

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
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ORGANIZATION

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CODEX COMMITTEE ON PESTICIDE RESIDUES

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PROBLEMS RELATIVE TO PESTICIDE RESIDUES IN FOOD IN DEVELOPING COUNTRIES

(Prepared by Malaysia)

INTRODUCTION

1. This document is prepared as an update paper for a follow-up discussion to that of the last session on pesticide residue problems in developing countries. The Committee decided to focus on utilizing the instrument of extrapolation and group tolerances as an avenue to overcome the lack of Codex MRLs for pesticides on commodities which are of importance to developing countries in their export and frequently encountered in trade violations. It was also agreed that updated data from the GEMS/Food Programme be analysed in details to assist developing countries in identifying the problems with respect to the types of pesticide, commodity and frequency of violations. It is hoped that the JMPR will explore the possibility of establishing MRLs of pesticides for commodities, particularly minor crops, which are currently lacking.

CONSIDERATION FOR EXTRAPOLATION

2. To complement data from the GEMS/Food Programme, Malaysia, as requested by the Committee to prepare this update paper, took the initiative to solicit relevant information from developing countries for considering extrapolation of MRLs. The details requested include a brief justification for the candidacy of a particular pesticide/commodity combination, availability of national MRL, crop growth pattern, monitoring data where applicable and information on cultural practices. This was conducted through communication to all the delegates of developing countries who attended the Thirtieth Session of the CCPR.

3. South Africa expressed an urgent need for Codex to elaborate an MRL of thiabendazole for avocado. A proposal in response to CL 1998/14-PR was submitted by South Africa which requested the inclusion of thiabendazole in the Codex Priority List of Pesticides for evaluation by the JMPR (see also CX/PR 99/11).

4. United Arab Emirates and Republic of Korea have no violations information available. Efforts by Argentina, Brazil and India did not result in the availability of the required information. Other countries did not respond and apparently accept data from GEMS/Food Programme as reflective of their countries' positions. It appears that developing countries are able to overcome the issues of pesticide residues in food with importing countries on a bilateral or regional basis.

TRADE VIOLATIONS DATA

5. Data on trade violations from the WHO GEMS/Food Programme were derived from importing countries from 1993 to 1998. The bulk of the data were from the U.S, with additional ones from Germany, Australia, Japan and Austria. The data were analysed according to pesticide-commodity combinations, frequency of violation, the total number of violating lots, exporting region and whether national or Codex MRLs are available. A summary of the data are shown in the Appendix.

6. The basic objective of the analysis of the data is to consider the reason for each detention incident. This would assist developing countries in identifying the factors involved in such an event for the development of intervention measures through a bilateral, regional or international basis. It is hoped that developing countries would take measures to address the problems if the commodities frequently found to violate trade are of economic interest to them.

7. Based on the frequency of findings, the number of violations and the number of exporting regions, commonly encountered insecticides include methamidophos, BHC, chlorpyrifos, permethrin, acephate, endosulfan, hexachlorobenzene, lindane and monocrotophos.

8. It is evident from the Appendix that national or Codex MRLs of these insecticides for many commodities, both minor and major, are not available. Commodities of particular interest to developing countries where national or Codex MRLs are lacking include mango, papaya, banana, peppers, chillies, paprika, Chana dall (chickpea) and sesame seed.

9. Variations with respect to the types of pesticides and commodities were noted in the data between 1990-1994 (CX/PR 96/11) and 1993-1998 periods. Insecticides such as azinphos-methyl and aldicarb, which were identified as common insecticides facing trade problems (1990-1994) in CX/PR 96/11, were no longer posing a problem as shown in the updated data.

10. Using the same criteria for insecticides, iprodione, thiabendazole, dithiocarbamates, diphenylamine, imazalil, procymidone and prochloraz are commonly found to encounter trade problems. Chlorothalonil, captan and vinclozolin, identified in CX/PR 96/11 as fungicides frequently facing trade violations, were not apparent in the 1993-1998 data.

MANAGEMENT OPTIONS

11. Several management options may be considered from the violations data. It is evident from the Appendix that national or Codex MRLs of the pesticides for many commodities, both minor and major, are not available. If the violation arises because the importing country has not registered the pesticide, a possible solution would be for the importing country to refer to Codex MRLs as the international reference. This can often be achieved through bilateral discussion.

12. If the violation is caused by residue levels exceeding the existing national MRLs, this may likely pose a problem to the exporting country. National MRLs of importing countries however, have to be consistent with Codex MRLs.

13. Extrapolation for major crops is almost impracticable. Developing countries should therefore, take steps to generate residue trial data for the elaboration of MRLs where Codex MRLs are not available for commodities of economic importance to their countries. Collaborative regional efforts could play a pivotal role in meeting this objective. Under the framework of the WTO's SPS Agreement, Codex recommendations relating to food safety should be based on sound science and risk assessment. Therefore for the JMPR to propose any MRL/EMRL, there is an absolute need for scientifically justifiable data.

14. As minor crops account for an extremely low contribution to diet, a greater uncertainty is tolerable for these crops. Minor commodities from developing countries frequently facing trade violations include sesame seed, Chana dall (chickpea), dried chillies, paprika, peas and beans. Extrapolation may justifiably be considered for these commodities. This avenue is only applicable

however, when there is adequate scientific justification.

15. There is a need for EMRLs of DDT and BHC to be established for commodities such as sesame seed, Chana dall (chickpea), peas and urad. Many of these commodities were frequently encountered in the trade violation lists but Codex EMRLs are not available to serve as reference standards.

CONCLUSIONS

16. There is a lack of national and Codex MRLs of pesticides for both major and minor crops exported from developing countries. A mechanism for the establishment of a temporary MRL should be considered if there is a trade problem as a result of a lack of either national or Codex MRL. This would further help to facilitate trade, otherwise the unfair practice of applying variable national 'action level' would prevail.

17. Developing countries should take efforts to initiate short and long-term programmes to overcome the problem of the lack of MRLs for commodities frequently violating regional or international trade. A long-term objective of generating residue trial data for the elaboration of Codex MRLs of major crops should be set.

18. Developing countries should identify on a priority basis minor crops of economic importance to them. These could be put forward to the CCPR for inclusion in the Priority List or directly to the JMPR for consideration of extrapolation. The submission must also be accompanied by detailed information as outlined by the *FAO Manual on the Submission and Evaluation of Pesticide Residues Data for the Estimation of Maximum Residue Levels in Food and Feed* on the estimation of group maximum residue levels.

APPENDIX : PESTICIDE RESIDUE PROBLEMS ASSOCIATED WITH DEVELOPING COUNTRIES

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(001) Dieldrin	Pumpkin seed	2	X	N	Europe	
(002) Azinphos-methyl	Pepper, Serrano	1	X	OK	Latin America and the Caribbean	1 mg/kg for sweet pepper
(007) Captan	Grapes	1	N	N	Latin America and the Caribbean	25 mg/kg at Step 3
(007) Captan	Physalis	2	X	N	Latin America and the Caribbean	
(017) Chlorpyrifos	Calaloo	1	N	N	Latin America and the Caribbean	
(017) Chlorpyrifos	China celery	1	X	OK	Asia	0.05 mg/kg for celery
(017) Chlorpyrifos	Dill	1	X	N	Asia	
(017) Chlorpyrifos	Grapes	7	X	X	Asia	1 mg/kg
(017) Chlorpyrifos	Grapes	5	N	OK	Latin America and the Caribbean	1mg/kg
(017) Chlorpyrifos	Green beefstake plant leaf	22	X	N	Asia	
(017) Chlorpyrifos	Green peppercorn	1	N	N	Asia	
(017) Chlorpyrifos	Honeydew melon	1	N	N	Latin America and the Caribbean	
(017) Chlorpyrifos	Jew's Marrow	4	X	N	Asia	
(017) Chlorpyrifos	Mushroom	1	X	X	Asia	0.05 mg/kg
(017) Chlorpyrifos	Spinach	8	N	N	Latin America and the Caribbean	
(017) Chlorpyrifos	Strawberry	2	X	N	Africa	
(021) DDT	Gingelly oil	1	N	N	Asia	

¹ Processed products are in italics.

² Whether a national MRL or permitted level exists for this pesticide/commodity combination in the importing country; if one exists, the level(s) of residue in violation in relation to that MRL.

N = No MRL or permitted level exists;

A = Residue exceeds permitted level for environmentally persistent pesticide that is no longer used;

X = Residue exceeds MRL or permitted level; and

OK = Level under MRL

³ Whether a Codex MRL/EMRL exists for this pesticide/commodity combination; if one exists, the level(s) of residue in violation in relation to that MRL.

N = No MRL exists;

A = Residue exceeds EMRL for environmentally persistent pesticide that is no longer used;

X = Residue exceeds MRL ; and

OK = Level under MRL

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(021) DDT, P, P'	Ragi (<i>Eleusine coracane</i>) flour	1	N	N	Asia	
(021) DDT, P, P'	Sesame seed	1	N	N	Asia	
(025) Dichlorvos	Cucumber	2	X	N	Asia	
(026) Dicofol	Chili, dried	1	N	X	Asia	1 mg/kg
(026) Dicofol	Spice	1	N	N	Asia	
(026) Dicofol, P,P'	Raisins	1	N	N	Asia	
(027) Dimethoate	Chana dall (chickpea), Chinese	1	X	N	Latin America and the Caribbean	
(027) Dimethoate	Cucumber	1	N	N	Latin America and the Caribbean	
(027) Dimethoate	Peach	8	N	OK	Latin America and the Caribbean	2 mg/kg
(027) Dimethoate	Peas, Chinese	1	X	OK	Latin America and the Caribbean	0.5 mg/kg for peas (pods and succulent=immature seeds)
(030) Diphenylamine	Banana	1	N	N	Latin America and the Caribbean	
(030) Diphenylamine	Grapes	3	N	N	Latin America and the Caribbean	
(030) Diphenylamine	Peach	9	N	N	Latin America and the Caribbean	
(030) Diphenylamine	Pear	3	N	N	Africa	
(030) Diphenylamine	Pear	16	N	N	Latin America and the Caribbean	
(030) Diphenylamine	Pear	2	N	N	South-West Pacific	
(030) Diphenylamine	Tomato	1	N	N	Latin America and the Caribbean	
(032) Endosulfan	Red pepper, Powder	1	N	N	Asia	
(032) Endosulfan I	Onion, green	1	N	N	Latin America and the Caribbean	
(032) Endosulfan I	Onion, green	1	N	N	Latin America and the Caribbean	
(032) Endosulfan sulfate	Onion, green	1	N	N	Latin America and the Caribbean	
(032) Endosulfan sulfate	Papaya	1	N	N	Latin America and the Caribbean	
(034) Ethion	Chilies, dried	1	N	N	Asia	
(034) Ethion	Indian chilies	10	X	N	Asia	
(039) Fenthion	Kaki (Japanese persimmon)	3	X	N	Europe	
(039) Fenthion	Kaki (Japanese persimmon)	3	X	N	Unknown	
(039) Fenthion	Litchi	2	X	N	Africa	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(041) Folpet	Raspberry	1	N	N	Latin America and the Caribbean	
(044) Hexachlorobenzene	Carrot	7	N	N	Latin America and the Caribbean	ADI withdrawn
(044) Hexachlorobenzene	Grape	2	N	N	Latin America and the Caribbean	ADI withdrawn
(044) Hexachlorobenzene	Winter squash	2	N	N	Latin America and the Caribbean	ADI withdrawn
(047) Bromide	Hazelnut	2	X	N	Unknown	
(047) Bromide	Lentil	2	X	N	Unknown	
(047) Bromide	Morel	2	X	N	Unknown	
(047) Bromide (Inorganic)	Rice	1	X	X	Asia	50 mg/kg for cereal grains
(048) Lindane	Chana dall (chickpea)	10	N	N	Asia	
(048) Lindane	Lentil	1	A	N	Asia	
(048) Lindane	Sesame seed	1	N	N	Asia	
(048) Lindane	Sesame seed	10	A	N	Asia	
(048) Lindane	Sesame seed	10	N	N	Latin America and the Caribbean	
(048) Lindane	Spice	1	N	N	Asia	
(048) Lindane	Split peas	10	A	N	Asia	
(048) Lindane	Waterchestnut	1	N	N	Asia	
(049) Malathion	Dill	1	X	N	Asia	
(054) Monocrotophos	Apple	2	N	N	Asia	
(054) Monocrotophos	Longan	2	N	N	Asia	
(054) Monocrotophos	<i>Lulo, Frozen</i>	1	N	X	Latin America and the Caribbean	
(054) Monocrotophos	Pepper, Jalapeno	2	N	OK	Latin America and the Caribbean	0.2 mg/kg for peppers, chili
(054) Monocrotophos	Pepper, Pasilla	2	N	OK	Latin America and the Caribbean	0.2 mg/kg for peppers, chili
(054) Monocrotophos	Peppers, hot	1	N	X	Latin America and Caribbean	0.2 mg/kg for peppers, chili
(055) Omethoate	Chana dall (chickpea), Chinese	1	X	N	Latin America and the Caribbean	0.2 mg/kg for beans at Step 3
(055) Omethoate	Peach	4	N	N	Latin America and the Caribbean	2 mg/kg at Step 6
(055) Omethoate	Peas, Chinese	1	X	N	Latin America and the Caribbean	
(059) Parathion-methyl	Eryngo, Fresh	1	X	N	Asia	
(059) Parathion-methyl	Sweet basil	1	X	N	Asia	
(060) Phosalone	Grapes	2	X	OK	Asia	5 mg/kg
(064) Quintozene (PCNB)	Carrot	3	N	N	Latin America and the Caribbean	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(065) Thiabendazole	Banana	4	X	OK	Latin America and the Caribbean	3 mg/kg
(065) Thiabendazole	Blackberry	1	N	N	Latin America and the Caribbean	
(065) Thiabendazole	Green beans	12	N	N	Latin America and the Caribbean	
(065) Thiabendazole	<i>Kudzu</i>	1	N	N	Asia	
(065) Thiabendazole	Kumquat	2	X	OK	Europe	10 mg/kg for citrus fruits
(065) Thiabendazole	Mango	2	X	N	Europe	
(065) Thiabendazole	Mango	15	X	N	Latin America and the Caribbean	
(065) Thiabendazole	Papaya	6	X	N	Latin America and the Caribbean	
(065) Thiabendazole	Peach	8	N	N	Latin America and the Caribbean	
(065) Thiabendazole	Pitahaya	2	X	N	Latin America and the Caribbean	
(065) Thiabendazole	Taro root	1	N	N	Asia	
(065) Thiabendazole	Winter squash	2	N	N	Latin America and the Caribbean	
(069) Benomyl	Chana dall (chickpeas), green	2	X	X	Latin America and the Caribbean	2 mg/kg for common beans (covered by the MRL for carbendazim)
(072) Carbendazim	Mango	2	X	OK	Africa	2 mg/kg
(072) Carbendazim	Mango	4	X	OK	Latin America and the Caribbean	2 mg/kg
(072) Carbendazim	Papaya	4	X	X	Latin America and the Caribbean	0.5 mg/kg (0.1 mg/kg at Step 3)
(081) Chlorothalonil	Grapes	2	N	OK	Latin America and the Caribbean	0.5 mg/kg for pepper, sweet
(081) Chlorothalonil	Lettuce	1	N	N	Latin America and the Caribbean	
(081) Chlorothalonil	Pepper, Jalapeno	1	N	N	Latin America and the Caribbean	
(081) Chlorothalonil	Peppers, hot	1	N	N	Latin America and the Caribbean	
(081) Chlorothalonil	Snow pea	1	N	N	Latin America and the Caribbean	
(081) Chlorothalonil	Spinach	6	N	N	Latin America and the Caribbean	
(083) Dicloran	Spinach	3	N	N	Latin America and the Caribbean	
(085) Fenamiphos	Tomato	2	N	OK	Latin America and the Caribbean	0.2 mg/kg
(085) Fenamiphos sulfone	Tomato	5	N	OK	Latin America and the Caribbean	0.2 mg/kg
(085) Fenamiphos sulfoxide	Tomato	3	N	OK	Latin America and the Caribbean	0.2 mg/kg
(086) Pirimiphos-methyl	Peanut	1	X	OK	Africa	2 mg/kg
(090) Chlorpyrifos-methyl	Strawberry	1	X	N	Africa	
(094) Methomyl	Asparagus	1	X	X	Latin America and the Caribbean	2 mg/kg

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(094) Methomyl	Fresh lychee nuts	1	N	N	Asia	
(094) Methomyl	Okra	1	N	N	Latin America and the Caribbean	
(095) Acephate	<i>Apple Juice</i>	2	N	N	Latin America and the Caribbean	
(095) Acephate	Basil	1	N	N	Latin America and the Caribbean	
(095) Acephate	Cucumber	1	N	N	Latin America and the Caribbean	
(095) Acephate	Melon, Cantaloupe	1	N	N	Latin America and the Caribbean	
(095) Acephate	Melon, Honeydew	3	N	N	Latin America and the Caribbean	
(095) Acephate	<i>Peach (Canned)</i>	4	N	N	Europe	
(095) Acephate	Spinach	6	N	N	Latin America and the Caribbean	
(095) Acephate	Winter squash	4	N	N	Latin America and the Caribbean	
(096) Carbofuran	Potato	2	X	X	Unknown	
(096) Carbofuran 3-OH	Grapes	8	X	N	Latin America and the Caribbean	
(100) Methamidophos	<i>Apple Juice</i>	1	N	N	Europe	
(100) Methamidophos	<i>Apple Juice</i>	6	N	N	Latin America and the Caribbean	
(100) Methamidophos	<i>Apple juice concentration</i>	1	N	N	Asia	
(100) Methamidophos	Basil	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Custard apple	2	N	N	Asia	
(100) Methamidophos	Grapes	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Green beans	3	N	N	Latin America and the Caribbean	
(100) Methamidophos	Green beans	7	N	N	Latin America and the Caribbean	
(100) Methamidophos	Jocote	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Kale	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Longan	2	N	N	Asia	
(100) Methamidophos	<i>Lulo, Frozen</i>	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Papaya	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Peach	1	N	N	Latin America and the Caribbean	1 mg/kg at Step 5
(100) Methamidophos	<i>Peach (Canned)</i>	1	N	N	Europe	(1 mg/kg for peach at Step 5)
(100) Methamidophos	<i>Peach Frozen</i>	1	N	N	Latin America and the Caribbean	(1 mg/kg for peach at Step 5)
(100) Methamidophos	Pepino	2	N	OK	Latin America and the Caribbean	1 mg/kg for cucumber
(100) Methamidophos	Raisins	1	N	N	Asia	
(100) Methamidophos	Snow pea	3	N	N	Latin America and the Caribbean	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(100) Methamidophos	Snow pea	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	<i>Soybean, Frozen</i>	1	N	N	Asia	
(100) Methamidophos	Spinach	14	N	N	Latin America and the Caribbean	
(100) Methamidophos	<i>Spinach powder</i>	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Squash, Italian	1	N	N	Latin America and the Caribbean	
(100) Methamidophos	Whole pea pods	1	N	N	Asia	
(100) Methamidophos	Winter squash	9	N	N	Latin America and the Caribbean	
(103) Phosmet	Pepper, Jalapeno	1	N	N	Latin America and the Caribbean	
(103) Phosmet	Pepper, Serrano	1	N	N	Latin America and the Caribbean	
(104) Daminozide	Peanut	10	X	N	Asia	
(105) Dithiocarbamate	Grapes	3	X	OK	Latin America and the Caribbean	5 mg/kg
(105) Dithiocarbamate	Mango	1	X	N	Africa	2 mg/kg at Step 6
(105) Dithiocarbamate	Mango	4	X	N	Latin America and the Caribbean	2 mg/kg at step 6
(105) Dithiocarbamate	Papaya	4	X	N	Latin America and the Caribbean	5 mg/kg at Step 6
(105) Dithiocarbamate	Pear	2	X	X	Unknown	3 mg/kg
(110) Imazalil	Banana	3	X	OK	Latin America and the Caribbean	
(110) Imazalil	Kiwi	2	X	N	South-West Pacific	
(110) Imazalil	Kumquat	2	X	OK	Europe	5 mg/kg for citrus fruits
(110) Imazalil	Mandarin	2	X	OK	Europe	5 mg/kg for citrus fruits
(110) Imazalil	Peach	1	N	N	Latin America and the Caribbean	
(110) Imazalil	Pear	5	N	N	South-West Pacific	
(111) Iprodione	Apple	2	N	OK	Africa	5 mg/kg for pome fruits
(111) Iprodione	Apple	4	N	OK	Latin America and the Caribbean	5 mg/kg for pome fruits
(111) Iprodione	Apple	1	N	OK	South-West Pacific	5 mg/kg for pome fruits
(111) Iprodione	Dried chrysanthemum	1	N	N	Asia	
(111) Iprodione	Kaki (Japanese persimmon)	3	X	N	Europe	
(111) Iprodione	Kale, Chinese (Choin-san)	2	X	N	Unknown	
(111) Iprodione	Kumquat	2	X	N	Europe	
(111) Iprodione	Papaya	2	X	N	Latin America and the Caribbean	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(111) Iprodione	Pear	35	N	N	Africa	
(111) Iprodione	Pear	14	N	N	Latin America and the Caribbean	
(111) Iprodione	Pear	13	N	N	South-West Pacific	
(111) Iprodione	Tomato	1	N	OK	Europe	5 mg/kg
(111) Iprodione	Tomato	6	N	OK	Latin America and the Caribbean	5 mg/kg
(117) Aldicarb sulfoxide	Beans, French	1	N	N	Latin America and the Caribbean	
(118) Cypermethrin	Chilies, dried	1	N	OK	Asia	0.5 mg/kg for peppers
(118) Cypermethrin	Kale	1	X	OK	Asia	1 mg/kg
(118) Cypermethrin	Peppercorn, green	1	N	N	Asia	
(118) Cypermethrin	Red pepper, powder	1	N	OK	Asia	0.5 mg/kg for peppers
(118) Cypermethrin	Sultanas	2	N	N	Asia	
(118) Cypermethrin	Tomato	2	N	OK	Latin America and the Caribbean	0.5 mg/kg
(119) Fenvalerate	Bean (immature), Fresh	1	X	OK	Asia	1 mg/kg for beans
(119) Fenvalerate	Grapes	1	N	N	Latin America and the Caribbean	
(119) Fenvalerate	Red dates	1	N	N	Asia	
(119) Fenvalerate	Spinach	6	N	N	Latin America and the Caribbean	
(119) Fenvalerate	Tea, green	4	X	N	Asia	
(120) Permethrin	Tea, green	2	X	OK	Asia	20 mg/kg
(120) Permethrin, cis	<i>Kale dehydrated powder</i>	1	N	N	Latin America and the Caribbean	(5 mg/kg for kale)
(120) Permethrin, cis	Long beans, Chinese	2	N	OK	Latin America and the Caribbean	1 mg/kg for common beans
(120) Permethrin, cis	Long beans, Fresh	1	N	OK	Latin America and the Caribbean	1 mg/kg for common beans
(120) Permethrin, cis	Passion fruit	1	N	N	Latin America and the Caribbean	
(120) Permethrin, cis	Pepper, Jalapeno	1	N	OK	Latin America and the Caribbean	1 mg/kg for peppers
(120) Permethrin, trans	<i>Kale dehydrated powder</i>	1	N	N	Latin America and the Caribbean	(5 mg/kg for kale)
(120) Permethrin, trans	Long beans, Chinese	1	N	OK	Latin America and the Caribbean	1 mg/kg for common beans
(120) Permethrin, trans	Long beans, fresh	1	N	OK	Latin America and the Caribbean	1 mg/kg for common beans
(120) Permethrin, trans	Passion fruit	1	N	N	Latin America and the Caribbean	
(120) Permethrin, trans	Pepper, Jalapeno	1	N	OK	Latin America and the Caribbean	1 mg/kg for peppers
(120) Permethrins	Apple	3	X	OK	Latin America and the Caribbean	2 mg/kg for pome fruits
(120) Permethrins	Green beans	1	N	N	Latin America and the Caribbean	
(123) Etrimfos	<i>Malt</i>	2	N	N	Europe	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
(136) Procyamidone	<i>Blackberry Frozen</i>	2	N	N	Asia	
(136) Procyamidone	<i>Coconut cream</i>	1	N	N	Asia	
(136) Procyamidone	Extra Fine peas	1	N	N	Europe	
(136) Procyamidone	Grapes	2	X	X	Asia	
(136) Procyamidone	Kiwi fruit	1	N	OK	Europe	5 mg/kg
(136) Procyamidone	Raisins	1	N	N	Asia	
(136) Procyamidone	<i>Raspberry topping/syp.</i>	1	N	N	Europe	(10 mg/kg for raspberries, red, black)
(136) Procyamidone	<i>Strawberry nectar</i>	1	N	N	Europe	(10 mg/kg for strawberry)
(138) Metalaxyl	Mandarin	2	X	OK	Europe	5 mg/kg for citrus fruits
(142) Prochloraz	Mango	2	X	X	Africa	2 mg/kg
(142) Prochloraz	Mango	2	X	X	Europe	2 mg/kg
(142) Prochloraz	Mango	2	X	X	Latin America and the Caribbean	2 mg/kg
(142) Prochloraz	Sweet potato	2	X	N	Latin America and the Caribbean	
(144) Bitertanol	Banana	8	X	X	Latin America and the Caribbean	0.5 mg/kg
(144) Bitertanol	Beans	2	X	N	Africa	(0.5 mg/kg for common bean(pods and/or immature seeds))
(159) Vinclozolin	Raisins	1	N	N	Asia	
(159) Vinclozolin	Tomato	6	N	OK	Latin America and the Caribbean	3 mg/kg
(178) Bifenthrin	Pear	2	N	OK	Latin America and the Caribbean	0.5 mg/kg
(181) Myclobutanil	Tomato	1	N	N	Latin America and the Caribbean	0.3 mg/kg at Step 3
(189) Tebuconazole	Kale, Chinese (Choin-san)	2	X	N	Unknown	
(191) Tolclofos-methyl	Kohlrabi	6	X	N	Unknown	
2-Chloroethanol	Paprika	2	X	N	Europe	
2-Chloroethanol	Paprika, Powder	12	X	N	Unknown	
BHC	Gingelly oil	2	N	N	Asia	
BHC	Ideyam sesame oil	1	N	N	Asia	
BHC	Sesame seed	8	N	N	Asia	
BHC	Sesame seed (Hulled)	1	N	N	Asia	
BHC	Sesame seed (Hulled)	1	N	N	Latin America and the Caribbean	
BHC, Alpha	Chana dall (chickpea)	10	N	N	Asia	
BHC, Alpha	Lentil	1	A	N	Asia	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
BHC, Alpha	Sesame seed	2	A	N	Asia	
BHC, Alpha	Sesame seed	10	N	N	Asia	
BHC, Alpha	Sesame seed	10	A	N	Latin America and the Caribbean	
BHC, Alpha	Split dal	10	A	N	Asia	
BHC, Alpha	Split peas	10	A	N	Asia	
BHC, Alpha	Urad, washed	10	A	N	Asia	
BHC, Alpha	Waterchestnut	1	N	N	Asia	
BHC, Beta	Chana dall (chickpea)	10	N	N	Asia	
BHC, Beta	Sesame seed	20	N	N	Asia	
BHC, Beta	Sesame seed	10	A	N	Asia	
BHC, Beta	Sesame seed	1	A	N	Latin America and the Caribbean	
BHC, Beta	Split dal	10	A	N	Asia	
BHC, Beta	Split peas	10	A	N	Asia	
BHC, Beta	Urad, washed	10	A	N	Asia	
BHC, Beta	Waterchestnut	1	N	N	Asia	
BHC, Delta	Sesame seed	10	N	N	Asia	
BHC, Delta	Split dal	10	A	N	Asia	
BHC, Delta	Split peas	10	A	N	Asia	
BHC, Delta	Waterchestnut	1	N	N	Asia	
Chlorpropham	Grapes	2	N	N	Latin America and the Caribbean	
Chlorpropham	Winter squash	1	N	N	Latin America and the Caribbean	
Chlorthal	Kale, Chinese (Choin-san)	2	X	N	Unknown	
Chlozolate	Kiwi	2	N	N	Unknown	
Copper	Vine leaf	4	X	N	Asia	
DCPA	Celery	1	N	N	Latin America and the Caribbean	
DCPA	Spinach	4	N	N	Latin America and the Caribbean	
Esfenvalerate	Spinach	6	N	N	Latin America and the Caribbean	Scheduled for evaluation by JMPR
Fluvalinate	Raspberries	1	N	N	Latin America and the Caribbean	
Pentachloroaniline	Winter squash	1	N	N	Latin America and the Caribbean	
Pentachlorobenzene	Carrot	4	N	N	Latin America and the Caribbean	

Pesticide	Commodity ¹	Number of lots	Status (National MRL) ²	Status (Codex MRL) ³	Exporting region	Note (Codex MRL)
Quinalphos	Chili, red	10	N	N	Asia	
Quinalphos	Chilies, Indian	10	N	N	Asia	
Tetradifon	Papaya	2	X	N	Latin America and the Caribbean	
Tetradifon	Strawberry	1	X	N	Africa	