unguiculata (L.) Walp.

AL 3504 **Gliricidia, forage**

Gliricidia sepium (Jacq.) Kunth

- **Grass pea, forage**, see Vetch, forage, AL 1029

AL 3505 **Horse bean, forage**

Vicia faba L. var. *equina* St.-Amans

AL 3506 **Huisache, forage**

Vachellia farnesiana (L.) Wight & Arn.

AL 1024 **Kudzu, forage**

Pueraria montana (Lour.) Merr. var. *lobata* (Willd.) Maesen & S. M. Almeida ex Sanjappa & Predeep

- **Kudzu, Tropical, forage**, see Kudzu, forage, AL 1024

Neustanthus phaseoloides (Roxb.) Benth.

AL 3507 **Leadplant, forage**

Amorpha canescens Pursh

AL 3508 **Lentil, forage**

Lens culinaris Medik. subsp. *culinaris*

AL 1025 **Lespedeza, forage**

Lespedeza spp. and *Kummerowia* spp.; Lespedeza, Korean, *Kummerowia stipulacea* (Maxim.) Makino; Lespedeza, sericea, *Lespedeza cuneata* (Dum. Cours.) G.Don; Lespedeza, striate, *Kummerowia striata* (Thunb.) Schindl.

AL 3509 **Leucaena, forage**

Leucaena leucocephala (Lam.) deWit, *Acaciella glauca* (L.) L. Rico

AL 3510 **Leucaena, silage**

Leucaena leucocephala (Lam.) deWit, *Acaciella glauca* (L.) L. Rico

AL 0545	**Lupin, forage** *Lupinus* spp.; Lupin, blue, *Lupinus albus* L.; Lupin, pearl, *Lupinus mutabilis* Sweet; Lupin, white, *Lupinus albus* L. var. *albus*; Lupin, yellow, *Lupinus luteus* L.
-	**Melilot**, forage, see Clover, forage, AL 1023 *Melilotus* spp.
AL 3511	**Pea, silage** *Pisum* spp.
AL 0528	**Pea, vines (green)** *Pisum* spp.
AL 1270	**Peanut, forage (green)** *Arachis hypogaea* L.
AL 0537	**Pea, pigeon, forage** *Cajanus cajan* (L.) Huth
-	**Puero, forage** see Kudzu, forage, AL 1024 *Pueraria phaseoloides* (Roxb.) Benth.
AL 3512	**Purple prairie clover, forage** *Dalea purpurea* Vent.
AL 3513	**Roundleaf cassia, forage** *Chamaecrista rotundifolia* (Pers.) Greene
AL 1027	**Sainfoin, forage** *Onobrychis viciifolia* Scop. syn: *O. sativa* Lamk.
AL 3514	**Sainfoin, silage** *Onobrychis viciifolia Scop.*
AL 3515	**Sensitive partridge pea, forage** Chamaecrista nictitans (L.) Moench
-	**Sericea**, forage, see Lespedeza, forage, AL 1025
AL 3516	**Sesbania, forage** *Sesbania exaltata* (Raf.) Rydb.
AL 1265	**Soya bean, forage** *Glycine max* (L.) Merr;
AL 3517	**Soya bean, silage** *Glycine max* (L.) Merr;
AL 3518	**Thorn mimosa, forage** *Vachellia nilotica* (L.) P. J. H. Hurter & Mabb. subsp. *Nilotica*
AL 3519	**Tick clover, forage** *Desmodium* spp.

AL 1028 **Trefoil, forage**

Lotus spp.*;* Trefoil, big, *Lotus uliginosus* Schkuhr; Trefoil, birdsfoot, *Lotus corniculatus*, L.; Trefoil, narrowleaf, *Lotus tenuis* Waldst. & Kit. ex Willd.; Bigleaf trefoil, Lotus *uliginosus* Schkuhr

- **Tropical kudzu**, see Kudz, forage, AL 1024

- **Vetch, Chickling, forage**, see Vetch, forage, AL 1029

Lathyrus sativus L.

- **Vetch, Chickling, silage**, see Vetch, silage, AL 3520

Lathyrus sativus L.

- **Vetch, Crown, forage**, see Vetch, forage, AL 1029

Coronilla varia L.

- **Vetch, Crown, silage**, see Vetch, silage, AL 3520

Coronilla varia L.

AL 1029 **Vetch, forage**

Vicia spp.; Vetch, bard, Vicia *monantha* Retz. Vetch, common, *Vicia sativa* L. spp. *sativa*; Vetch, crown, *Securigera varia* (L.) Lassen; Vetch, hairy, *Vicia villosa* Roth ssp. *villosa;* Vetch, Hungarian, *Vicia pannonica* Crantz; Vetch, kidney, *Anthyllis vulneraria* L.; Vetch, milk, *Astragalus cicer* L.; Vetch, monantha, *Vicia articulata* Hornem.; Vetch, narrowleaf, *Vicia sativa* ssp. *nigra* (L.) Ehrh.; Vetch, purple, *Vicia benghalensis* L.

- **Vetch, Milk, forage**, see Vetch, forage, AL 1029

Astragalus spp.

- **Vetch, Milk, silage**, see Vetch, silage, AL 3520

Astragalus spp.

AL 3520 **Vetch, silage**

Vicia spp.; Vetch, bard, Vicia *monantha* Retz. Vetch, common, *Vicia sativa* L. spp. *sativa*; Vetch, crown, *Securigera varia* (L.) Lassen; Vetch, hairy, *Vicia villosa* Roth ssp. *villosa;* Vetch, Hungarian, *Vicia pannonica* Crantz; Vetch, kidney, *Anthyllis vulneraria* L.; Vetch, milk, *Astragalus cicer* L.; Vetch, monantha, *Vicia articulata* Hornem.; Vetch, narrowleaf, *Vicia sativa* ssp. *nigra* (L.) Ehrh.; Vetch, purple, *Vicia benghalensis* L.

Subgroup 050B, Products of legume feeds with low water (<20%) content (hay)

Code No.	Commodity
AL 3301	**Subgroup of Products of legume feeds with low water (<20%) content (hay) (includes all commodities in this subgroup)**
AL 1020	**Alfalfa, hay and/or straw**
	Medicago sativa L., subsp. *sativa* L.
AL 0061	**Bean, hay and/or straw**
	Phaseolus spp.
AL 3521	**Bean, hay and/or straw**
	Vigna spp.
-	**Bean, Adzuki**, **hay and/or straw**, see Bean, hay and/or straw, AL 3521
	Vigna angularis (Willd.) Ohwi & H. Ohashi var. *angularis*
	Bean, Broad, hay and/or straw, See Bean, hay and/or straw, AL 0061
	Vicia faba L. subsp. *faba* var. *faba*
-	**Bean, goa, hay and/or straw,** See Bean, hay and/or straw, AL 0061
	Psophocarpus tetragonolobus (L.) DC.
-	**Bean, lablab, hay and/or straw**, See Bean, hay and/or straw, AL 0061
	Lablab purpureus (L.) Sweet ssp. *purpureus*
-	**Bean, mung, hay and/or straw,** See Bean, hay and/or straw, AL 3521
	Vigna radiata (L.) Wilczek var. *radiata*
-	**Bean, rice, hay and/or straw**, See Bean, hay and/or straw, AL 3521
	Vigna umbellata (Thunb.) Ohwi & H. Ohashi
-	**Bean, runner, hay and/or straw**, See Bean, hay and/or straw, AL 0061
	Phaseolus coccineus L.
-	**Bean, tepary, hay and/or straw**, See Bean, hay and/or AL 0061
	Phaseolus acutifolius A. Gray var. *acutifolius*
-	**Bean, urd, hay and/or straw,** See Bean, hay and/or straw, AL 3521
	Vigna mungo (L.) Hepper var. *mungo*
-	**Bean, yardlong, hay and/or straw**, See Bean, hay and/or AL 3521
	Vigna unguiculata (L.) Walp. subsp. *unguiculata* group *sesquipedalis*
AL 1022	**Bean, velvet, hay and/or straw**
	Mucuna pruriens (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck
AL 3522	**Brazilian stylo, hay and/or straw**
	Stylosanthes guianensis (Aubl.) Sw.
	Stylosanthes hamata (L.) Taub.
	Catjang, hay and/or straw, See Bean, hay and/or straw, AL 3521
	Vigna unguiculata (L.) Walp. subsp. *unguiculata* group *biflora*
AL 3523	**Centurion, hay and/or straw**
	Centrosema pascuorum Murt. Ex Benth.

AL 0524 **Chick-pea, hay and/or straw**

Cicer arietinum L.

AL 1031 **Clover, hay and/or straw**

Trifolium spp. and *Melilotus* spp.

- **Cowpea, hay and/or straw,** see Bean, hay and/or straw, AL 3521

Vigna unguiculata (L.) Walp.

AL 3524 **Crotalaria, hay and/or straw**

Crotalaria spp.; Crotalaria, lance-leaf, *Crotalaria lanceolata* E. Mey.; Crotalaria, showy, *Crotalaria spectabilis* Roth; Crotalaria, slenderleaf, *Crotalaria brevidens* Benth.; Crotalaria, striped, *Crotalaria pallida* Aiton; Sunn-hemp, *Crotalaria juncea* L.

AL 4425 **Guar, hay and/or straw**

Cyamopsis tetragonoloba (L.) Taub.

AL 0562 **Horse gram, hay and/or straw**

Macrotyloma uniflorum (Lam.) Verde.

AL 0532 **Jack bean, hay and/or straw**

Canavalia ensiformis (L.) DC.

AL 3525 **Lespedeza, hay and/or straw**

Lespedeza spp. and *Kummerowia* spp.; Lespedeza, Korean, *Kummerowia stipulacea* (Maxim.) Makino; Lespedeza, sericea, *Lespedeza cuneata* (Dum. Cours.) G.Don; Lespedeza, striate, *Kummerowia striata* (Thunb.) Schindl.

AL 3526 **Leucaena, hay and/or straw**

Leucaena leucocephala (Lam.) deWit, *Acaciella glauca* (L.) L. Rico

AL 0072 **Pea, hay and/or straw**

Pisum spp.

- **Pea, pigeon, hay and/or straw,** see Pea, hay and/or straw, AL 0072

Cajanus cajan (L.) Huth

- **Pea, southern, hay and/or straw**, see Bean, hay and/or straw, AL 3521

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

AL 0697 **Peanut, hay and/or straw**

Arachis hypogaea L.

AL 3527 **Perennial peanut, hay and/or straw**

Arachis glabrata Benth. var. *glabrata;* Pinto peanut, *Arachis pintoi* Krapov. & W.C. Greg

AL 3528 **Purple prairie-clover, hay and/or straw**

Dalea purpurea Vent.

AL 3529 **Sainfoin, hay and/or straw**

Onobrychis viciifolia Scop.

AL 0541 **Soya bean, hay and/or straw**

Glycine max (L.) Merr;

AL 3530 **Trefoil, hay and/or straw**

Lotus spp.*;* Trefoil, big, *Lotus uliginosus* Schkuhr; Trefoil, birdsfoot, *Lotus corniculatus*, L.; Trefoil, narrowleaf, *Lotus tenuis* Waldst. & Kit. ex Willd.; Bigleaf trefoil, Lotus *uliginosus* Schkuhr

- **Velvet bean, hay and/or straw**, see Bean, Velvet, hay and/or straw, AL 1022

Mucuna pruriens (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck

AL 3531 **Vetch, hay and/or straw**

Vicia spp.; Vetch, bard, Vicia *monantha* Retz. Vetch, common, *Vicia sativa* L. spp. *sativa*; Vetch, crown, *Securigera varia* (L.) Lassen; Vetch, hairy, *Vicia villosa* Roth ssp. *villosa;* Vetch, Hungarian, *Vicia pannonica* Crantz; Vetch, kidney, *Anthyllis vulneraria* L.; Vetch, milk, *Astragalus cicer* L.; Vetch, monantha, *Vicia articulata* Hornem.; Vetch, narrowleaf, *Vicia sativa* ssp. *nigra* (L.) Ehrh.; Vetch, purple, *Vicia benghalensis* L.

- **Vetch, Chickling, hay and/or straw**, see Vetch, hay and/or straw, AL 3531

Lathyrus sativus L.

- **Vetch, Crown, hay and/or straw**, see Vetch, hay and/or straw, AL 3531

Coronilla varia L.

- **Vetch, Milk, hay and/or straw**, see Vetch, hay and/or straw, AL 3531

Astralagus spp.

Subgroup 050C Processed products of legume feeds (such as meal, hulls)

Code No.	Commodity
AL 3302	**Subgroup of Processed products of legume feeds (like meal, hulls) (includes all commodities in this subgroup)**
AL 3532	**Alfalfa, cubes**
	Medicago sativa L., subsp. *sativa* L.
AL 3533	**Alfalfa, meal**
	Medicago sativa L., subsp. *sativa* L.
AL 3534	**Leucaena, leaf meal**
	Leucaena leucocephala (Lam.) de Wit, *Acaciella glauca* (L.) L. Rico
AL 3535	**Lupin, meal**
	Lupinus spp., varieties and cultivars
AL 3536	**Pea, hulls**
	Pisum spp.
AL 3537	**Pea, meal**
	Pisum spp.
AL 3538	**Soya bean, hulls**
	Glycine max (L.) Merr;
AL 3539	**Soya bean, meal**
	Glycine max (L.) Merr;

Group 051 CEREAL GRAINS (INCLUDING PSEUDOCEREALS) AND GRASS FEED PRODUCTS

Class C

Type 11 Primary feed commodities of plant origin

Group 051 Group Letter Code AS (forage, straws and hay)

The forage, hay and straw of cereal grains, grasses and processed products are derived from various plants of the grass family (Poaceae (alt. Gramineae)).

Cereal grains are grown to a limited extent as a forage crop. The immature crop is fed to livestock animals as succulent forage or as silage.

The cereal grain crops are mainly grown for human food or raw material for preparing food products. The "waste" parts remaining after harvest of the grain kernels (stems, stalks, leaves and empty ears) are extensively used and distributed for animal feeding purposes, in the form of hay or straw.

Several other species of the grass family are exclusively grown as forages crops. These crops are either used for grazing or are prepared for wholesale or retail distribution in the form of grass silage (in general one or more cuttings from immature plants), as artificially dried grass or as hay. The entire commodity may be consumed by livestock animals.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity, as presented for wholesale or retail distribution.**

In view of the range of moisture contents in the animal feeds of this Group, moving in commerce, the MRLs should preferably be set and expressed on a "dry-weight" basis.

A "dry-weight" basis implies that the commodity is analysed for pesticide residues as received, that the moisture content is determined, preferably by a standard method for use on the relevant commodity, and that the residue content is then calculated as if it were wholly contained in the dry matter. **See explanation in Group 050 Legume animal feeds**

The residues on the dry commodities of this Group, e.g. straws and hays, are expressed on the commodity as such.

Forage: Crops grown exclusively for animal feed. These crops are either used for grazing or are prepared as silage or as hay. Maize forage: whole green plant, prior to maturity (including the immature or nearly mature cobs).

Hay and Straw:

Coarse feed for livestock animals, especially cattle, horses and sheep, such as straw, hay, maize, stalks (stover) etc. e.g.

Maize hay: stover or whole stalks (with ears removed) remaining after the harvest of the mature and sun-dried cobs.

Silage: Finely chopped feed that is packed tight, and allowed to ferment in an air-tight environment until it reaches a pH of 4-5.

Group 051 Cereal grains and grasses (including pseudocereals) feed products

This Group is divided into 4 subgroups:

	Code
Subgroup 051A: Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage)	AS
Subgroup 051B: Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay, straw)	AS
Subgroup 051C: Cereal grains (including pseudocereals) processed products (such as bran, hulls)	AS
Subgroup 051D: Grasses for Animal Feed	AS

Group 051 CEREAL GRAINS (INCLUDING PSEUDOCEREALS) FEED PRODUCTS

Subgroup 051A, Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage)

Code No.	Commodity
AS 3303	**Subgroup of Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage) (Includes all commodities in this subgroup) (see Group 020 Cereal grains (code GC 0080) for commodities included in cereal grains)**
AS 0460	**Amaranth, forage** *Amaranthus* spp.; Amaranth, purple, *Amaranthus cruentus* L.; Princess-feather, Princess-feather, Amaranthaceae, *Amaranthus hypochondriacus* L.; Inca wheat, *Amaranthus caudatus* L.
AS 3540	**Barley, forage** *Hordeum vulgare* L. subsp. *Vulgare*
AS 3541	**Barley, silage** *Hordeum vulgare* L. subsp. *vulgare*
AS 3542	**Buckwheat, forage** *Fagopyrum esculentum* Moench
AS 3543	**Canarygrass, annual**, **forage** *Phalaris canariensis* L.
-	**Corn, forage,** see Maize forage, AS 0645
-	**Corn, silage**, See Maize silage, AS 3544 *Zea mays* L.
-	**Field corn, forage,** see Maize forage, AS 0645
-	**Field corn, silage**, See Maize silage, AS 3544 *Zea mays* L.
AS 0643	**Hungry rice, forage** *Digitaria iburua* Stapf; Fonio, white, *Digitaria exilis* (Kippist) Stapf
AS 0645	**Maize, forage** *Zea mays* L.
AS 3544	**Maize, silage** *Zea mays* L.
AS 3545	**Millet, forage** Millet, barnyard, *Echinochloa frumentacea* Link; Millet, finger, *Eleusine coracana* (L.) Gaertn.; Millet, foxtail, *Setaria italica* (L.) P. Beauv. subsp. *italica*; Millet, little, *Panicum sumatrense* Roth; Millet, proso, *Panicum miliaceum* L. subsp. *miliaceum*; Millet, pearl, *Pennisetum glaucum* (L.) R. Br.
AS 0647	**Oat, forage (green)** *Avena* spp.; Oat, common, *Avena sativa* L..; Oat, Abyssiniam, *Avena abyssinica* Hochst. ex A. Rich.; Oat, naked, *Avena nuda* L.; Oat, sand, *Avena strigosa* Schreb.
AS 3546	**Oat, silage** *Avena* spp.; Oat, common, *Avena sativa* L..; Oat, Abyssiniam, *Avena abyssinica* Hochst. ex A. Rich.; Oat, naked, *Avena nuda* L.; Oat, sand, *Avena strigosa* Schreb.

AS 3547 **Rice, forage**

Oryza sativa L.; Rice, African, *Oryza glaberrima* Steud.; Wild rice, *Zizania palustris* L.; Wild rice, Eastern, *Zizania aquatica* L.

AS 3548 **Rice**, **silage**

Oryza sativa L.; Rice, African, *Oryza glaberrima* Steud.; Wild rice, *Zizania palustris* L.; Wild rice, Eastern, *Zizania aquatica* L.

AS 0650 **Rye, forage**

Secale cereale L.

AS 3549 **Rye, silage**

Secale cereale L.

AS 0651 **Sorghum, forage (green)**

Sorghum bicolor (L.) Moench;

other *Sorghum* spp.

AS 3550 **Sorghum, silage**

Sorghum bicolor (L.) Moench;

other *Sorghum* spp.

AS 0447 **Sweet corn, forage**

Zea mays L. subsp. *mays*

AS 0653 **Triticale, forage**

x *Triticosecale* sp.

AS 3551 **Triticale, silage**

x *Triticosecale* sp.

AS 3552 **Wheat, forage**

Triticum aestivum L. subsp. *aestivum*

AS 3553 **Wheat, silage**

Triticum aestivum L. subsp. *aestivum*

Subgroup 051B Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay, straw)

Code No.	Commodity
AS 3304	**Subgroup of Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay and/or straw) (includes all commodities in this subgroup)**
AS 0081	**Straw and hay of cereal grains (see Group 020 Cereal grains (code GC 0081) for commodities included in cereal grains except pseudocereals)**
AS 0080	**Straw and hay of cereal grains (including pseudocereals) (see Group 020 Cereal grains (code GC 0080) for commodities included in cereal grains)**
AS 3554	**Amaranth, hay and/or straw** *Amaranthus* spp.; Amaranth, purple, *Amaranthus cruentus* L.; Princess-feather, Princess-feather, Amaranthaceae, *Amaranthus hypochondriacus* L.; Inca wheat, *Amaranthus caudatus* L.
AS 0640	**Barley, hay and/or straw** *Hordeum vulgare* L. subsp. *vulgare*
AS 0641	**Buckwheat, hay and/or straw** *Fagopyrum esculentum* Moench; Buckwheat, Tartary, *Fagopyrum tataricum* (L.) Gaertn.
AS 3555	**Canarygrass, annual, hay and/or straw** *Phalaris canariensis* L.
-	**Corn, hay and/or straw,** see Maize hay and/or straw, AS 3557
-	**Field corn, hay and/or straw,** see Maize hay and/or straw, AS 3557
-	**Field corn, stover**, see Maize stover, AS 3558 *Zea mays* L.
AS 3556	**Hungry rice, hay and/or straw** *Digitaria iburua* Stapf; Fonio, white, *Digitaria exilis* (Kippist) Stapf
AS 3557	**Maize, hay and/or straw** *Zea mays* L.
AS 3558	**Maize, stover** *Zea mays* L.
AS 0646	**Millet, hay and/or straw** Millet, barnyard, *Echinochloa frumentacea* Link; Millet, finger, *Eleusine coracana* (L.) Gaertn.; Millet, foxtail, *Setaria italica* (L.) P. Beauv. subsp. *italica*; Millet, little, *Panicum sumatrense* Roth; Millet, proso, *Panicum miliaceum* L. subsp. *miliaceum*; Millet, pearl, *Pennisetum glaucum* (L.) R. Br.
AS 3559	**Oat, hay and/or straw** *Avena* spp.; Oat, common, *Avena sativa* L..; Oat, Abyssiniam, *Avena abyssinica* Hochst. ex A. Rich.; Oat, naked, *Avena nuda* L.; Oat, sand, *Avena strigosa* Schreb.
AS 0656	**Pop corn,** stover *Zea mays* L. subsp. *mays*
AS 0649	**Rice, hay and/or straw** *Oryza sativa* L.; Rice, African, *Oryza glaberrima* Steud.; Wild rice, *Zizania palustris* L.; Wild rice, Eastern, *Zizania aquatica* L.
AS 3560	**Rye, hay and/or straw** *Secale cereale* L.

AS 3561 **Sorghum, stover**

Sorghum bicolor (L.) Moench; other *Sorghum* spp.

AS 3562 **Sorghum, hay and/or straw**

Sorghum bicolor (L.) Moench; other *Sorghum* spp.

AS 3563 **Sweet corn, stover**

Zea mays L. subsp. *mays*

AS 0652 **Teff, hay and/or straw**

Eragrostis tef (Zuccagni) Trotter

AS 0657 **Teosinte, hay and/or straw**

Zea mays ssp. *mexicana* (Schrad.) H. H. Iltis;

AS 0653 **Triticale, hay and/or straw**

x *Triticosecale* sp.

AS 0654 **Wheat, hay and/or straw**

Triticum spp.

Subgroup 051C Cereal grains (including pseudocereals) processed products (such as bran, hulls)

Code No.	Commodity
AS 3305	**Subgroup of Cereal grains (including pseudocereals) processed products (such as bran, hulls) (Includes all commodities in this subgroup) (see Group 020 Cereal grains (code GC 0080) for commodities included in cereal grains)**
AS 3564	**Dried distiller's grain from Barley** *Hordeum vulgare* L. subsp. *vulgare*
AS 3565	**Dried distiller's grain from Maize** *Zea mays* L.
AS 3566	**Dried distiller's grain from Rye** *Secale cereale* L.
AS 3567	**Dried distiller's grain from Sorghum** *Sorghum bicolor* (L.) Moench; other *Sorghum* spp.
AS 3568	**Dried distiller's grain from Wheat** *Triticum* spp.
AS 3569	**Maize, bran** *Zea mays* L.
AS 3570	**Rice, hulls** *Oryza sativa* L.; Rice, African, *Oryza glaberrima* Steud.; Wild rice, *Zizania palustris* L.; Wild rice, Eastern, *Zizania aquatica* L.
AS 3571	**Timothy, cubes** *Phleum spp.*

Subgroup 051D, Grasses for animal feed

Code No.	**Commodity**
AS 3306	**Subgroup of Forage, hay and/or straw and silage from grasses used for animal feed**
	(Includes all commodities (grasses in the Poaceae (Gramineae) family in this subgroup, except for commodities in Group 020, Code GC 0080)
AS 0162	**Hay and/or straw of grasses for animal feed , includes all hay of species of grasses in the Poaceae (alt.Gramineae) family in this subgroup (except for commodities in Group 020, Code GC 0080)**
AS 0163	**Forage of grasses, includes all forage of species of grasses for animal feed in the Poaceae (alt.Gramineae) family in this subgroup (except for commodities in Group 020, Code GC 0080)**
AS 0164	**Silage of grasses, include all silage of species of grasses for animal feed in the Poaceae (alt.Gramineae) family in this subgroup (except for commodities in Group 020, Code GC 0080)**

Specific grass codes include:

AS 5241	**Bermuda grass, hay and/or straw**
	Cynodon dactylon (L.) Pers.
AS 5243	**Bluegrass, hay and/or straw**
	Poa spp.
AS 5245	**Brome grass, hay and/or straw**
	Bromus spp.
AS 5251	**Darnel, hay and/or straw**
	Lolium spp.
AS 5253	**Fescue, hay and/or straw**
	Festuca spp.

Group 052 MISCELLANEOUS FEED PRODUCTS

Class C

Type 11 **Primary feed commodities of Plant origin**

Group 052 Group Letter Codes AM (hay and processed products) AV (forage)

Group 052. Miscellaneous forage, hay crops and processed products, are derived from various kinds of plants except leguminous and grassy plants (family *Gramineae*). However, for convenience, the hay and forage of grasses for sugar production are included in this Group. Some of the crops listed in this Group are primarily grown for human food or as raw material for preparing food (e.g. sugar beet) and the "waste" material of such crops is used as animal feed.

The entire commodity may be consumed by livestock animals, either in a succulent form, as silage or in the form of hay.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as presented for wholesale or retail distribution. In view of the wide range of moisture contents in the animal feeds of this Group moving in commerce the MRLs should, if relevant, preferably be set and expressed on a "dry-weight" basis, see explanation in Group 050 Legume animal feeds.**

Group 052 **MISCELLANEOUS FEED PRODUCTS**

AM 0165 **Group of miscellaneous feed products except leguminous and grass plants (*Poaceae*), but including grasses for sugar production (Includes all commodities in this group)**

This Group is divided into 3 subgroups:

	Code
Subgroup 052A: Miscellaneous feed products with high water (≥20%) content (forage, beet tops)	AM
Subgroup 052B: Miscellaneous feed products with low water (<20%) content (hay)	AM
Subgroup 052C: Miscellaneous processed feed products (such as meal, hulls, dried pulp)	AM

Subgroup 052A: Miscellaneous feed products with high water (≥20%) content (forage, beet tops)

Code No.	Commodity
AM 3307	**Subgroup of Miscellaneous Feed Products with high water (≥20%) content (forage, beet tops) (Includes all commodities in this subgroup)**
AM 3572	**Arrowleaf balsamroot, forage** *Balsamorhiza sagittata* (Pursh) Nutt.
-	**Beet, leaves or tops, forage, see Chard, VL 0464 (the same MRL applies as the food commodity)** *Beta vulgaris* L. subsp. *vulgaris*
-	**Carrot, culls,** see Carrot, VR 0577 (the same MRL applies as the food commodity) *Daucus carota* L.
AM 1050	**Cow cabbage, leaves** *Brassica oleracea* L. var. *viridis* L.
AM 3573	**Fodder beet, leaves or tops** *Beta vulgaris* L. subsp. *vulgaris*
AM 1051	**Fodder beet, roots** *Beta vulgaris* L. subsp. *vulgaris*
-	**Kale, forage,** see Kale, VL 0480 (the same MRL applies as the food commodity) *Brassica oleracea* L. var. *viridis* L.

AM 3574	**Kenaf, forage** *Hibiscus cannabinus* L.
AM 1052	**Marrow-stem cabbage or Marrow-stem kale, leaves and stems** *Brassica oleracea* L. var. *medullosa* Thell.
-	**Mangel or Mangold**, see Fodder beet, roots, AM 1051
-	**Mangoldwurzel**, see Fodder beet, roots AM 1051
AM 0353	**Pineapple, forage** *Ananas comosus* (L.) Merr.
-	**Potato, culls,** see Potato, VR 0589 (the same MRL applies as the food commodity) *Solanum tuberosum* L.
AM 0495	**Rape seed, forage** *Brassica napus* L.
AM 3575	**Spiny hopsage, forage** *Grayia spinosa* (Hook.) Moq.
AM 0596	**Sugar beet, leaves or tops** *Beta vulgaris* L. subsp. *vulgaris*
AM 0659	**Sugar cane, forage or tops** *Saccharum officinarum* L.
AM 0497	**Swedish turnip or Swede, leaves or tops;** *Brassica napus* L. subsp. *rapifera* Metzg.
-	**Swedish turnip or Swede, roots** see VR 0497 Swede (the same MRL applies as the food commodity) *Brassica napus* L. subsp. *rapifera* Metzg.
AM 3576	Sweet potato, silage *Ipomoea batatas* (L.) Lam. var. *Batatus*
AM 3577	Sweet potato, vines *Ipomoea batatas* (L.) Lam. var. *Batatus*
AM 3578	**Taper-tip hawk's-beard, forage** *Crepis acuminata* Nutt.
AM 3579	**Threadleaf sedge, forage** *Carex filifolia* Nutt.
AM 0506	**Turnip, forage** *Brassica rapa* L. subsp. *rapa*
-	**Turnip, leaves or tops,** see Turnip greens, VL 0506 (the same MRL applies as the food commodity) *Brassica rapa* L. subsp. *rapa*

Subgroup 052B: Miscellaneous feed products with low water (<20%) content (hay, straw)

AM 3308	**Subgroup of Miscellaneous Feed Products with low water (<20%) content (hay and/or straw) (includes all commodities in this subgroup)**
AM 3580	**Arrowleaf balsamroot, hay and/or straw** *Balsamorhiza sagittata* (Pursh) Nutt.
AM 0691	**Cotton hay and/or straw** *Gossypium* spp.
AM 3581	**Fodder beet, hay and/or straw** *Beta vulgaris* L. subsp. *vulgaris*
AM 3582	**Kenaf, hay and/or straw** *Hibiscus cannabinus* L.
AM 0738	**Mint, hay and/or straw** *Mentha* spp.
AM 3583	**Rape seed, hay and/or straw** *Brassica napus* L.
AM 3584	**Sugar cane, hay and/or straw** *Saccharum officinarum* L.
AM 3585	**Turnip, hay and/or straw** *Brassica rapa* L. subsp. *rapa*

Subgroup 052C: Miscellaneous Processed feed products (such as meal, hulls, dried pulp)

AM 3309 **Subgroup of Miscellaneous Processed feed products (such as meal, hulls, dried pulps) (includes all commodities in this subgroup)**

AM 0660 **Almond, hulls**

Prunus dulcis (Mill.) D.A. Webb

\- **Canola, meal**, see AM 3598 Rape seed, meal

Brassica spp.

AM 3586 **Cassava, dry chips**

Manihot esculenta Crantz

AM 3587 **Cotton gin trash**

Gossypium spp.

\- **Cotton gin**, see AM 3586 Cotton gin trash

Gossypium spp.

AM 3588 **Cotton seed, hulls**

Gossypium spp.

AM 3589 **Cotton seed, meal**

Gossypium spp.

AM 3590 **Cucurbita seed, meal**

Cucurbitacear

AM 3141 **Gold of pleasure seed, meal**

Camelina sativa (L.) Crantz

AM 3154 **Hemp seed, meal**

Cannabis sativa L.

AM 0693 **Linseed, meal**

Linum usitatissimum L.

_ Mustard oil, meal, see Rape seed, meal AM 3598

Brassica spp.

AM 0696 **Palm kernel, meal**

Elaeis guineenis Jacq.

AM 0697 **Peanut meal**

Arachis hypogaea L.

AM 3591 **Pineapple, process residue**

Ananas comosus (L.) Merr.

\- **Pineapple, process waste,** see AM 3590 Pineapple, process residue

Ananas comosus (L.) Merr.

AM 0698 **Poppy seed, meal**

Papaver somniferum L.

AM 3592 **Potato, process residue, dehydrated**

Solanum tuberosum L. ssp. *Tuberosum*

AM 3593	**Potato, process residue, heat-treated,wet**
	Solanum tuberosum L. ssp. *tuberosum*
AM 3594	**Potato, process residue, raw**
	Solanum tuberosum L. ssp. *tuberosum*
AM 3595	**Potato, process residue, wet**
	Solanum tuberosum L. ssp. *tuberosum*
-	**Potato, process waste,** see Potato, process residue
AM 3596	**Potato, waste meal, dried**
	Solanum tuberosum L. ssp. *tuberosum*
AM 3597	**Rape seed, hulls**
	Brassica spp.
AM 3598	**Rape seed, meal**
	Brassica spp.
AM 0699	**Safflower seed, meal**
	Carthamus tinctorius L.
AM 0700	**Sesame seed, meal**
	Sesamum indicum L.
AM 3599	**Sugar beet, pulp, dry**
	Beta vulgaris L. subsp. *vulgaris*
AM 1201	**Sugar beet, pulp, wet**
	Beta vulgaris L. subsp. vulgaris
AM 3600	**Sugar cane bagasse**
	Saccharum officinarum L.
AM 0702	**Sunflower seed, meal**
	Helianthus annuus L.
AM 3601	**Sweet corn cannery waste**
	Zea mays L., several cultivars, not including popcorn
AM 3602	Sweet potato, hulls
	Ipomoea batatas (L.) Lam. var. *batatus*
AM 3603	**Vegetable, process residue, wet**

APPENDIX VII
Part 2

REVISION OF THE PRINCIPLES AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES TO COMMODITY GROUPS (CXG 84-2012)

Table 7. Examples of the selection of representative commodities
Class C, Type 11 Primary Animal Feed Commodities
(includes legume feed products, cereal grains (including pseudocereals), grasses feed products and miscellaneous feed products)

(At Step 5/8)
(For adoption by CAC)

Codex Group/Subgroup	Examples of Representative Commodities [1)]	Extrapolation to the following commodities
Group 050 **Legume feed products**	[3)]	--
Subgroup 050A **Products of legume feeds with high water (≥20%) content (forage and silage)**	Bean, forage and pea, vines or Bean, forage and alfalfa forage or Pea, vines and alfalfa forage [2]	Products of legume feeds with high water content (forage) (AL 3300): Alfalfa, forage; Alfalfa, silage; Anil indigo, forage; Bean, forage (*Phaseolus* spp.); Bean, forage (*Vigna* spp.); Berlandier acacia, forage; Black medic, forage; Black wattle, forage; Brazilian stylo, forage; Burclover, forage; Butterfly pea, forage; Chick-pea, forage; Clover, forage; Clover, silage; Gliricidia, forage; Horse bean, forage; Huisache, forage; Kudzu, forage; Leadplant, forage; Lentil, forage; Lespedeza, forage; Leucaena, forage; Leucaena, silage, Lupin, forage; Pea, silage; Pea, vines (green); Peanut, forage (green); Pea, pigeon, forage; Purple prairie clover, forage; Roundleaf cassia, forage; Sainfoin, forage; Sainfoin, silage; Sensitive partridge pea, forage; Sesbania, forage; Soya bean, forage; Soya bean, silage; Thorn mimosa, forage; Tick clover, forage; Trefoil, forage; Vetch, forage; Vetch silage
Subgroup 050B **Products of legume feeds with low water (<20%) content (hay)**	Bean, hay or pea hay or alfalfa hay [2]	Products of legume feeds with low water content (hay) (AL 3301): Alfalfa, hay and/or straw; Bean, hay and/or straw (*Phaseolus* spp.); Bean, hay and/or straw (*Vigna* spp.); Bean, velvet, hay and/or straw; Brazilian stylo, hay and/or straw; Centurion, hay and/or straw; Chick-pea, hay and/or straw; Clover, hay and/or straw; Crotalaria, hay and/or straw; Guar, hay and/or straw; Horse gram, hay and/or straw; Jackbean, hay and/or straw; Lespedeza, hay and/or straw; Leucaena, hay and/or straw; Pea, hay and/or straw; Peanut, hay and/or straw; Perennial peanut, hay and/or straw; Purple prairie-clover, hay and/or straw; Sainfoin, hay and/or straw; Soya bean hay and/or straw; Trefoil, hay and/or straw; Vetch, hay and/or straw
Subgroup 050C **Processed products of legume feeds (such a meal, hulls)**	[3)]	--
Group 051 **Cereal grains (including pseudocereals) feed product**	[3)]	--

Codex Group/Subgroup	Examples of Representative Commodities [1)]	Extrapolation to the following commodities
Subgroup 051A Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage)	Forage of wheat- and barley-type Cereals	Amaranth, forage; Barley, forage; Barley, silage; Buckwheat, forage; Canarygrass, annual, forage; Oat, forage; Oat, silage; Rye, forage; Rye, silage; Triticale, forage; Triticale, silage; Wheat, forage; Wheat, silage
	Forage of rice-type cereals	Hungry rice, forage; Rice, forage; Rice, silage
	Forage of sorghum grain-type cereals	Millet, forage; Sorghum, forage; Sorghum, silage
	Forage of maize-type cereals	Maize, forage; Maize, silage; Sweet corn, forage
Subgroup 051B Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay, straw)	Hay of wheat and barley-type cereals	Amaranth, hay and/or straw; Barley, hay and/or straw; Buckwheat, hay and/or straw; Canarygrass, annual, hay and/or straw; Oat, hay and/or straw; Rye, hay and/or straw; Triticale, hay and/or straw; Wheat, hay and/or straw
	Hay of rice-type cereals	Hungry rice, hay and/or straw; Rice, hay and/or straw
	Hay of sorghum grain-type cereals	Millet, hay and/or straw; Sorghum, stover; Sorghum, hay and/or straw; Teff, hay and/or straw
	Hay of maize-type cereals	Maize, hay and/or straw; Maize, stover; Popcorn, stover; Sweet corn, stover; Teosinte, hay and/or straw
Subgroup 051C Cereal grains and grasses (including pseudocereals) feed products processed products (such as silage, bran, hulls)	[3)]	--
Subgroup 051D Grasses for Animal Feed	Any grass, hay in this subgroup	Hay of grasses, includes all hay of species of grasses in the Poaceae (alt.Gramineae) family in this subgroup (AS 0162)
	Any grass, forage in this subgroup	Forage of grasses, includes all forage of species of grasses in the Poaceae (alt.Gramineae) family in this subgroup (AS 0163)
	Any grass, silage in this subgroup	Silage of grasses, includes all hay of species of grasses in the Poaceae (alt.Gramineae) family in this subgroup (AS 0164)
Group 052 Miscellaneous Feed Products	[3)]	--
Subgroup 052A Miscellaneous feed products with high water (≥20%) content (forage, beet tops)	[3)]	--

Codex Group/Subgroup	Examples of Representative Commodities [1)]	Extrapolation to the following commodities
Subgroup 052B Miscellaneous feed products with low water (<20%) content (hay)	[3)]	--
Subgroup 052C Miscellaneous processed feed products (such as meal, hulls, dried pulp)	[3)]	--

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

2) A minimum of two representative commodities are needed for this subgroup.

3) It is not possible to set a group CXL for this group because of the broad diversity of crops. However, when a group contains a number of processed commodities originating from raw commodities from one subgroup in Class A (primary food commodities), the representative commodity from that subgroup in Class A can be used as a representative crop for the corresponding commodities in processed form.

APPENDIX VIII
Part 1

REVISION OF THE CLASSIFICATION OF FOODS AND ANIMAL FEEDS (CXA4 – 1989)

CLASS D – PROCESSED FOODS OF PLANT ORIGIN

(At Step 5/8)
(For adoption by CAC)

CLASS D AND CLASS E PROCESSED FOODS

The term "processed food" means the product, resulting from the application of physical, chemical or biological processes or combinations of these to a "primary food commodity", intended for direct sale to the consumer, for direct use as an ingredient in the manufacture of food or for further processing.

"Primary food commodities" treated with ionizing radiation, washed, sorted or submitted to similar treatment are not considered to be "processed foods".

CLASS D PROCESSED FOODS OF PLANT ORIGIN

TYPE 12 SECONDARY FOOD COMMODITIES OF PLANT ORIGIN

The term "secondary food commodity" means a "primary food commodity" which has undergone simple processing, such as removal of certain portions, drying (except natural drying), husking, and comminution, which do not basically alter the composition or identity of the product. Natural field dried mature crops or parts of crops such as pulses, bulb onions or cereal grains are not considered as secondary food commodities.

Secondary food commodities may be processed further or used as ingredients in the manufacture of food or sold directly to the consumer.

DRIED FRUITS

Class D

Type 12 Secondary food commodities of plant origin

Group 055 Group Letter Code DF

Group 055: Dried fruits. The commodities of this Group are in general artificially dried. They may or may not be preserved or candied with addition of sugars.

Exposure to pesticides may arise from pre-harvest applications, post-harvest treatment of the fruits before processing, or treatment of the dried fruit to avoid losses during transport and wholesale or retail distribution.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity after removal of stones, but the residue is calculated on the whole commodity.**

Group 055 Dried fruits

Code No.	Commodity
DF 0167	**Group of dried fruits**
DF 0026	**Group of Assorted tropical and subtropical fruits – edible peel, dried** (see Group 005 (Code FT 0026) for species included in the group of Assorted tropical and subtropical fruits – edible peel)
DF 0030	**Group of Assorted tropical and subtropical fruits – inedible peel, dried** (see Group 006 (Code FI 0030) for species included in the group of Assorted tropical and subtropical fruits – inedible peel)
DF 0018	**Group of Berries and other small fruits, dried** (see Group 004 (Code FB 0018) for species included in the group of Berries and other small fruits)
DF 0001	**Group of Citrus, dried** (see Group 001 (Code FC 0001) for species in the group of citrus fruits)
DF 0009	**Group of Pome Fruit, dried** (see Group 002 (Code FT 0009) for species in the group of pome fruits)
DF 0012	**Group of Stone Fruit, dried** (see Group 003 (Code FS 0012) for species in the group of stone fruits)

DF 0226 **Apple, dried**

Malus domestica Borkhausen

DF 0240 **Apricot, dried**

Prunus armeniaca L.;

syn: *Armeniaca vulgaris* Lamarck

DF 0327 **Banana, dried**

Subsp. and cultivars of *Musa* ssp. and hybrids

DF 0264 **Blackberry, dried**

Rubus fruticosus auct. aggr., several ssp.

DF 0020 **Blueberry, dried**

Vaccinium corymbosum L.; *Vaccinium angustifolium* Ait.; *Vaccinium virgatum* Aiton; *Gaylussacia* spp

DF 0289 **Carambola, dried**

Averrhoa carambola L.

DF 3310 **Chinese hawthorn, dried**

Crataegus pinnatifada Bunge

DF 0013 **Cherries, subgroup of, dried** (see subgroup 003A (Code FS 0013) for species included in the subgroup of cherries)

- **Cherry, Sour, dried,** see DF 0013 Cherries, subgroup of, dried

Prunus cerasus L.

- **Cherry, Sweet, dried,** see DF 0013 Cherries, subgroup of, dried

Prunus avium L.

DF 0265 **Cranberry, dried**

Vaccinium macrocarpon Aiton

DF 0665 **Coconut, dried**

Cocos nucifera L.

DF 0021 **Currants, Black, Red, White, dried**

Ribes nigrum L.; *R. rubrum* L.

- **Currants**

Seedless blue grape var., dried, see Grape, dried, DF 0269

DF 0295 **Date, dried or dried and candied**

Phoenix dactylifera L.

- **Dragon fruit, dried,** see Pitaya, DF 2540

Hylocercus costaricencis, Hylocercus undatus (Haw) Brit. & Rose.

DF 0334 **Durian, dried**

Durio zibethinus L.

DF 2244 **European barberry, dried**

DF 0297 **Fig, dried or dried and candied**

Ficus carica L.

DF 0269 **Grape, dried (= Currants, Raisins and Sultanas)**

Vitis vinifera L., var. *corinthiaca* and var. *apyrena*

DF 0336	**Guava, dried**
	Psidium guajava L.
DF 0338	**Jackfruit, dried**
	Artocarpus heterophyllus Lam.
DF 0302	**Jujube, Chinese, dried**
	Ziziphus jujuba Mill.
DF 0341	**Kiwifruit, dried**
	Actinidia deliciosa , A. chinensis
-	**Lemon, dried,** see Citrus, dried, subgroup of, DF 0001
	Citrus limon (L.) Osbeck
-	**Lime, dried,** see Citrus, dried, subgroup of, DF 0001
	Citrus aurantifolia (Christm.) Swingle
DF 0343	**Litchi, dried**
	Litchi chinensis Sonn.
-	**Mandarin, dried,** see Citrus, subgroup of, dried, DF 0001
	Citrus reticulata Blanco
DF 0345	**Mango, dried**
	Mangifera indica L.
DF 0346	**Mangosteen, dried**
	Garcinia mangostana L.
-	**Muscatel**, **dried** see Grape, dried, DF 0269
DF 0271	**Mulberries fruits, dried**
	Morus alba L.
DF 0245	**Nectarine, dried**
	Prunus persica (L.) Batch, var. *nectarina*
-	**Orange, dried,** see Citrus, subgroup of, dried, DF 0001
	Citrus sinensis Osbeck; *Citrus aurantium L.;*
DF 0350	**Papaya, dried**
	Carica papaya L.
DF 0351	**Passion fruit, dried**
	Passiflora edulis
DF 0247	**Peach, dried**
DF 0230	**Pear, dried**
	Pyrus communis L.; *P. pyrifolia* (Burm.) Nakai; *P. bretschneideri* Rhd.; *P. sinensis* L.
DF 0307	**Persimmon, Japanese, dried**
	Diospyros kaki Thunb. Syn: *D. chinensis* Blume
DF 0353	**Pineapple, dried**
	Ananas comosus (L.) Merril

DF 2540 **Pitaya, dried**

Hylocereus spp.; H. undatus (Haw.) Britton & Rose; H. Megalanthus (K. Schum. Ex Vaupel) Ralf Bauer; H. Polyrhizus (F.A.C. Weber) Britton & Rose; H. Ocamponis (Salm-Dyck) Britton & Rose H. triangularis (L.) Britton&Rose

- **Pomelo, dried,** see Citrus, subgroup of, dried, DF 0001

Citrus maxima (Burm.) Merr.

DF 0014 **Prune, dried**

Prunus domestica L.

DF 0356 **Prickly pear**

Opuntia ficus-indica (L.) P. Miller; *O. Engelmannii* Salm-Dyck ex Engelm. var. *Lindheimeri* (Engelman.) B.D. Parfitt & Pinkava

- **Raisins (seedless white grape var., partially dried),** see Grape, dried, DF 0269

Vitis vinifera L.

DF 0358 **Rambutan, dried**

Nephelium lappaceum L.

DF 0272 **Raspberry, dried**

Rubus idaeus L.; *Rubus occidentalis* L. ; several *Rubus* spp. and hybrids, including wild raspberries *Rubus molluccanus* L.

DF 0275 **Strawberry, dried**

Fragaria x ananassa Duchene ex Rozier

- **Sultanas**, see Grape, dried, DF 0269

DF 0305 **Table olive, dried**

Olea europaea L., var. *europaea*

DF 0369 **Tamarind, dried**

Tamarindus indica L.

- **Vine fruits**, **dried** see Grape, dried, DF 0269

DRIED VEGETABLES

Class D

Type 12 Secondary food commodities of plant origin

Group 056 Group Letter Code DV

Group 056, Dried vegetables. The commodities of this Group are in general artificially dried and often comminuted.

Exposure to pesticides is from pre-harvest applications and/or treatment of the dried commodities.

The entire commodity may be consumed after soaking or boiling.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

Group 056 Dried vegetables

Code No.	Commodity
DV 0168	**Group of dried vegetables**
DV 3590	Aloe vera, dried
	Aloe vera (L.) Burm.f.
DV 0621	**Asparagus, dried**
	Asparagus officinalis L.
DV 3081	**Baby corn, dried**
	Zea mays L., several cultivars
DV 0622	**Bamboo shoots,dried**
	Arundinaria spp.; Bambusa spp. including B. blumeana; B. multiplex; B. oldhamii; B. textilis; Chimonobambusa spp.; Dendrocalamus spp., including D. asper; D. beecheyana; D. brandisii; D. giganteus; D. laetiflorus and D. strictus; Gigantochloa spp. including G. albociliata; G. atter; G. levis; G.robusta; Nastus elatus; Phyllostachys spp.; Thyrsostachys siamensis; Thyrsostachys oliverii (Poaceae (alt. Gramineae))
DV 0640	**Barley shoots ,dried**
	Hordeum vulgare L.
DV 0061	**Beans with pods (Phaseolus spp) (immature pods and succulent seeds), dried**
DV 0400	**Broccoli, dried**
	Brassica oleracea L. var. *italica* Plenck
DV 0575	**Burdock, greater or edible ,dried**
	Arctium lappa L.; Syn: Lappa officinalis All.; L. major Gaertn.
DV 0041	**Cabbages, head, dried**
	Brassica oleracea L. var. *capitata* L., several var. and cvs.
-	**Cantaloupe, dried,** see Cucurbits – Melons, Pumpkins and Winter Squashes, dried, DV 2040
DV 0577	**Carrot, dried**
	Daucus carota L.
DV 0404	**Cauliflower, dried**
	Brassica oleracea L. var. *botrytis* L.
DV 0578	**Celeriac (Turnip rooted celery), dried**
	Apium graveolens L., var. *rapaceum* (Mill.) Gaudin

DV 2748 **Chamchwi, dried**

Doellingeria scabra (Thunb.) Nees Syn: *Aster scaber* Thunb.

DV 2749 **Chamnamul,dried**

Pimpinella calycina Maxim Syn: Pimpinella brachycarpa (Kom.) Nakai;

DV 2750 **Chamssuk, dried**

Artemisia dubia Wall. Ex DC.

DV 0464 **Chard, dried**

Beta vulgaris L. subsp. vulgaris var. vulgaris; Beta vulgaris L. subsp. vulgaris var. cicla

DV 0463 **Cassava, dried**

Manihot esculenta Crantz;

Syn: M. aipi Pohl; M. ultissima Pohl; M. dulcis Pax; M. palmata Muell.-Arg DV 0465 **Chervil, dried**

Anthriscus cerefolium L. Hoffmann

DV 0469 **Chicory leaves, dried**

Cichorium intybus L., var. foliosum Hegi

DV 0467 **Chinese cabbage, (type Pe-tsai),dried**

Brassica rapa L. subsp. pekinensis (Lour.) Hanelt Syn: B. pekinensis (Lour.) Rupr.

- **Chinese cabbage (napa), dried,** see Chinese cabbage, (type Pe-tsai), dried, DV 0467

DV 0444 **Chili pepper leaves ,dried**

Capsicum annuum L.

DV 2752 **Chrysanthemum, edible leaved, dried**

Glebionis spp *Z*

DV 2039 **Cucurbits - Cucumbers and summer squashes, subgroup of, dried** (see Subgroup 011A (Code VC 2039) for species included in the subgroup of cucurbits - cucumbers and summer squashes)

DV 2040 **Cucurbits – Melons, pumpkins and winter squashes, subgroup of, dried** (see Subgroup 011B (Code VC 2040) for species included in the subgroup of cucurbits – melons, pumpkins and winter squashes)

DV 0474 **Dandelion, dried**

Taraxacum officinale F.H. Wigg. aggr.

DV 2754 **Danggwi ,dried**

Angelica gigas Nakai

DV 2600 **Daylily, dried**

Hemerocallis fulva L.

DV 2943 **Deodeok, dried**

Codonopsis lanceolata (Siebold&Zucc.) Trautv.

DV 3026 **Dokhwal shoot, dried**

Aralia continentalis Kitag.

DV 3207 **Dureup young shoot, dried**

Aralia elata (Miq.) Seem.

DV 0440 **Eggplant, dried**

Solanum melongena L.

DV 0476 **Endive, dried**

Cichorium endivia L.

DV 3028 **Eumnamu shoot, dried**

Kalopanax septemlobus (Thunb.ex A Murr.) Koidz.

DV 2084 **Fungi, Group of edible, dried**

Various edible species of fungi, wild and cultivated, dried

DV 0449 **Fungi, Edible, except mushrooms, dried**

DV 0381 **Garlic, dried**

Allium sativum L.

DV 0784 **Ginger rhizome, dried**

Zingiber officinale Roscoe

DV 0604 **Ginseng, dried including red ginseng**

Panax spp.

DV 2757 **Glasswort, common, dried**

Salicornia L.

DV 2758 **Godeulppaegi, dried**

Crepidiastrum sonchifolium (Bunge) Pak & Kawano

DV 2704 **Goji berry, dried**

LyFrice brcium barbarum L.

DV 2759 **Gomchwi, dried**

Ligularia fischeri Turcz.

- **Gourd, round, dried,** see Cucurbits – Cucumbers and Summer squashes, dried, DV 2039

DV 2761 **Japanese honewort, dried**

Cryptotaenia japonica Hassk

DV 0480 **Kale (Borecole, Collards), dried**

Brassica oleracea L., var. *sabelica* L.

- **Kimchi cabbage, dried** see Chinese cabbage, (type Pe-tsai), dried, DV 0467

Brassica rapa L. subsp. pekinensis (Lour.) Hanelt

Syn: Brassica rapa L. var. glabra Regel

DV 0384 **Leek, dried**

Allium porrum L.

DV 3002 **Lotus tuber, dried**

Nelumbo nucifera Geartn.

- **Melons, except watermelon, dried,** see Cucurbits – Melons, Pumpkins and Winter Squashes, dried, DV 2040

DV 0450 **Mushroom (cultivated), dried**

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*

- **Napa cabbage,dried,** see Chinese cabbage, (type Pe-tsai), dried, DV 0467

DV 0442	**Okra, dried** *Abelmoschus esculentus* L.
DV 0385	**Onion, bulb, dried**
DV 0387	**Onion, Welsh, dried** *Allium fistulosum* L.
DV 0587	**Parsley, Turnip-rooted, dried** *Petroselinum crispum* (Mill.) Nyman ex A.W. Hill
-	**Pak-tsai, dried,** see Chinese cabbage, (type Pe-tsai), dried, DV 0467
DV 0588	**Parsnip, dried** *Pastinaca sativa* L.
DV 0064	**Peas without pods** (Pisum spp) (succulent seeds), dried
DV 0445	**Pepper, Sweet (incl. pimento or pimiento), dried** (*Capsicum annuum*, var. *grossum* and var. *longum*) dried;
-	**Pepper, Chili, dried**, see HS 0444 Peppers, Chili, dried (*Capsicum* spp.) Subgroup 028I
-	**Potato, dried,** see Potato, flakes/granules, DV 0589
DV 0589	**Potato, flakes/granules,** *Solanum tuberosum* L. and other potato species
DV 0446	**Roselle, dried** *Hibiscus sabdariffa* L. *var. sabdariffa* L.
-	**Pumpkin, dried,** see Cucurbits – Melons, Pumpkins and Winter Squashes, dried, DV 2040
DV 3527	**Radish leaves, dried** *Raphanus sativus L., several varieties*
DV 0494	**Radish roots, dried** *Raphanus sativus L., several varieties*
DV 2767	**Sanmaneul leaves, dried** *Allium victorialis L.; Syn: A. ochotense Prokh. microdictyon Prokh.*
DV 2769	**Seumbagwi, dried** *Ixeridium dentatum (Thunb.)Tzvelev*
DV 0388	**Shallot, dried** *A. cepa L., var. aggregatum* Don.
DV 0541	**Soya bean leaves, dried** *Glycine max* (L.) Merr.
DV 0502	**Spinach, dried** *Spinacia oleracea* L.
-	**Squash, Summer, dried,** see Cucurbits – Cucumbers and Summer squashes, dried, DV 2039
DV 0389	**Spring onion, dried** *Allium cepa L.,* various cultivars, a.o. White Lisbon; White Portugal
DV 1275	**Sweet corn (whole kernel without cob or husk), dried** *Zea mays* L., several cultivars

DV 0508 **Sweet potato, roots, dried**

Ipomoea batatas (L.) Poir

DV 3528 **Sweet potato, stems, dried**

Ipomoea batatas (L.) Lam

DV 0505 **Taro, roots, dried**

Colocasia esculenta (L.) Schott, var. Esculenta

DV 3529 **Taro stems, dried**

Colocasia esculenta (L.) Schott

DV 0448 **Tomato, dried**

Lycopersicon esculentum Mill.; Syn: *Solanum lycopersicum* L.

DV 0387 **Tree onion, dried**

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.

DV 0506 **Turnip, garden, dried**

Brassica rapa L. subsp. Rapa

DV 3030 **Udo, dried**

*Aralia cordata Thunb.*DV 2983

DV 3530 **Yacon, dried**

Smallanthus sonchifolius (Poepp. & Endl.) H. Rob. Syn: Polymnia sonchifolia Poepp.

DV 0600 **Yams, dried**

Dioscorea L.; several species

- **Watermelon, dried,** see Cucurbits – Melons, Pumpkins and Winter Squashes, dried, DV 2040

DRIED HERBS

Class D

Type 12 Secondary food commodities of Plant origin

Group 057 Group Letter Code DH

Group 057, Dried herbs. The commodities of this Group are in general artificially dried and often comminuted. For the commodities in the "fresh" state see Group 027 Herbs.

Exposure to pesticides is from pre-harvest applications and/or treatment of the dried commodities.

They are consumed in the dried form or soaked as a condiment in food commodities of plant or animal origin or in drinks, generally in small amounts.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

Group 057 Dried herbs

Code No.	Commodity
DH 0170	**Group of Dried herbs**, (includes all commodities in this Group)

Subgroup 057A Dried herbs of herbaceous plants

Code No.	Commodity
DH 2095	**Subgroup of Dried herbs of herbaceous plants**, (includes all commodities in this Group)
DH 0720	**Angelica, including Garden Angelica, dried** *Angelica sylvestris* L.; *A. archangelica* L.
DH 0721	**Balm leaves, dried** *Melissa officinalis* L.
DH 0722	**Basil leaves, dried** *Ocimum basilicum* L.
DH 0724	**Borage, dried** *Borago officinalis* L.
DH 0728	**Burning bush, dried** *Dictamnus albus* L. ; syn: *D. fraxinella* Pers.
DH 0726	**Catmint, dried** *Nepeta cataria* L.
DH 0624	**Celery leaves, dried** *Apium graveolens* L.
DH 3501	**Chinese foxglove, dried** *Rehmannia glutinosa* (Gaertn.) Steud.
DH 2605	**Chive, dried** *Allium schoenoprasum* L.
DH 2606	**Chive, Chinese, dried** *Allium tuberosum* Rottler ex Spreng.
DH 3209	**Coriander leaves, dried** *Coriandrum sativum* L.

DH 3591	**Creat, dried**
	Andrographis paniculata (Burm. f.) Wall. Ex Nees
-	**Cretan Dittany, dried**, see Burning bush, dried DH 0728
DH 0730	**Dillweed, dried**
	Anethum graveolens L.
DH 3503	**Echinacea, dried**
	Echinacea angustifolia DC
DH 0731	**Fennel, dried**
	Foeniculum vulgare Mill.;
	syn: *F. officinale* All.; *F capillaceum* Gilib.
DH 3340	**Galbanum, dried**
	Ferula gummosa Boiss.
DH 3223	**Gambir, dried**
	Uncaria gambir (W. Hunter) Roxb.
DH 0784	**Ginger leaves, dried**
	Zingiber officinale Roscoe.
DH 3504	**Gotu kola, dried**
	Centella asiatica (L.) Urb.
DH 0732	**Horehound, dried**
	Marrubium vulgare L.
DH 0733	**Hyssop, dried**
	Hyssopus officinalis
DH 0734	**Lavender, dried**
	Lavendula angustifolia Mill.;
	syn: *L. officinalis* Chaix; *L. spica* L.; *L. vera* DC.
DH 3233	**Lemongrass, dried**
	Cymbopogon citratus (DC.) Stapf; *C. flexuosus* (Nees ex Steud.) Will. Watson.
DH 0735	**Lovage, dried**
	Levisticum officinale Koch.
DH 3505	**Mamaki, dried**
	Pipturus arborescens (Link) C. B. Rob.
DH 0736	**Marjoram, dried,** including Turkish oregano and Syrian oregano
	Origanum majorana L.; *O. onites* L. and *O*. *syriacum* L.
DH 0738	**Mints, dried**
	Several Mint species and hybrids and *Pulegium vulgare* Mill;
	(see for individual Mints species, HH 0738 Group 027A Herbaceous plants)
-	**Oregano, dried**, see Marjoram, dried, DH 0736
	Origanum vulgare L.

DH 3273	**Pepper, leaves, dried**
	Piper spp..
-	**Peppermint, dried** see Mints, dried DH 0738
	Mentha x piperita L.
DH 0740	**Parsley, dried**
	Petroselinum crispum (Mill.) Fuss
DH 0741	**Rosemary, dried**
	Rosmarinus officinalis L.
DH 0743	**Sage, dried**
	Salvia officinalis L.; *S. sclarea* L.
DH 0745	**Savory, Summer; Winter, dried**
	Satureja hortensis L.; *S montana* L.
DH 3253	**Stevia, dried**
	Stevia rebaudiana (Bertoni) Bertoni
DH 0747	**Sweet cicely, dried**
	Myrrhis odorata (L.) Scop.
DH 0748	**Tansy and related species, dried**
	Tanacetum vulgare L.; *T balsamita* L. ;
	syn: *Chrysanthemum balsamita* L.
DH 0749	**Tarragon, dried**
	Artemisia dracunculus L. A. *dracunculoides* Pursh.
DH 0750	**Thyme, dried**
	a.o. *Thymus vulgaris* L.; *Th. serpyllum* L. and *Thymus* hybrids.
DH 0752	**Wintergreen leaves, dried**
	Gaultheria procumbens L.
	(not including herbs of the Wintergreen family *Pyrolaceae*)
DH 3506	**Wood betony, dried**
	Stachys officinalis (L.) Trevis
DH 0753	**Woodruff, dried**
	Asperula odorata L.
DH 0754	**Wormwoods, dried**
	Artemisia absinthium L.; *A. abrotanum* L.; *A. vulgaris* L.

Subgroup 057B Subgroup of Dried herbs of woody plants

Code No.	Commodity
DH 2096	**Subgroup of Dried herbs of woody plants**, (includes all commodities in this Group)
-	**Bay leaves, dried,** see Laurel leaves, DH 0723
	Laurus nobilis L.
DH 3363	**Cat's claw, dried**
	Uncaria tomentosa (Willd.) DC., U. guianensis (Aubl.) J. F. Gmel.
DH 3308	**Chinese chastetree, dried**
	Vitex negundo L.
DH 3338	**Eucommia, dried**
	Eucommia ulmoides Oliv.
DH 3507	**Gymnema, dried**
	Gymnema sylvestre (Retz.) Schult.
DH 0723	**Laurel leaves, dried**
	Laurus nobilis L.
DH 3270	**Mulberry leaves, dried**
	Morus alba L.
DH 0742	**Rue, dried**
	Ruta graveolens L.
DH 2260	**Squaw vine, dried**
	Mitchella repens L.
DH 3508	**St. John's Wort, dried**
	Hypericum perforatum L.
DH 3509	**Vasaka, dried**
	Justicia adhatoda L.

MILLED CEREAL PRODUCTS (EARLY MILLING STAGES)

Class D

Type 12 Secondary food commodities of plant origin

Group 058 Group Letter Code CM

For final milling fractions, whether processed or not, see Group 065 Cereal grain milling fractions

Group 058. Milled cereal products (early milling stages). The Group includes the early milling of fractions of cereal grains, except buckwheat, cañihua and quinoa, such as husked rice, polished rice and the unprocessed cereal grain brans.

Exposure to pesticides is through pre-harvest treatments of the growing cereal grain crop and especially through post-harvest treatment of cereal grains.

The entire commodity may be consumed after further processing or household preparation.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

Group 058 Milled cereal products (early milling stages)

Code No.	Commodity
CM 0081	**Group Bran, unprocessed of cereal grain** (except buckwheat, cañihua and quinoa)
CM 0640	**Barley, pearled**
CM 3510	**Barley bran, unprocessed**
CM 1206	**Rice bran, unprocessed**
CM 0649	**Rice, husked**
CM 1205	**Rice, polished**
CM 0650	**Rye bran, unprocessed**
-	**Spelt bran, unprocessed,** see Wheat bran, unprocessed, CM 0654
CM 0654	**Wheat bran, unprocessed**

MISCELLANEOUS SECONDARY FOOD COMMODITIES OF PLANT ORIGIN

Class D

Type 12 Secondary food commodities of plant origin

Group 059 Group Letter Code SM

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

Group 059 Miscellaneous secondary food commodities of plant origin

Code No.	Commodity
SM 0718	**Brewer's grain from Barley**
SM 0720	**Brewer's grain from Wheat**
SM 0715	**Cacao beans, roasted**
SM 0716	**Coffee beans, roasted**

TYPE 13 DERIVED EDIBLE PRODUCTS OF PLANT ORIGIN

"Derived edible products" are foods or edible substances isolated from primary food commodities or raw agricultural commodities, using physical, biological or chemical processing.

This type of processed food includes groups such as vegetable oils (crude and refined), by-products of the fractionation of cereals, fruit juices, teas (fermented and dried), cacao powder and by-products of cacao manufacturing, and extracts of various plants.

CEREAL GRAIN MILLING FRACTIONS

Class D

Type 13 Derived products of Plant origin

Group 065 Group Letter Code CF

Group 065. Cereal grain milling fractions includes milling fractions of cereal grains at the final stage of milling and preparation in the fractions. The Group also include the processed brans, as prepared for direct consumption.

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

Group 065 Cereal grain milling fractions

Code No.	Commodity
CF 0080	**Group of Cereal grains, flour**; (see Group 020 (Code GC 0080) for species included in the group of cereals grains)
CF 0081	**Subgroup of Cereal grains, bran, processed;** (see Group 020 (Code GC 0080) for species included in the group of cereals grains)
CF 2087	**Subgroup of Barley cereals, similar grains, and pseudocereals with husks, flour**; (see Subgroup 020B (Code GC 2087) for species included in the subgroup of barley, similar grains, and pseudocereals with husks)
CF 2091	**Subgroup of Maize cereals and sweet corns, flour**; (see Subgroups 020E and 020F (Codes GC 2090 and GC 2091) for species included in the subgroups of maize cereals)
CF 2088	**Subgroup of Rice cereals, flour**; (see Subgroup 020C (Code GC 2088) for species included in the subgroup of rice cereals)
CF 2089	**Subgroup of Sorghum grain and millet cereals, flour**; (see Subgroup 020D (Code GC 2089) for species included in the subgroup of sorghum grain and millet)
CF 2086	**Subgroup of Wheat cereals, similar grains, and pseudocereals without husks, flour**; (see Subgroup 020A (Code GC 2086) for species included in the subgroup of wheat, similar grains, and pseudocereals without husks)
CF 0640	**Barley, bran, processed**
CF 3511	**Barley, flour**
CF 3526	**Barley, wholemeal**
CF 0641	**Buckwheat, flour**
-	**Corn aspirated grain fractions,** see Maize aspirated grain fractions
-	**Corn, flour**, see Maize flour, CF 1255
-	**Corn gluten,** see Maize gluten, CF 3517
-	**Corn gluten meal,** see Maize gluten meal, CF 3518F
-	**Corn hominy meal,** see Maize hominy meal, CF 3519
-	**Corn, meal,** see Maize meal, CF 0645
CF 3516	**Maize aspirated grain fractions**
CF 1255	**Maize, flour**
CF 3517	**Maize gluten**
CF 3518	**Maize gluten meal**
CF 3519	**Maize hominy meal** (blend of corn bran, endosperm and corn germ produced during corn milling)
CF 0645	**Maize, meal**
CF 0646	**Millet, flour**
CF 0647	**Oats, flour**

CF 3512	**Oats, groats/rolled**
CF 0649	**Rice bran, processed**
CF 3513	**Rice flour**
CF 0650	**Rye bran, processed**
CF 1250	**Rye, flour**
CF 1251	**Rye, wholemeal**
CF 3520	**Sorghum aspirated grain fractions**
CF 0651	**Sorghum, Grain, flour**
-	**Spelt, Flour**, see Wheat, flour CF 1211
-	**Spelt, wholemeal,** see Wheat, wholemeal CF 1212
CF 1275	**Sweet corn, flour**
CF 3521	**Wheat aspirated grain fractions**
CF 0654	**Wheat bran, processed**
CF 1211	**Wheat, flour**
CF 1210	**Wheat, germ**
CF 3522	**Wheat gluten meal**
CF 3514	**Wheat, middlings** (by-products from the production of flour and include bran, shorts, germ, flour, and tailings)
CF 3515	**Wheat, shorts (cereal grain milling by-product)**
CF 1212	**Wheat, wholemeal**

TEAS

Class D

Type 13 Derived edible products of plant origin

Group 066 Group Letter Code DT

Group 066 Teas, are mainly derived from the leaves of several plants, principally *Camellia sinensis*.

Tea from *Camellia sinensis* is derived solely and exclusively from the tender shoots of varieties of the species *Camellia sinensis* (L.) Kuntze and produced by good agricultural and acceptable manufacturing processes. This tea is intended for making a brew suitable for consumption as a beverage.

Herbal teas: Plant materials for herbal teas are from plants or from parts of plants that do not originate from the tea plant (*Camellia sinensis* (L.) Kuntze) and are intended for food use by brewing with freshly boiling water.

The Group Teas and herbal teas is divided into three subgroups

Subgroup 66A Teas - Teas from *Camellia sinensis*

Subgroup 66B Teas - Herbal teas from leaves/blossoms

Subgroup 66C Teas - Herbal teas from roots

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

Group 066 Teas

Code No.	Commodity
DT 0171	**Group of Teas (Tea and Herbal teas),** (includes all commodities in this Group)
Subgroup 66A Teas - Teas from Camellia sinensis	
Code No.	**Commodity**
DT 1114	**Subgroup of Tea, Black, Green, dried and fermented** *Camellia sinensis* (L.) O Kuntze, several cultivars; syn: *C. thea* Link; *C. theifera* Griff.; *Thea sinensis* L.; *T. bohea* L. ; *T. viridis* L.
DT 1115	**Purple Tea** *Camellia sinensis* var. Kitamura;
DT 1116	**Tea, Green, dried** *Camellia sinensis* (L.) O Kuntze, several cultivars;
DT 1117	**Tea, Black, dried and fermented** *Camellia sinensis* (L.) O Kuntze, several cultivars;
Subgroup 66B Teas - Herbal teas from leaves/blossoms	
Code No.	**Commodity**
DT 0172	**Subgroup of Teas - Herbal teas from leaves/blossoms,** (includes all commodities in this Group)
DT 1110	**Camomile or Chamomile, dried leaves/blossoms** - *Matricaria recutita* L.; syn: *M. chamomilla* L. - *Chamaemelum nobile* (L.) All.; syn: *Anthemis nobilis* L.
-	**Camomile, German or Scented**, see Camomile, DT 1110
-	**Camomile, Roman or Noble**, see Camomile, DT 1110
DT 1118	**Chrysanthemum, dried blossoms** *Chrysanthemum x morifolium* Ramat;

DT 1119	**Cyclocarya, dried leaves**
	Cyclocarya paliurus (Batalin) Iljinsk.
-	**Hibiscus tea**, see Roselle, calyxes/ blossoms, dried, DT 0446
DT 9999	**Leaves and blossoms from other crops used for herbal teas, dried**
DT 1111	**Lemon verbena, dried leaves**
	Lippia citrodora Kunth
DT 1112	**Lime/Linden, dried blossoms**
	Tilia cordata Mill., *Tilia Platyphyllos* Scop.; *Tilia tomentosa* Moench.
DT 1113	**Maté, dried leaves**
	Ilex paraguariensis A.St.-Hill.
-	**Mayweed, Scented**, see Camomile, German, DT 1110
-	**Mints, dried** see Mints, dried DH 0738
	Several Mint species and hybrids and Pulegium vulgare Mill;
DT 1120	**Noble Dendrobium, dried leaves**
	Dendrobium nobile Lindl.
-	**Paraguay tea**, see Maté, DT1113
-	**Peppermint tea, dried leaves** see Peppermint, Group 027A Mints,
DT 1121	**Rooibos**
	Aspalathus linearis (Burm. f.) R. Dahlgren
DT 0446	**Roselle, calyxes/ blossoms, dried**
	Hibiscus sabdariffa L.

Subgroup 66C Teas - Herbal teas from roots

Code No.	**Commodity**
DT 0173	**Subgroup of Teas - Herbal teas from roots,** (includes all commodities in this Group)
DT 9998	**Roots from other crops used for herbal teas, dried**
DT 1122	**Valerian root, dried**
	Valeriana officinalis

VEGETABLE OILS, CRUDE

Class D

Type 13 **Derived edible products of plant origin**

Group 067 Group Letter Code OC

Group 067. Vegetable oils, crude, includes the crude vegetable oils derived from oil seeds, nuts, tropical and sub-tropical oil-containing fruits such as olives, and some pulses (e.g. soya bean, dried). For the definition and characteristics of Olive oil, crude see CXS 33-1981. The crude oils are used as constituents of compounded animal feeds or further processed (refined, clarified). See Group 068, Vegetable oils, edible (or refined).

Exposure to pesticides is through pre-harvest treatment of the relevant crops or post-harvest treatment of the oilseeds or oil-containing pulses.

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale distribution.**

Group 067 **Oils and fats from plant origin, crude**

Code No.	Commodity
OC 0172	**Group of vegetable oils, crude** (includes all commodities in this Group)
-	**Corn oil, crude**, see Maize oil, crude OC 0645
OC 0665	**Coconut oil, crude**
OC 0691	**Cotton seed oil, crude**
OC 0693	**Linseed oil, crude**
OC 0645	**Maize oil, crude**
OC 0305	**Olive oil, virgin**
OC 0696	**Palm oil, crude** made from the fleshy fruit mesocarp of *Elaeis guineensis* Jacq., see CXS 125-1981.
OC 1240	**Palm kernel oil, crude** made from the kernels of the fruits of *Elaeis guineensis* Jacq., see CXS 126-1981.
OC 0697	**Peanut oil, crude**
OC 3145	**Perilla seed oil, crude**
OC 0495	**Rape seed oil, crude**
OC 0649	**Rice bran oil, crude**
OC 0699	**Safflower seed oil, crude**
OC 0700	**Sesame seed oil, crude**
OC 0701	**Shea nut butter oil, crude**
OC 0541	**Soya bean oil, crude**
OC 0702	**Sunflower seed oil, crude**

VEGETABLE OILS, EDIBLE (OR REFINED)

Class D

Type 13 **Derived edible products of plant origin**

Group 068 Group Letter Code OR

Group 068. Vegetable oils, edible (or refined) include the vegetable oils derived from oil seeds, nuts, tropical and sub-tropical oil-containing fruits such as olives, and some pulses with a high oil content. The edible oils are derived from the crude oils through a refining and/or clarifying process. For definitions and characteristics of the edible oils listed below, see CXS 20-27 (inclusive), 33, 124 and 126 (inclusive) (1981).

Exposure to pesticides is through pre-harvest treatment of the relevant crops, or post-harvest treatment of the oilseeds and oil containing pulses.

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

Group 068 **Oils and fats from plant origin, edible (or refined)**

Code No.	Commodity
OR 0172	**Group of vegetable oils, edible** (includes all commodities in this Group)
OR 0660	**Almond oil**
OR 0326	**Avocado oil, refined**
OR 3501	**Babassu oil**
OR 3140	**Borage seed oil**
OR 1215	**Cacao butter**
OR 3170	**Castor oil, refined**
OR 0001	**Citrus oil, edible** (see Group 001 (Code FC 0001) for species in the group of citrus fruits)
-	**Corn oil, edible**, see Maize oil, edible, OR 0645
OR 0665	**Coconut oil, refined**
OR 0691	**Cotton seed oil, edible**
OR 3153	**Grapeseed oil, edible**
OR 0666	**Hazelnut oil, edible**
OR 0002	**Lemons and limes, edible oil refined**
OR 0669	**Macadamia nut oil, edible**
OR 0645	**Maize oil, edible**
OR 0485	**Mustard seed oil, edible**
OR 0305	**Olive oil, refined,** as defined in CXS 33-1981
-	**Olive, residue oil,** see Olive oil, refined, OR 0305
OR 0004	**Orange oil, edible**
OR 1240	**Palm kernel oil, edible**
OR 0696	**Palm oil, edible**
OR 0697	**Peanut oil, edible**
OR 0672	**Pecan nut oil, edible**
OR 0738	**Peppermint oil, edible**
OR 3145	**Perilla seed oil, edible**
OR 0698	**Poppy seed oil, edible**

OR 3156	**Pumpkin seed oil, edible**
OR 0495	**Rapeseed oil, edible**
OR 0649	**Rice bran oil, refined**
OR 0699	**Safflower seed oil, edible**
OR 0700	**Sesame seed oil, edible**
OR 0701	**Shea nut butter oil, refined**
OR 0541	**Soya bean oil, refined**
-	**Spearmint oil, edible**, see Peppermint oil, edible, OR 0738
OR 0702	**Sunflower seed oil, edible**
OR 3592	**Tea seed oil, edible**
OR 0678	**Walnut oil, edible**

MISCELLANEOUS DERIVED EDIBLE PRODUCTS OF PLANT ORIGIN

Class D

Type 13 **Derived edible products of plant origin**

Group 069 Group Letter Code DM

Group 069. Miscellaneous derived edible products include various intermediate products in the manufacture of edible food products. Some of these are used for further processing and not consumed as food or feed as such.

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

Group 069 Miscellaneous derived edible products of plant origin

Code No.	Commodity
DM 0560	**Adzuki bean, flour**
DM 0660	**Almond, flour**
DM 0523	**Broad bean, flour**
DM 2065	**Beans, subgroup of, flour (**see Subgroup 015A (Code VD 2065) for species included in the subgroup of beans**)**
DM 0071	**Beans (Phaseolus), subgroup of, flour (**see Subgroup 015A (Code VD 0071) for species included in the subgroup of beans**)**
DM 2891	**Beans (Vigna), subgroup of, flour (**see Subgroup 015A (Code VD 2891) for species included in the subgroup of beans**)**
DM 0001	**Citrus molasses,** (see Group 001 (Code FC 0001) for species in the group of citrus fruits)
DM 1216	**Cacao mass**
DM 0715	**Cacao powder**
DM 0524	**Chickpea, flour**
DM 0665	**Coconut, Copra** (dried meat)
DM 0604	**Ginseng, extracts**
DM 0533	**Lentil, flour**
DM 0545	**Lupin, flour**
DM 0536	**Mung bean, flour**
DM 0305	**Olives, processed**
DM 0697	**Peanut, flour**
DM 2066	**Pea, subgroup of, flour (**see Subgroup 015B (Code VD 2066) for species in the subgroup of peas**)**
DM 0070	**Pulses, group of, flour,** (see Group 015 (Code VD 0070) for species in the subgroup of pulses)
DM 0651	**Sorghum, sweet syrup**
DM 0658	**Sorghum molasses**
DM 0596	**Sugar beet molasses**
DM 3523	**Sugar beet, sugar refined**
DM 0659	**Sugar cane molasses**
DM 3524	**Sugar cane, sugar refined**
-	**Tomato, paste,** see tomato, puree, DM 0448
DM 3525	**Tomato, pomace**
DM 0448	**Tomato, puree** CXS 57-1981

FRUIT AND VEGETABLE JUICES

Class D

Type 13 Derived edible products of plant origin

Group 070 Group Letter Code JF

Fruit and vegetable juices, Group 070, are pressed from the edible part of mature fruits or from vegetable commodities. Juices are often prepared for international trade in a concentrated form, which is reconstituted for wholesale or retail distribution. Fruit juice concentrates should be reconstituted to the relevant provision listed in the appendix of CODEX STAN 247-2005. In processing vegetables, a small amount of preserving agent(s) may be added. Vegetable juice concentrates should be reconstituted to about the original juice concentration as obtained by the pressing process.

The group Fruit and Vegetable Juices is divided into two subgroups

070A Fruit Juices

070B Vegetable juices

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity (not concentrated) or commodity reconstituted to the original juice concentration.**

Group 070 Group of Fruit and Vegetables

Subgroup 070A Fruit Juices

Code No.	Commodity
JF 0026	**Group of Assorted tropical and subtropical fruits – edible peel, juices** (see Group 005 (Code FT 0026) for species included in the group of Assorted tropical and subtropical fruits – edible peel)
JF 0030	**Group of Assorted tropical and subtropical fruits – inedible peel, juices** (see Group 006 (Code FI 0030) for species included in the group of Assorted tropical and subtropical fruits – inedible peel)
JF 0018	**Group of Berries and other small fruits, juices** (see Group 004 (Code FB 0018) for species included in the group of Berries and other small fruits)
JF 0001	**Group of Citrus, juice** (see Group 001 (Code FC 0001) for species in the group of citrus fruits)
JF 0009	**Group of Pome Fruit, juices** (see Group 002 (Code FT 0009) for species in the group of pome fruits)
JF 0012	**Group of Stone Fruit, juices** (see Group 003 (Code FS 0012) for species in the group of stone fruits)
JF 0226	**Apple, juice**
JF 1140	**Black currant, juice**
-	**Cassis**, see Black currant juice, JF 1140
JF 0665	**Coconut, juice**
JF 0265	**Cranberry, juice**
JF 0269	**Grape, juice**
JF 0203	**Grapefruit, juice**
JF 0204	**Lemon, juice**
JF 0345	**Mango, juice**
JF 0004	**Orange, juice**
JF 2001	**Peach, juice**
JF 0341	**Pineapple, juice**
JF 0355	**Pomegranate, juice**
JF 0273	**Rose hips, juice**
JF 0448	**Tomato, juice**

Subgroup 070B Vegetable Juices

Code No.	Commodity
JF 0577	**Carrot, juice**
JF 0480	**Kale, juice**
JF 0432	**Watermelon, juice**

BY-PRODUCTS DERIVED FROM FRUIT AND VEGETABLE PROCESSING

Class D

Type 13 **Derived edible products of plant origin**

Group 071 Group Letter Code AB

Group 071. The commodities of this Group are by-products derived from Fruit and Vegetable processing, e.g. by product from the extraction of oil (meal). The commodities are prepared, in general, in a dry form for wholesale or retail distribution.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity. Residues in "wet" commodities of this Group should be expressed on a "dry-weight" basis; see explanation in Group 050, Legume animal feeds.**

Group 071	**By-products~~,~~ derived from fruit and vegetable processing**
Code No.	**Commodity**
AB 0226	**Apple pomace, dried**
AB 1230	**Apple pomace, wet**
AB 0001	**Citrus pulp, dried** (see Group 001 (Code FC 0001) for species in the group of citrus fruits)
AB 0665	**Coconut, meal**
AB 0269	**Grape pomace, dried**

MANUFACTURED FOODS (SINGLE-INGREDIENT) OF PLANT ORIGIN

Class D

Type 14 **Manufactured Foods (single-ingredient) of plant origin**

The term "single-ingredient manufactured food" means a "processed food" which consists of one identifiable food ingredient, with or without packing medium or minor ingredients, such as flavouring agents, spices and condiments, and which is normally pre-packaged and ready for consumption with or without cooking.

Group 075 Reserved for future purposes

MANUFACTURED FOODS (MULTI-INGREDIENT) OF PLANT ORIGIN

The term "multi-ingredient manufactured food" means a processed food, consisting of more than one major ingredient.

A multi-ingredient food consisting of ingredients of both plant and animal origin will be included in this type if the ingredients(s) of plant origin is (are) predominant.

Manufactured multi-ingredient cereal products

Class D

Type 15 **Manufactured foods (multi-ingredient) of plant origin**

Group 078 Reserved for future purposes

The commodities of this Group are manufactured with several ingredients; products derived from cereal grains however form the major ingredient.

Portion of the commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

MISCELLANEOUS PROCESSED FOODS OF PLANT ORIGIN

Class D

Type M **Miscellaneous processed foods of plant origin**

Group 079 Group Letter Code MU

Miscellaneous commodities are those commodities which do not meet the criteria for crop grouping. These criteria include (1) commodity's similar potential for pesticide residues, (2) similar morphology, (3) similar production practices, growth habits, etc., (4) edible portion, (5) similar GAP for pesticides uses, (6) similar residue behavior, and (7) to provide flexibility for setting subgroup tolerances. Due to the heterogeneous nature of miscellaneous commodities, no representative commodity will be established for miscellaneous groups.

Portion of commodity to which the MRL applies (and which is analysed): **Whole commodity as prepared for wholesale or retail distribution.**

Group 079 **Miscellaneous processed foods of plant origin**

Code No.	Commodity
MU 1100	**Hops, dried** *Humulus lupulus* L.

APPENDIX VII
Part 2

REVISION OF THE PRINCIPLES AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES TO COMMODITY GROUPS (CXG 84-2012)

Table 8. Examples of the selection of representative commodities Class D, Processed foods of plant origin

Type 12 Secondary food commodities of plant origin
(includes Dried fruits, Dried vegetables, Dried herbs, and Milled cereal products (early milling stages) Miscellaneous secondary food commodities of plant origin)

Type 13 Derived products of plant origin
(includes Cereal grain milling fractions, Teas, Vegetable oils, crude, Vegetable oils, edible, Miscellaneous derived edible products of plant origin, Fruit and vegetable juices and By-products, derived from fruit and vegetable processing)

(At Step 5/8)
(For adoption by CAC)

Codex Group / Subgroup	Examples of Representative Commodities [1)]	Extrapolation to the following commodities
Group 055 Dried fruits	[2)]	--
Group 056 Dried vegetables	[2)]	--
Group 057 Dried herbs	Any commodity of subgroup 057A and 057B	Group of Dried herbs (DH 0170): Angelica, including Garden Angelica, dried; Balm leaves, dried; Basil leaves, dried; Borage, dried; Burning bush, dried; Cat's claw, dried; Catmint, dried; Celery leaves, dried; Chinese chastetree, dried; Chinese foxglove, dried; Chive, dried; Chive, Chinese, dried; Coriander leaves, dried; Creat, dried; Dillweed, dried; Echinacea, dried; Eucommia, dried; Fennel, dried; Galbanum, dried; Gambir, dried; Ginger leaves, dried; Gotu kola, dried; Gymnema, dried; Horehound, dried; Hyssop, dried; Laurel leaves, dried; Lavender, dried; Lemongrass, dried; Lovage, dried; Mamaki, dried; Marjoram, dried; Mints, dried; Mulberry leaves, dried; Parsley, dried; Rosemary, dried; Rue, dried; Sage, dried; Savory, Summer, dried; Pepper, leaves, dried; Winter; Squaw vine, dried; Stevia, dried; St. John's Wort, dried; Winter, dried; Sweet cicely, dried; Tansy and related species, dried; Tarragon, dried; Thyme, dried; Vasaka, dried; Wintergreen leaves, dried; Wood betony, dried; Woodruff, dried; Wormwoods, dried
Group 057A Dried herbs - **Subgroup of Dried herbs of herbaceous plants**	Any commodity in this subgroup	Subgroup of Dried herbs of herbaceous plants (DH 2095): Angelica, including Garden Angelica, dried; Balm leaves, dried; Basil leaves, dried , dried; Borage, dried; Burning bush, dried; Catmint, dried; Celery leaves, dried; Chinese foxglove, dried; Chive, dried; Chive, Chinese, dried; Coriander leaves, dried; Creat, dried; Dillweed, dried; Echinacea, dried; Fennel, dried; Galbanum, dried; Gambir, dried; Ginger leaves, dried; Gotu kola, dried; Horehound, dried; Hyssop, dried; Lavender, dried; Lemongrass, dried; Lovage, dried; Mamaki, dried; Marjoram, dried; Mints, dried; Parsley, dried; Pepper, leaves, dried, Rosemary, dried; Sage, dried; Savory, Summer, Winter, dried; Stevia, dried; Sweet cicely, dried; Tansy and related species, dried; Tarragon, dried; Thyme, dried; Wintergreen leaves, dried; Wood betony, dried; Woodruff, dried; Wormwoods, dried

Codex Group / Subgroup	Examples of Representative Commodities [1)]	Extrapolation to the following commodities
Group 057B Dried Herbs - **Subgroup of Dried herbs of woody plants**	Any commodity in this subgroup	Subgroup of Dried herbs of woody plants (DH 2096): Cat's claw, dried; Chinese chastetree, dried; Eucommia, dried; Gymnema, dried; Laurel leaves, dried; Mulberry leaves, dried; Rue, dried; Squaw vine, dried; St. John's Wort, dried; Vasaka, dried
Group 058 Milled cereal products (early milling stages)	[2)]	--
Group 059 Miscellaneous secondary food commodities of plant origin	[2)]	--
Group 065 Cereal grain milling fractions - **Subgroup of cereal grains, flour**	Wheat and Barley and Rice and Sorghum grain and Maize and sweet corn	Group of cereal grains, flour (CF 0080): 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
Group 065 Cereal grain milling fractions - **Subgroup of cereal grains, bran, processed**	Wheat and Barley and Rice and Sorghum grain and Maize and sweet corn	Group of cereal grains, bran, processed (CF 0081): 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
Group 065 Cereal grain milling fractions - **Subgroup of Barley, similar grains, and pseudocereals with husks, flour**	Barley	Subgroup of Barley, similar grains, and pseudocereals with husks, flour (CF 2087): Barley; Buckwheat; Buckwheat, tartary; Canarygrass, annual; Oats
Group 065 Cereal grain milling fractions - **Subgroup of Maize Cereals and sweet corn, flour**	Maize	Subgroup of Maize Cereals and Sweet corn, flour (CF 2090): Maize; Popcorn; Teosinte, Sweet corn
Group 065 Cereal grain milling fractions - **Subgroup of Rice cereals, flour**	Rice	Subgroup of Rice cereals, flour (CF 2088): Rice; Rice, African; Wild rice

Codex Group / Subgroup	Examples of Representative Commodities [1)]	Extrapolation to the following commodities
Group 065 Cereal grain milling fractions - **Subgroup of Sorghum Grain and Millet, flour**	Sorghum grain	Subgroup of Sorghum Grain and Millet, flour (CF 2089): Hungry rice; Job's tears; Millet; Sorghum Grain; Teff or Tef
Group 065 Cereal grain milling fractions - **Subgroup of Wheat, similar grains, and pseudocereals without husks, flour**	Wheat	Subgroup of Wheat, similar grains, and pseudocereals without husks, flour (CF 2086): Amaranth, grain; Cañihua; Chia; Cram-cam; Huauzontle; Psyllium sp., Quinoa; Rye; Triticale; Wheat
Group 066 Teas	[2)]	
Subgroup 66A Teas - Teas from Camellia sinensis	*Camellia sinensis*	Tea, Black, Green (fermented and dried); (DT 1114): Purple tea; Tea, Green, dried; Tea, Black, dried and fermented
Subgroup 66B Teas - Herbal teas from leaves/blossoms	Any herbal tea from leaves/blossoms in this subgroup	Teas - Herbal teas from leaves/blossoms (DT 0172): Camomile or Chamomile, dried leaves/blossoms; Chrysanthemum, dried blossoms; Cyclocarya, dried leaves; Leaves and blossoms from other crops used for herbal teas, dried; Lemon verbena, dried leaves; Lime/Linden dried blossoms; Maté, dried leaves; Noble dendrobium, dried leaves; Rooibos; Roselle, calyxes/ blossoms, dried
Subgroup 66C Teas - Herbal teas from roots	Any herbal tea from roots in this subgroup	Teas - Herbal teas from roots (DT 0173): Valerian root, dried; Roots from other crops used for herbal teas, dried; Valerian root, dried
Group 067 Vegetable oils, crude	[2)]	--
Group 068 Vegetable oils, edible (or refined)	[2)]	--
Group 069 Miscellaneous derived edible products of plant origin	[2)]	--
Group 070 Fruit and vegetable juices	[2)]	--
Group 071 By-products, derived from fruit and vegetable processing	[2)]	--

[1)] Alternative representative commodities may be selected based on documented regional/country differences in dietary consumption and/or areas of production.

[2)] It is not possible to set a group CXL for this group because of the broad diversity of crops. However, when a group contains a number of processed commodities originating from raw commodities from one subgroup in Class A (primary food commodities), the representative commodity from that subgroup in Class A can be used as a representative crop for the corresponding commodities in processed form. For extrapolation of processed commodities, extrapolation options in the OECD guideline can also be considered.

APPENDIX IX

REVISION OF THE CLASSIFICATION OF FOOD AND ANIMAL FEED
(CXA 4 – 1989)

Transfer of Commodities from Class D to Class C
(For information)

Transferring commodity	Existing code	Number of CXLs	New code	Class C Subgroup
Cotton gin trash	AB 1204	1	AM 3587	052C
Cotton seed, hulls	AB 0691	1	AM 3588	052C
Cotton seed, meal	AB 1203	2	AM 3589	052C
Rice hulls	CM 1207	2	AS 3570	051C
Soya bean meal	AB 1265	1	AL 3539	050C
Soya bean hulls	AB 0541	4	AL 3538	050C
Sugar beet, pulp, dry	AB 0596	2	AM 3599	052C
Sugar beet, pulp, wet	AB 1201	0	AM 1201	052C
Sweet corn cannery waste	AB 0447	1	AM 3601	0552C

No commodities are proposed to transfer from Class C (Feed) to Class D (Food)

APPENDIX X
Part 1

IMPACT OF THE REVISED CLASS C ON CXLs

CLASS C: PRIMARY ANIMAL FEED COMMODITIES

(For action by the Codex Secretariat)

Changed classification of groups and subgroups

In Type 11 "Primary feed commodities of plant origin" 5 groups with no subgroups exists. In the revised Classification, it is proposed to create 3 groups, with several subgroups.

Existing groups in Type 11

050	Legume animal feeds
051	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (forage)
051	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (straws and fodders dry)
052	Miscellaneous fodder and forage crops (forage)
052	Miscellaneous fodder and forage crops (fodder)

Proposed groups and subgroups in Type 11

050	Legume feed products
	Subgroup 050A: Products of legume feeds with high water (≥20%) content (forage and silage)
	Subgroup 050B: Products of legume feeds with low water (<20%) content (hay)
	Subgroup 050C: Processed products of legume feeds (such as meal, hulls)
051	Cereal grains (including pseudocereals) and grass feed products
	Subgroup 051A: Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage)
	Subgroup 051B: Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay, straw)
	Subgroup 051C: Cereal grains (including pseudocereals) processed products (such as bran, hulls)
	Subgroup 051D: Grasses for animal feed
052	Miscellaneous feed products
	Subgroup 052A: Miscellaneous feed products with high water (≥20%) content (forage, beet tops)
	Subgroup 052B: Miscellaneous feed products with low water (<20%) content (hay)
	Subgroup 052C: Miscellaneous processed feed products (such as meal, hulls, dried pulp)

New (Sub)groups and (sub)group codes

AL 3300 Subgroup of Products of legume feeds with high water (≥20%) content (forage and silage) (includes all commodities in this subgroup)

AL 3301 Subgroup of Products of legume feeds with low water (<20%) content (hay) (includes all commodities in this subgroup)

AL 3302 Subgroup of Processed products of legume feeds (like meal, hulls) (includes all commodities in this subgroup)

AS 3303 Subgroup of Cereal grains (including pseudocereals) feed products with high water (≥20%) content (forage and silage) (Includes all commodities in this subgroup) (see Group 020 Cereal grains (code GC 0080) for commodities included in cereal grains)

AS 3304 Subgroup of Cereal grains (including pseudocereals) feed products with low water (<20%) content (hay and/orstraw) (Includes all commodities in this subgroup) (see Group 020 Cereal grains (code GC 0080) for commodities included in cereal grains)

AS 3305 Subgroup of Cereal grains (including pseudocereals) processed products (such as bran, hulls) (Includes all commodities in this subgroup) (see Group 020 Cereal grains (code GC 0080) for commodities included in cereal grains)

AS 3306 Subgroup of Forage, hay and/or straw and silage from grasses used for animal feed (Includes all commodities (grasses in the Poaceae (Gramineae) family in this subgroup, except for commodities in Group 020, Code GC 0080)

AM 3307 Subgroup of Miscellaneous Feed Products of high water (≥20%) content (forage, beet tops) (includes all commodities in this subgroup)

AM 3308 Subgroup of Miscellaneous Feed Products with low water (<20%) content (hay and/or straw) (Includes all commodities in this subgroup)

AM 3309 Subgroup of Miscellaneous Processed feed Products (such as meal, hulls, dried pulps) (Includes all commodities in this subgroup)

Remark: In some (sub)groups minor subgroups with more than one commodity are created e.g. AS 0081, AS 0162

The new codes will not have an impact on the existing CXLs. They will make it more easy to set in future a CXL for those (sub)groups.

New commodities

New commodities are added to the Classification.

The following codes have to be added to the classification: AL 3493 – AL 3534, AS 3535 - AS 3566 and AM 3567 – AM 3595.

(see REP21/PR-Appendix VII for a full overview of commodities included in Class C and REP21/PR-Appendix IX for the full overview of the transfer of commodities from Class D to Class C)

Fodder Replacing the term fodder for hay or straw. The recommendations in the Japanese document should be the guidance in replacing the term fodder by hay or straw (REP21/PR-Appendix XI).

Commodities transferring between Class C and D

- No commodities are proposed to transfer from Class C (Feed) to Class D (Food)
- Processed commodities transferring from Class D (Food) to Class C (Feed):

Transferring commodity	Existing code	Number of CXLs	New code	Action
Cotton gin trash	AB 1204	1	AM 3577	Adapt code in database
Cotton seed, hulls	AB 0691	1	AM 3578	Adapt code in database
Cotton seed, meal	AB 1203	2	AM 3579	Adapt code in database
Rice hulls	CM 1207	2	AS 3565	Adapt code in database
Soya bean meal	AB 1265	1	AL 3534	Adapt code in database
Soya bean hulls	AB 0541	4	AL 3533	Adapt code in database
Sugar beet, pulp, dry	AB 0596	2	AM 3592	Adapt code in database
Sugar beet, pulp, wet	AB 1201	0	AM 1201	Adapt code in database
Sweet corn cannery waste	AB 0447	1	AM 3594	Adapt code in database

- Commodities with code changes (not all commodity codes are used in the existing classification, some codes have been added over time). For the following commodities the code in the database has to be adapted

Commodity	Existing code	New code	Number of CXLs
Cow cabbage, leaves	AV 1050	AM 1050	0
Fodder beet, leaves or tops	AV 1051	AM 3568	0
Maize, forage	AF 0645	AS 0645	37
Maize, hay and/or straw	AS 0645	AS 3552	0
Marrow-stem cabbage or Marrow-stem kale, leaves and stems	AV 1052	AM 1052	0
Oat, hay and/or straw	AS 0647	AS 3554	14
Rye, hay and/or straw	AS 0650	AS 3555	16
Sorghum, forage (green)	AF 0651	AS 0651	1
Sugar beet, leaves or tops	AV 0596	AM 0596	3
Sugar cane, forage or tops	AV 0659	AM 0659	2
Sugar cane, hay and/or straw	AM 0659	AM 3576	0
Cotton gin trash	AB 1204	AM 3577	1
Cotton seed, hulls	AB 0691	AM 3578	1
Cotton seed, meal	AB 1203	AM 3579	2
Rice hulls	CM 1207	AS 3565	2
Soya bean meal	AB 1265	AL 3534	1
Soya bean hulls	AB 0541	AL 3533	4
Sugar beet, pulp, dry	AB 0596	AM 3592	2
Sugar beet, pulp, wet	AB 1201	AM 1201	0
Sweet corn cannery waste	AB 0447	AM 3594	1

None of the transferring commodities is included or will be included in a (sub)group, so there are no consequences for(sub)group CXLs

APPENDIX X
Part 2

CLASS D: PROCESSED FOODS OF PLANT ORIGIN

(Supporting information when submitting comments on the revision of Class D (Agenda Item 7b))

Changed classification into groups and subgroups

In the revised Classification, it is proposed to divide the group of Dried herbs and the group of Teas in subgroups (Sub)groups and (sub)group codes in Class D

Overview of new (sub)group codes

DH 2095	Subgroup of dried herbs of herbaceous plants
DH 2096	Subgroup of dried herbs of woody plants
DT 1114	Subgroup of Tea, Black, Green (fermented and dried)
DT 0172	Subgroup of Teas - Herbal teas from leaves/blossomsDT 0173 Subgroup of Teas - Herbal teas from roots

Remark: In some (sub)groups minor subgroups with more than one commodity are created e.g. CF 0080, AS 0162

The new (sub)group codes will not have an impact on the existing CXLs. They will make it more easy to set in future a CXL for those subgroups.

New commodities

- New commodities are added to the Classification. The following codes has to be added to the database: DF3310, DV 3590, DH 3501- DH 3509, CF 3511-CF 3522, DT 9998-DT 9999, DM 3523-DM 3525
- In case a commodity already occurs in another form in another Class, the number part of the code is the same and the letter part of the code is adapted (e.g. existing code fresh herb HH 0740 Parsley; new code dried herbDH 0740 Parsley, dry).

  New codes created in this way are e.g : DH 3289, CM 0640, SM 0715 and JF 0204.
- For hops, the code MU 1100 is replacing, DH 1100, because hops is classified as a miscellaneous commodity See Appendix I agenda item 7b for a full overview of commodities included in Class D

APPENDIX XI

INVESTIGATION OF MRLs FOR PESTICIDES RECOMMENDED FOR FEED COMMODITIES WHOSE NAMES INCLUDE THE TERM "FODDER"

(Prepared by Japan)

(For information/use by JMPR)

INTRODUCTION

1. In the Codex System, Maximum Residue Limits (MRLs) are recommended for foods as well as feeds. Those feed items (not including those commodities also used as foods) for which MRLs have been recommended are (1) primary feed commodities of plant origin, (2) cereal grain milling fractions, (3) byproducts used for animal feeding purposes, derived from fruits and vegetable processing, and (4) some other commodities.

2. The term "fodder" is used in relation to the primary feed commodities of plant origin. The Classification of Foods and Animal Feeds (1993) includes Class C Primary Animal Feed Commodities as follows:

Primary feed commodities of plant origin

No	Letter code	Group
050	AL	Legume animal feeds [a/]
051	AF	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (forage)
051	AS	Straw, fodder and forage of cereal grains and grasses (including buckwheat fodder) (straws and fodders dry)
052	AV	Miscellaneous Fodder and Forage crops (forage)
052	AM	Miscellaneous Fodder and Forage crops (fodder)

a/ including forage and fodder commodities

3. For these commodities, the Codex Classification indicates that in view of the wide range of moisture contents in most animal feeds, except straws, moving in commerce, the MRLs should preferably be set and expressed on a "dry-weight" basis.

4. The Codex Committee on Pesticide Residues (CCPR) decided some time ago not to recommend MRLs for forage (fresh products) as the forage commodities are not traded internationally. As a result, among the above feed groups, MRLs have been recommended for fodders in Groups AL, AS and AM. However, three Codex MRL have been recommended for triadimefon (133), flutriafol (248) and acetochlor (280) in "sugar beet leaves or tops (dry)"(AV 0596) which has the term "(dry)" in its name.

5. Within the framework of revising the Codex Classification of Foods and Animal Feeds, the 51st Session of the CCPR in 2019 considered how to revise Class C feed commodities. It considered, "there would be a possible impact of removing the term 'fodder', as it could affect existing CXLs for this commodity. It was not clear on which basis theindividual CXLs for fodder were set, e.g., on residues in hay or in straw. CCPR further noted the kind offer of Japan to investigate the basis on which the CXLs for fodder and related feed are set." (REP 19/PR, para. 149) The CCPR agreed to further look into the issue of "fodder" in Class C based on a paper to be prepared by Japan for discussion at CCPR52 (para. 150)

INVESTIGATION PROCESS

6. MRLs recommended for "fodder" commodities with the letter codes AL, AS and AM were extracted from the database of Codex MRLs and MRLs at different steps provided by the Codex Secretariat (Note: as of the 51st CCPR). Those commodities included in the category AV were not included as they are forages except AL 0596. AL 0596 is sugar beet leaves or tops (dry) referring to dry feed item but the description is clear.

7. For those extracted MRLs, the basis of each MRL was investigated using the Evaluations and Reports of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR): first checking the descriptions in the related year's appraisal (i.e., Report) and, if the information in the appraisal is not clear enough, then checking the descriptions in the same year's Evaluation.

8. For a number of old MRLs, it was not possible to find detailed information about residue levels or the nature of samples analyzed. In addition, JMPR Evaluations are available from the FAO website for the years 1993-2019 extra; and JMPR Reports for the years 1991-2019 extra. Old Evaluations and Reports have much briefer descriptions about supervised residue trials.

9. In the course of checking the information, no attempts were made to evaluate the residue data or to review the JMPR evaluations. Attempts were made to find the basis for individual MRLs and to extract that information.

RESULTS OF INVESTIGATION

10. In the Codex database, there are 421 MRLs for the group AL, AS and AM (excluding AM 0738 "mint hay" and AM 1051 Fodder beet and related commodities as the commodities for which MRLs are recommended are clear).

11. The situations of each MRL as described in the respective JMPR Report/Evaluation are shown in the tables in the Annex: basis of individual MRLs for "fodder" commodities, availability of separate data on hay, straw and/or related commodities/portions along with the time of JMPR evaluation.

- The JMPR (year) is according to the Codex database and the working document CX/PR 19/51/5.
- Commodities in the group are in the alphabetical order as much as feasible. If there are related commodities, such as fodder and hay for the same crop, they are placed in a close proximity for easier reference, regardless of the code number.
- A brief analysis is provided for each commodity in relation to the basis of MRLs: whether hay or straw or any related fodder product.

12. Some specific situations for a number of MRLs are also explained, such as extrapolation from other MRLs, in the "Note to MRL/Descriptions of commodities". Where some problem is identified, the text in the Note is italicized. Where there is no problem, the Note cell is blank. Information on for what commodity MRLs should be recommended is also included in the table if the term "fodder" is removed from the Codex Classification. Additionally, whether each MRL is expressed on a "dry-weight" basis is also indicated.

> *Note: How residue data are described and how the samples are called are defined in the Codex Classification of Foods and Animal Feeds as well as in the FAO Manual. However, it depends on the data submission. Sometimes, the same term may be used differently, or the same type of samples may be called differently.*

Points to consider

13. This section is to be read in conjunction with the information in the Annex.

- Commodity names (taken from the online Codex database (commodities)
  - AL group

    For some commodities/crops, there are separate entries for "fodder" and "hay": for alfalfa, bean, peanut and soya bean. On the other hand, there are "Pea hay or Pea fodder (dry)" (AL 0072) and "pea hay" (AL 3353), differently from the aforementioned commodities. If the term "fodder" is to be deleted, it is necessary to consider an alternative term(s), such as "straw" to replace the term "fodder". A number of MRLs are estimated on a basis of "straw data".

  - AS group

    For the individual commodities, the names refer to either "straw and fodder, dry" or "fodder". It is absolutely critical to have clear definitions for related terms, such as "hay", "straw" and stover.

  - AM group

    Except fodder beet and related commodities, the commodity names refer to "fodder".

- Basis of MRLs

  For many commodities, the basis of MRLs is either hay or straw/stover. Other commodities may refer to only one type of "fodder". In the former case, the term fodder can be separated into two different commodities, for example, hay and straw, or hay and stover. However, the trade volume of these commodities should be taken into consideration for decision making. In the latter case, the term fodder can be changed to other name. In both cases, it is extremely important to have clear definitions for each commodity and data submission shall use the terms according to the definitions, so that it will be clear for JMPR about the nature of samples analyzed for residues.

- New MRLs?

  If one commodity is separated into two commodities, the current MRL is maintained for one of them and there may be a need to establish a new MRL for the other. Some MRLs can be recommended also as new MRLs or new MRLs can be recommended at future periodic reevaluation. It should be noted that with the revision of feeds, there may be a need for re-evaluating the residue data, which should be done at future periodic review occasions. For old MRLs, there may be different MRL recommendations in the future because the OECD[1] Calculator is now used by JMPR while it was not in the past.

- Extrapolation

  There are a number of MRLs extrapolated from other recommendations. It is done on the condition that: (1) Good agricultural practice (GAP) is the same or similar, and (2) residue populations are similar. Even after the revision of the fodder commodities, the same extrapolation can be maintained.

- MRLs for sugar cane fodder

  There are two MRLs for sugar cane fodder. However, they are recommended on a basis of sugar cane forage. There may be a need for CCPR to consider whether to retain these MRLs or not. Other MRLs for forage crops have already been revoked.

14. For individual commodities, some analysis can be found in the tables in the Annex. The analysis is on the assumption that straw was obtained at the time of normal harvest or later and hay before the normal harvest time, although there are exceptions to these definitions or there were no detailed explanations in the JMPR Evaluations/Reports.

Additional issues identified

15. The issues below were identified during the course of this work. While not directly related to the revision of feed classification, the CCPR may need to consider how to deal with them.

<u>Dry weight basis</u>

16. Among the extracted MRLs for fodder -elated commodities, there are inconsistencies among the expression on dry weight basis. There are a number of cases:

- Set and expressed on a dry weight basis: with
  - Footnote "(dw)" next to the MRL, and
  - Footnote "(DM)" next to the MRL; or
  - Without any indication of dry-weight basis
- No indication of dry weight basis without any footnote
  - In the text, indication of "as received" or "fresh weight"
  - No mention of dry weight or as received, perhaps because "Straws" are exempted from the expression of "dry weight basis" according to the Codex definition for fodder (see para.3 of this paper)

17. It should be noted though, as the dry matter is around 90% of the "fodder", whether the MRL value is expressed on a dry weight basis or not will not make significant difference. However, the Codex Secretariat can adjust the footnotes accordingly.

[1] Organization for Economic Cooperation and Development (OECD)

MRLs for 9 pesticides (replacing the MRLs for Apple pomace, dry)

18. There are 9 MRLs for Sweet corn fodder, dry included in the Codex database as well as the working document for each CCPR session containing all existing MRLs: fenarimol, fenbuconazole, fludioxonil, flusilazole, imidacloprid, methoxyfenozide, novaluron, pyrimethanil and spirodiclofen. However, related information or the basis of these MRLs could not be found in JMPR Evaluations or Reports.

19. Further investigation was made using all the reports of the Codex Alimentarius Commission and CCPR, and working documents prepared for the sessions of CCPR. It was found that these MRLs currently existing for sweet corn fodder are at the same values as those recommended by the JMPR and adapted by the Codex Alimentarius Commission for AB 0226 apple pomace, dry. These MRLs for apple pomace, dry are not included in the current Codex database despite their adaption by the Commission without any information about revision or revocation. It seems that these MRLs for sweet corn fodder (not adapted by the Commission) inadvertently replaced those for apple pomace, dry. Therefore, these MRLs for apple pomace, dry, shall be reinstated in the Codex database while those for the respective pesticides in sweet corn fodder shall be removed from the database as they were not adapted by the Commission. This problem can be solved by the Codex Secretariat.

Note: The codes for some commodities in this document are based on the codes of the draft revision of last year. Because several changes are made in the draft for this year, some codes in this document are not the same as in the proposed revision in agenda item 7a

Annex: Individual MRLs

1. AL Group: Legume Animal Feeds

(only “fodder” commodities are shown below: “forage” commodities are not shown)

Code		Commodity name	Table Number in the Annex
AL	0157	Legume animal feeds	1.1
AL	0061	Bean fodder	1.3.1
AL	0072	Pea hay or Pea fodder (dry)	1.6.1
AL	1020	Alfalfa fodder	1.2.1
AL	0524	Chick-pea fodder	1.4
AL	1031	Clover hay or fodder	1.5
AL	0697	Peanut fodder	1.7.1
AL	0541	Soya bean fodder	1.8.1
AL	3350	Alfalfa hay	1.2.2
AL	3351	Bean hay	1.3.2
AL	3352	Peanut hay	1.7.2
AL	3353	Pea hay	1.6.2
AL	3354	Soya bean hay	1.8.2

1.1 AL 0157 Legume animal feeds

- The MRL recommendations are mostly based on the hay data.
- Except for Spirotetramat, the basis of MRLs is rotational crop study data.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	3	2015	-	o	x		3	x		DW	Based on follow-up alfalfa hay and clover hay.
Cyantraniliprole	0.8	2013	-	o	x		0.8	x		DW	*On a dry weight basis* Based on the combined dataset of hay of alfalfa, clover, bean, pea, peanut and soya bean grown as follow-up crops.
Myclobutanil	0.2	2014	PR	o	o		0.2	o		DW	Based on soya bean hay and consideration of crop rotation.
Spirotetramat	30	2011	-	o	x		30	x		DW	*On a dry weight basis.* Based on hay of soya bean cowpea and pea

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.2 Alfalfa

1.2.1 AL 1020 Alfalfa fodder

- All of the MRL recommendations, for which information was found, are based on hay data.
- The Commodity name can be changed to alfalfa hay.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azinphos-Methyl	10	1991		o	x		10	x		?	Only in the recommendation table for AL 1020 Alfalfa hay (no Evaluation available)
Bentazone	0.5	2013	PR	o			0.5	x		DW	
Chlorantraniliprole	50	2010	-	o	x		50	x		DW	
Chlorpyrifos	5	2000	PR	o	x		5	x		DW	
Clethodim	10	1997	-	o	x		10	x		-	
Cypermethrins (including alpha- and zeta- cypermethrin)	30	2008	PR	o	x		30	x		-	
Disulfoton	5(dw)	1991	-	?	?		5?	5?		?	Only in the recommendation table for AL 1020 Alfalfa fodder (dry weight) (no Evaluation available)
Flumioxazin	3(dw)	2015	-	o	x		3	x		-	
Glyphosate	500	2005	PR	o	x		500	x		DW	
Imazamox	0.1(*)	2014	-	o	x		0.1(*)	x		AR	
Indoxacarb	60	2005	-	o	x		60	x		DW	
Methomyl	20	2001	PR	o	x		20	x		-	Based on the use of thiodicarb
Norflurazon	7(DM)	2018	-	o	X		7	x		DW	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Pendimethalin	4(dw)	2016	-	o	x		4	x		DW	
Penthiopyrad	20(DM)	2012	-	o	x		20	x		DW	
Permethrin	100	<1991		?	?		?	?		?	No information found
Pyraclostrobin	30	2011	-	o	x		30	x		DW	
Saflufenacil	0.06	2016	-	o	x		0.06	x		DW	*On a dry weight basis.*

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.2.2 AL 3350 Alfalfa hay

- If the name of AL 1020 is changed to alfalfa hay, the MRLs below can be under that commodity name.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	30(dw)	2016	-	o	x		30	x		DW	
Fluxapyroxad	20(DM)	2018	-	o	x		20	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.3 Bean

1.3.1 AL 0061 Bean fodder

- About a half of MRLs are based on hay data and others on straw data.
- There may be a need to have hay and straw as separate commodities, without using the term “fodder”.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Clethodim	10	1999	-	o	x		10	x		DW	
Cyantraniliprole	40(DM)	2015	-	o	x		40	x		DW	
Cypermethrins (including alpha- and zeta- cypermethrin)	2	2008	PR	x	o		X	2		-	
Dimethenamid-P	0.01(*)	2005	-	x	o		X	0.01(*)		DW	
Fluazifop-p-butyl	7(dw)	2016	-	x	o		x	7		DW	
Fluopyram	70	2017	-	o	x		70	x		DW	*On a dry weight basis*
Glufosinate-Ammonium	1	2012	PR	x	o		x	1		DW	
Glyphosate	200	2005	PR	x	o		x	200		DW	
Methomyl	10	2001	PR	o	x		10	x		DW	
Pendimethalin	0.3(dw)	2016	-	x	o		x	0.3		DW	
Sedaxane	0.01(*)	2014	-	o	x		0.01(*)	x		-	Residues in bean and pea hay from all the trials were <0.01 mg/kg.

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.3.2 AL 3351 Bean hay

- The MRL can be merged with a new commodity of “bean hay”
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	30	2016	-	o	x		30	x		DW	*On a dry weight basis.*

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.4 AL 0524 Chick-pea fodder

- There is only one MRL, not sufficient for analysis.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Isoxaflutole	0.01(*)	2013	-	x	o		x	0.01(*)		-	

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, what MRLs should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.5 AL 1031 Clover hay or fodder

- Only one MRL, insufficient for analysis. Only hay data.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azinphos-Methyl	5	1991		o	x		5	x		-	Only in the recommendation table for AL 1031 clover hay (no Evaluation available)
Disulfoton	10	1975	-	?	?		10?	10?		?	The 1991 JMPR confirmed the MRL recommended by the 1975 JMPR as temporary MRL. No detailed information available on the 1975 Evaluation.
Imazethapyr	1.5(dw)	2016	-	o	x		1.5	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.6 Pea

1.6.1 AL 0072 Pea hay or pea fodder

- The majority of MRLs are based on hay data. About one third of them are based on straw.
- There were some cases where only straw data were submitted.
- Hay and straw (or any other appropriate name) can be maintained as separate commodities, without using the term “fodder”

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azoxystrobin	20	2013	-	x?	x	plant	20?	?		DW	Residues in plant
Benzovindiflupyr	8(dw)	2016	-	o	x		8	x		DW	
Bifenthrin	0.7	2010	PR	o?	x	o?	0.7?	0.7?		DW	"Hay or fodder" without detailed description
Clothianidin	0.2T	2010	-	o	x		0.2 T	x		DW	
Cyantraniliprole	60(DM)	2015	-	o	x		60	x		DW	
Cypermethrins (including alpha- and zeta- cypermethrin)	2	2008	PR	x	o		x	2		DW	
Diquat	50	2013	PR	x	o		x	50		DW	*On a dry weight basis.*
Flubendiamide	40	2010	-	o	x		40	x		-	Based on the combined dataset of pea and cowpea hay.
Fluopyram	100	2017	-	o	x		100	x		DW	*On a dry weight basis*
Fluxapyroxad	40	2012	-	o	x		40	x		DW	
Glyphosate	500	2005	PR	x	o		x	500		DW	
Imazamox	0.05(*)	2014	-	x	Pod+ haulm		x	0.05(*)		-	
Methiocarb	0.5	2005	-	o	x		0.5	x		DW	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Penthiopyrad	60(DM)	2012	-	o	x		60	x		DW	
Picoxystrobin	150(dw)	2017	-	o	x		150	x		DW	
Piperonyl Butoxide	200	2001	PR	o	x		200	x		DW	
Pirimicarb	60	2006	PR	?	?		?	?		DW	*On a dry weight basis.* Based on pea vines and empty pods (25% dry matter for pea vines)
Pyraclostrobin	30	2004	-	o	x		30	x		DW	*On a dry weight basis.*
Pyrethrins	1	2000	PR	o	x		1	x		DW	*On a dry weight basis* *Based on the combined dataset of bean and pea hay but the recommendation was only for pea hay or fodder.*
Pyrimethanil	3	2007	-	x	o		x	3		-	
Quintozene	0.05	1998	PR	o	o		0.05	0.05?		-	
Sedaxane	0.01(*)	2014	-	o	x		0.01(*)	x		-	Residues in bean and pea hay from all the trials were <0.01 mg/kg.
Thiamethoxam	0.3	2010	-	o	x		0.3	x		DW	

1.6.2 AL 3353 Pea hay

- There is only one MRL, not sufficient for analysis.
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	50(dw)	2016	-	o	x		50	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.7 Peanut

1.7.1 AL 0697 Peanut fodder

- A majority of MRLs are based on hay data and two others on straw data.
- Data were submitted only for hay or straw.
- There may be a need to have hay and straw as separate commodities, without using the term “fodder”.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azoxystrobin	30	2008	-	o	x		30	x		DW	
Benzovindiflupyr	15(dw)	2016	-	o	x		15	x		DW	
Carbendazim	3Th	2003	PR	o	x		3 Th	x		DW	
Diflubenzuron	40	2011	-	o	x		40	x		-	
Dimethenamid-P	0.01(*)	2005	-	x	o		0.01(*)	0.01(*)		-	Fodder means the vines (without pods) sampled at normal harvest, after drying in the field.
Dithiocarbamates	5c	1993	PR	x	x		5 c	x		-	
Fenbuconazole	15	2009	-	o	x		15	x		-	
Fluopyram	47	2017	-	o	x		47	x		DW	*On a dry weight basis*
Flutriafol	20	2011	-	o	x		20	x			
Haloxyfop	5	2009	PR	x	o		x	5		DW	
Imidacloprid	30	2008	-	o	x		30	x		DW	
Indoxacarb	50	2005	-	o	x		50	x		DW	
Methoxyfenozide	80	2009	-	o	x		80	x		DW	
Penthiopyrad	30(DM)	2012	-	o	x		30	x		DW	
Prothioconazole	15	2014	-	o	x		15	x		-	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Pyraclostrobin	50	2004	-	o	x		50	x		DW	*On a dry weight basis.*
Tebuconazole	40	2011	PR	o	x		40	x		-	
Trifloxystrobin	5	2004		o	x		5	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.7.2 AL 3352 Peanut hay

- There is only one MRL, insufficient for analysis
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	30(dw)	2016	-	o	x		30	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis.

1.8 Soya bean

1.8.1 AL 0541 Soya bean fodder

- All except one MRLs (on which information was found) are based on hay.
- For no pesticides, data were submitted on hay only.
- The commodity name can be changed to soya bean hay.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	0.01(*)	1998	PR	?	?		0.01(*)?	?			Based on air-dried forage data
Azoxystrobin	100	2008	-	o	x		100	x		DW	
Carbaryl	15	2002	PR	o	x		15	x		DW	*On a dry weight basis*
Carbendazim	0.1C	1998		x	x		X	x		-	*Proposed for withdrawal by the 1998 JMPR*
Chlorfenapyr	7(DM)	2018	-	o	x		7	x		DW	
Cyantraniliprole	80(DM)	2015	-	o	x		80	x		DW	
Cyfluthrin/beta-cyfluthrin	4	2012	PR	o	x		4	x		DW	
Cyproconazole	3	2010	-	o	x		3	x		-	
Fluazifop-p-butyl	4(dw)	2016	-	o	x		4	x		DW	
Flubendiamide	60	2010	-	o	x		60	x		-	
Fluopyram	35	2017	-	o	x		35	x		DW	*On a dry weight basis*
Fluxapyroxad	30	2012	-	o	x		30	x		DW	
Imazamox	0.01(*)	2014	-	o	x		0.01(*)	x		AR	
Imidacloprid	50	2015	-	o	x		50	x		DW	
Methomyl	0.2	2001	PR	o	x		0.2	x		DW	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Paraquat	0.5	2004	PR	o	o	o	0.5	-	-	DW	Mostly for hay. But some data were for "hay or fodder" and "fodder"
Penthiopyrad	200(DM)	2012	-	o	x		200	x		DW	
Permethrin	50	<1991		?	?		?	?		?	Temporary MRL estimated in 1980. No information was found.
Picoxystrobin	5(dw)	2017	-	o	x		5	x		DW	
Propiconazole	5	2007	PR	o	x		5	x		-	
Quintozene	0.01(*)	1998	PR	o	x		0.01(*)	x		DW	
Sulfoxaflor	3	2011	PR	o	x		3	x		-	
Tioxazafen	0.4(DM)	2018	-	o	x		0.4	x		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

1.8.2 AL 3354 Soya bean hay

- There are only two MRLs, insufficient for analysis.
- However, the MRL can be under the hay together with those MRLs recommended on a basis of hay data above.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Flupyradifurone	40(dw)	2016	-	o	x		40	x		DW	
Oxathiapiprolin	0.02	2018	-	o	x		0.02	x		-	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2. AS Group: Straw, Fodder and Forage of Cereal Grains and Grasses (including Buckwheat Fodder)(Straws and Fodder Dry)

Where there is a footnote for an entry referring to another commodity, that entry is not included in this group (e.g., corn fodder referring to maize fodder).

Code		Commodity name	Table Number in the Annex
AS	0161	Straw, fodder (dry) and hay of cereal grains and other grass-like plants	2.1
AS	0081	Straw and fodder (dry) of cereal grains	2.2
AS	0162	Hay or fodder (dry) of grasses	2.3
AS	0163	Straw of cereal grains	2.4
AS	0164	Fodder (dry) of cereal grains	2.5
AS	0447	Sweet corn fodder	2.15
AS	0640	Barley straw and fodder, dry	2.6
AS	0641	Buckwheat fodder	2.17
AS	0645	Maize fodder (dry)	2.14
AS	0646	Millet fodder, dry	2.12
AS	0647	Oat straw and fodder, dry	2.7
AS	0649	Rice straw and fodder, dry	2.11
AS	0650	Rye straw and fodder, dry	2.8
AS	0651	Sorghum straw and fodder, dry	2.13
AS	0653	Triticale straw and fodder, dry	2.9
AS	0654	Wheat straw and fodder, dry	2.10
AS	0657	Teosinte fodder	2.16
With a footnote “See Subgroup Hay or Fodder (dry) of Grasses”			
AS	5241	Bermuda grass	-
AS	5243	Bluegrass	-
AS	5245	Brome grass	-
AS	5251	Darnel	-
AS	5253	Fescue	-

Fodder: Coarse feed for livestock animals, especially cattle, horses and sheep, such as straw, hay, maize stalks (stover) etc.

e.g. Maize forage: whole green plant, prior to maturity (including the immature or nearly mature cobs).

Maize fodder: stover or whole stalks (with ears removed) remaining after the harvest of the mature and sun-dried cobs

2.1 AS 0161 Straw, fodder (dry) and hay of cereal grains and other grass-like plants

- Residue data on straw/stover were used for recommending MRLs
- When there are data on both straw and hay, both were used for recommending MRLs.
- MRLs are recommended on a basis of combined dataset of multiple crops.
- For all the pesticides, straw data were submitted while there is no pesticide for which only hay data were submitted.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Chlorantraniliprole	30(dw) Except maize and rice	2016	-	o	o		o**?**	30		DW	Based on the combined dataset of barley straw, wheat straw and sorghum stover (except maize and rice)
Cyantraniliprole	0.2	2013	-	o	o		0.2	0.2		DW	*On a dry weight basis* Based on the combined dataset of cereal and grass straws and hays (sorghum stover, rice straw, corn stover, brome grass hay, Bermuda grass hay, oat straw, wheat straw, oat hay, wheat hay and bluegrass hay)
Methomyl	10	2001	PR	x	o		x	10		DW	From the use of methomyl plus thiodicarb Based on the combined dataset of straw of barley, wheat and rice and stover and hay of sorghum
Sedaxane	0.1	2014	-	o	o		x	0.1		DW	Based on maize and sorghum stover, and the recommendation from the 2012 JMPR on the MRL for barley, oat, rye, triticale and wheat straw and fodder.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.2 AS 0081 Straw and fodder (dry) of cereal grains

- Most of MRLs are based on straw data.
- Where there are data for both hay and straw, MRLs are based on hay data (except EMRL for lindane).
- Some MRLs are based on rotational crop studies.
- For no pesticides, data were submitted for hay only.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Azoxystrobin	15 Except maize &stover	2013	-	o	o		15	15		DW	Based on straw and hay of barley and oat and the recommendation of 2008 JMPR for "straw and fodder of cereal grains, except maize", made on the combined dataset of barley, oat, rice, rye, triticale and wheat straw.
Boscalid	5 Except barley,oats, rye and wheat	2009	-	x	x		x	5		DW	Based on follow-up wheat straw
Cyclaniliprole	0.45(dw)	2017	-	x	o		x	0.45		DW	Based on the wheat straw data from rotational crop studies and extrapolated to all other straw and fodder of cereal grains.
Cyhalothrin (includes lambda-cyhalothrin)	2	2007	PR	x	o		x	2		DW	Based on wheat straw data. Data were available for straw of barley, oat, rice, rye, triticale and wheat and fodder of maize
Cypermethrins (including alpha- and zeta- cypermethrin)	10	2008	PR	x	o		x	10		DW	Based on wheat straw (highest residues among barley, maize, oats, rice and wheat)
Cyproconazole	5 Except maize, rice & sorghum	2010	-	x	o		x	5		-	Based on wheat straw data. Data were available for barley, rye and wheat straw.
Cyprodinil	10	2003	-	x	o		x	10		DW	Based on the combined dataset of barley and wheat straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Dichlobenil	0.4FL	2014	-	o	o		0.4	o		DW	Based on follow-up wheat hay
Diflubenzuron	1.5	2011	-	x	o		x	1.5		-	Based on the combined dataset of barley and wheat straw
Fludioxonil	0.06(*)	2004	-	x	o		x	0.06		-	Based on barley, rye and wheat straw and sorghum, maize and sweet corn stover.
Fluopicolide	0.2	2009	-	x	o		x	0.2		DW	Based on follow-up wheat straw.
Flupyradifurone	40(dw)	2016	-	o	o		40	o		DW	Based on the barely hay data. Residues to cover hays and straws/stovers of cereals. Data available for barley and wheat hay and straw, and sorghum and maize and sweet corn stover
Flusilazole	5 Except rice	2007	PR	x	o		x	5		DW	Based on the combined dataset of barley and wheat straw to extrapolate to rye straw.
Kresoxim-Methyl	3(DM)	2018	PR	x	o		x	3		DW	Based on the combined dataset of barley and wheat straw. To replace the current CXL of 5 mg/kg recommended by the 1998JMPR.
Lindane	0.01	2015	PR	o	o		0.01	0.01		DW	Recommended as EMRL On a basis of the data on wheat hay and straw provided to the 2003 JMPR and the USFDA data summary, it was concluded that it was unlikely for residues to be present above 0.01 mg/kg.
Myclobutanil	0.3	2014	PR	o	o		0.3	0.3		DW	Based on follow-up wheat hay and straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Pirimicarb	0.3 Except rice	2006	PR	x	o		x	0.3		-	Based on the combined dataset of barley straw, wheat straw, maize fodder
Prochloraz	40	2004	-	x	o		x	40		DW	Based on the data on barley, rye and wheat straw.
Prothioconazole	4	2009	-	x	o		x	4		DW	Based on the combined dataset of barley and wheat straw (2008 JMPR evaluated the data on barley, oat, rye, triticale and wheat straw)(see also AS 0164)
Pyraclostrobin	30	2004	-	o	o		o**?**	30		DW	*On a dry weight basis.* Based on hay of barley and wheat. Data were also available for straw of barley and wheat. Confirmed by the 2011 JMPR.
Triadimefon	5 Except maize	2007	PR	x	o		x	5		-	Based on triadimefon and triadimenol uses
Triadimenol	5 Exceptmaize	2007	PR	x	o		x	5			Based on the combined dataset of barley, oat, rye and wheat straw after foliar treatment.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.3 AS 0162 Hay or fodder (dry) of grasses

- Where there is any information on the data, all the MRLs are based on hay data as the data submitted were on hay only.
- The commodity name may be changed to “hay of grasses” without referring to “fodder”

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	400	1998	PR	o	x		400	x		-	Based on data on Bermuda grass, Fescue, Kentucky bluegrass, Mixed grass and Rangeland grass
Aminocyclopyrachlor	150	2014	-	o	x		150	x		DW	*Included in the recommendation table but not in the body of the 2014 JMPR Evaluation.*
Aminopyralid	70	2006	-	o	x		70	x		DW	
Bentazone	2	2013	PR	o	x		2	x		DW	
Dicamba	30	2010	-	o	x		30	x			
Diflubenzuron	3	2011	-	o	x		3	x		-	Based on the combined dataset of barley and wheat hay.
Flumioxazin	0.02(*)	2015	-	x	x		x	x		x	*Not in the body of 2015 Evaluation, Report or Annex I. However, there are descriptions and MRL recommendation for wheat hay at 0.02 (*) mg/kg.*
Glyphosate	500	2005	PR	o	x		500	x		DW	
Imazapic	3	2013	-	o	x		3	x		-	
Imazapyr	6	2015	-	o	x		6	x		DW	
MCPA	500	2012	-	o	x		500	x		DW	
Pendimethalin	2500(dw)	2016	-	o	x		2500	x		DW	
Saflufenacil	30	2016	-	o	x		30	x		DW	*On a dry weight basis*

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.4 AS 0163 Straw of cereal grains

- Only one MRL, insufficient for analysis. Based on straw data.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Aminopyralid	0.3	2006	-	x	o		x	0.3		DW	Based on the combined dataset of barley, oat and wheat straw and extrapolated to triticale.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.5 AS 0164 Fodder (dry) of cereal grains

- Only two MRLs, insufficient for analysis but both are based on hay data.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Aminopyralid	3	2006	-	o	x		3	x		DW	Based on wheat hay.
Prothioconazole	5	2009	-	o	x		5	x		DW	Based on the combined dataset of barley and wheat hay. (see AS 0081)

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.6 AS 0640 Barley straw and fodder, dry

- The majority of MRLs are based on straw data.
- Where there are data for both hay and straw, MRLs are based on hay data.
- There are a number of MRLs based on combined dataset of barley and wheat and/or other cereals.
- There is on MRL based on rotational crop data.
- For only one pesticide, data were submitted for hay only. For all others straw data were available.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	x		o**?**	0.3		DW	Extrapolated from follow-up oat straw
Aldicarb	0.05	1994	PR	x	o		x	0.05		-	Based on barley and wheat straw.
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	*On a dry weight basis*. Based on the combined dataset of barley and wheat straw
Benzovindiflupyr	15(dw)	2016	-	o	o		o	15		DW	Based on the combined dataset of barley and wheat hay
Bicyclopyrone	0.8(dw)	2017	-	o	o		0.8	o		DW	Based on residues in wheat hay.
Bifenthrin	0.5	2010		x	o		x	x		x	*The 2010 JMPR withdrew the previous MRL of 0.5 mg/kg as no GAP was submitted. CCPR 43 decided to retain the CXL for 4 years. CCPR 48 agreed to retain awaiting the 2018 JMPR.*
Bitertanol	0.05(*)	1999	-	x	o		x	0.05		-	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20(dw)	2016	-	x	o		x	20		DW	Based on a combined dataset of barley and wheat straw

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Boscalid	50	2009	-	x	o		x	50		DW	*On a dry weight basis.* Based on the combined dataset of barley and wheat straw.
Carbendazim	2C	1998	PR	x	o		x	2		-	
Chlormequat	50(dw)	2017	PR	x	o		x	50		DW	
Clothianidin	0.2T,c	2010	-	x	o		x	0.2		DW	
Dicamba	50	2010	-	x	o		x	50		DW	Based on the combined dataset of barley and wheat straw.
Diquat	40(dw)	2018	PR	x	o		x	40		DW	Based on the combined dataset of straw of barley, oat and wheat. The GAP was common for barley, rye and triticale.
Disulfoton	3	1991	-	x	o		x	3		-	*Only in the recommendation table for AS 0640 Barley straw*
Dithiocarbamates	25C,n	1993	PR	x	x		x	25		-	
Ethephon	7(dw)	2015	PR	x	o		x	7		DW	
Famoxadone	5	2003	-	x	o		x	5		DW	
Fenbuconazole	3	1997	-	x	o		x	3		-	
Fenpropimorph	0.5	2017	PR	x	o		x	0.5		-	Based on a combined dataset of barley and wheat straw
Fluopyram	2	2017	-	x	o		x	2		DW	*On a dry weight basis*
Fluxapyroxad	30	2012	-	o	o		30	o		DW	Extrapolated from wheat hay
Glyphosate	400	2005	PR	x	o		x	400		DW	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Imazalil	0.01	2018	PR	o	o		0.01	0.01		DW	Based on residues in straw and whole plant without roots
Imazamox	0.05(dw)	2017	-	x	o		x	0.05		DW	
Imazapyr	0.05(dw)	2017	-	x	o		x	0.05		DW	
Imidacloprid	1	2002	-	x	o		x	1		DW	Based on straw of barley, oat, triticale and wheat.
Isopyrazam	15(dw)	2017	-	x	o		x	15		DW	Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	o	o		50	x		DW	*On a dry weight basis*. Extrapolated from wheat hay data.
Methiocarb	0.05	2005	-	o	x		0.05	x		DW	
Metrafenone	6	2014	-	x	o		x	6		DW	
Oxydemeton-Methyl	0.1	2004	-	x	o		x	0.1		-	Based on barley and wheat straw
Penthiopyrad	80(DM)	2012	-	o	o		80	o		DW	Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7(dw)	2017	-	o	o		7	o		DW	Based on a combined dataset of barley hay and wheat hay.
Pinoxaden	3(dw)	2016	-	o	o		3	o		DW	Based on the combined dataset of barely and wheat hay.
Propiconazole	8	2014	PR	o	o		8	o		-	Based on barley hay
Quintozene	0.01(*)	1998	PR	x	o		x	0.01			

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Saflufenacil	10	2016	-	x	o		x	10		DW	*On a dry weight basis.* Based on the combined dataset of barley and wheat straw.
Sulfoxaflor	3	2011	PR	o	o		o	3		DW	Based on wheat straw residues (higher than barley hay/straw and wheat hay)
Tebuconazole	40	2011	PR	x	o		x	40		DW	Based on barley straw (highest among straw of barley, rye and wheat, and hay of wheat)
Thiamethoxam	2	2010	-	x	o		x	2		DW	
Trifloxystrobin	7	2004	-	x	o		x	7		DW	
Trinexapac-ethyl	0.9	2013	-	o	o		0.9	o		DW	Based on wheat hay

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.7 AS 0647 Oat straw and fodder, dry

- More than half of the MRLs are extrapolated from wheat or barley. However in one case, data on follow up oat straw is used for extrapolation to other cereals.
- Most of MRLs are based on straw data.
- Where there are data for both hay and straw, the MRL is based on hay data (one case).

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	o	o		o	0.3		DW	Only dry weight basis. Based on follow-up oat straw. It was extrapolated to barley, buckwheat, millet, rye and teosinte as well as to triticale (not included in Annex I or the database)
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	*On a dry weight basis*. Extrapolated from the combined dataset of barley and wheat straw
Benzovindiflupyr	15(dw)	2016	-	o	o		15	o**?**		DW	Extrapolated. Based on the combined dataset of "barley hay" and "wheat hay"
Bitertanol	0.05(*)	1999	-	x	o		x	0.05		-	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20(dw)	2016	-	x	o		x	20		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
Boscalid	50	2009	-	x	o		x	50		DW	Extrapolated. Based on the combined dataset of barley and wheat straw.
Chlormequat	7(dw)	2017	PR	x	o		x	7		DW	
Disulfoton	0.05	1991	-	x	o		x	0.05		-	Only in recommendation table for AL 0647 Oat straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Fenpropimorph	0.5	2017	PR	x	o		x	0.5		-	Extrapolated. Based on the combined dataset of barley and wheat straw
Fluopyram	2	2017	-	x	o		x	2		DW	*On a dry weight basis* Extrapolated from the barley straw data
Fluxapyroxad	30	2012	-	x	x		30	o**?**		DW	Extrapolated from wheat hay data.
Glyphosate	100	2005	PR	x	o		x	100		DW	
Imidacloprid	1	2002	-	x	o		x	1		DW	Based on straw of barley, oat, triticale and wheat.
MCPA	50	2012	-	x	x		50	o**?**		DW	*On a dry weight basis*. Extrapolated from wheat hay data.
Metrafenone	6	2014	-	x	x		x	6		DW	Extrapolated from barley straw
Penthiopyrad	80(DM)	2012	-	x	x		80	o		DW	Extrapolated. Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7(dw)	2017	-	x	x		7	o**?**		DW	Extrapolated from MRL for barley and wheat straw and fodder, dry (based on the combined dataset of barley and wheat hay)
Propiconazole	8	2014	PR	o	o		8	?		-	Extrapolated from oat hay
Trinexapac-ethyl	0.9	2013	-	x	x		0.9	o**?**		DW	Extrapolated from wheat hay

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.8 AS 0650 Rye straw and fodder, dry

- The majority of MRLs are extrapolated from barley and wheat (and/or other cereals)
- One MRL is based on rotational crop study on oat.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	o	o		x	0.3		DW	*On a dry weight basis*. Extrapolated from follow-up oat straw
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	*On a dry weight basis*. Extrapolated from the combined dataset of barley and wheat straw
Benzovindiflupyr	15(dw)	2016	-	o	o		15	x		DW	Extrapolated. Based on the combined dataset of barley wheat hay
Bitertanol	0.05(*)	1999	-	x	o		x	0.05		-	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20(dw)	2016	-	x	o		x	20		DW	Extrapolated. Based on the combined dataset of barley and wheat straw
Boscalid	50	2009	-	x	o		x	50		DW	Extrapolated. Based on the combined dataset of barley and wheat straw.
Chlormequat	20(dw)	2017	PR	x	o		x	20		DW	
Diquat	40(dw)	2018	PR	x	o		x	40		DW	Extrapolated. Based on the combined dataset of straw of barley, oat and wheat. The GAP was common for barley, rye and triticale.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Ethephon	7(dw)	2015	PR	x	x		x	7		-	Extrapolated from barley straw
Fenpropimorph	0.5	2017	PR	x	o		x	0.5		-	Extrapolated. Based on the combined dataset of barley and wheat straw
Fluopyram	23	2017	-	x	x		?	23		DW	*On a dry weight basis* Extrapolated from MRL for wheat straw and fodder, dry (based on straw data)
Fluxapyroxad	30	2012	-	x	x		30	x		DW	Extrapolated from wheat hay data
Imidacloprid	1	2002	-	x	o		x	1		DW	Based on straw of barley, oat, triticale and wheat (extrapolated?)
Isopyrazam	15(dw)	2017	-	x	o		x	15		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	x	x		50	x		DW	*On a dry weight basis*. Extrapolated from wheat hay data.
Metrafenone	10	2014	-	x	x		x	10		DW	Extrapolated from wheat straw
Oxydemeton-Methyl	0.1	2004	-	x	o		X	0.1		-	Extrapolated from barley and wheat straw
Penthiopyrad	80(DM)	2012	-	x	x		80	o		DW	Extrapolated. Based on the combined dataset of barley and wheat hay.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Picoxystrobin	7(dw)	2017	-	x	x		7	○**?**		DW	Extrapolated from MRL for barley and wheat straw and fodder, dry (based on the combined dataset of barley and wheat hay)
Propiconazole	15	2014	PR	○	x	x	15	?		-	Extrapolated from wheat hay
Tebuconazole	40	2011	PR	x	○		x	40		DW	Based on barley straw (highest among straw of barley, rye and wheat, and hay of wheat)

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.9 AS 0653 Triticale straw and fodder, dry

- The majority of MRLs are extrapolated from barley and wheat (and/or other cereals)

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	*On a dry weight basis*. Extrapolated from the combined dataset of barley and wheat straw
Benzovindiflupyr	15(dw)	2016	-	o	o		15	x		DW	Extrapolated. Based on the combined dataset of "barley hay" and "wheat hay"
Bitertanol	0.05(*)	1999	-	x	o		x	0.05		DW	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg. Extrapolated
Bixafen	20(dw)	2016	-	x	o		x	20		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
Chlormequat	80(dw)	2017	PR	x	o		x	80		DW	Based on the residue data on wheat straw adjusted to the GAP for triticale.
Diquat	40(dw)	2018	PR	x	o		x	40		DW	Extrapolated. Based on the combined dataset of straw of barley, oat and wheat. The GAP was common for barley, rye and triticale.
Ethephon	7(dw)	2015	PR	x	x		x	7		-	Extrapolated from barley straw
Fenpropimorph	0.5	2017	PR	x	o		x	0.5		-	Extrapolated. Based on the combined dataset of barley and wheat straw

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Fluopyram	23	2017	-	x	o		x	23		DW	*On a dry weight basis* Extrapolated from MRL for wheat straw and fodder, dry (based on straw data)
Fluxapyroxad	30	2012	-	x	x		30	x		DW	Extrapolated from wheat hay data
Imazalil	0.01	2018	PR	x	x		0.01	0.01		DW	Based on data on barley straw and whole plant without roots
Isopyrazam	15(dw)	2017	-	x	o		x	15		DW	Extrapolated. Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	x	**x**		50	x		DW	*On a dry weight basis*. Extrapolated from wheat hay data.
Metrafenone	10	2014	-	x	x		x	10		DW	Extrapolated from wheat straw
Penthiopyrad	80(DM)	2012	-	x	x		80	x		DW	Extrapolated. Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7(dw)	2017	-	x	x		7	x		DW	Extrapolated from MRL for barley and wheat straw and fodder, dry (based on the combined dataset of barley and wheat hay)
Propiconazole	15	2014	PR	x	x		15	?		-	Only in the recommendation table. Possibly extrapolated from wheat hay.
Saflufenacil	10	2016	-	x	x		x	10		DW	Extrapolated. *On a dry weight basis*. Based on the combined dataset of barley and wheat straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Trinexapac-ethyl	0.9	2013	-	x	x		0.9	o		DW	Extrapolated from wheat hay

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

Special note:

- For acetochlor, an MRL for oat straw and fodder, dry was extrapolated to triticale straw and fodder, dry by the 2015 JMPR, but not in the Codex database.
- For imidacloprid, an MRL was proposed by the 2002 JMPR at 1 mg/kg based on the data on barley, oat, triticale and wheat, but not in the Codex database
- For fenbuconazole, an MRL was proposed by the 1997 JMPR (body of the 1997 JMPR Report) based on the residue data on wheat straw and fodder, dry. However, the MRL for rye straw and fodder, dry is not in the recommendation table of the 1997 JMPR.

2.10 AS 0654 Wheat straw and fodder, dry

- Most of MRLs are based on straw data.
- Where there are data on both hay and straw, the majority of MRLs are based on hay data but others on straw data .
- Where there are any data, straw data were submitted for all the pesticides.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	100	1998	PR	x	o		x	100		-	
Acetochlor	0.2	2015	-	x	o		x	0.2		DW	*On a dry weight basis*. Based on follow-up "wheat straw"
Aldicarb	0.05	1994	PR	x	o		x	0.05		-	Based on barley and wheat straw.
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	*On a dry weight basis*. Based on the combined dataset of barley and wheat straw
Benzovindiflupyr	15(dw)	2016	-	o	o		o	15		DW	Based on the combined dataset of "barley hay" and "wheat hay"
Bicyclopyrone	0.8(dw)	2017	-	o	o		o**?**	0.8		DW	Based on residues in barley hay
Bitertanol	0.05(*)	1999	-	x	o		x	0.05		DW	Based on the residues in straw of barley, oat, rye and wheat <0.05 mg/kg.
Bixafen	20(dw)	2016	-	x	o		x	20		DW	Based on a combined dataset of barley and wheat straw
Boscalid	50	2009	-	x	o		x	50		DW	Based on the combined dataset of barley and wheat straw.
Carbaryl	30	2002	PR	x	o		x	30		DW	*On a dry weight basis*
Carbendazim	1B,C	1998	PR	x	o		x	1		-	
Chlormequat	80(dw)	2017	PR	x	o		x	80		DW	
Chlorpyrifos	5	2000	PR	x	o		x	5		DW	
Clothianidin	0.2T,c	2010	-	x	o		x	0.2		DW	
Dicamba	50	2010	-	x	o		x	50		DW	Based on the combined dataset of barley and wheat straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Difenoconazole	3	2007	-	x	o		x	3		-	
Dimethoate	1	2003	PR	x	o		x	1		DW	*On a dry weight basis*.
Disulfoton	5	1998	-	x	o		x	5		-	
Dithiocarbamates	25C,n,m	1993	PR	x	o		x	25		-	Based on mancozeb use.
Esfenvalerate	2	2002	-	x	o		x	2		DW	
Ethephon	7(dw)	2015	PR	x	o		x	7		DW	Extrapolated from barley straw.
Famoxadone	7	2003	-	x	o		x	7		DW	
Fenbuconazole	3	1997	-	x	o		x	3		-	*This MRL was extrapolated to rye straw and fodder, dry according to the 1997 JMPR Report but the MRL for rye straw and fodder, dry Is not in the recommendation table.*
Fenpropimorph	0.5	2017	PR	x	o		x	0.5		-	Based on the combined dataset of barley and wheat straw
Flonicamid	0.3	2015	-	x	o		x	0.3		-	
Flumioxazin	7(dw)	2015	-	o	o		0.02*	7		DW	Based on straw. *There is another recommendation for wheat hay at 0.02* mg/kg.*
Fluopyram	23	2017	-	o	o		o	23		DW	*On a dry weight basis* Based on straw data
Flutriafol	8	2011	-	x	o		x	8		-	
Fluxapyroxad	30	2012	-	o	o		x	30		DW	Based on hay data
Glyphosate	300	2005	PR	x	o		x	300		DW	
Imazalil	0.01	2018	PR	x	**x**		0.01	0.01		DW	Based on barley straw and whole plant without roots; to replace the current Codex MRL of 0.1 mg/kg.
Imazamox	0.05(*)	2014	-	o	o		0.05(*)	0.05(*)		AR	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Imazapic	0.05(*)	2013	-	x	o		x	0.05(*)		-	
Imazapyr	0.05(*)	2013	-	x	o		x	0.05(*)		-	
Imidacloprid	1	2002	-	x	o		x	1		DW	Based on straw of barley, oat, triticale and wheat
Isopyrazam	15(dw)	2017	-	x	o		x	15		DW	Based on a combined dataset of barley and wheat straw
MCPA	50	2012	-	o	o		x	50		DW	Based on wheat hay data
Methiocarb	0.05	2005	-	x	o		x	0.05		DW	
Methomyl	5	<1991		x	x		?	?		?	*There is another MRL for "AS 0161 Straw, fodder (dry) and hay of cereal grains and other grass-like plants" at 10 mg/kg recommended by the 2001 JMPR, which should cover wheat straw and fodder, dry.* *The MRL was adapted in 1991 and should have been replaced by the one for AS 0161.*
Metrafenone	10	2014	-	x	o		x	10		DW	
Oxydemeton-Methyl	0.1	2004	-	x	o		x	0.1		-	Based on barley and wheat straw.
Penthiopyrad	80(DM)	2012	-	o	o		80	x		DW	Based on the combined dataset of barley and wheat hay.
Picoxystrobin	7(dw)	2017	-	o	o		x	7		DW	Based on a combined dataset of barley hay and wheat hay.
Pinoxaden	3(dw)	2016	-	o	o		3	o		DW	Based on the combined dataset of barely and wheat hay.
Propiconazole	15	2014	PR	o	o		x	15		-	Based on wheat hay.
Quintozene	0.03	1998	PR	x	o		x	0.03		-	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Saflufenacil	10	2016	-	x	o		x	10		DW	*On a dry weight basis.* Based on the combined dataset of barley and wheat straw.
Spinosad	1	2001	-	o	o		x	1		DW	*On a dry weight basis.* Based on the combined dataset of hay and straw.
Sulfoxaflor	3	2011	PR	o	o		o	3		DW	*On a dry weight basis.* Based on wheat straw residues (higher than barley hay/straw and wheat hay)
Tebuconazole	40	2011	PR	o	o		o	40		DW	Based on barley straw (highest among straw of barley, rye and wheat, and wheat hay)
Thiacloprid	5	2006	-	x	o		x	5		DW	
Thiamethoxam	2	2010	-	x	o		x	2		DW	
Trifloxystrobin	5	2004	-	x	o		x	5		DW	
Trinexapac-ethyl	0.9	2013	-	o	o		o**?**	0.9		DW	Based on wheat hay data

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.11 AS 0649 Rice straw and fodder, dry

- Except one pesticide, all other MRLs are based on straw data.
- Except that one, for which hay data were available, straw data were submitted for all other pesticides.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	10	1998	PR	x	o		x	10		-	
Abamectin	0.001	2015	PR	x	o		x	0.001		-	Whole plants including grain with husks were analyzed.
Acephate	0.3	2011	PR	x	o		x	0.3		-	
Carbaryl	120	2002	PR	x	o		x	120		DW	*On a dry weight basis*
Carbendazim	15C	1998	PR	x	o		x	15		DW	
Carbofuran	1	2002	PR	o	x		1	x		DW	
Carbosulfan	0.05(*)	2003		x	o		x	0.05(*)?		-	*The 2003 JMPR Report indicates, "too few trials to make a recommendation."* *However, the residues from 2 trials were <0.01 mg/kg.*
Cyantraniliprole	1.7(dw)	2018	-	x	o		x	1.7		DW	
Cycloxydim	0.09	2012	PR	x	o		x	0.09(*)		DW	
Difenoconazole	17(dw)	2017	-	x	o		x	17		DW	
Diflubenzuron	0.7	2002	PR	x	o		x	0.7		DW	
Dinotefuran	6	2012	-	x	o		x	6		-	
Etofenprox	0.05	2011	PR	x	o		x	0.05		-	
Fipronil	0.2	2001	PR	x	o		x	0.2		DW	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Fluopyram	17	2017	-	o	o		o	17		DW	*On a dry weight basis*. Based on residues in straw
Flutolanil	10	2002	-	x	o		x	10		DW	
Fluxapyroxad	50(dw)	2015	-	x	o		x	50		DW	
Glufosinate-Ammonium	2	2012	PR	x	o		x	2		AR	
Imazamox	0.01(*)	2014	-	x	o		x	0.01(*)		AR	
Imazethapyr	0.15(*)(dw)	2016	-	x	o		x	0.15(*)		DW	
Methamidophos	0.1	2011	-	x	o		x	0.1			Based on the use of acephate
Paraquat	0.05	2009	PR	x	o		x	0.05		-	
Pyraclostrobin	5(dw)	2018	-	x	o		x	5		DW	
Quinclorac	8(dw)	2017	-	x	o		x	8		DW	
Spinetoram	1.5	2017	-	x	o		x	1.5		DW	*On a dry weight basis.*
Sulfoxaflor	20	2018	-	x	o		x	20		-	
Trifloxystrobin	10	2004	-	x	o		x	10		DW	
Triflumezopyrim	0.4(dw)	2017	-	x	o		x	0.4		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.12 AS 0646 Millet fodder, dry

- MRLs are extrapolated or based on rotational crop data.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	**x**		x	0.3		DW	*On a dry weight basis*. Based on follow-up oat straw.
Bentazone	0.3	2013	PR	x	o		x	0.3		DW	*On a dry weight basis*. Extrapolated from the combined dataset of barley and wheat straw
Penthiopyrad	10(DM)	2012	-	x	o		x	10		DW	Extrapolated. Based on sorghum stover

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.13 AS 0651 Sorghum straw and fodder, dry

- Most of MRLs are based on stover data.
- Where there is information, data on straw were available for all but one pesticides.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Aldicarb	0.5	1994	PR	x	o		x	0.5		-	
Azoxystrobin	30	2013	-	x	o		x	30		DW	*On a dry weight basis.* Based on stover
Carbofuran	0.5	1997	PR	x		o	x	0.5		DW	
Chlorpyrifos	2	2000	PR	x	o		x	2		DW	Based on stover
Clothianidin	0.01(*)C	2010	-	x	o		x	0.01(*)		DW	Based on stover
Dicamba	8	2010	-	x	o		x	8		DW	Based on stover
Dimethenamid-P	0.01(*)	2005	-	x	o		x	0.01(*)		-	Fodder means the mature plant (without roots) except grain, sampled at normal grain harvest.
Flutriafol	7	2015	-		o		x	7		DW	Based on stover
Fluxapyroxad	7(dw)	2015	-	x	o		x	7		DW	Based on stover
Glyphosate	50	2005	PR	o	o		x	50		DW	Based on stover
Paraquat	0.3	2004	PR	o		o	0.3?	x	0.3?	DW	*On a dry weight basis.* Based on hay or fodder data whichever higher.
Penthiopyrad	10(DM)	2012	-	x	o		x	10		DW	Based on stover
Permethrin	20	<1991		?	?		?	?		?	
Saflufenacil	0.05	2011	PR	x	o		x	0.05		-	
Sulfoxaflor	0.7	2018	-	x	o		x	0.7		-	Based on stover
Terbufos	0.3	2005	PR	x	o		x	0.3		DW	*On a dry weight basis.* Based on stover.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.14 AS 0645 Maize fodder (dry)

- Most of MRLs are based on stover.
- Where information is available, data were submitted for straw/stover for all the pesticides except one
- For that one pesticide, hay data were available but for all others hay data were not available
- It may be possible to use the term “stover” clearly defined or some related term.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
2,4-D	40	1998	PR	x		o	x	40		-	
Aldicarb	0.5	1994	PR	o	x		0.5?	x		DW	Based on stover.
Azoxystrobin	40	2008	-	x	x	o	x	x	40	DW	
Bentazone	0.4	2013	PR	x	o		x	0.4		DW	*On a dry weight basis*
Bicyclopyrone	0.5	2017	-	x	o		x	0.5		DW	*On a dry weight basis.* Based on a combined dataset of corn crops (stover)
Bifenthrin	15	2010	PR	x	o		x	15		DW	
Carbaryl	250	2002	PR	x	o		x	250		DW	*On a dry weight basis*. Based on stover of field corn and sweet corn
Chlorpyrifos	10	2000	PR	x	o		x	10		DW	Based on stover. Data on sweet corn stover were available but with lower residues.
Clothianidin	0.01(*)T	2010	-	x	o		x	0.01(*)		DW	Based on stover
Cycloxydim	2	2012	PR	x	o		x	2		DW	Based on stover (rest of plant without roots)
Cyproconazole	2	2010	-	x	o		x	2		-	
Dicamba	0.6	2010	-	x	o		x	0.6		DW	Based on stover
Dimethenamid-P	0.01(*)	2005	-	x	o		x	0.01(*)		-	Fodder means mature stalks and leaves, without cobs sampled at normal harvest
Disulfoton	3	1991	-	x	o		x	3		DW	*On a dry weight basis.*
Dithiocarbamates	2C	1993	PR	x	o		x	2		-	

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Fenpyroximate	5	2017	PR	x	o		x	5		-	Based on stover
Fipronil	0.1	2001	PR	x	o		x	0.1		DW	
Flumioxazin	0.02(*)	2015	-	x	o		x	0.02(*)		DW	Based on stover.
Fluopyram	18	2017	-	x	o		x	18		DW	*On a dry weight basis*. Based on residues in stover
Flutriafol	20	2015	-	x	o		x	20		DW	Based on stover.
Fluxapyroxad	15	2012	-	x	o		x	15		DW	Based on stover
Glufosinate-Ammonium	8	2012	PR	x	o		x	8		AR	*On a fresh weight basis.* Based on stover.
Glyphosate	150	2005	PR	x	o		x	150		DW	Based on stover
Imazethapyr	0.1(*)(dw)	2016	-	x	o		x	0.1(*)		DW	
Imidacloprid	0.2	2002	-	x	o		x	0.2		DW	Based on stover
Indoxacarb	25	2005	-	x	o		x	25		DW	Based on sweet corn stover data
Isoxaflutole	0.02(*)	2013	-	x	o		x	0.02(*)		-	Based on stover (plant after removal of cobs/kernels)
MCPA	0.3	2012	-	x	o		x	0.3		DW	Based on stover
Methoxyfenozide	60	2003	-	x	o		x	60		DW	*On a dry weight basis*. Based on sweet corn stover
Oxathiapiprolin	0.01(*)	2018	-	x	o		x	0.01(*)		-	Based on stover
Paraquat	10	2004	PR	x		o	x		10	DW	*On a dry weight basis.* Based on fodder
Penthiopyrad	10(DM)	2012	-	x	o		x	10		DW	Extrapolated. Based on sorghum stover data
Permethrin	100	<1991		?	**?**		?	?		?	*No information found*
Picoxystrobin	20(dw)	2017	-	x	o		x	20		DW	Based on stover
Prothioconazole	15	2017	-	x	o		x	15		DW	*On a dry weight basis.* Based on the combined dataset of maize and sweet corn stover.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Quintozene	0.01	1998	PR	x		o	x	0.01		YY	
Saflufenacil	0.05	2011	PR	x	o		x	0.05		-	
Spinosad	5	2001	-	x	o		x	5		DW	Based on sweet corn stover
Spiromesifen	6	2016	-	x		(stover)	x	6		DW	*On a dry weight basis*.
Sulfoxaflor	0.6	2018	-	x	o		x	0.6		-	Based on stover
Terbufos	0.2	2005	PR	x	o		x	0.2		DW	*On a dry weight basis* Based on stover
Thiamethoxam	0.05	2010	-	x	o		x	0.05		DW	
Tioxazafen	0.03(DM)	2018	-	x	o		x	0.03		DW	Based on stover
Trifloxystrobin	10	2004	-	x	o		x	10		DW	

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

Special note: The 2010 JMPR recommended an MRL for maize fodder at 25 mg/kg (dw) based on maize stover data. The recommendation is in the body of the 2010 Report and the recommendation table but not in the Codex database.

2.15 AS 0447 Sweet corn fodder

- Mostly based on stover.
- There are 9 MRLs whose information was not found in the JMPR Evaluations or Reports. There was no record of adaption of these MRLs by the Commission. After further investigation using the reports of the Codex Alimentarius Commission and CCPR, and working documents prepared for CCPR sessions containing MRLs, it was found that these MRLs seem inadvertently replaced the MRLs for AB 0226 Apple pomace, dry (adapted by the Commission) at the same values. This problem shall be solved even though this problem does not relate to the revision of classification.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetamiprid	40	2015	-	x	o		x	40		DW	*On a dry weight basis.* Based on stover
Acetochlor	1.5	2015	-	x	o		x	1.5		DW	*On a dry weight basis.* Based on stover.
Bicyclopyrone	0.5 (dw)	2017	-	x	o		x	0.5		DW	Based on the combined dataset of corn crops (stover)
Difenoconazole	0.01 (*) (dw)	2017	-	x	o		x	0.01*		DW	Based on stover
Fenarimol	5	1995 1996		x	x		?	?		?	*The Codex database includes this MRL. No information was found in JMPR Evaluations. There is an MRL for AB 0226 apple pomace, dry at the same value.*
Fenbuconazole	1	2009		x	x		?	?		?	*The Codex database indicates the CXL as recommended by the 2009 JMPR. However, no description is found in the body and recommendation table of the 2009 JMPR. There is an MRL for AB 0226 apple pomace, dry at the same value.*

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Fludioxonil	20	2005		x	x		?	?		?	*The Codex database includes this MRL. Neither the recommendation table of the 2004 JMPR or 2006 JMPR Evaluation includes MRL for sweet corn fodder. The body of the 2004 JMPR Report mentions sweet corn fodder without recommendation. There is an MRL for AB 0226 apple pomace, dry at the same value.*
Flusilazole	2	2007		x	x		?	?		?	*While the Codex database includes this CXL from the 2007 JMPR, there is no description about this in the body or recommendation table of the 2007 JMPR Report. There is an MRL for AB 0226 apple pomace, dry at the same value.*
Imidacloprid	5	2002		x	x		?	?		?	*While the Codex database includes this MRL, there is no description about sweet corn fodder in the 2002 JMPR Evaluation. There is an MRL for AB 0226 apple pomace, dry at the same value.*
Methoxyfenozide	7	2003		x	x		?	?		?	*On a dry weight basis.* Based on stover (not in the recommendation table). *There is an MRL for AB 0226 apple pomace, dry at the same value.*

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Novaluron	40	2005		x	x		?	?		?	*While the Codex database includes this MRL, No description in the body or recommendation table of the 2005 JMPR Evaluation. There is an MRL for AB 0226 apple pomace, dry at the same value.*
Permethrin	50	<1991		?	?		?	?		?	No information was found
Prothioconazole	15	2014	-	x	o		x	15		DW	*On a dry weight basis.* Based on the combined dataset of maize and sweet corn stover.
Pyrimethanil	40	2007		x	x		x	x		?	*The Codex database includes this CXL from the 2007 JMPR. However, there is no description about this MRL in the body or recommendation table of the 2007 JMPR Evaluation. There is an MRL for AB 0226 apple pomace, dry at the same value.*
Spinetoram	0.15	2017	-	x	o		x	0.15		DW	*On a dry weight basis.* Based on stover
Spirodiclofen	4	2009		x	x		x	x		?	*The Codex database includes this CXL from the 2009 JMPR. However, neither the body nor the recommendation table includes any description about sweet corn fodder. There is an MRL for AB 0226 apple pomace, dry at the same value.*

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.16 AS 0657 Teosinte fodder

- Only one MRL, insufficient for analysis. Extrapolation from follow-up oat straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	x		x	0.3		DW	*On a dry weight basis.* Extrapolated from the MRL from follow-up oat straw.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

2.17 AS 0641 Buckwheat fodder

- Only one MRL, insufficient for analysis. Extrapolation from follow-up oat straw.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Acetochlor	0.3	2015	-	x	x		x	0.3		DW	*On a dry weight basis*. Extrapolated from MRL from follow-up oat straw.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

3. AM Group: Miscellaneous Fodder and Forage (Fodder)

Where there is a footnote referring to another group, subgroup or commodity, that commodity is not included in this group.

Code		Commodity name	Table Number in the Annex
AM	0165	Miscellaneous fodder and forage crops	-
AM	0353	Pineapple fodder	-
AM	0497	Swedish turnip or Swede fodder	-
AM	0506	Turnip fodder	3.3
AM	0659	Sugar cane fodder	3.2
AM	0691	Cotton fodder, dry	3.1
AM	0738	Mint hay	Excluded from this Annex
AM	1051	Fodder beet	Excluded from this Annex
AM	5255	Mangel or Mangold	-
AM	5256	Mangoldwurzel	-

3.3 AM 0691 Cotton fodder, dry

- This MRL should be moved under “cotton gin trash”.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if “fodder” is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Indoxacarb	20	2005	-	x	o		x	20		DW	*Based on cotton gin trash data*

a/ “PR”: Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, “?”.

c/ If the commodity “fodder” is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

3.2 AM 0659 Sugar cane fodder

- Need to consider whether to retain these MRLs which are based on sugar cane forage.

Pesticide	MRL (mg/kg)				JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
							Hay	Straw	Fodder	Hay	Straw	Fodder		
Ethoprophos	0.02	(*)			2003	PR	x	o		x	0.02(*)		-	*Recommended for sugar cane forage*
Isoxaflutole	0.01	(*)			2013	-	x	x		0.01(*)?	x		-	*Based on sugar cane forage*

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

3.3 AM 0506 Turnip fodder

- There is only one MRL, insufficient for analysis
- Based on rotational crop studies on root and tuber vegetables.

Pesticide	MRL (mg/kg)	JMPR (year)[a/]		Data available for[b/]:			MRL (mg/kg)[c/], if "fodder" is removed			Dry weight? [d/]	Note to MRL/ Description of commodities
				Hay	Straw	Fodder	Hay	Straw	Fodder		
Cyantraniliprole	0.02	2013	-	x	o		x	0.02		-	Based on rotational crop studies on root and tuber vegetables.

a/ "PR": Periodic Review.

b/ Data available (described) in the JMPR Evaluation. Description of hay, straw or fodder. If the description is not clear, "?".

c/ If the commodity "fodder" is removed, for what commodity(ies) MRL(s) should be recommended.

d/ DW, dry weight basis; and AR, as received.

APPENDIX XII

GUIDELINES FOR COMPOUNDS OF LOW PUBLIC HEALTH CONCERN THAT MAY BE EXEMPTED FROM THE ESTABLISHMENT OF CODEX MAXIMUM RESIDUE LIMITS OR DO NOT GIVE RISE TO RESIDUES

(At Step 5)

(For adoption by CAC)

PREFACE

1. Pesticides are substances used in agriculture to achieve health, quality and performance in crops through preventive and control of biotic factors that affect them. They include, inter alia, insecticides, fungicides, herbicides, acaricides, growth regulators, semiochemicals, and repellents.

2. Pesticides contain active substances that can be of chemical or biological origin.

3. Among pesticides of chemical origin there are synthetic and natural mineral substances and other natural substances.

4. Among pesticides of biological origin, a.k.a. Biopesticides, for the purpose of this Guidance Document, make reference to active substances based on microorganisms (Microbial pesticides), compounds made fr om plants like plant extracts (Botanical pesticides), pheromones (Semiochemicals) and substances of animal origin. Therefore, substances referred to as biofertilizers, bioregulators or biostimulants as well as invertebrates such as insects and nematodes or other macroorganisms are not covered by this Guidance Document.

5. Sometimes authorized uses of the pesticides on food crops result in residues. Codex Alimentarius has set Maximum Residue Limits (MRLs) for pesticides on specific foodstuffs or food groups traded internationally to protect the health of consumers in accordance with the recommendations of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR). Some countries establish their own MRLs as a result of the evaluations carried out by national or regional agencies on risk assessment.

6. Codex MRLs (CXLs) have been adopted based on the recommendations of the JMPR evaluations and in accordance with Good Agricultural Practices (GAP) data. Food resulting from commodities that comply with the MRLs will be toxicologically acceptable (are considered to be safe for consumers). The question whether an active substance fulfills one or more criteria with the aim to exempt the substance from the setting of Codex Maximum Residue Limits is the result of an evaluation of toxicology and residue behavior.

7. When authorized uses of pesticides do not produce residues or are identical and indistinguishable from certain natural components of the food commodities either considered to be of low or no toxicological significance, some regulations explicitly grant an exemption from the requirement to establish an MRL or state that an MRL is not required for the respective active substance or its authorized uses. However, there are no harmonized or internationally recognized criteria for MRL exemptions; further, there is not a harmonized list of active substances for which exemptions have been deemed appropriate.

8. These guidelines represent a first step toward harmonisation or international recognition of criteria for exempting active substances or their authorized uses of low public health concern from the requirement to establish MRLs.

SECTION 1. SCOPE

9. These guidelines apply without prejudice to any other provisions of the Codex Alimentarius Commission (CAC) establishing MRLs for pesticides on foodstuffs.

10. These guidelines aim to make use of the different criteria used by some countries and international organizations regarding the establishment of pesticides MRL exemption for active substances or their authorized uses, considered of low risk or low public health concern

11. These criteria are presented in an attempt to provide a consistent and harmonized approach for determining when an active substance or its authorized uses could be considered exempt from the establishment of CODEX MRLs.

12. These guidelines are intended to be used by the countries' competent authorities that do not have established criteria for the MRLs exemption for active substances or its authorized uses in their respective legislation.

SECTION 2. DEFINITIONS

13. **Acceptable daily intake (ADI):** It is the daily intake which, during an entire lifetime, appears to be without appreciable health risks to the consumer on the basis of all the known facts at the time of the evaluation. It is expressed in milligrams of the chemical per kilogram of body-weight.

14. **Acute Reference Dose (ARfD):** It is the estimate of the amount of a substance in food or drinking water, expressed on a body weight basis that can be ingested in a period of 24 h or less without apprec iable health risk to the consumer. It is derived on the basis of all the known facts at the time of evaluation. The ARfD is expressed in milligrams of the chemical per kilogram of body weight.

15. **Active substance/ingredient:** The component(s) of the product that directly or indirectly (metabolites) provides the pesticide action.

16. **Authorized use:** Authorized use refers to the safe use of a pesticide based upon a use pattern determined at national level. It includes domestically approved, registered or recommended uses, which take into account public and occupational health and environmental safety considerations.

17. **Basic Substance:** Active substance which is not a substance of concern; and does not have an inherent capacity to cause endocrine disrupting, neurotoxic or immunotoxic effects; and is not predominantly used for plant protection purposes but nevertheless is useful in plant protection either directly or in a product consisting of the substance and a simple diluent; and is not placed on the market as a pesticide (For example Calcium hydroxide, Lecithins).

18. **Biological pesticide (Biopesticide):** Active substances made from living or dead microorganisms such as bacteria, algae, protozoa, viruses and fungi (See Microbial pesticides), pheromones and other semiochemicals (See Semiochemicals pesticides), and plants or parts of plants (See botanical pesticides), designed to repel, destroy or control any pest or regulate the growth of plants (For example *Bacillus amyloliquefaciens* strain FZB24, *Trichoderma atroviride* strain).

19. **Botanical pesticide:** Active substances that consists of one or more components found in plants and obtained by subjecting plants or parts of plants of the same species to a process such as pressing, milling, crushing, distillation and/or extractions. The process may include further concentration, purification and/or blending, provided that the chemical nature of the components is not intentionally modified/altered by chemical and/or microbial processes (For example *Annona* spp. (Annonins, Squamocin), neem (Azadirachta indica)).

20. **Feed**: Any single or multiple materials, whether processed, semi-processed or raw, which is intended to be fed directly to food producing animals

21. **Food Group/Crop Group:** A collection of foods/crops subject to MRLs that have similar characteristics (for example Stone fruits) and similar potential for residue for which a common group MRL can be set. Representative commodities can be used to establish MRLs on an entire crop group or subgroup. The Codex classification of food and animal feed commodities describe the various food groups moving in trade and lists commodities included in each group.

22. **Good Agricultural Practice:** Good agricultural practice in the use of pesticides (GAP) includes the nationally authorized safe uses of pesticides under actual conditions necessary for effective and reliable pest control. It encompasses a range of levels of pesticide applications up to the highest authorized use, applied in a manner which leaves a residue which is the smallest amount practicable. Authorized safe uses are determined at the national level and include nationally registered or recommended uses, which take into account public and occupational health and environmental safety considerations. Actual conditions include any stage in the production, storage, transport, distribution of food commodities and animal feed.

23. **Joint FAO/WHO meeting on pesticide residues (JMPR):** The "Joint Meeting on Pesticide Residues" (JMPR) is an expert *ad hoc* body administered jointly by Food and Agriculture Organisation and World Health Organisation. The JMPR has met annually since 1963 to conduct scientific evaluations of pesticide residues in food. It provides advice on the acceptable levels of pesticide residues in internationally traded food. The JMPR consists of experts who attend as independent internationally recognized specialists acting in a personal capacity and not as representatives of national governments.

24. **Maximum residue limit (MRL):** A Maximum Residue Limit (MRL) is the maximum concentration of a pesticide residue (expressed as mg/kg), recommended by the Codex Alimentarius Commission to be legally permitted in or on food commodities and animal feeds. MRLs are based on good agricultural practice (GAP) data and foods derived from commodities that comply with the respective MRLs are intended to be toxicologically acceptable.

Codex MRLs which are primarily intended to apply in international trade, are derived from estimations made by the JMPR following:

(a) Toxicological assessment of the pesticide and its relevant metabolites; and

(b) Review of residue data from supervised trials and supervised uses including those reflecting national good agricultural practices. Data from supervised trials conducted at the highest nationally recommended, authorized or registered uses are included in the review. In order to accommodate variations in national pest control requirements, Codex MRLs take into account the higher levels shown to arise in such supervised trials, which are considered to represent effective pest control practices.

Consideration of the various dietary residue estimates and determinations both at the national and international level in comparison with the ADI and the ARfD, should indicate that foods complying with Codex MRLs are safe for human consumption.

25. **Microbial pesticide:** Active substances used for the control or management of pests such as invertebrates, weeds or microbial pathogens of crops, made from microorganisms such as bacteria, protozoa, fungi and viruses. They include complete organisms (either viable or non-viable), organelles of the organism, metabolites produced by the organism, spores of the organism or occlusion bodies.

26. **Background exposure:** Natural levels of substances and levels arising from past human activities present in the enviroment (e.g. agriculture), in situations relevant for the respective environmental compartment.

27. **Natural Substances:** Natural substances consist of one or more components that originate from nature, including but not limited to: plants, algae/microalgae, animals, minerals, bacteria, fungi, protozoans, viruses, viroids and mycoplasmas. They can either be sourced from nature or are nature identical synthesized or produced by micro - organisms. This definition excludes semiochemicals and microbials.

28. **Pest:** means any species, strain or biotype of plant, animal or pathogenic agent injurious to plants and plant products, materials or environments and includes vectors of parasites or pathogens of human and animal diseaseand animals causing public health nuisance.

29. **Pesticide:** Pesticide means any substance intended for preventing, destroying, attracting, repelling, or controlling any pest including unwanted species of plants or animal during the production, storage, transport, distribution and processing of food, agricultural commodities, or animal feeds or which may be administered to animals for the control of ectoparasites. The term includes substances intended for use as a plant growth regulator, defoliant, desiccant, fruit thinning agent, or sprouting inhibitor and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport. In these guidelines, the term excludes fertilizers, plant and animal nutrients, food additives, and animal drugs.

30. **Pesticide residue:** Pesticide Residue means any specified substance in food, agricultural commodities, or animal feed resulting from the use of a pesticide. The term includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological or ecotoxicological significance. The term "pesticide residue" includes residues from unknown or unavoidable sources (e.g. environmental contamination) as well as known, authorized uses of the chemical.

31. **Semiochemicals:** Active substances or mixtures of substances emitted by plants, animals, and other organisms that evoke a behavioural or physiological response in individuals of the same or other species. Different types of semiochemicals include:

- Allelochemicals produced by individuals of one species that modify the behaviour of individuals of a different species (i.e., an interspecific or interspecies effect). They include allomones (emitting species benefits), kairomones (receptor species benefits) and synomones (both species benefit).
- Pheromones produced by individuals of a species that modify the behaviour of other individuals of the same species (i.e. an intraspecific or intraspecies effect).
- Straight-chained lepidopteran pheromones (SCLPs) are a group of pheromones consisting of unbranched aliphatics having a chain of nine to eighteen carbons, containing up to three double bonds and ending in an alcohol, acetate or aldehyde functional group. This structural definition enc ompasses the majority of known pheromones produced by insects in the order Lepidoptera, which includes butterflies and moths.

SECTION 3. CRITERIA FOR THE RECOGNITION OF ACTIVE SUBSTANCES OR AUTHORIZED USES OF ACTIVE SUBSTANCES OF LOW PUBLIC HEALTH CONCERN THAT ARE CONSIDERED EXEMPTED FROM THE ESTABLISHMENT OF CODEX MAXIMUM RESIDUE LIMITS (CXLs)

32. To grant the exemption from the establishment of MRLs to an active substance and / or its authorized uses, active substances mandatorilly must meet the requirements indicated in Criterion 1 and must also meet the requirements indicated at least for one of the other criteria as appropriate.

33. Special consideration must be taken for those situations where the MRL exemption is linked to a certain pesticide GAP use.

34. It can be GAP dependent whether or not residues are expected; in case residues are expected or will occur according to GAP expected/measured residue levels have to be assessed in comparison with possible background levels.

35. Therefore, every time a new use is requested, this new use should be assessed with regard to its exemption from MRLs (whether or not the active substance has already been exempted from MRL setting).

36. According to the criteria proposed below, active substances or their authorized uses that after a risk assessment process are concluded that they do not have an immediate or delayed harmful effect on human or animal health, directly or through drinking water , foods, or through aggregate effects, may be exempted from setting MRLs.

Criterion 1. Basic substances and active substances without hazardous properties identified

37. Active substances and their relevant metabolites for which, according to risk assessments, it has been considered that it is not necessary to establish Guidance Values for Human Health (ADI/ARfD). It should be taken into account that there are active substances that do not have ADI / ARfD established because they are genotoxic substancesor due to lack of data to define these values.

38. Active substances and relevant metabolites that do not bioaccumulate or do not have the capacity to cause significantly toxic effects such as, corrosive, sensitizing, neurotoxic, immunotoxin, carcinogenic, mutagenic, reproductive, developmental or endocrine disrupting effects, among others at environmental background levels.

Criterion 2.Active substances for which it is not possible to differentiate between the exposure associated with its use as pesticide with its background exposure levels or its other uses in the food chain

39. Basic substances, and other substances which, by themselves, are food components or have low-toxicity of nopublic health concern (no tox-endpoint needs to be set).

40. Active substances for which background exposure associated with the food substance cannot be differe ntiatedfrom the one linked to the use as a pesticide (Botanical pesticides, natural chemical substances)

41. Food and/or feed items which are known allergens should be considered carefully.

42. Measurable background levels should be assessed carefully and taken into consideration when deciding on the use of this criteria.

Criterion 3. Active substances for which no consumer exposure linked to the mode of application is foreseen

43. This criterion includes substances such as pheromones and other semiochemicals disperse d through dispensers for mating disruption purposes where the consumer's exposure from the application level is similar to the background exposure level of the substance.

Criterion 4. Microorganisms which are not pathogenic and do not produce mammalian toxins or other potentially toxic secondary metabolites of human health concern.

44. This criterion includes microbial active substances. For microorganisms that are closely related to known toxigenic human pathogens, it must be demonstrated that toxins/metabolites toxic to humans, animals are not likely to be produced by the microorganism, and should they be present in the products, these toxins/metabolites should not be present on edible parts of the treated crops, following application, at levels on or in the treated crop that will either exceed natural background levels or potentially cause harm to public health. Attention should be given to any mammalian toxins or other potentially toxic secondary metabolites of human health concern produced by microorganisms.

45. This criterion excludes microorganisms that are either primary mammalian pathogens or are taxonomically close relatives to microbes that are primary mammalian pathogens.

ANNEX EXAMPLES OF SUBSTANCES

(The list of examples are not exhaustive nor indicative of any agreed list recommended for international harmonization. They are presented to support better understanding of the provisions in the Guidelines and may not remain in the Guidelines once adopted by the Codex Alimentarius Commission)

Criterion	Examples of subtances/microorganisms
Criterion 1. Basic substances and Active substances without hazardous properties identified (very low or no toxicological concern)	1. Calcium hydroxide
	2. Fructose
	3. Hydrogen peroxide
	4. Sodium chloride
	5. Sodium hydrogen carbonate
	6. Sucrose
	7. Vinegar
	8. L-ascorbic acid (Vitamin C)
Criterion 2. Substances for which it is not possible to differentiate between the exposure associated with its use as pesticide and its other uses in the food chain	9. Plant oils/ Vegetable oils Rapeseed oil, Castor oil, corn oil, rice bran oil, cottonseed oil, Sesame oil, linseed oil, olive oil, peanut oil, Tea tree oil, Neem oil, Karanj oil, Mahua (Madhuca) oil
	10. Plant essential oils Clove oil, citronella oil orange oil, spearmint oil, citrusoil, fennel oil, cedarwood oil, lemongrass and, rosemary oil, turmeric oil, thyme oil, vetiver oil, catnipoil. eucalyptus leaf oil and extract
	11. Essential oil constituents Geraniol eugenol, linalool, limonene, citronellal, thymol, carvone, 1,8-cineole, p-cymene, ar-turmerone, gingerols, pinene, terpine-ol,
	12. *Annona* spp. (Annonins, Squamocin)
	13. *Azadirachta indica* (Neem leaf and seed kernel oil)
	14. Brassinolides
	15. Chenopodium oil and extract
	16. Garlic extract
	17. Giberellic acid (GA3)
	18. Karanjin
	19. *Ryania* spp. (Ryanodines)
	20. *Reynoutria sachalinensis* extract
	21. Rocaglamides (Aglaia spp.)
	22. Soaps (fatty acid salts)
	23. *Sophora flavescens* (Matrine, oxymatrine)
	24. Sulphur
	25. Triacontanol
	26. Pheromones

Criterion	Examples of subtances/microorganisms
Criterion 3. Substances for which no consumer exposure linked to the modeof application is foreseen	27. (Z)-8-Dodecen-1-yl-acetate
	28. (E)-8-Dodecen-1-yl-acetate
	29. (Z)-8-Dodecen-1-ol
	30. (E/z)-8-Dodecen-1-yl-acetate
	31. (E, E)-8,10-Dodecadien-1-ol
	32. 1-Dodecanol
	33. (E)-11-Tetradecen-1-ol
	34. Gossyplure
	35. 9- Hexadecenal, 11-Hexadecenal, and Hexadecenol
	36. Hexadecadienyl acetate
	37. Rescalure
	38. (E)-11-Tetradecen-1-yl-ol acetate
Criterion 4. Microorganisms which are not pathogenic and do not produce mammalian toxins or other potentiallytoxic secondary metabolites of humanhealth concern.	39. *Trichoderma asperellum* (formerly T. *harzianum*) strains ICC012, T25 and TV1
	40. *Trichoderma atroviride* (formerly T. *harzianum)* strainsIMI 206040 and T11
	41. *Trichoderma gamsii* (formerly T. viride) strain ICC080
	42. *Trichoderma harzianum* strains T-22 and ITEM 908
	43. *Trichoderma polysporum* IMI-206039
	44. *Streptomyces* strain K61 (formerly S. griseovirides)
	45. *Bacillus amyloliquefaciens* strain FZB24
	46. *Bacillus amyloliquefaciens* strain MBI600
	47. *Bacillus amyloliquefaciens* subsp. Plantarum D747
	48. *Bacillus firmus* I – 1582
	49. *Bacillus subtilis* str. QST 713
	50. *Beauveria bassiana* strain ATCC 74040
	51. *Beauveria bassiana* strain GHA
	52. *Helicoverpa armigera* nucleopolyhedrovirus
	53. *Bacillus sphaericus*
	54. *Chaetomium globosum*
	55. Entomopathogenic nematodes (EPNs)
	56. *Fusarium oxysporum strain Fo47*
	57. *Metarhizium anisopliae*
	58. *Plaecilomyces lilacimus*
	59. *Pseudomonas fluorescens*
	60. *Trichoderma viride*
	61. *Trichoderma virens*
	62. Nucleopolyhedro virus (NPV) of *Spodoptera litura*
	63. *Verticillium lacanii*

APPENDIX XIII

REVIEW OF THE INTERNATIONAL ESTIMATE OF SHORT-TERM INTAKE EQUATIONS (IESTI)[1]

(For publication as an information document on the Codex website (Sections 1 and 3) and
For information/use by JMPR)

1. Benefits/advantages and challenges of the current IESTI methodology

Table 1: Benefits/advantages of the current IESTI equations

General benefits/advantages
The IESTI methodology is transparent. IESTI calculations require low computational capacity; the calculations can be performed easily using standard IT tools.
Benefits from risk management perspective
IESTI calculations provide clear answers to risk management questions (i.e. whether the short-term exposure is above or below the toxicological reference value (ARfD)). Because of the IESTI methodology, risk management decisions became more consistent, transparent and reproducible. IESTI methodology generally promotes global harmonisation of risk management decisions. The use of the JMPR IESTI calculation tool which is based on the IESTI equations allows to perform ad-hoc risk assessments which give answers to risk managers whether risk management actions are needed.
Benefits from risk communication perspective
The IESTI calculations are performed in a transparent way which can be shared with interested parties. The IESTI calculations are used to support the messaging that Codex MRLs are health protective. The IESTI calculation tool was proven to be beneficial not only in the framework of establishing safe Codex MRLs, but also for supporting food inspection services and national competent authorities to answer risk management questions on the safety of national MRLs or the safety of food placed on the market.[2] The input values are simple and can be generated at reasonable costs for different geographical regions.
Benefits from perspective of consumer protection
IESTI calculations are generally assumed to give conservative estimates compared to expected exposure events occurring in real life, because the methodology • combines conservative estimates for food intake (large portion covers 97.5th percent of the consumers that according to food surveys consume a certain product) with • conservative estimates for the expected residue concentration (highest residue or median residue expected on a crop for the most critical Good Agricultural Practice) and • postulates that the food item consumed may contain higher residues than the residues measured in the residue trials where composite samples were analysed which usually contains at least 12 units of the food item. This assumption is taken into account by applying a variability factor. IESTI calculations support risk-based decisions on the setting of Codex MRLs taking into account national food consumption habits.

[1] Working document CX/PR 52/21/15 containing the full discussion paper is available on the Codex website: http://www.fao.org/fao-who-codexalimentarius/meetings/detail/en/?meeting=CCPR&session=52

[2] It is common practice in the EU that the IESTI equations (EU version of IESTI equations with European food consumption data and agreed European variability factors) are used to take decisions on risk management actions for consignments/lots where the food control services find residue levels exceeding the MRL.

Benefits regarding impact on trade

Setting Codex MRLs promotes international trade.

Harmonised risk assessment methodologies promote the acceptance of food standards at international level, hence reducing non-tariff trade barriers.

Table 2: Challenges of the current IESTI equations

General challenges

Some countries experienced that the JMPR IESTI model is too rigid or too conservative.

Some countries question if the JMPR IESTI model is conservative enough.

Data to verify the level of protection achieved with the IESTI methodology have not been available so far. Recent studies that were performed to address this issue are reported in Section 2.

Due to the different perception of the level of conservatism, national models have been developed which implement modifications of the IESTI equations, e.g. using different variability factors, unit weight data, consumption data.

A main challenge is to find agreement on a harmonised methodology which is acceptable for all Codex member countries.

Challenges from risk management perspective

The IESTI methodology is deterministic and does not give risk managers quantitative information on:

- the distribution of the exposure across the population;
- the uncertainty of the calculations, and
- the frequency of cases where the short-term exposure exceeds the ARfD or level of protection (i.e. for a target population).

The development of this type of quantitative information requires the use of probabilistic methods and tools to assess population-based data on pesticide residue levels and food consumption. The possibility to generally link the IESTI better to the population-based exposure would benefit from further exploration.

For making IESTI calculations representative for all Codex member countries, it would be desirable to integrate a wide range of food consumption data from different regions worldwide.

Internationally agreed protocols for a harmonised approach on how to derive consumption data for the IESTI methodology are not in place.

Although the IESTI methodology leads to a high level of harmonization in acute risk assessments at international level, complete harmonisation is not realistic because countries may use differing inputs (such as national consumption data, residue definitions, variability factors, crop group extrapolation and toxicological reference points) which impacts on MRL setting.

Diverging input variables used in the national models (modified IESTI equations) by different Codex member countries lead to different exposure outcomes. This divergency may result in rejection of Codex MRLs by some Codex member countries. Consequently, the need for negotiations on acceptance of Codex MRLs increases.

Changing the currently used IESTI methodology by replacing or modifying input variables in order to find wider acceptance of the methodology would lead to different results compared to previous risk assessments performed by JMPR. Hence, Codex MRLs that were considered safe may not be safe or vice versa, if the same input values are used in a revised methodology.

Challenges from risk communication perspective

Some Codex member countries face risk communication challenges to explain that Codex MRLs are sufficiently protective because the risk assessment with IESTI equations is not performed with the Codex MRL but with the highest residue (HR) or the supervised trials median residue (STMR) obtained from residue trials; both the HR and the STMR are usually lower than the MRL.

Further examination of this challenge was discussed at the international workshop in Geneva (EFSA RIVM, 2015), which proposed potential simplification of the IESTI equation. Some Codex members within the EWG suggested that simplification of the IESTI equations, particularly for case 2a and 2b, would enhance the understanding of the methodology by the general public and stakeholders and would positively impact risk communication.

In 2006 JMPR recommended to discuss the adequacy of IESTI equations to assess the safety of food containing residues at levels found in monitoring and/or enforcement programmes (FAO, 2006). Although some Codex member countries would welcome further work to develop tools/models aligned with the IESTI methodology that can be used for national enforcement programmes, previous EWG considered that the development of these risk assessment tools does not fall under the remit of CCPR/JMPR and therefore this point is not further discussed.

Challenges from perspective of consumer protection

Quantitative consumer protection goals have not been clearly formulated.

Reliable information on the actual level of protection resulting from the use of IESTI methodology at international level is not available.

The IESTI calculations case 1, 2a and 2b[3] are performed with the HR (highest residue, input value used in IESTI calculations, see Table 3 which refers to the residue definition for risk assessment and reflects the residue in the edible part of the crop. The HR is a point estimate; the variability of the residue concentrations measured in the individual residue trials and expected when the pesticide is applied in accordance with the Good Agricultural Practices approved in Codex member countries is not taken into account.

In contrast to the HR, MRLs are usually established following a statistical assessment implemented in the OECD calculator. The MRL is intended to entail at least 95% of the residue levels expected on treated crops in accordance with the Good Agricultural Practice, to ensure that agricultural products produced in accordance with the GAP are compliant with the legal limit. Since 2010, JMPR also uses to OECD calculator to derive MRL proposals. The MRL derived with the OECD calculator is usually higher than the HR. Based on synthetic residue data with 4 trials, 8 trials and 16 trials it was concluded that the ratio between MRL and HR is 2.1, 1.8 and 1.5, respectively. The ratio between MRL and STMR was calculated to account for 4.1, 4.8 and 5.3 for datasets of 4, 8 and 16 trials. The gap between MRL and HR/STMR depends to a large extent on the number of residue trials (Van der Velde-Koerts et al, 2018b). As a consequence, the phenomenon exists that the IESTI calculations exceed the ARfD if the exposure is calculated with the Codex MRL, instead of using the HR or STMR. For these cases it is difficult to communicate to the public that the MRL is safe (Richter et al, 2018).

Challenges regarding impact on trade

A change in the current JMPR IESTI model may trigger the need to lower certain CXLs, and consequently would introduce new trade barriers. For those cases, alternative Good Agricultural Practices (GAPs) need to be developed, leading to acceptable residues with regard to short-term dietary intake.

Recent publications considered the impact of modifications of IESTI variables and suggested that only a minor percentage of CXLs would be affected van der Velde et al (2018a)). However, it is not known how any of such modifications and losses of CXLs might be measured in trade value, lost pest control, or reduced abilities for growers to substitute alternate chemistries and the impact on weed or insect resistance issues.

Establishing Codex MRLs for the alternative GAPs will take time and causes additional costs.

2. Benchmarking of IESTI calculations against probabilistic exposure estimates

2.1. Overview

FAO/WHO performed a study on a probabilistic exposure assessment to address the request of CCPR49 to FAO/WHO which specified that FAO/WHO should:

(i) review the basis and the parameters of the IESTI equations,

(ii) benchmark the outcomes of IESTI equations to a probabilistic distribution of actual exposures and

(iii) present the outcome to CCPR.

In general, benchmarking is a process of comparing performance metrics of a product or a process (in the given case the performance of the IESTI methodology as it is currently used by JMPR) to practices generally considered as superior or being acknowledged as the best practice. The purpose of benchmarking is to identify opportunities for improvement. A successful benchmarking process of the IESTI methodology requires a reference methodology which is generally accepted as leading to a forecast of the short-term dietary exposure of consumers that is closer to reality. The predicted exposure derived with IESTI calculations should be compared with the exposure derived with the reference methodology to identify whether the IESTI methodology fulfils its purpose, i.e.

- IESTI reliably predicts consumer health risks, and

[3] The difference between IESTI case 1 and 2a/2b is the use of a variability factor: while for case 2a/2b the HR value is multiplied by a variability factor, this is not the case for food products where the exposure calculations are performed according to case 1. More details on the calculation algorithm for the different IESTI cases can be found in section 3.

- at the same time the calculations are not overly conservative, indicating arbitrary consumer health concern, because of overestimation of the exposure.

Overall, the study should validate the ability of the IESTI methodology to predict exposure events above and below the ARfD that are likely to occur within a population.

2.2. FAO/WHO Benchmarking Assessment of the IESTI Equations

FAO/WHO prepared a final draft assessment that was discussed at CCPR51 (CX/PR 19/51/3-Add.2); in August 2019 an updated, final analysis was provided to the EWG-4 that was subsequently presented to JMPR at its 2019 Regular Meeting on September 17-26, 2019.

In this study, FAO/WHO (2019) estimated acute dietary exposure for 47 pesticides using a probabilistic methodology (Monte Carlo methodology) based on real-world data on pesticide residue levels and food commodity consumption collected as a part of national pesticide monitoring programmes and food surveys. The assessment included food surveys from eight countries (Australia, Brazil, Canada, and the European countries Czech Republic, France, Italy and the Netherlands) and monitoring data on unprocessed products (RAC) from five countries/regions. For three countries food consumption data were available for both adults and children. Overall 6 scenarios for adults and 5 scenarios for children were calculated.

For each scenario, the matching food consumption data/pesticide monitoring data were identified which were then used to perform the probabilistic exposure calculations. The number of food items taken into account in these calculations ranged from 11 (Italian adults)[4] to 127 (Canadian adults). FAO/WHO then performed its assessment by first comparing the IESTI equation with the probabilistic exposure estimates and then performing a level of protection analysis (LoP) that assumed all foods consumed contained pesticide residue concentrations at the MRL. Each component of FAO/WHO's assessment and conclusions reported in JMPR's 2019 Summary Report are further described below.

- The first component of FAO/WHO's assessment provided exposure estimates derived with probabilistic exposure models for each of the eight countries and compared the results with the relevant Acute Reference Dose (ARfD). This comparison considered two use scenarios - 10% use of the pesticide and 100% use of the pesticide[5] – and concluded that there was a zero risk of exceeding the relevant ARfD in all countries and subpopulations of adults/children. For adults, the 97.5th percentile of acute dietary exposure was <10% ARfD, for children <50% ARfD. Based on these results, JMPR concluded that the IESTI equation was considered protective for acute risk (FAO/WHO, 2020).
- The second component of FAO/WHO's assessment was a LoP analysis that used the same consumption data as the first component, but assumed that all food consumed contained pesticide residues at the CXL for each of the 47 pesticides selected by WHO. The LoP was defined by the study authors as the percentage of person-days with intakes at or below the ARfD when the residue occurs at the level of the CXL. Based on the LoP calculations performed by FAO/WHO, a LoP of 100% indicates that no acute dietary exposure estimates exceeded the ARfD.

Based on the LoP analysis, for 4 of the 47 pesticides covered by the study, the LoP of MRLs was lower than 90% for at least 1 population in 1 country. For 7 pesticides, the LoP was found to range between 90 and 99% for all populations in all countries. For the remaining 36 pesticides, the LoP was higher than 99% (among those, for 14 pesticides the LoP was 100%).

The 2019 JMPR concluded that given the extremely conservative estimates produced when assuming all commodities have residues present at the MRL, a LoP of less than 100% does not necessarily indicate that approved uses will lead to an exceedance of the ARfD in practice.

The 2019 JMPR suggested that a more realistic assessment of the LoP could be made by assuming residues at the MRL for a single commodity and residues from monitoring data for other commodities in the assessment (FAO/WHO, 2020).

A final published report on the FAO/WHO assessment was not available during the development of this EWG discussion paper, but the results and conclusions are consistent with the final draft assessment that was prepared by FAO/WHO and discussed at CCPR51 (CX/PR 19/51/3-Add.2). JMPR's summary also reaffirms the preliminary assessment conclusions, which are summarized below and were further re-iterated by the WHO Representative during CCPR51 plenary discussion.[6]

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4 In the Italian diet the following food items were considered in the exposure calculation which are probably not sufficiently representative for the typical Italian diet: Almonds, coconuts, ginseng, lentil (dry), milk (cattle), pine nut kernels, pistachio nuts, sunflower seed, watermelons and walnuts.

5 As reported by JMPR, two scenarios were tested: 10% use of the pesticide, i.e., only 10% of non-quantifiable samples were assumed to contain the pesticide (90% concentrations assigned a zero value; 10%, the LOQ) and 100% use (all commodities are treated and 100% of the non-quantifiables were assigned the LOQ).

6 REP19/PR, Paragraph 190 states: "The WHO Representative informed CCPR that the FAO/WHO study on acute probabilistic dietary exposure assessment for pesticides was still a draft; found the current IESTI equation was protective as it is; and that

> *The IESTI equation is used as a proxy for estimating the acute dietary exposure at international level. According to the principles for international dietary exposure assessment, the international exposure models should be conservative in order to ensure that actual exposure of consumers in each country is lower than the international estimate and therefore that there is no appreciable risk for the population worldwide. The results of the probabilistic assessment do confirm the conservativeness of the model when compared with national assessments based on accurate data and the absence of appreciable risk for the population.* (CX/PR 19/51/3-Add.2).

Some EWG members felt that the unavailability of the final report, describing in detail the study design and the findings, impacted the discussions on the strength of the FAO/WHO study; this limited the ability of the EWG to fully deliberate on whether the findings were sufficiently conclusive with respect to the degree to which the current IESTI is protective.

Some members of the EWG were of the opinion that the study was not designed as a benchmarking exercise which compares the outcome of the currently used IESTI equation with the distribution of the exposure calculated with the Monte Carlo methodology. Others found the FAO/WHO study is congruent with many other national probabilistic assessments which have consistently demonstrated that actual exposures are far lower than those from deterministic models.

Given that members of the EWG had additional questions on the methodology and results, more detailed documentation of the study should be provided that could allow an improved interpretation of the results. In particular, understanding of the FAO/WHO report would benefit from further explanations of the following:

- Information whether the food products, for which the calculations were performed, were sufficiently representative for the total diet of the subgroup of the population assessed in the scenarios: The information on the study design did not allow to conclude whether the exposure calculations are reliable enough to predict the total exposure of the population subgroups covered by the study. If the probabilistic calculations cover only a small proportion of the food products consumed by the respective population group, the calculated exposure derived with the probabilistic calculation would underestimate the actual exposure and consequently, the results of the probabilistic exposure calculations cannot be used for a benchmarking exercise.
- In general, the calculation of the acute exposure using a probabilistic methodology can provide information on the distribution of the exposure related to the food placed on the market in the respective country. However, considering the lack of full harmonisation of national MRLs with Codex MRLs, the use of national monitoring data adds uncertainty for a benchmarking exercise validating the adequacy of the IESTI methodology used by JMPR to derive Codex MRL proposals. If national MRLs are lower than the Codex MRLs, it is expected that the respective food products placed on the market would in general contain lower residues than the residue levels in countries in which the Codex MRLs were taken over in the legislation and vice versa. Hence, the exposure calculation based on these monitoring data would not allow to draw a conclusion on the risk assessment performed by JMPR using IESTI methodology for Codex MRL proposals.
- Further details on the residue definitions for MRL compliance applicable in the countries in the countries which provided pesticide monitoring data would be useful to ensure that they match with the residue definitions of Codex.

Without these details some members felt it would be difficult to develop a conclusion on whether the FAO/WHO study provides a reliable answer to the question of whether the IESTI methodology is fit for purpose. Hence, the EWG recommends that a more detailed information be prepared by FAO/WHO which is made available to CCPR and JMPR.

2.3. Relevant Exposure Assessments in the Peer-Reviewed Literature

Cleveland et al (2019) published a paper which aimed at benchmarking the outcomes of IESTI calculations (current IESTI calculations and calculations according to the recommended methodology derived in the international workshop in Geneva (EFSA/RIVM, 2015)) for strawberries (12 pesticides), tomatoes (16 pesticides) and apples (8 pesticides) against refined exposure assessments (quasi-probabilistic and probabilistic calculations). For the refined exposure assessments distributions of US consumption data were combined with (i) Codex MRLs (quasi-probabilistic calculation), (ii) distribution of field trial data and (iii) distribution of US monitoring data (both probabilistic calculations).

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while there might be amendments to the text, the conclusions were firm and unlikely to change during the finalization of the paper. The Representative further noted that the written comments received to date on the paper would be forwarded to the authors for their consideration when finalizing the paper."

US consumption data were used in the quasi-probabilistic and the probabilistic calculations (for apples and tomatoes: consumption data of children of the age 1-6 years, for strawberries: consumption of children age of 3-6 years). A possible unit-to-unit variability for apples and tomatoes was not taken into account. For the quasi-probabilistic calculation, the exposure was calculated for the 97.5th percentile of eaters. In the scenario with supervised field trials, the 95th percentile and for monitoring data the 99.9th percentile per capita exposure was calculated.

Overall, the paper gave a ranking of exposure estimates obtained for the three food products with different calculation scenarios, normalised against the currently used IESTI methodology. Using the Codex MRL in the quasi-probabilistic calculation, exposure was in general lower than the exposure calculated with the current IESTI methodology (1.1 – 3.7 times lower). Using data from supervised field trials, the exposure (95th percentile) was 8 – 120 times lower than the IESTI estimate. In the scenario using monitoring data the difference ranged from 4.1 times lower (acetamiprid/strawberries) to 1750 times lower (methoxyfenozide/tomatoes).

The calculation based on monitoring data might be biased for cases where the US tolerance is set at a different level than the Codex MRL (see examples in footnote[7]), since the monitoring data do not necessarily reflect the Codex MRL. The quasi-probabilistic and the probabilistic calculation with results from residue trials provide answers to a question, which is close to the question of CCPR regarding the adequacy of the IESTI equations in terms of conservatism. However, the study does not allow to conclude on the reliability of the IESTI calculations to predict or exclude consumer health risks. It would be necessary to investigate in more detail the distribution at the upper tail of the exposure calculations derived with the quasi-probabilistic and probabilistic calculation scenarios and to compare the results with the ARfD.

A number of additional studies are available which may provide further details to interested readers on previous discussions on the variability factors used in IESTI equations (EFSA, 2005, 2007).

Breysse et al (2018) and van der Velde et al (2018a) investigated the impact of modifications of the IESTI equation as discussed in the international workshop in Geneva (EFSA & RIVM, 2015) on the existing EU and Codex MRLs. However, since these papers did not perform a benchmarking of IESTI calculations against a distribution of dietary exposures expected if food is consumed that complies with the Codex MRLs, they are not discussed in further detail.[8]

2.4. Summary

In summary, FAO/WHO has performed an assessment of the IESTI equations using probabilistic data on national pesticide residue levels and food commodity consumption. This includes a final draft FAO/WHO assessment that was discussed at CCPR51 and a presentation of these results at the 2019 JMPR Regular Meeting.

The results of FAO/WHO's assessment help characterize the current IESTI equation and reaffirm the conclusion reported by the WHO Representative at CCPR51 that, "found the current IESTI equation was protective." The EWG also reviewed a limited number of more recent publications in the scientific literature that provide further evaluation of the IESTI equations using probabilistic methods.

While information is available on the FAO/WHO assessment, the EWG was unable to review FAO/WHO's final, published report during the development of this EWG discussion paper and only brief information on results was presented to JMPR during its 2019 Regular Meeting. This limited the ability of EWG to fully deliberate on the strength of the study and whether the findings can be used to make general conclusions on the degree to which the current IESTI is protective. It is recommended that FAO/WHO provide clarifying statements to aspects raised by CCPR52. This will help inform CCPR discussion on the FAO/WHO benchmarking assessment and the more general conclusions on the IESTI methodology.

3. Review of the parameters of the IESTI equations: findings of FAO/WHO and of published in peer reviewed literature

For performing the short-term dietary intake calculations JMPR applies the following IESTI equations (equation 1 to 7) (FAO, 2016).

Case 1 applies for the following cases:

- for fruits and vegetables with a unit weight of the raw agricultural commodity less than 25 g (U_{RAC} < 25 g);
- for post-harvest uses of pesticides on cereal grains, oil seeds and pulses, as well as for meat, liver, kidney, edible offal and eggs):

[7] US tolerance for strawberries for thiamethoxam: 0.3 mg/kg; CXL: 0.5 mg/kg
US tolerance for tomatoes for sulfoxaflor: 0.7 mg/kg; CXL: 1.5 mg/kg
US tolerance for apples for pyraclostrobin: 1.5 mg/kg; CXL: 0.5 mg/kg

[8] Even though the TOR focusses on advantages and challenges of the current IESTI methodology and not on potential IESTI changes, information from these publications might be useful to have an indication on the change in number of accepted CXLs if the input variables (and the equations) are amended according to the recommendations of the international scientific workshop in Geneva in September 2015.

Unprocessed products $$\mathrm{IESTI} = \frac{\mathrm{LP} \times \mathrm{HR}}{\mathrm{bw}}$$ Equation 1

Processed products $$\mathrm{IESTI} = \frac{\mathrm{LP} \times \mathrm{HR} - \mathrm{P}}{\mathrm{bw}}$$ Equation 2

Case 2a applies for the following cases:

- for fruits, vegetables with a unit weight of the raw agricultural commodity greater than 25 g (U_{RAC}>25 g) and a unit weight of the edible part of the raw commodity less than the large portion consumed (U_e<LP)

Unprocessed products $$\mathrm{IESTI} = \frac{\mathrm{Ue} \times \mathrm{HR} \times \mathrm{v} + (\mathrm{LP} - \mathrm{Ue}) \times \mathrm{HR}}{\mathrm{bw}}$$ Equation 3

Processed products $$\mathrm{IESTI} = \frac{\mathrm{Ue} \times \mathrm{HR} - \mathrm{P} \times \mathrm{v} + (\mathrm{LP} - \mathrm{Ue}) \times \mathrm{HR} - \mathrm{P}}{\mathrm{bw}}$$ Equation 4

Case 2b applies for the following cases:

- for fruits, vegetables with a unit weight of the raw agricultural commodity greater than 25 g (U_{RAC}>25 g) and a unit weight of the edible part of the raw commodity (U_e) greater than the large portion (U_e>LP)

Unprocessed products $$\mathrm{IESTI} = \frac{\mathrm{LP} \times \mathrm{HR} \times \mathrm{v}}{\mathrm{bw}}$$ Equation 5

Processed products $$\mathrm{IESTI} = \frac{\mathrm{LP} \times \mathrm{HR} - \mathrm{P} \times \mathrm{v}}{\mathrm{bw}}$$ Equation 6

Case 3 applies for the following cases

- for pre-harvest uses of pesticides for processed commodities where due to bulking and blending the STMR-P represents the likely highest residue;
- for cereal grains, oil seeds and pulses but also to milk.

Processed products $$\mathrm{IESTI} = \frac{\mathrm{LP} \times \mathrm{STMR} - \mathrm{P}}{\mathrm{bw}}$$ Equation 7

In the table below the individual parameters are explained, including findings on advantages and challenges that were raised in previous discussions and the resulting limitations. In this table the analysis of JMPR (JMPR Report 2006) has been integrated where JMPR concluded that IESTI and ARfD are associated with uncertainty and variability.

It is emphasised that the technical issues related to the model parameters (e.g. variability factor, unit weight, large portion) fall under the responsibility of the JMPR. Hence the information presented in Table 3 is primarily intended to support JMPR in future discussions on possible revisions of IESTI methodology or development of further guidance to describe how to derive the input values for IESTI calculations.

Table 3: Parameters used in the current IESTI equations

Parameter	Definition, explanations	Advantages	Challenges
LP	Highest large portion reported (97.5th percentile of eaters), expressed as kg food per day. The LP refers to the food as eaten (e.g. orange without peel). The LP are reported per person. LP data are usually derived for different subgroups of the population covered by a survey. Normally separate LP data are available for the general population and for children.	LP data can be derived easily, without sophisticated statistics. For the most frequently consumed products, LP are available, mainly for the RAC (raw agricultural commodities). LP data are also available for many processed products.	Different approaches exist how to derive a reliable LP, in particular on the aspects listed in the following bullet points: • Number of subjects (consumer days): To derive a reliable LP, the number of subjects having eaten a food product needs to be greater than 120 (Ambrus et Szenczi-Cseh, 2017). In the JMPR IESTI model, for exceptional cases, LP values were derived based on less than 120 days, if the data seem to be reliable. In this case, the LP is affected by a higher level of uncertainty. Richter et al (2018) recommended to calculate different percentiles (95th, 90th) in case the number of individuals that reported consumption of a pertinent food product is insufficient for calculating statistically reliably the 97.5th percentile consumption value (<41 individuals). In this case, the LP is also affected by a higher level of uncertainty. • Body weight in relation to LP: The body weight is not considered in the LP (LP is expressed as g per person per day). For food surveys that cover wider groups of the population with a high variability of body weights (e.g. general population including children), the LP per person may not reflect the most critical consumers (e.g. children with a higher consumption per kg body weight). The use of LP derived from the general population covering all age groups should be avoided when large portions are not expressed on an individual body weight basis (Van der Velde-Koerts et al, 2018b).

Parameter	Definition, explanations	Advantages	Challenges
			• Information on the method used to collect the LP consumption data are not always reported to GEMS/Food. Consequently, the LP data are considered to be affected by uncertainties (FAO, 2006). In addition, the following challenges were identified: • For less frequently consumed food products, LP data are not available. More guidance would be desirable on how to estimate the IESTI for food items for which no or no reliable large portion can be derived, because the food items are not available in the food consumption surveys or the food items are consumed by only a few consumers in a few surveys; • LP are not available for all types of processed products (e.g. for processed products falling under IESTI case 3). • LP data are available for a limited number of Codex member countries (Richter et al, 2018); for some countries data are available for the general population only. • LP data are available for different population groups, e.g. children of 2-6 years for country A and children of 1-4 years of country B. An agreement would be desirable which population groups are relevant for the IESTI and what should be the age limits and/or bodyweight limits for that population group (e.g. infants, toddlers, young children, adults).
bw	Mean body weight It is calculated for the subgroup of the population covered by the survey for which the LP is derived	Simple parameter, biometric data of the population are usually available for most food surveys. If no survey specific body weight data are available, default values can be used.	A possible correlation of the LP and body weight is not considered in the calculations (i.e. consumption of a food item by a person with higher body weight may be higher compared to a person with a lower body weight).

Parameter	Definition, explanations	Advantages	Challenges
			JMPR therefore recommended that the correlation between the LP and the body weight of each population should be established (FAO, 2006). See also challenges reported in the section on LP (body weight in relation to LP).
U	Unit weight of the whole commodity (as defined for MRL setting, including inedible parts). This parameter is required to decide if for a food commodity IESTI case 1 or IESTI case 2A/2B needs to be used. It is also used to derive Ue (by correcting the unit weight considering the percentage of the edible portion).	Simple parameter. If no empirically measured unit weight data are available, approximate values derived by expert judgement are used.	Median unit weight data are not always available. It is not always clear how the U values were derived and whether it refers to the whole commodity or to the edible portion (JMPR, 2006 and Richter et al, 2018). Approximate unit weight values derived by expert judgement may be questioned and can lead to disagreement. For some products it is not clear what is considered as the unit (spinach, grapes). The unit weights of food products have a high variability (depending on varieties, commercial classes, country specific requirements in trade). Using the median unit weight introduces a major source of uncertainty in the exposure assessment. Methodology how to derive the median unit weight is not standardised (e.g. defining the minimum number of units, defining how different varieties should be taken into account cherry tomatoes/medium sized tomatoes/varieties with high unit weight) (Richter et al, 2018). Lack of transparency was noted which unit weight value used in risk assessments (Richter et al, 2018).
Ue	Unit weight of the edible portion, in kg. Median value provided by the country where the trials which gave the highest residue were carried out.	Simple parameter.	See above on Unit weight (U). Methodology on how to derive the factor for percentage edible portion is not standardised.

Parameter	Definition, explanations	Advantages	Challenges
	Ideally, the Ue should be available at country level to combine the LP with the associated Ue. Ue is calculated from unit weight whole commodity (U) by multiplying with the percentage edible portion.		
v	Variability factor- the factor applied to the composite residue to estimate the residue level in a high-residue unit; defined as the residue level in the 97.5th percentile unit divided by the mean residue level for the lot. The default variability factor of 3 can be replaced by empirical variability factors, if data are available.	The originally used variability factors of 5, 7 and 10 were replaced in 2003 by the default variability factor of 3, following a review of data sets (2003 JMPR Report). Additional data were provided which confirmed the previous conclusion (2005 JMPR) of residue data from over 22000 crop units in single plots from different crops and different countries.	In some national/regional models developed for calculating the short-term dietary exposure, the variability factors of 5 and 7 are used, which lead to different outcomes of the short-term exposure calculations. Under certain conditions the default variability factor of 3 might even be too conservative (e.g. post-harvest treatments of fruits by dipping/drenching). A methodology how to derive empirical variability factors is lacking.
HR	Highest residue in composite sample of edible portion found in the supervised trials used for estimating the maximum residue level, expressed in mg/kg It refers to the residue definition for risk assessment.	Simple parameter that can be derived from residue trials without statistical knowledge from residue trials reflecting the critical GAP. When no information is available on the residue in the edible portion, usually the HR in the whole commodity is used as a conservative surrogate (JMPR, 2007).	The HR does not reflect the distribution of the results of residue trials. Due to the high variability of residue concentrations found in residue trials and the limited number of residue trials that are usually available, the use of the HR leads to a high level of uncertainty (FAO, 2006). JMPR was concerned that conducting the assessment using the HR value instead of the MRL might not assure the safety of consumers, mainly when the MRL is much larger than the HR (JMPR, 2006). JMPR recommended to incorporate statistical calculation for deriving MRLs, which would improve the consistency in the estimations of the MRL made by the JMPR based on the available data. With the introduction of the OECD calculator a statistical methodology is used to derive MRLs. However, the gap between the HR and the MRL still exists, and hence the concerns raised by JMPR are still not fully addressed.

Parameter	Definition, explanations	Advantages	Challenges
			HR data are not always available for the edible portion of the RAC; in this case the HR referring to the whole product, including the non-edible part can be used, but this leads to additional conservatism (e.g. oranges with peel) (JMPR, 2007).
HR-P	Highest residue in a processed commodity, in mg/kg, calculated by multiplying the highest residue in the raw commodity by the processing factor (PF). It also refers to the residue definition for risk assessment.	See HR and PF	In many cases, only the HR value is available, but no HR-P, due to the lack of processing studies. The use of the HR value for calculating the dietary exposure for processed products leads to additional uncertainties, as does the introduction of the processing factor. See also HR and PF.
STMR	Supervised trials median residue, in mg/kg. The STMR is the expected residue level in the edible portion of a food commodity when a pesticide has been used according to maximum GAP conditions. The STMR refers to the residue definition for risk assessment. The STMR is estimated as the median of the residue values (one from each trial) from supervised trials conducted according to the maximum GAP conditions. It is used for commodities where consignments are likely to be bulked and blended before they reach the consumer.	Simple parameter that can be derived from residue trials without statistical knowledge from residue trials reflecting the critical GAP.	See below STMR-P
STMR-P	Supervised trials median residue in processed commodity, in mg/kg. The STMR-P is the expected residue in a processed commodity calculated by multiplying the STMR of the raw agricultural commodity by the corresponding processing factor (PF).	In some cases, studies are available for processed products which can be used to derive the STMR-P. See also PF.	There is no clear guidance for which products mixing and bulking/blending is reasonable (Richter et al, 2018).

Parameter	Definition, explanations	Advantages	Challenges
	The STMR also refers to the residue definition for risk assessment.		JMPR should be requested to review the current practice of calculating the short-term exposure according to IESTI case 3 using the STMR-P for the products listed in the Appendix, taking into account the information provided in response to the CL 2019/73-PR (see section 3). In many cases, only the STMR value is available, but no STMR-P, due to the lack of processing studies. The use of the STMR value for calculating the dietary exposure for processed products leads to additional uncertainties as does the introduction of the processing factor.
PF	The processing factor for a specified combination of a pesticide residue, commodity and food process is the residue level in the processed product divided by the residue level in the starting commodity usually a raw agricultural commodity. Basically, two processing factors can be calculated: • PF ENF: this PF is based on the residue definition for enforcement. It is used to recommend maximum residue levels for processed commodities in which the residue concentrates during processing. • PF RISK: this PF is used for dietary risk assessment. For recalculating the HR and the STMR to derive the HR-P and the STMR-P the processing factor that relates to the residue definition for risk assessment is required. PF is calculated according to the following equation:	Since processing studies are usually part of the data requirements, some data are normally made available by data providers.	Different regulatory requirements exist on the number of processing studies (number of studies, extrapolation, types of processed products for which studies are required). Reliable processing factors are not available for all processed products. Processing practices may widely differ, resulting in a high variability of residues in processed products.

Parameter	Definition, explanations	Advantages	Challenges
	$PF = \frac{residue\ concentration\ in\ processed\ pro}{residue\ concentration\ in\ unprocessed\ pr}$		

Further work to address the challenges listed in Table 3 would be valuable, but considering limited resources, any future work should be carefully prioritized.

4. Information on bulking and blending relevant for IESTI case 3

According to FAO Manual, the short-term dietary exposure calculations for processed commodities, in which the pesticide residues result from pre-harvest uses, should be performed according to Equation 7, also referred to as IESTI case 3 (see Section 2). For this case it is assumed that different consignments of raw agricultural commodities (RACs) treated with a pesticide are bulked and blended before they are processed and reach the consumers. Therefore, the STMR-P is considered a more appropriate estimate for the residue present in the products consumed than the HR-P.

In the Appendix, the commodities/product groups are listed for which JMPR calculates the short-term exposure according to IESTI case 3. For pulses, cereals and oilseeds (unprocessed products, raw agricultural commodities), the calculations are performed according to case 1, where post-harvest treatment is relevant.

It is noted that according to the current practice of JMPR, IESTI case 3 calculations are performed not only for processed products, but also for unprocessed products, where the STMR is used instead of the STMR-P (Equation 8).

Unprocessed products $$\mathrm{IESTI} = \frac{\mathrm{LP} \times \mathrm{STMR}}{\mathrm{bw}}$$ Equation 8

The Appendix also comprises certain commodities where short-term dietary intake calculations are performed according to case 1 or 2, which may need to be reconsidered.

In the framework of CL 2019/73-PR information on the most common and usual bulking and blending practices should be collected in order to decide whether the currently used practices of JMPR are justified and for which a median residue (STMR or STMR-P) is appropriate for calculating the dietary risk assessment.

Information on bulking and blending was submitted from eight individual Member States including Australia, Canada, Egypt, Japan, Mexico, Thailand, United Kingdom, and USA. Information was also provided by thirteen trade organizations; BSDA (British Soft Drink Association), BFJA (British Fruit Juice Association), California Almond Board, California Citrus Quality Control, COCERAL (the EU traders association of cereals, grains, rice, fats, olive oil, oilseeds, feedstuff and agro-supply chain), FIVS (an international federation serving trade associations and companies in the alcohol beverage industry from around the world), GAFTA (the Grain and Feed Trade Association), IFU (International Fruit and Vegetable Juice Association), INC (International Nut and Dried Fruit Council), THIE (Tea & Herbal Infusions Europe), US Grain Council, US Wine Institute, US Wild Blueberry Commission of Maine, WPTC (World Processing Tomato Council).

The information received included descriptive and/or quantitative information on bulking and blending practices for several raw and processed commodities such as cereal grains, oilseeds, pulses, GM soya beans, citrus juice, apple juice, wine grapes & wine, raw & frozen blueberries, strawberry puree, frozen durian, canned pineapple, mango puree, tomato puree, tomato paste, tomato juice, dried fruits, tree nuts, sugar cane sugar, tea and herb tea.

Bulking and blending was shown for all commodities investigated, except for pineapples. Quantitative information on bulking and blending before and during jam/jelly/marmalade production, canning of fruits and vegetables, freezing of fruits and vegetables, oil production and milling is limited or absent and would be desirable. Codex Members are encouraged to contact trade organizations in their country to provide quantitative information on bulking and blending for these processes.

The compilation of information on bulking and blending shall be provided to JMPR for their review and consideration. In the Appendix, a general overview on the submitted information is given; more details on the type of information submitted in response to the Circular Letter can be found in a separate document (Annex to this discussion paper), where all contributions are compiled.

It is noted that the information on bulking and blending practices was collected in response to the CL which requested information for the most common practices for industrially produced products and products traded internationally. Since the data collection was not intended for speciality products (e.g. products with direct marketing by farmers, niche products) or for products that are produced at household level, these practices may not be fully representative for all products placed on the market and consumed.

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Appendix I - Information on bulking and blending submitted in response to the CL 2019/73-PR (English only)

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
Dry pulses (RAC)	VD 0071 VD 0523 VD 0541 VD 0072 VD 0524 VD 0533	Beans (dry) Broad bean (dry) Soya bean (dry) Peas (dry) Chick-pea (dry) Lentil (dry)	In the current JMPR IESTI model dry pulses are treated in two ways: pre-harvest treatment = case 3 post-harvest treatment = case 1	Australia Canada Japan United Kingdom (soya beans) United Kingdom (information provided by GAFTA) USA COCERAL (beans, soya beans, peas (dry))
Cereal grains (RAC)	GC 0650 GC 0654 GC 0640 GC 0641 GC 0647 GC 0649 GC 0646 GC 0651 GC 0645	Rye Wheat Barley Buckwheat Oats Rice Millet Sorghum grain Maize (corn)	In the current JMPR IESTI model cereal grains are treated in two ways: pre-harvest treatment = case 3 post-harvest treatment = case 1	Australia Canada Japan United Kingdom (information provided by GAFTA) USA COCERAL
Oilseeds (RAC)	SO 0090 SO 0495 SO 0691 SO 0693 SO 0696a SO 0696b SO 0697 SO 0698 SO 0699 SO 0700 SO 0702 - -	Mustard seed Rape seed Cotton seed Linseed (Flax-seed) Palm kernels Palm fruit Peanut, shelled Poppy seed Safflower seed Sesame seed Sunflower seed Borage seeds Cucurbitaceae seeds	In the current JMPR IESTI model oilseeds are treated in two ways: pre-harvest treatment = case 3 post-harvest treatment = case 1	Australia (rapeseed, cotton seed) Canada Japan United Kingdom (information provided by GAFTA) USA COCERAL (rape seed, sunflower seed)
Treenuts (RAC)	TN 0295 TN 0660 TN 0660 TN 0662 TN 0664 TN 0666 TN 0669 TN 0672 TN 0673 TN 0675 TN 0678	Cashew nut Almonds Almonds Brazil nut Chestnuts Hazelnut Macadamia nut Pecan Pine nut Pistachio nut Walnut	In the current JMPR IESTI model treenuts (nutmeat) are treated as case 1 commodities. The case 1 classification used by the JMPR is challenged because treenuts are industrially bulked or blended (over several farms or pesticide treatment regimes).	Japan USA (Almonds) INC
	TN 0665	Coconut	The unit weight of a coconut is much higher than 25 g, for which case 2 applies.	-
	VR 0596	Sugar beet (RAC)	The unit weight of a sugar beet is much higher than 25 g, for which case 2 applies. However, as raw sugar beets are not consumed, only the extracted sugar, sugar beets are treated as case 3 in the current JMPR IESTI model.	Japan

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
	GS 0659	Sugar cane (RAC)	The unit weight of a sugarcane is much higher than 25 g, for which case 2 applies. However, as raw sugarcanes are not consumed, only the extracted sugar, sugar cane is treated as case 3 in the current JMPR IESTI model.	Japan Thailand
	SB 0715	Cocoa beans (RAC)	Cocoa beans (RAC) are roasted. Various products are prepared: cocoa mass, cocoa powder, cocoa butter. Cocoa beans and its products are treated as case 3 in the current JMPR IESTI model.	Japan USA
	SM 0716	Coffee beans (RAC)	Green coffee beans (RAC) are roasted. Coffee beans and its products are treated as case 3 in the current JMPR IESTI model.	Japan USA
	DH 1100	Hops, dry (RAC)	In the current JMPR IESTI model dry hops are treated as case 3 commodities.	Japan USA
Dried tea	DT 1114	Tea, green, black (RAC)	In the current JMPR IESTI model dried tea is treated as case 3 commodity.	Japan THIE
Dried herb teas	DT 0446 DT 1110 DT 1113 - -	Roselle (RAC) Camomile (RAC) Mate (RAC) Rooibos leaves (RAC) Valerian root (RAC)	In the current JMPR IESTI model dried herb teas are treated as case 3 commodities.	Japan USA THIE (camomile, mate, rooibos, valerian root, roselle hibiscus, rose hips, fruits)
Canned fruits	FC 0003 FC 0005 FT 0337 FI 0345 FI 0350 FI 0353 FI 0341	Subgroup of Mandarins Subgroup of Grapefruits Guava Mango Papaya Pineapple Kiwifruit	Canned fruits, which are divided in parts or cut to pieces before being canned, are treated as case 3 in the current JMPR IESTI model.	Japan (mandarins, strawberries, pears, peaches) Thailand (pineapple),
	DM 0305 FB 0020 FB 0021 FB 0264 FB 0265 FB 0269 FB 0272 FB 0275 FI 0343 FP 0230 FS 0013 FS 0014 FS 0240 FS 0245 FS 0247	Table olives Blueberries Currants, black, red, white Blackberries Cranberry Grapes Raspberries, red, black Strawberry Litchi Pear Subgroup of Cherries Subgroup of Plums Apricot Nectarine Peach	Canned fruits, which can be derived from a single fruit because whole fruits or fruit halves are canned, are treated as case 1 or case 2 in the current JMPR IESTI model, depending on the weight of the canned fruit units. Some of these case 1 and case 2 classifications used in the JMPR IESTI model are challenged. Canned pineapple is cut to pieces or slices before being canned and is treated as case 3 in the current JMPR IESTI model because it does not refer to the original unit weight. However, canned pineapple could also be treated as case 2, because a single pineapple can end up in a single can. Canned/preserved table olives and canned litchis still represent the original fruits and can still be considered as individual units (U<25 g) and hence are considered case 1 in the current JMPR IESTI model as is the RAC.	Canada (blueberries)

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
			However, canned/preserved table olives and canned litchis could also be treated as case 3 because the commodities are industrially bulked or blended (over several farms or pesticide treatment regimes).	
Canned vegetables	VA 0381	Garlic	Canned vegetables, which are divided in parts or cut to pieces before being canned, are treated as case 3 in the current JMPR IESTI model.	-
	VA 0385	Onion, bulb		
	VA 0384	Leek		
	VB 0041	Cabbages, head		
	VC 0431	Squash, Summer		
	VC 0046	Melons		
	VO 0440	Egg plant (Aubergine)		
	VL 0476	Endive (i.e. Escarole)		
	VL 0502	Spinach		
	VL 0480	Kale		
	VR 0574	Beetroot		
	VR 0578	Celeriac		
	VR 0498	Salsify (Oyster plant)		
	VR 0497	Swede (Rutabaga)		
	VS 0624	Celery		
	VS 0622	Bamboo shoots		
	GC 1275	Sweet corn kernels		
	HH 0624	Celery leaves		
	HS 0784	Ginger, root		
	VB 0402	Brussels sprouts	Canned vegetables that can be derived from a single vegetable because whole vegetables or vegetable halves are canned are treated as case 1 or case 2 in the current JMPR IESTI model, depending on the weight of the canned vegetable. Some of these case 1 and case 2 classifications used in the JMPR IESTI model are challenged. Canned green peas without pods still represent the original seeds and can still be considered as individual units (U<25 g) and hence are considered case 1 in the current JMPR IESTI model as is the RAC. However, canned green peas without pods could also be treated as case 3 because the commodity is industrially bulked or blended (over several farms or pesticide treatment regimes). Canned carrots are generally small (whole) carrots and these can still be considered as individual units (U<25 g) and hence are considered case 1 in the current JMPR IESTI model. However, canned carrots could also be treated as case 3 because the commodity is industrially bulked or blended (over several farms or pesticide treatment regimes).	-
	VF 0449	Fungi, edible, except mushrooms (mainly wild)		
	VF 0450	Mushrooms (cultivated)		
	VL 0269	Grape leaves		
	VO 0445	Peppers, sweet (incl. pimiento)		
	VO 0448	Tomato		
	VP 0061	Green beans with pods (immature)		
	VP 0062	Green beans without pods (succulent seeds)		
	VP 0064	Peas without pods (succulent seeds)		
	VP 0523	Broad bean without pods (succulent seeds)		
	VR 0577	Carrot		
	VR 0589	Potato		
	VS 0620	Artichoke globe		
	VS 0621	Asparagus		
	VS 0626	Palm hearts		
	GC 3081	Baby corn		

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
Canned pulses	VD 0071	Beans (dry)	In the current JMPR IESTI model canned pulses are treated in two ways: pre-harvest treatment = case 3 post-harvest treatment = case 1	See dry pulses (RAC)
	VD 0523	Broad bean (dry)		
	VD 0072	Peas (dry) (Pisum spp)		
	VD 0524	Chick-pea (dry)		
	VD 0533	Lentil (dry)		
Dried fruits	FI 0327	Banana	Dried fruits which are divided in parts or cut to pieces before being dried are treated as case 3 in the current JMPR IESTI model.	INC
	FI 0345	Mango		
	FI 0353	Pineapple		
	FI 0350	Papaya		
	FT 0305	Table olives		
	DF 0014	Subgroup of Plums (i.e. prunes)	Dried fruits that can be derived from a single fruit (because the original fruit or the fruit halve is dried), are treated as case 1 or case 2 in the current JMPR IESTI model, depending on the weight of the dried fruit. Some of these case 1 and case 3 classifications used in the JMPR IESTI model are challenged. Dried grapes (raisins, currants and sultanas) are derived from grape berries and a such the berry is not cut into pieces and can still be considered an individual unit (U<25g) and hence is considered case 1 in the current JMPR IESTI model. However, dried grapes could also be treated as case 3 because the commodity is industrially bulked or blended (over several farms or pesticide treatment regimes). Dried cranberries still represent the original berries and can still be considered an individual unit (U<25g) and hence is considered case 1 in the current JMPR IESTI model as is the RAC. However, dried cranberries could also be treated as case 3 because the commodity is industrially bulked or blended (over several farms or pesticide treatment regimes).	INC (raisins)
	DF 0226	Apple		
	DF 0240	Apricot		
	DF 0269	Grapes (i.e. raisins, currants, sultanas)		
	DF 0295	Date		
	DF 0297	Fig		
	FB 0020	Blueberries		
	FB 0021	Currants, black, red, white		
	FB 0264	Blackberries		
	FB 0265	Cranberry		
	FB 0272	Raspberries, red, black		
	FB 0275	Strawberry		
	FB 1235	Table grapes (i.e. raisins, currants, sultanas)		
	FI 0343	Litchi		
	FP 0230	Pear		
	FP 0307	Persimmon, Japanese (i.e. Kaki fruit)		
	FS 0013	Subgroup of Cherries		
	FS 0245	Nectarine		
	FS 0247	Peach		
	FT 0289	Carambola		
	VF 0449	Fungi, edible, except mushrooms (mainly wild)		
	VF 0450	Mushrooms (cultivated)		
	VO 0444	Peppers, chili		
	VO 0448	Tomato		
	VO 2704	Goji berry		
	VP 0061	Beans with pods		
	VP 0064	Peas without pods (succulent seeds)		

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
Dried vegetables	VR 0587	Parsley, turnip-rooted	Dried vegetables which are divided in parts or cut to pieces before being dried are treated as case 3 in the current JMPR IESTI model.	-
	VA 0381	Garlic		
	VA 0385	Onion, bulb		
	VA 0384	Leek		
	VB 0400	Broccoli		
	VB 0404	Cauliflower		
	VB 0041	Cabbages, head		
	VC 0431	Squash, Summer		
	VC 0046	Melons		
	VO 0445	Peppers, sweet		
	VO 0440	Egg plant		
	VL 0465	Chervil		
	VL 0502	Spinach		
	VL 0480	Kale		
	VR 0577	Carrot		
	VR 0578	Celeriac		
	VR 0588	Parsnip		
	VR 0506	Turnip, garden		
	VR 0589	Potato		
	VS 0621	Asparagus		
	GC 0447	Sweet corn (on-the-cob)		
	GC 1275	Sweet corn (kernels)		
	VF 0449	Fungi, edible, except mushrooms (mainly wild)	Dried vegetables that can be derived from a single commodity (because the original vegetable is dried), are treated as case 1 or case 2 in the current JMPR IESTI model, depending on the weight of the dried commodity.	-
	VF 0450	Mushrooms (cultivated)		
	VO 0444	Peppers, chili		
	VO 0448	Tomato		
	VO 2704	Goji berry		
	VP 0061	Beans with pods (immature pods with seeds)		
	VP 0064	Peas without pods (succulent seeds)		
Dried herbs and dried spices	HH 0624	Celery leaves	Herbs and spices are divided in parts or cut to pieces before being dried and are treated as case 3 in the current JMPR IESTI model. Some dried spices are ground to powders before being traded.	THIE (mint, lemongrass, sage, ginger roots)
	DH 0722	Basil		
	DH 0723	Bay leaves		
	HH 0733	Hyssop		
	DH 0736	Marjoram		
	DH 0738	Mints		
	HH 0740	Parsley		
	DH 0741	Rosemary		
	DH 0743	Sage		
	HH 0745	Savory, summer, winter		
	HH 0749	Tarragon		
	DH 0750	Thyme		
	HH 0756	Coriander leaves		
	HH 0761	Lemongrass		
	HS 0783	Galangal, rhizomes		
	HS 0794	Turmeric, root		
	HS 0784	Ginger, root		

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
Fruit juices	FC 0204	Lemon	No unit weight can be assigned to fruit juices and they are treated as case 3 in the current JMPR IESTI model.	United Kingdom (information provided by BSDA and BFJA) USA IFU (orange, pome fruit juice, pineapple, mango juice)
	FC 0205	Lime		
	FC 0003	Subgroup of Mandarins		
	JF 0004	Subgroup of Oranges		
	FC 0005	Subgroup of Pummelo		
	JF 0226	Apple		
	FP 0230	Pear		
	FP 2220	Azarole		
	FS 0013	Subgroup of Cherries		
	FS 0240	Apricot		
	FS 0245	Nectarine		
	FS 0247	Peach		
	FS 0014	Subgroup of Plums		
	FB 0272	Raspberries, red, black		
	FB 0264	Blackberries		
	FB 0020	Blueberries		
	FB 0021	Currants, black,		
	FB 0273	Rose hips		
	FB 0267	Elderberries		
	JF 0269	Grapes		
	FB 1236	Wine grapes		
	FB 0275	Strawberry		
	FB 0265	Cranberry		
	FT 0287	Barbados cherry (acerola)		
	FT 0338	Guava		
	FI 0343	Litchi		
	FI 0327	Banana		
	FI 0345	Mango		
	FI 0350	Papaya		
	JF 0341	Pineapple		
	FI 0365	Soursop (Guanabana)		
	FI 0351	Passion fruit (maracuja)		
	FI 0355	Pomegranate		
	FI 0341	Kiwifruit		
	FI 2483	Cupuaçu		
Vegetable and herb juices	VA 0385	Onion, bulb	No unit weight can be assigned to vegetable and herb juices and they are treated as case 3 in the current JMPR IESTI model.	USA IFU (tomato juice) WPTC (tomato juice)
	VC 0424	Cucumber		
	VC 0429	Pumpkins		
	VC 0046	Melons		
	VC 0432	Watermelon		
	JF 0448	Tomato		
	VO 0445	Peppers, sweet		
	VL 0510	Cos lettuce		
	VL 0482	Lettuce, head		
	VL 0483	Lettuce, leaf		
	VL 0502	Spinach		
	VR 0574	Beetroot		
	VR 0577	Carrot		

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
	VR 0578	Celeriac		
	VS 0624	Celery		
	HH 0722	Basil		
	HH 0738	Mints		
	HH 0740	Parsley		
Jams, jellies, marmalades	FC 0204	Lemon	No unit weight can be assigned to jams, jellies and marmalades and they are treated as case 3 in the current JMPR IESTI model.	USA
	FC 0003	Subgroup of Mandarins		
	FC 0004	Subgroup of Oranges		
	FP 0226	Apple		
	FP 0231	Quince		
	FS 0013	Subgroup of Cherries		
	FS 0014	Subgroup of Plums		
	FS 0240	Apricot		
	FS 0245	Nectarine		
	FS 0247	Peach		
	FB 0264	Blackberries		
	FB 0272	Raspberries, red, black		
	FB 0020	Blueberries		
	FB 0021	Currants, black, red,		
	FB 0273	Rose hips		
	FB 0267	Elderberries		
	FB 0265	Cranberry		
	FB 0275	Strawberry		
	FT 0297	Fig		
	FI 0353	Pineapple		
	HS 0784	Ginger, root		
Essential oils	FC 0204	Lemon	No unit weight can be assigned to oils and they are treated as case 3 in the current JMPR IESTI model.	USA
	FC 0205	Lime		
	FC 0004	Subgroup of Oranges		
	FC 0005	Subgroup of Pummelo		
Olive oil	OR 0305	Olives for oil extraction	No unit weight can be assigned to oils and they are treated as case 3 in the current JMPR IESTI model.	USA
Refined oils	OR 0541	Soya bean (dry)	No unit weight can be assigned to oils and they are treated as case 3 in the current JMPR IESTI model.	USA
	GC 0649	Rice (bran oil)		
	OR 0645	Maize (corn)		
	TN 0295	Cashew nut		
	TN 0660	Almonds		
	OR 0665	Coconut		
	TN 0672	Pecan		
	TN 0678	Walnut		
	OR 0495	Rape seed		
	OR 0691	Cotton seed		
	SO 0693	Linseed (Flax-seed)		
	OR 1240	Palm kernels		
	OR 0696	Palm fruit		
	OR 0697	Peanut, shelled		
	SO 0698	Poppy seed		

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
	OR 0699	Safflower seed		
	OR 0700	Sesame seed		
	OR 0702	Sunflower seed		
	-	Borage seeds		
	-	Cucurbitaceae seeds		
	-	Grape seed		
	TN 0669	Macadamia nut		
Industrially prepared sauce/puree	FP 0226	Apple	The large portions derived from food surveys relate to sauce/puree that has been bought in a shop and hence represent industrial procedures. No unit weight can be assigned to sauce/puree and hence sauce/puree is treated as case 3 in the current JMPR IESTI model. The case 3 classification used in the JMPR IESTI model is challenged. Sauce/puree does not necessarily imply industrial processing, but can also relate to household processing. When household processing is taken into account, case 1 would be more appropriate.	Japan United Kingdom (information provided by BSDA and BFJA) USA
	FP 0230	Pear		
	FS 0014	Subgroup of Plums		
	FS 0240	Apricot		
	FB 0272	Raspberries, red, black		
	FB 0020	Blueberries		
	FB 0021	Currants, black, red		
	FB 0265	Cranberry		
	FB 0275	Strawberry		
	FI 0369	Tamarind (sweet)		
	FI 0327	Banana		
	FI 0345	Mango		
	VS 0627	Rhubarb		
	VO 0448	Tomato		
Industrially prepared paste	VO 0448	Tomato	The large portions derived from food surveys relate to paste that has been bought in a shop and hence represent industrial procedures. No unit weight can be assigned to paste and hence paste is treated as case 3 in the current JMPR IESTI model.	USA WPTC (tomato paste)
	VO 0444	Peppers, chili		
Wine	FB 0269	Grapes	A single wine bottle does not contain the wine from a single grape bunch. No unit weight can be assigned to wine and wine is therefore treated as case 3 in the current JMPR IESTI model. The case 3 classification used in the JMPR IESTI model is challenged. Case 3 would postulate that wine grapes or wine from different producers are bulked/pooled. Wine could also be treated as case 1 because it is not unlikely that wine is coming from one vineyard, and thus, the HR would be a more appropriate estimator for the residues in wine.	USA FIVS
	FB 1236	Wine grapes		

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
Industrially frozen	FS 0245	Nectarine	The large portions derived from food surveys relate to frozen commodities that have been bought in a shop and hence represent industrial procedures. Fruits and vegetables are generally cut to pieces and blanched before being frozen industrially. Units weight cannot be assigned to such frozen commodities and the listed frozen commodities are therefore treated as case 3 in the current JMPR IESTI model. Frozen commodities do not necessarily imply industrial processing, but can also relate to household processing. When household processing is taken into account, case 1 would be more appropriate.	Thailand (durian (frozen) USA (blueberries)
	FS 0247	Peach		
	VA 0381	Garlic		
	VA 0385	Onion, bulb		
	VA 0384	Leek		
	VB 0400	Broccoli		
	VB 0404	Cauliflower		
	VB 0041	Cabbages, head		
	VC 0431	Squash, Summer		
	VO 0445	Peppers, sweet)		
	VL 0476	Endive (i.e. Escarole)		
	VL 0502	Spinach		
	VL 0480	Kale (Borecole, Collards)		
	VR 0574	Beetroot		
	VR 0577	Carrot		
	VR 0578	Celeriac		
	VR 0589	Potato		
	VS 0621	Asparagus		
	GC 0447	Sweet corn (on-the-cob)		
	GC 1275	Sweet corn (kernels)		
	HH 0624	Celery leaves		
	HH 0740	Parsley		
	FB 0020	Blueberries	Frozen fruits and vegetables that can be derived from a single commodity (because the original fruit or vegetable is frozen), are treated as case 1 or case 2 in the current JMPR IESTI model, depending on the weight of the frozen commodity. The case 3 classification used in the JMPR IESTI model is challenged.	<u>High bush blueberries:</u> Canada <u>Low-bush blueberries:</u> Canada USA
	FB 0275	Strawberry		
	VB 0402	Brussels sprouts		
	VP 0061	Beans with pods: (immature pods + succulent seeds)		
	VP 0062	Beans without pods:(succulent seeds)		
	VP 0063	Peas with pods: (immature pods + succulent seeds)		
	VP 0064	Peas without pods (succulent seeds)		
	VP 0523	Broad bean without pods (succulent seeds)		
Sauerkraut	VB 0041	Cabbages, head	Cabbages are cut to pieces before being transformed into sauerkraut.	
Industrial deep-fried – French fries	VR 0589	Potato	The large portions derived from food surveys relate to French fries that have been bought in a shop and hence represent industrial procedures. Potatoes are cut to pieces before being transformed into French fries.	
Industrial deep-fried – Crisps	VR 0589	Potato	The large portions derived from food surveys relate to crisps that have been bought in a shop and hence represent industrial procedures.	

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
			Potatoes are cut to thin slices before being transformed into crisps.	
Industrial pickled	VA 0384 VB 0041 VC 0424 VO 0445 VL 0466 VR 0574 VR 0577 VL 0468 VL 0485	Leek Cabbages, head Cucumber Peppers, sweet Chin cabbage (Pak-choi) Beetroot Carrot Flowering white cabbage Mustard greens	The large portions derived from food surveys relate to pickles that have been bought in a shop and hence represent industrial procedures.	
	HS 0773 VA 0385 VC 0425	Caper buds Onion, bulb Gherkin	Pickled vegetables which are divided in parts or cut to pieces before being dried are treated as case 3 in the current JMPR IESTI model. Pickled vegetables that can be derived from a single commodity (because the original vegetable is pickled), are treated as case 1 or case 2 in the current JMPR IESTI model, depending on the weight of the pickled commodity.	
Starch	VR 0573 VR 0463 VR 0589 VR 0504	Arrowroot Cassava (Manioc) Potato Tannia	No unit weight can be assigned to starch and starch is treated as case 3 in the current JMPR IESTI model.	
Coconut milk	TN 0665	Coconut	No unit weight can be assigned to coconut milk and it is treated as case 3 in the current JMPR IESTI model.	
Butter/paste	SO 0697 SO 0700 DM 1215	Peanut, shelled Sesame seed Cocoa beans	No unit weight can be assigned to butter/paste and it is treated as case 3 in the current JMPR IESTI model.	
Miso, soya sauce and tofu	VD 0541	Soya bean (dry)	No unit weight can be assigned to miso, soya sauce and tofu and it is treated as case 3 in the current JMPR IESTI model.	
Milk	VD 0541 GC 0650	Soya bean (dry) Rice	No unit weight can be assigned to milk and it is treated as case 3 in the current JMPR IESTI model.	
Flour of pulses and oilseeds	VD 0541 VD 0072 VD 0524 SO 0090	Soya bean (dry) Peas (dry) Chick-pea (dry) Mustard seed	No unit weight can be assigned to flour and it is treated as case 3 in the current JMPR IESTI model.	
Flour of fruits and vegetables	FT 0291 VR 0589 VR 0504 VR 0463 VR 0508	Carob Potato Tannia (Tanier, Yautia) Cassava (Manioc) Sweet potato	No unit weight can be assigned to flour and it is treated as case 3 in the current JMPR IESTI model.	
Bran, germ, grits, flour, starch	GC 0640 GC 0641 GC 0647 GC 0649 GC 0645	Barley Buckwheat Oats Rice Maize (corn)	No unit weight can be assigned to cereal milling products and they are treated as case 3 in the current JMPR IESTI model.	See cereal grains (RAC)

Commodities for which bulking or blending information is relevant to[(a)]			Further information on current JMPR procedures	Information submitted in response to CL 2019/73-PR
	GC 0646	Millet		
	GC 0650	Rye		
	GC 0651	Sorghum grain		
	GC 0654	Wheat		
Beer and malt	GC 0650	Rye	No unit weight can be assigned to beer and malt and they are treated as case 3 in the current JMPR IESTI model.	See cereal grains (RAC)
	GC 0654	Wheat		
	GC 0649	Rice		
	GC 0646	Millet		
	GC 0651	Sorghum grain		
	GC 0645	Maize (corn)		
	GC 0640	Barley		
Flakes	GC 0650	Rye	In the current JMPR IESTI model flakes are treated as case 3 commodities.	See cereal grains (RAC)
	GC 0654	Wheat		
	GC 0640	Barley		
	GC 0641	Buckwheat		
	GC 0647	Oats		
	GC 0645	Maize (corn)		

General comments (not related to individual commodities listed above):

Mexico: Considering that there are many companies that sell the products listed above, they have several warehouses where they receive products from their different suppliers, it is common that these products come from various farms, warehouses, and therefore from different pre and post-harvest treatment regimes.

It is important to note that the export of agricultural products will require information requested by the exporting country, as in the case of the European Union where the directives of the European Parliament and the council indicate that one of the production level requirements to be reported It is the pre and post-harvest treatment of the product to be exported, so this information could be obtained from the quality report provided by the exporter. (Google translation of comments submitted in Spanish).

Egypt:

We think that may some internationally traded or consumed portion of the commodities can be derived from a single commodity unit, a single farm or a single storage facility or a single pesticide treatment regime. In Egypt there are no applied quality control systems to refer all single products back to their producing farms, but there is an applied control system on some commodities such as (Citrus Fruits, Strawberry, Guava and Potatoes).

The internationally traded or consumed portion of the commodities listed in Annex I of the CL are usually bulked or blended over several farms (in case of pre-harvest treatments), over several storage facilities (in case of post-harvest treatments) or over several pesticide treatment regimes (in case of large production farms) before the commodity is internationally traded or consumed.

Bulking and blending is used to fulfil the requested traded quantities for the international traded commodities, it should be derived from several farms (which will be using different pesticides with different storage facilities); to reach a degree of grade for some commodities, food operators has to mix or bulk commodities from different farms. Upon the request of buyer, to fulfil quality requirement related to sizes for instant.

In Egypt, the coded farms have records for the quantitative and quantitative description.

(a) Commodities/group of products which are calculated according to IESTI case 3 (for pre-harvest treatments) or IESTI case 1 (if post-harvest treatment is relevant) are presented without shading.
Commodities/groups of products for which it is current JMPR practice to calculate short-term dietary exposure according to case 1 or 2 are shaded in grey.

APPENDIX XIV

ENGAGEMENT OF JMPR IN PARALLEL REVIEWS OF NEW COMPOUNDS PROCEDURES AND PRINCIPLES

(For reference by CCPR)

2 – SELECTION OF PESTICIDES FOR JMPR EVALUATION

2.1 – Nomination process - timelines

- The current timelines for the nomination of new compounds would also apply to those part of a parallel review process.
    - September - November 30 – EWG on Priorities' request for nominations: Codex Committee on Pesticide Residues (CCPR) members/observers submit nominations for a new compound, indicating if they would like JMPR to engage in a parallel review, which countries have agreed to engage in the review, and when data packages, including the proposed GAP, will be available. (*Note: Should the process be officially adopted, the nomination form would need to be amended accordingly*).
    - January – EWG on Priorities circulates proposed Schedule and Priority List for Comments
    - April – CCPR agrees to forward the JMPR Evaluation Schedule for the following year to the Codex Alimentarius Committee (CAC) for approval.
    - July – CAC approves the proposed JMPR Evaluation Schedule for the following year.

2.2 – Nomination requirements and criteria for the prioritization and scheduling pesticides for evaluation by JMPR[1]

- **Nomination requirements – new pesticides[2]**

  The current nomination requirements of new pesticides would also apply to those part of a parallel review process:
    - An intention[3] to register the pesticide for use in a member country, or more than one member country for pesticides that will undergo a JMPR parallel review.
    - The foods or feeds proposed for consideration should be traded internationally.
    - There is a commitment by the member/observer of the pesticide to provide supporting data for review in response to the JMPR "data call-in".
    - The use of the pesticide is expected to give rise to residues in or on a food or feed moving in international trade.
    - The pesticide has not been already accepted for consideration.
    - The nomination form has been completed.
- **Prioritization criteria[4]**

  The current prioritization criteria of new pesticides would also apply to those part of a parallel review process, such as:
    - Timing of data availability.
    - Commitment by the member/observer to provide supporting data for review with a firm date for data submission.
    - The provision of information on the foods or feeds for which CXL are sought and the number of trials for each food or feed.

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1 The Risk Analysis Principles applied by CCPR can be found in the Procedural Manual of the Codex Alimentarius Commission (CAC) available on the Codex website at: http://www.fao.org/fao-who-codexalimentarius/publications/en/

2 CAC Procedural Manual, Section IV – Risk Analysis, Risk Analysis Principles applied by CCPR, sub-section 5.2.2, paragraph 61

3 A complete data package may have been submitted to participating countries – or – countries have agreed to participate in a parallel review.

4 CAC Procedural Manual, Section IV – Risk Analysis, Risk Analysis Principles applied by CCPR, sub-section 5.2.2, paragraph 62

- **Scheduling criteria**[5]

1. The current scheduling criteria requires a pesticide to be registered for use in a country and formulation labels available to allow the scheduling of a compound for JMPR evaluation in the following year.

2. Considering that a parallel review implies the JMPR assessment of a pesticide prior to its registration in a country, a new sub-paragraph would be needed to acknowledge this new sub-category as follows:

   Only pesticides nominated for a parallel review will be exempted from the requirement for a national registration at the time of scheduling. In order for CCPR to agree to having a pesticide evaluated by the JMPR as part of a parallel review, the complete data package as required by JMPR (see data categories in section 4.2.) must be made available at, or shortly after the CCPR meeting. This will allow JMPR to initiate the parallel review process as soon as the product nominations are approved by CAC in July of each year.

3 – JMPR CALL FOR DATA

3. The JMPR Secretariat typically develops the JMPR assignment list, and assigns compounds for review by FAO/WHO experts in the last quarter of the calendar year. The JMPR call for data is typically undertaken in November with a submission deadline of late-December. It is suggested that the JMPR Secretariat consider early planning for parallel reviews (i.e. early identification of evaluators and early data-intake).

4 – PARALLEL REVIEW

4.1 – Project management

4. It is suggested to identify a global project manager to oversee the parallel review, in close collaboration with the WHO/FAO JMPR Secretariat/JMPR reviewers and national points of contact (governments). The global project manager would liaise with all parties including the sponsors and ensure that the identified timelines and milestones are met throughout the process which includes the conduct of the data completeness check.

4.2 - Interaction between national and JMPR reviewers

5. The nature of parallel reviews implies that it is conducted concurrently with national reviews and that the interaction between reviewers may occur to discuss scientific matters related to the data packages.

6. To optimize the participation of the JMPR in the parallel review process, the JMPR reviewers would be assigned following the endorsement of the schedule by CAC in July, and submission of the JMPR dossier could also occur shortly thereafter (prior to the regular data call-in). The JMPR Secretariat will carefully select the JMPR reviewers to ensure they are not the same experts as the ones involved in the national registration process.

7. To support information-sharing and the engagement of the JMPR reviewers in the parallel review, the contact information of the JMPR reviewer would be provided to the global project manager responsible for coordinating the joint review.

8. The concept of parallel reviews also requires that the exact same data package for toxicology, product chemistry, residue chemistry, including metabolism and environmental fate, be provided to national regulatory agencies and JMPR.

9. In the event that additional toxicology or residue chemistry information is provided to one party, sponsors must ensure that it is provided to all other parties, including JMPR, such that data packages under review remain identical.

4.3 - Parallel review timelines

10. Other than an earlier review start by national authorities, it is possible that the parallel review will take place over two JMPR Meetings (see table 1; while timelines are outdated they are intended for reference purposes only). Should that be the case, there would be an opportunity for the JMPR reviewer engaged in the parallel review to discuss metabolites /residue definition for MRL enforcement during the JMPR meeting of the first cycle (about a year following the beginning of the parallel review).

4.4 - Changes to the draft label

11. Should final conditions of registration (i.e., application rate, number of applications, etc) in member countries differ from the GAP reviewed by the JMPR, the expert would apply the FAO 25% variation rules, proportionality or any other applicable approach, to determine whether the recommended maximum residue limits must be recalculated and the dietary risk assessments reviewed.

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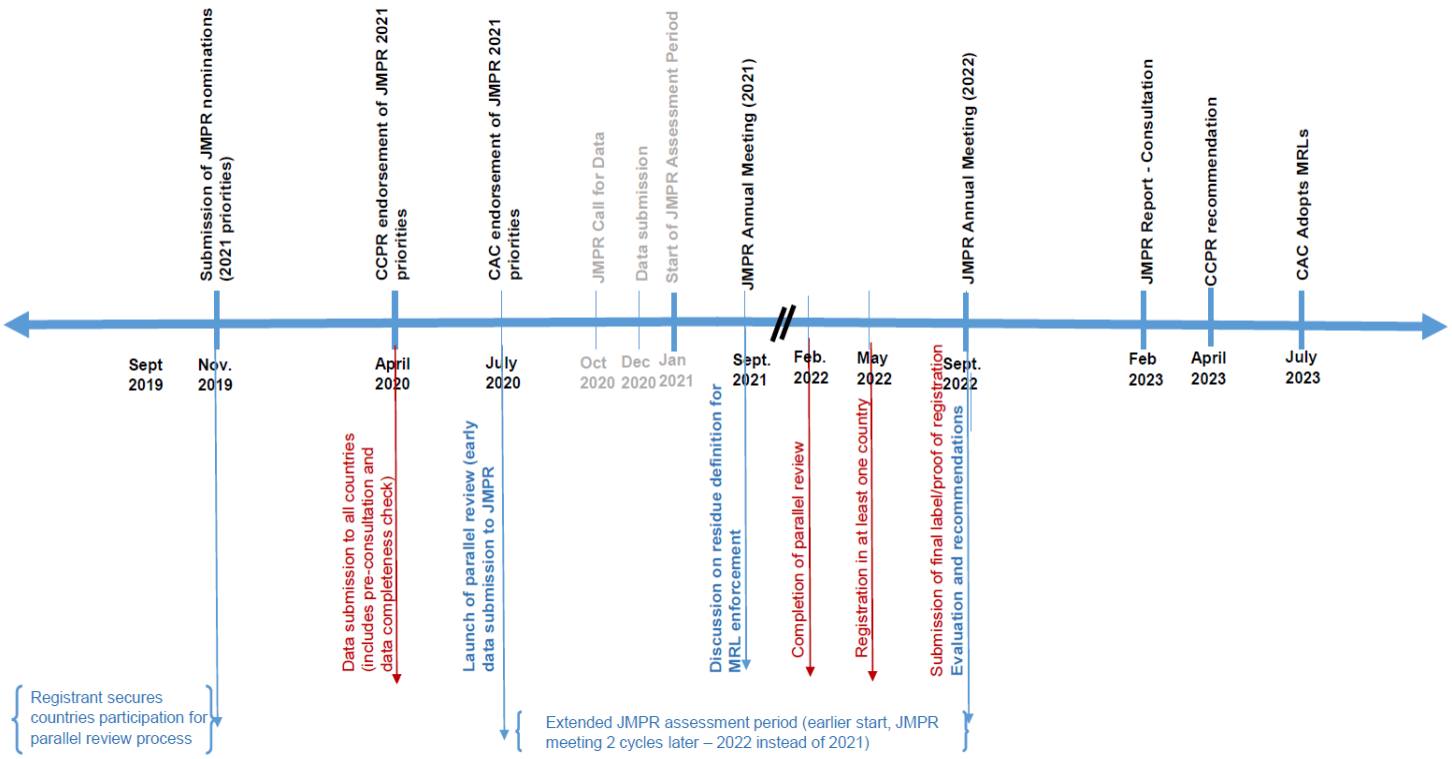
5 CAC Procedural Manual, Section IV – Risk Analysis, Risk Analysis Principles applied by CCPR, sub-section 5.2.2, paragraph 63

12. JMPR recommendations to the CCPR occur by consensus. Should changes to the GAP go beyond the principles established by JMPR, and occur following the JMPR annual meeting, the JMPR reviewer would update the evaluation accordingly, consult with participating countries/sponsor and seek endorsement from the JMPR Meeting. The post-review update should be completed prior to the finalization and distribution of the JMPR final report in February, or postponed to the following JMPR Annual Meeting. Considerations should be given to alternative means for decision-making outside of the annual JMPR Meetings, such as teleconferences and email correspondence.

13. The table below is meant to illustrate potential timelines for a parallel review and how they could align with key CCPR/JMPR milestones. Twenty-two months were used as the proxy for national reviews. The timelines for public consultations and product registration would differ per participating countries; the proxy used for public consultation and product registration is three months.

Table 1: Scenario – projected timelines (over 2 JMPR Meetings)



5 - RISK ASSESSMENT METHOLODOGY

14. The JMPR experts engaged in the parallel review would review data packages and provide scientific advice according to the existing evaluation methodologies of the JMPR:

15. FAO Manual on the Submission and evaluation of pesticide residues data for the estimation of MRLs

- JMPR Guidance Document for WHO monographers and reviewers

16. It is also expected that the parallel review will build on the latest OECD guidance on definition of residues[6], which will facilitate alignment of residue definitions for MRL enforcement to the extent possible. It is recommended that alignment of crop categories be discussed between parties.

17. There is recognition that parallel reviews may contribute to alignment of decisions between parties (e.g. MRLs, residue definitions, etc.). However, as all parties will conduct their risk assessment based on their organizational requirements and methodologies, reaching consensus may not be achievable. While differences should be discussed, individual review/registration processes should continue as planned to avoid delays.

6 OECD currently working on a revision of its 2009 *Guidance Document on Definition of Residue*, in collaboration with JECFA, FAO and WHO experts.

6 – SUBMISSION OF FINAL LABEL

18. JMPR's proposed MRLs are typically presented to CCPR in February of each year. At that time, pesticides assessed under the parallel review process should be registered in at least one country, and final label and proof of registration submitted to the JMPR Secretariat. Inability to complete this step of the parallel review would postpone the JMPR MRL recommendation to the following year.

7 – INTERACTION BETWEEN JMPR REVIEWERS AND THIRD PARTIES (NATIONAL REGULATORS, SPONSOR)

19. Evaluators may wish to communicate with the data sponsor throughout the evaluation process to seek clarification or request that additional data be submitted. It is suggested to centralize communications with and from the data sponsor through the global project manager. The objective of centralizing communications would be to streamline communications with the sponsor, promote transparency, and ensure all reviewers receive the same additional data/information or clarifications from the sponsor.

APPENDIX XV

PRIORITY LIST OF PESTICIDES FOR EVALUATION BY JMPR
(For approval by CAC)

2022 - NEW COMPOUND EVALUATIONS										
PRIORITY	DATE STAMP	TOXICOLOGY	RESIDUE	PRIORITISATION CRITERIA			COMMODITIES	RESIDUE TRIALS	MEMBER / MANUFACTURER	COMMENTS
				REGISTERED	MRLS > LOQ	FAO NOMINATION FORM RECEIVED?				
1	30/10/2015	Fluazinam	Fluazinam	Yes	Yes	Yes	USA-BUSHBERRY; LETTUCE, HEAD AND LEAF; MELONS; SQUASHES/CUCUMBERS; PEPPERS/EGGPLANTS; PEANUTS; TUBEROUS AND CORM VEGETABLES; SOYBEAN; TEA	USA&CAN: Blueberry (13); Head lettuce (7); Leaf lettuce (7); Cantaloupe (11); Cucumber (6); Summer squash (6); Bell pepper (9); Non-bell pepper (4); Peanut (9); Potato (12); Soybean (16); JPN: Tea (5)	USA / ISK Biosciences; Ishihara Sangyo Kaisha	Fungicide; Revised nomination form on 25 Nov 2015 / fungicide. 15 June 2021 labels provided.
2	26/11/2019	Isotianil	Isotianil	Yes	Yes	Yes	FRUITING VEGETABLES (GH+Field), POTATO, Mango, BANANA, CUCURBITS (GH+Field), Citrus	Tomato (20 + 2 processing), Bell pepper (16), Chili pepper (7), Potato (20 + 2 processing), Mango (4), Cucumber (20), Melon (20), Squash (20), Banana (13)	Bayer AG	Plant defense inducer/fungicide/bactericide
3	8/09/2016	Isocycloseram (formerly called SYN547407, SYN407)	Isocycloseram (formerly called SYN547407, SYN407)	Yes	Yes	Yes (from Syngenta; US submission completed)	BRASSICA HEAD and stem VEGETABLES, citrus, corn, cotton, CUCURBIT VEGETABLES, FRUITING VEGETABLES, GREEN ONIONS, pome fruit, POTATO, stone fruit and soybeans	Cabbage (10), broccoli (10), cauliflower (10), brussels sprout (4), citrus (25), corn (27), cotton (12), cucumber (8), squash (8), melons (8), tomato (16), peppers (16), green onions (6), apple (18), pear (12), potato (26), cherry (10), plum (10), peach (13) and soybean (21)	Syngenta	Insecticide Syngenta Nov-17: Please move to 2022, due to a change in registration strategy; previously listed as SYN407, expected to be registered June 2021. Notified 15 April 2021 that submission accepted by Guatemala, expect registration approvaly by July 2021. Proof of registration in Honduras provided 27 May 2021.
4	13/11/2019	Acynonapyr	Acynonapyr	Yes	Yes	Yes	Apples, Pears, Eggplant, Mandarins	Apples (8), Pears (8), Eggplant (8), Mandarins (8)	Japan/Nippon Soda Co Ltd	Insecticide
5	26/11/2020	1,4-dimethylnaphthalene (1,4-DMN)	1,4-dimethylnaphthalene (1,4-DMN)	Yes	Yes	Yes (from Germany)	POTATOES	Potatoes (15)	1,4GROUP, Inc. 2307 E. Commercial St. Ste. A Meridian ID 83642 USA	Represented by: RIFCON GmbH Goldbeckstrasse 13 D-69493 Hirschberg Germany
6	30/11/2020	Mepiquat chloride	Mepiquat chloride	Yes	Yes		GRAPES	Grapes (8)	Nisso/BASF	

2022 - NEW USES AND OTHER EVALUATIONS									
PRIORITY	DATE STAMP	TOXICOLOGY	RESIDUE	PRIORITISATION		COMMODITIES	RESIDUE TRIALS	MEMBER / MANUFACTURER	COMMENTS
				REGISTERED	MRLS > LOQ				
1	4/11/2019	NA	Dinotefuran (255)	Yes	Yes	GOJI BERRY; GOJI BERRY, DRIED; TEA	Goji berry (4); tea (8)	China	Requested for 2022 JMPR review. (Mitsui Chemical nominations deferred to 2023).
2	28/11/2017	NA	Fluopyram (243)	Yes	Yes	Carrot (Morocco), WHEAT, BARLEY, SORGHUM	Wheat (12), barley (10), sorghum (4)	Bayer AG	Moved from 2020 to 2022 on request; Morocco proposed carrot; Bayer requested to move coffee to May 2021; Bayer requested to move cereals from 2020 to 2022; Bayer added avocado 26 November 2020; On 10 June 2021 company requested move of all commodities except cereals and carrots to 2024.
3	28/11/2017	NA	Flupyradifurone (285)	Yes	Yes	ASPARAGUS, SUNFLOWER, PINEAPPLE, SESAME, MANGO, PAPAYA	Asparagus (8), sunflower (10+1 processing), pineapple (5+1 processing), sesame (4+1 processing), mango (8), papaya (4)	Bayer AG	On 10 June 2021 company cancelled sweet sorghum and date nomination and requested olives and rapeseed move to 2023.
4	4/11/2019	NA	Difenoconazole (224)	Yes	Yes	PENCIL YAM; PENCIL YAM, DRIED; GOJI BERRY; GOJI BERRY, DRIED; TEA; GINGER FRESH	Pencil yam (4); goji berry (4)	China	Requested for 2022 JMPR review
4	29/11/2019	NA	Difenoconazole (224)	Yes	Yes	SUBGROUP OF CHERRIES (FS 0013); CHIVES (VA 4155); SUBGROUP OF PEACHES (FS 2001); SUBGROUP OF PLUMS (FS 0014); Subgroup 13B brassica leafy vegetables VL 0054; RADISH (VR0494); SUBGROUP OF TUBEROUS AND CORM VEGETABLES (VR 2071). , Subgroup 20E Maize cereals GC 2091, Subgroup 4A Cane Berries	Cherries (6), chive (3), peaches (9), plum (6), plum, damson plum, turnips (5), radish (5) and sweet potato (5) , caneberries(8), corn (24)	Syngenta	Advice 29 September 2020 on label for peach, plum, guava, cherry. Advice on 26 February 2021 other commodities.
5	4/11/2019	NA	Diflubenzuron (130)	Yes	Yes	TEA	Tea (8)	China	Requested for 2022 JMPR review
6	29/11/2019	NA	Propiconazole (160)	Yes	Yes	AVOCADO (FI 0326); PEANUT, SHELLED (GROUNDNUT) (SO 0697); RICE	Avocado (6), peanuts (12)	Syngenta	Advice 29092020 on label for peanuts, avocado. Advice 11062021 on label for rice.

2022 - NEW USES AND OTHER EVALUATIONS									
PRIORITY	DATE STAMP	TOXICOLOGY	RESIDUE	PRIORITISATION		COMMODITIES	RESIDUE TRIALS	MEMBER / MANUFACTURER	COMMENTS
				REGISTERED	MRLS > LOQ				
7	29/11/2019	Emamectin (247)	Emamectin (247)	Yes	Yes	SUBGROUP OF HERBS (HH 2095); SUBGROUP OF FLOWERHEAD BRASSICAS (VB 0042); CHIVES (VA 4155); SPINACH (VL0502), TURNIP GREEN (VL0506), TEA (DT1114), Coffee beans (SB 0716), Soya bean (dry) (VD 0541); VL 0401 broccoli, Chinese-Thailand	Basil (4), broccoli & cauliflower (13), chives (6), spinach (6), turnips (6), tea (5), coffee beans (5), soybean (20); broccoli, Chinese (6)-Thailand	Syngenta	Advice 29092020 on label for brassica leafy vegetables Coffee label should be approved by Dec 2021 and Soybean by April 2021. Advice on 26022021 tea classification.
8	29/11/2019 & China's nomination 12/11/2020	NA	Thiamethoxam (245), China included Clothianidin (238)	Yes	Yes	CELERY (VS 0624); GROUP OF TREE NUTS (TN 0085); SUBGROUP OF BULB ONIONS (VA 2031); ALFALFA HAY (AL3350), Oat (GC 0647); China: Goji berry; goji berry, dried	Celery (6), tree nuts (5), onions (7), alfalfa (24) Oat (12); goji berry (4)	Syngenta; China for goji berry	Advice 29 September 2020 on label for carrots, leafy vegetables, dry bulb onions, brassica leafy vegetables, treenuts, celery. China requested for 2022 JMPR review; clothianidin based on residue trials of thiamethoxam. Advice on 26 February 2021 other commodities.
9	28/11/2017; label provided 15122020	NA	Spiromesifen (294)	Yes	Yes	Caneberries (Canada); carrot, fig, guava, mandarines (Morocco); ORANGES (Morocco & Bayer), COFFEE, MANGO, PAPAYA, DRY BEANS (CHICKPEA, LENTILS, PEAS)	Orange (9 + 2 processing), coffee (8), Mango (8), Papaya (4), Dry beans (10 dry shelled beans; 7 succulent shelled beans)	Bayer AG	Morocco proposed carrot, fig, guava, mandarines, oranges; Bayer proposed oranges, coffee, mango, papaya, dry beans
10	29/11/2019	NA	Mefentrifluconazole (BAS 750 F)	Yes-All registered 2019; new uses expected latest 2021	Yes	ROOT AND TUBER VEGETABLES, SUGAR BEET, LEAFY VEGETABLES, brassica vegetables, stalk and stem vegetables, CANE BERRIES, BUSH BERRIES, STRAWBERRY, FRUITING VEGETABLES, BULB VEGETABLES, OILSEEDS, CUCURBITS, GRASS ALFALFA, CLOVER, SUGARCANE, globe artichoke, MANGO	Carrot (11), radish (7), sugarbeet (16), turnip (5), bulb onion (13), green onion (5), lettuce (16), spinach (8), mustard green (4), cabbage (8), broccoli (4), cauliflower (4), asparagus (4), celery (4), tomato (19), bell pepper (9), nonbell pepper (3), cucumber (9), squash (8), muskmelon (8), blackberry (6), blueberry (9), strawberry (11), grass (13), alfalfa (10), clover (10), cotton (12), sunflower (10), globe artichoke (4), mango (5)	USA/BASF	New uses currently under evaluation in USA, Europe and South America

2022 - NEW USES AND OTHER EVALUATIONS									
PRIORITY	DATE STAMP	TOXICOLOGY	RESIDUE	PRIORITISATION		COMMODITIES	RESIDUE TRIALS	MEMBER / MANUFACTURER	COMMENTS
				REGISTERED	MRLS > LOQ				
11	29/11/2019	Cyantraniliprole (263)	Cyantraniliprole (263)	Yes	Yes	SUBGROUP OF DRY PEAS (VD 2066); SUBGROUP OF DRY BEANS (VD 2065), Okra, Olives, Caneberries, Lettuce, Potato, Tomato, Grapes, Tea (DT1114?)	Dry peas and dry beans (15), chickpea (0) and lentils (0), Okra (), Olives (), Caneberries (), Lettuce (), Potato (), Tomato (), Grapes (), Tea ()	Syngenta	Advice 29 September 2020 on label/registration of top up uses - chickpea. Advice on 26 February 2021 others commodities.
12	29/11/2019	NA	Oxathiapiprolin (291)	Yes	Yes	SUBGROUP OF BUSH BERRIES (FB 2006); GROUP OF TREE NUTS (TN 0085); HOPS (DH 1100); SUBGROUP OF LOW GROWING BERRIES (FB 2009); AVOCADO (FI0326)	Blueberries (8), tree nuts (10), hops (5), strawberries (10), avocado (5)	Syngenta	Advice 29 September 2020 on label/registration of top up uses - blueberry, strawberry
13	16/10/2020	NA	Cyflumetofen (273)	Yes	Yes	STONE FRUITS, CUCURBITS WITH EDIBLE PEEL, FRUITING VEGETABLES - INEDIBLE PEEL, FRUITING VEGETABLES OTHER THAN CUCURBITS, HOPS	Stone fruits (40), cucurbits with edible peel (8), Fruiting vegetables – inedible peel (24), fruiting vegetables other than cucurbits (58) and hops (4)	BASF/OAT	
13	9/12/2020	NA	Cyflumetofen (273)	Yes	Yes	STONE FRUITS, CUCURBITS WITH EDIBLE PEEL, FRUITING VEGETABLES OTHER THAN CUCURBITS, HOPS	Stone fruits, cucurbits with edible peel, fruiting vegetables other than cucurbits, hops	The Netherlands	
14	11/06/2021	NA	Deltamethrin (135)	Yes	Yes	MANGO, PAPAYA	Mango (4), papaya (4)	Bayer AG	New nomination 26 November 2020. Awaiting registration in Brazil. Brazilian label provided by Bayer 11 June 2021.
15	27/11/2020	NA	Acetamiprid (246)	Yes	Yes	PULSES	Pulses (12)	Adama	A top-up evaluation is requested following the approval of acetamiprid on pulses in Australia to set a CXL of 0.1 mg/kg in line with the pending AUS MRL. APVMA label 121545.
16	29/11/2020	NA	Imazapyr (267)	Yes	Yes	RICE GRAIN	Rice (9)	BASF	Rice registered in Asia
17	29/11/2020	NA	Imazapic (266)	Yes	Yes	RICE GRAIN	Rice (9)	BASF	Request to increase current CXL for rice grain. Rice registered in Asia

2022 - NEW USES AND OTHER EVALUATIONS									
PRIORITY	DATE STAMP	TOXICOLOGY	RESIDUE	PRIORITISATION		COMMODITIES	RESIDUE TRIALS	MEMBER / MANUFACTURER	COMMENTS
				REGISTERED	MRLS > LOQ				
18	29/11/2020	NA	Metconazole (313)	Yes	Yes	WHEAT GRAIN, straw	Wheat grain (16), wheat staw (16)	BASF	EU trials submitted to supplement US trials submitted for 2019 review. Wheat registered in multiple countries.
19	1/12/2020	NA	Chlorantraniliprole (230)	Yes	Yes	AVOCADO, TEA	Avocado (5), Tea (8)	USA/FMC	
20	1/12/2020	NA	Cypermethrin zeta (118)	Yes	Yes	LEAFY VEGETABLES, CELERY, GREEN AND BULB ONION, BLUEBERRY, BLACKBERRY, AVOCADO	Lettuce leaf (8), Spinach (8), Celery (7), Mustard green (9), Green (2) and Bulb onion (3), Blueberry (6), Blackberry (3), Avocado (7)	USA/FMC	
RESERVE	1/12/2020	NA	Phosphonic acid (301)	Yes	Exempt from MRL in the US	CITRUS	Citrus (6 trials in the US and 6 trials in the EU)	USA/Luxembourg-Pamol, Inc	
RESERVE	19/07/2021	NA	Fosetyl Al (302)	Yes	Yes	RICE	Rice (6)	Thailand	
RESERVE		NA	Boscalid (BAS 510 F) (221)	No	Yes	Pomegranite	Pomegranite (4)	BASF	Registration expected EU spring 2021
RESERVE		NA	Methoprene (147)	No	Yes	Tree Nuts	Almonds (1, 5 farm sites), Pistachios (1, 5 farm sites)	USA/Wellmark	

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PRIORITY	**YEAR**	**TOXICOLOGY**	**RESIDUE**	**MEMBER / MANUFACTURER**	**COMMODITIES**	**COMMENTS**	**PREVIOUS EVALUATION**	**ADI**	**ARfD**
1	2021 (ON REQUEST, MOVED FROM 2020 RESERVE	Aldicarb (117)	Aldicarb (117)	AgLogic Chemical LLC	Citrus (oranges, grapefruit, lemons, limes), Cotton, Dry Beans, Peanuts, Soybeans, Sugar Beets, Sweet Potatoes	Awaiting further advice on commodities from sponsor _ UPDATE; may be moved to 2021 schedule if no advice received from sponsor; UPDATE October 2019-Awaiting data so requested to be moved to 2021.	Tox review conducted in 1997	0.003, 1995	0.003, 1995
2	2022	Dithiocarbamates (105) [Taminco]: (ferbam, maneb/mancozeb, propineb, thiram, ziram) - MOVE to 2020-22 2016 Additional advice; US Supports Mancozeb, Metiram, Propineb, Thiram, Ziram; moved to 2022 on request from manufacturers	Dithiocarbamates (105)	BASF, UPL, Indofil, Eastman Kodak-Taminco and Bayer Crop Science	**Longan (Thailand – mancozeb)¶Mancozeb:** 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**¶Metiram:** 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)**¶Propineb:** apples (50); grape (54); mango (5); citrus (31); tomato (36); potato (31); chili pepper (11); cucumber (27); rice (8); shallot (8)**¶Thiram (foliar):** 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)**¶Thiram (seed):** Sugar beet (4); Maize (8); Oilseed rape (8)**¶Ziram (foliar):** Peach (6); Apricot (4); Plum (11); Pear (21); Cherry (11); Grape (5); Tomato (7); Blueberries (4)	Residue definition applies to all DTC – propineb; mancozeb; ferbam; ziram; thiram; maneb; metiram; zineb **¶Netherlands - public health concerns**¶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). ¶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). ¶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. ¶For thiram 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 http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/Reports_1991-2006/report2004jmpr.pdf) 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. ¶¶¶For ziram 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. ¶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. ¶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. ¶Conversion factors (from CS_2 to active substance) are not listed in the Annex: Mancozeb: 1.783, Maneb: 1.743, Propineb: 1.904, Thiram: 1.580, Ziram: 2.009	1996T, 1993R, (2004 propineb); BASF request delay to 2022. Each registrant will submit a separate dossier for the separate DTC compounds for review in 2022 (On behalf of BASF, Corteva, UPL, Indofil, Eastman Kodak-Taminco and Bayer Crop Science). Dossiers for Mancozeb & ETU planned for submission Nov-Dec 2021 by Exponent (on behalf of Corteva, UPL, Indufil, BASF), others to be confirmed.	Range of group ADIs	Interim ARfD - propineb / 0.1, 1995

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PRIORITY	YEAR	TOXICOLOGY	RESIDUE	MEMBER / MANUFACTURER	COMMODITIES	COMMENTS	PREVIOUS EVALUATION	ADI	ARfD
2	2022	Specific to metiram, submitted 01042021	Dithiocarbamates (105) - further details from BASF on the above item	BASF	01 Fruits •002 Pome fruits •003 Stone fruits o003A Cherries o003B Plums o003C Peaches •004 Berries and other small fruits o004D Small fruit vine climbing •006 Assorted tropical and subtropical fruits - inedible peel o006B Assorted tropical and subtropical fruits – inedible smooth peel - large o006C Assorted tropical and subtropical fruits - inedible rough or hairy peel - large o006E Assorted tropical and subtropical fruits - inedible peel - vines 02 Vegetables •009 Bulb vegetables o009A Bulb onions •011 Fruiting vegetables, Cucurbits o011A Fruiting vegebtales, Cucurbits – Cucumber and Summer squashes o011B Fruiting vegetables, Cucurbits – Melons, Pumpkins and Winter squashes •012 Fruiting vegetables, other than Cucurbits o012A Tomatoes o012C Eggplant and eggplant-like commodities •013 Leafy vegetables (including Brassica leafy vegetabels) o013A Leafy greens •015 Pulses o015A Dry beans •016 Root and tuber vegetables	FP 0009 Pome fruits (9 trials; 5 x 1.575 kg as/ha, 21d PHI, cGAP) FP 0009 Pome fruits (10 trials; 3 x 2.1 kg as/ha, 21d PHI) FP 0226 Apple (10 trials; 3 x 1.4 kg as/ha, 21 d PHI, cGAP) FP 0226 Apple (10 trials; 3 x 1.4 kg as/ha, 28 d PHI) FP 0230 Pear (10 trials extrapolated from apple; 3 x 1.4 kg as/ha, 21 d PHI, cGAP) FS 0243 Cherry (sour) (2 trials; 4 x 0.105 kg as/ha, cGAP) FS 0244 Cherry (sweet) (2 trials; 4 x 0.105 kg as/ha, cGAP) FS 2234 Plum (4 trials; 1 x 3.5 kg as/ha, 21d PHI, cGAP) FS 0247 Peach (4 trials; 4 x 1.65 kg as/ha, 7d PHI, cGAP) FB 0269 Grapes (10 trials; 3 x 1.1 kg as/ha, 30d PHI, cGAP) FB 0269 Grapes (9 trials, 6 x 1.4 kg as/ha, 28d PHI) FB 0269 Grapes (10 trials, 3 x 1.4 kg as/ha, 56d PHI) FB 1236 Wine grapes (27 trials; 1 x 1.1 kg as/ha, 28d PHI, cGAP) FB 1236 Wine grapes (10 trials; 3 x 1-76 kg as/ha, 35d PHI) FI 0327 Banana (10 trials; 13 x 0.98 kg as/ha, 0d PHI) FI 0345 Mango (6 trials; 3 x 1.1 kg as/ha, F PHI, cGAP) FI 0353 Pineapple (9 trials; 4 x 1.65 kg as/ha, 3d PHI) FI 0351 Passion fruit (4 trials; 4 x 1.65 kg as/ha, 7d PHI) VA 0381 Garlic (28 trials, extrapolation from Onion; 6 x 2.1 kg as/ha, 7d PHI, cGAP) VA 0381 Garlic (28 trials, extrapolation from Onion; 6 x 1.54 kg as/ha, 7d PHI) VA0385 Onion (26 trials, 6 x 1.54 kg as/ha, 7d PHI) VC 0431 Summer squash (8 trials, extrapolation from Melon; 3 x 1.4 kg as/ha, 3d PHI) VC 0424 Cucumber (10 trials; 3x 1.26 kg as/ha, 3d PHI) VC 0431 Zucchini (6 trials; 3 x 1.4 kg as/ha, 3d PHI) VC 0432 Watermelon (12 trials; 4 x 1.4 kg as/ha, 7d PHI) VC 0046 Melon (18 trials; 4 x 1.1 kg as/ha, 7d PHI) VC 0429 Pumpkin (8 trials, extrapolation from Melon; 3 x 1.4 kg as/ha, 3d PHI) VO 0448 Tomato (17 trials; 3 x 1.4 kg as/ha, 3d PHI, cGAP) VO 0448 Tomato (9 trials; 6 x 1.05 kg as/ha, 7d PHI) VO 0440 Eggplant (17 trials, extrapolation from Tomato; 3 x 1.6 kg as/ha, 3d PHI) VL 0482 Lettuce (Head) (8 trials; 3 x 1.4 kg as/ha, 14d PHI)			

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PRIORITY	YEAR	TOXICOLOGY	RESIDUE	MEMBER / MANUFACTURER	COMMODITIES	COMMENTS	PREVIOUS EVALUATION	ADI	ARfD
3	2022	Iprodione (111)	Iprodione (111)	FMC	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)	Moved at the request of manufacturer – await completion of EU, Canada and US reviews - FMC Trials:¶Almonds (4); barley (13); blackberries (8); broccoli (4); carrot (12); cherry (5); lettuce, leaf (12); peach (9); raspberries, red/black (8); rice, husked (18);¶Spices, seeds (4); spices, roots & rhizomes (4); apricots (8); artichoke (4); banana (8); bean, succulent - lima and snap (12); Brassica, head and stem vegetables (12); coffee (6); eggplant (8); mandarins (8); mango (4); melon (12); pea (12); peanut (12); plum (12); potato (16); soybean (12); wheat (16) Iprodione was initially evaluated by JMRP in 1992 and reviewed several times for toxicology and residue section (last review 2001). In the EU, the latest toxicological profile assessments are reported in an EFSA opinion from 2016. (see chapter data/information). In this report in respect of one metabolite, found as residue in plants and as impurity in the technical material, EFSA concluded that the genotoxic potential cannot be excluded and therefore the setting of reference values for that metabolite cannot be confirmed based on the information available. Moreover a new ADI of 0.02 mg/kg bw per day and a new ARfD of 0.06 mg/kg bw were established for parent iprodione. Based on these reference values, using the EFSA PRIMo model rev. 2.0 and Codex MRLs, the assessment resulted in an exceedance of the ARfD for at least cherries, peaches, blackberries, raspberries, carrot, tomatoes, broccoli, lettuce. For these crops, the exceedance ranged from 1733% to 132% of the ARfD. The estimated long-term dietary intake was in the range of 0% to 276% of the ADI; for three diets the long-term exposure exceeded the ADI (i.e. NL	1992, 1995T, 1994, 2001R	0.06, 1995	N/A
4	2022	Carbendazim (72)	Carbendazim (72)	Nippon Soda	Await further advice from JMPR at CCPR51.		1995T, 1998, 2003, 2005R		
5	2022	Fenthion (39)	Yes			No longer supported by the manufacturer		0.007, 1995	0.01, 1997