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Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Azoxystrobin

It is proposed that an MRL is set for azoxystrobin when used as a fungicide on onions, peas and potatoes.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Azoxystrobin	131860-33-8	<i>Sum of:</i> Azoxystrobin and its z isomer	Onions	0.01(*)
			Peas (without pods)	0.02(*)
			Potatoes	0.02

Note: (*) indicates that the maximum residue limit has been set at or about the limit of analytical quantification

Chemical Information

Common name of compound	Azoxystrobin
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	131860-33-8
Type of compound	Strobilurin derivative
Administration method	Foliar spray

Good Agricultural Practice

Azoxystrobin is proposed for use as a fungicide to control downy mildew and pink rot on onions, ascochyta blight, downy mildew and powdery mildew on peas, and rhizoctonia black scurf and silver scurf on seed potatoes at planting.

Onions: Application may be as a preventative spray for use against downy mildew and pink rot when sprayed at 7 day intervals from 2-leaf stage, as required, in a minimum of 400 litres of water/ha and with a withholding period of 35 days

Peas (without pods): Application may be as a preventative spray for use against downy and powdery mildew when sprayed between 5th node and 1st pod formation (with a repeat application 14-21 days later if necessary), at a rate of 125 gai/ha and with a withholding period of 14 days.

Potatoes: Application may be as a directed in-furrow band spray (15-30cm wide) at a rate of 2.5gai/metre of furrow.

Residues Information

Onions: Residue data for onions support an MRL at the limit of quantification of 0.01mg/kg for azoxystrobin when used on onions to the good agricultural practice specified above.

Peas: Residue data for peas (without pods) support an MRL at the limit of analytical quantification of 0.02mg/kg for azoxystrobin when used on peas to the good agricultural practice specified above.

Potatoes: Residue data for potatoes show likely residues of <0.01mg/kg for azoxystrobin when used on potatoes to the good agricultural practice specified above. In addition, residue data to support existing good agricultural practice for the use of azoxystrobin as a foliar spray to control blight, with a withholding period of 14 days, also shows likely residues of <0.01mg/kg. Therefore, the proposed MRL is 0.02 mg/kg to support the combined good agricultural practice for the use of azoxystrobin on potatoes at planting and as a foliar treatment.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.03 mg/kg bw/day
ERMA NZ PDE_(food)	Not yet determined

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The PDE_(food) is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to azoxystrobin is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for azoxystrobin is equivalent to 12% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of azoxystrobin as a fungicide for use on onions, peas and potatoes, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Azoxystrobin	131860-33-8	Azoxystrobin and its z isomer	Cereal grains	0.2
			Grapes	1
			Potatoes	0.01(*)
			Sweetcorn	0.01(*)
			Tomatoes	0.01(*)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Azoxystrobin	Onion, dry bulb	1.0
	Onion, green	7.5
	Pea and bean, dried shelled, except soybean, subgroup, except cowpea, and field pea	0.5
	Pea and bean, succulent shelled, subgroup, except cowpea	0.5
	Potato	0.03
EU		
Azoxystrobin	Peas (with pods)	0.5
	Peas (without pods)	0.2
	Potatoes	0.05
	Onions	0.05
Australia		
Azoxystrobin	Peas	3 (temporary)
	Potatoes	0.05



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Fipronil

It is proposed that an MRL is set for fipronil when used as an insecticide on onions.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fipronil	120068-37-3	Sum of: Fipronil fipronil-desulfinyl fipronil sulfone fipronil thioether. <i>Expressed as:</i> Fipronil	Onions	0.01

Chemical Information

Common name of compound	Fipronil
Use of compound	Insecticide
Chemical Abstract Services (CAS) Registry number	120068-37-3
Type of compound	Phenyl pyrazole
Administration method	Foliar spray

Good Agricultural Practice

Fipronil is proposed for use as an insecticide to control thrips on onion crops. Application may be throughout plant growth in response to scouting thresholds, at a rate of 30-40 gai/ha with a withholding period of 3 days.

Residues Information

Residue data for onions support an MRL of 0.01mg/kg for fipronil when used on onions to the good agricultural practice specified above.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.0002 mg/kg bw/day
ERMA NZ PDE _(food)	Not yet determined

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The $PDE_{(food)}$ is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to fipronil is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for fipronil is equivalent to 12.6% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of fipronil as an insecticide for use on onion crops, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fipronil	120068-37-3	Sum of: Fipronil fipronil-desulfinyl fipronil sulfone fipronil thioether. Expressed as: fipronil	Brassica vegetables Citrus fruits Mushrooms	0.02(*) 0.01(*) 0.01(*)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Codex		
Fipronil	Barley Maize Potatoes	0.002(*) 0.01 0.02
US		
Fipronil	Corn, field, grain Onions	0.02 0.02 (proposed)



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Fluoxastrobin

It is proposed that an MRL is set for fluoxastrobin when used as a fungicide on cereal crops.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fluoxastrobin	361377-29-9	Sum of: Fluoxastrobin Fluoxastrobin isomers <i>expressed as:</i> Fluoxastrobin	Cereal grains	0.01(*)

Note: (*) indicates that the maximum residue limit has been set at or about the limit of analytical quantification

Chemical Information

Common name of compound	Fluoxastrobin
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	361377-29-9
Type of compound	Strobilurin analogue
Administration method	Aerial or ground spray

Good Agricultural Practice

Fluoxastrobin is proposed for use as a fungicide to control stripe rust, leaf rust and speckled leaf blotch on wheat, and to control leaf rust, net blotch, powdery mildew, Ramularia leaf spot and scald on barley.

Application may be on first appearance of any of the diseases listed above for the stated crop (with a repeat application 3-4 weeks later if necessary) when sprayed by foliar spray at a rate of 150gai/ha. Ground based foliar spraying should be in a minimum of 200 litres of water per hectare and aerial spraying should be in a minimum of 50 litres of water per hectare, with a withholding period of 56 days.

Residues Information

Residue data for wheat and barley support an MRL at the limit of analytical quantification of 0.01mg/kg for fluoxastrobin when used on wheat and barley to the good agricultural practice specified above. The residue assessment has concluded that the MRL can be extended to include all cereal grains.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.015 mg/kg bw/day
ERMA PDE_(food)	0.012 mg/kg bw/day

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The PDE_(food) is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to fluoxastrobin is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for fluoxastrobin is equivalent to 0.18% of the PDE_(food). It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of fluoxastrobin as a fungicide for use on wheat and barley, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fluoxastrobin	361377-29-9	n/a	All foods	0.1 (default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Fluoxastrobin	Cereal grains	0.1 (proposed)
UK		
Fluoxastrobin	Barley	0.5 (temporary)
	Rye	0.05 (temporary)
	Wheat	0.05 (temporary)



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Imidacloprid

It is proposed that an MRL is set for imidacloprid when used as an insecticide on lettuce.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Imidacloprid	138261-41-3	Sum of: Imidacloprid and its metabolites containing the 6-chloropyridinyl moiety expressed as: imidacloprid	Lettuce	1

Chemical Information

Common name of compound	Imidacloprid
Use of compound	Insecticide
Chemical Abstract Services (CAS) Registry number	138261-41-3
Type of compound	Macrocyclic lactone
Administration method	Ground spray

Good Agricultural Practice

Imidacloprid is proposed for use as an insecticide to control aphids on lettuce. Application is by evenly watering lettuce seedlings in their trays one day before cell transplant, at a rate of 7-10.5gai/100plants with a withholding period of 49 days before harvest of the final crop.

Residues Information

Residue data for lettuce support an MRL of 1mg/kg for imidacloprid when used on lettuce to the good agricultural practice specified above.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.06 mg/kg bw/day
ERMA PDE_(food)	Not yet determined

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The $PDE_{(food)}$ is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to imidacloprid is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for imidacloprid is equivalent to 1% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of imidacloprid as an insecticide for use on lettuce, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Imidacloprid	138261-41-3	Imidacloprid	Brassica vegetables	0.02(*)
			Citrus fruits	0.02(*)
			Onions	0.02(*)
			Potatoes	0.02(*)
			Sweetcorn	0.02(*)

Note: (*) indicates that the maximum residue limit has been set at or about the limit of analytical quantification

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Australia		
Imidacloprid	Lettuce, head	5.0 (temporary)
	Lettuce, leaf	5.0 (temporary)
US		
Imidacloprid	Lettuce, head and leaf	3.5
Codex		
Imidacloprid	Lettuce, head	2



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Iprovalicarb

It is proposed that an MRL is set for iprovalicarb when used as a fungicide on onions and potatoes.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Iprovalicarb	140923-17-7	Iprovalicarb	Onions	0.05 ^(*)
			Potatoes	0.05 ^(*)

Note: (*) indicates that the maximum residue limit has been set at or about the limit of analytical quantification

Chemical Information

Common name of compound	Iprovalicarb
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	140923-17-7
Type of compound	Amino acid amide carbamate
Administration method	Foliar spray

Good Agricultural Practice

Iprovalicarb is proposed for use as part of a combination product, as a fungicide to control downy mildew on onions and early and late blight on potatoes. Application may be up to 3 times per plant growing season, with an interval of 10 to 14 days between treatments, at a rate of 137.5gai/ha and with a withholding period of 14 days.

Residues Information

Residue data for onions and potatoes support MRLs at their limits of analytical quantification of 0.05mg/kg for iprovalicarb when used on onions and potatoes to the good agricultural practice specified above.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.015 mg/kg bw/day
ERMA NZ PDE _(food)	0.007 mg/kg bw/day

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The $PDE_{(food)}$ is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to iprovalicarb is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for iprovalicarb is equivalent to 1.5% of the $PDE_{(food)}$. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of iprovalicarb as a fungicide for onion and potato crops, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Iprovalicarb	140923-17-7	n/a	All foods	0.1 (default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Iprovalicarb	Grapes	2.0



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Prothioconazole

It is proposed that an MRL is set for prothioconazole when used as a fungicide on cereal grains.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Prothioconazole	178928-70-6	Sum of: Prothioconazole, prothioconazole- desthio expressed as: prothioconazole	Cereal grains	0.02

Chemical Information

Common name of compound	Prothioconazole
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	178928-70-6
Type of compound	Triazole
Administration method	Aerial or ground spray

Good Agricultural Practice

Prothioconazole is proposed for use as a fungicide to control stripe rust, leaf rust and speckled leaf blotch on wheat, and scald, net blotch, leaf rust and Ramularia leaf spot on barley.

Application may be on first appearance of any of the diseases listed above for the stated crop (with a repeat application 3-4 weeks later if necessary) when applied by foliar spray at a rate of 150-200 gai/ha. Ground based foliar spraying should be in a minimum of 200 litres of water per hectare and aerial spraying should be in a minimum of 50 litres of water per hectare, with a withholding period of 56 days.

Residues Information

Residue data for wheat and barley support an MRL of 0.02mg/kg for prothioconazole when used on wheat and barley to the good agricultural practice specified above. The residue assessment has concluded that the MRL can be extended to include all cereal grains.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.008 mg/kg bw/day
ERMA NZ PDE_(food)	0.008 mg/kg bw/day

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The PDE_(food) is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to prothioconazole is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for prothioconazole is equivalent to 0.6% of the PDE_(food). It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of prothioconazole as a fungicide for use on wheat and barley according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Prothioconazole	178928-70-6	n/a	All foods	0.1 (default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Prothioconazole	Barley, grain Wheat, grain	0.2 (proposed) 0.06 (proposed)
UK		
Prothioconazole	Barley Rye Wheat	0.05 (temporary) 0.01 (temporary) 0.01 (temporary)



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Spinosad

It is proposed that an MRL is set for spinosad when used as an insecticide on citrus crops.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Spinosad	168316-95-8	Sum of: spinosyn A and spinosyn D	Citrus fruits	0.05

Chemical Information

Common name of compound	Spinosad
Use of compound	Insecticide
Chemical Abstract Services (CAS) Registry number	168316-95-8
Type of compound	Macrocyclic lactone
Administration method	Foliar spray

Good Agricultural Practice

Spinosad is proposed for use as an insecticide for the control of Kelly's citrus thrips on citrus crops. The proposed good agricultural practice is for 4 applications after petal fall with 14 days between each treatment, at a rate of no less than 96gai/ha and with a withholding period of 14 days.

Residues Information

Residue data for citrus fruits support an MRL of 0.05mg/kg for spinosad when used on citrus fruits according to the good agricultural practice specified above.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.02 mg/kg bw/day
ERMA NZ PDE _(food)	Not yet determined

The chronic dietary exposure to spinosad is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for spinosad is equivalent to 2% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of spinosad as an insecticide for use on citrus crops, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Spinosad	168316-95-8	Sum of: spinosyn A and spinosyn D	Kiwifruit Sheep fat Sheep kidney Sheep liver Sheep meat Stone fruits	0.2 0.2 0.05 0.05 0.05 0.2

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Spinosad	Fruit, citrus crops	0.3
Australia		
Spinosad	Citrus fruits	0.3
Codex		
Spinosad	Citrus fruits	0.3



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to set a MRL for Thiacloprid

It is proposed that an MRL is set for thiacloprid when used as an insecticide on stone fruit crops.

It is proposed that Table One of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Thiacloprid	111988-49-9	Thiacloprid	Stone fruits (except cherries)	0.02(*)

Note: (*) indicates that the maximum residue limit has been set at or about the limit of analytical quantification

Chemical Information

Common name of compound	Thiacloprid
Use of compound	Insecticide
Chemical Abstract Services (CAS) Registry number	111988-49-9
Type of compound	Chloronicotinoid
Administration method	Foliar spray

Good Agricultural Practice

Thiacloprid is proposed for use as an insecticide for the control of thrips on peaches and nectarines. Application may be 1 to 2 foliar sprays over flowering and up to shuck fall when a pest threshold is reached, at a rate of 9.6gai/100 litres and with a withholding period of 'do not apply after shuck fall'.

Residues Information

Residue data support an MRL at the limit of analytical quantification of 0.02mg/kg for thiacloprid on peaches and nectarines when used according to the good agricultural practice specified above. The residue assessment has concluded that the MRL can be extended to include all stone fruits (except cherries)

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.012 mg/kg bw/day
ERMA NZ PDE_(food)	Not yet determined

The potential daily exposure via food (PDE_(food)) is used for dietary intake calculation where a value has been set. An appropriate acceptable daily intake (ADI) is used in the absence of a PDE_(food).

The PDE_(food) is a value set by the Environmental Risk Management Authority (ERMA), which represents the proportion of the acceptable daily exposure (ADE) to a substance via the food route as relevant to the New Zealand population. The methodology for calculation of these values is set out in the Hazardous Substances (classes 6, 8, and 9 controls) Regulations 2001 and can be found at www.legislation.govt.nz.

The chronic dietary exposure to thiacloprid is estimated by the National Estimated Dietary Intake (NEDI) calculation encompassing all registered uses of the chemical and food consumption data based upon the 1997 National Nutritional Survey for adults and the 1995 National Nutrition Survey of Australia, for children. The NEDI calculation is made in accordance with *Guidelines for predicting dietary intake of pesticide residues (revised)* [World Health Organisation, 1997].

The NEDI for thiacloprid is equivalent to 0.25% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been determined that the use of thiacloprid as an insecticide for use on peaches and nectarines, according to the good agricultural practice specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Thiacloprid	111988-49-9	Thiacloprid	Avocados	0.05
			Kiwifruit	0.02(*)
			Pome fruits	0.02(*)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Thiacloprid	Fruit, pome, group 11	0.3
Australia		
Thiacloprid	Pome fruits	1.0
	Stone fruits	2.0



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to exempt *Agrobacterium radiobacter*

It is proposed that *Agrobacterium radiobacter* be exempt from the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) when used as a beneficial bacterium in the treatment and prevention of crown gall infections.

It is proposed that Table Two of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include the following exemption:

Compound	CAS#	Condition
<i>Agrobacterium radiobacter</i> Strains: K84 K1026	N/A	When used as a beneficial bacterium in the treatment of crown gall infections for food producing plant species

Chemical Information

Name of Organism:	<i>Agrobacterium radiobacter</i>
Genus:	Rhizobiacea
Strains:	K84 and K1026
Use of compound:	Beneficial Bacterium

Residues Information

It is proposed that *Agrobacterium radiobacter* be included in the MRL food standards as an exemption, when used as a beneficial microorganism in the treatment and prevention of crown gall infections for food producing plant species.

Agrobacterium radiobacter exhibits its beneficial action by competing with the bacterium, *Agrobacterium tumefaciens* that causes crown gall infection in certain plants, and by releasing a protein that specifically inhibits the growth of this bacterium.

Agrobacterium radiobacter is a soil borne bacterium that is found widely in nature and is common in New Zealand, and can therefore be expected to be present naturally on certain crops. Distinguishing additional levels of the bacterium arising from its use as an agricultural compound from those that occur naturally would therefore not be a practicable task. Distribution in the field is also likely to be uneven due to environmental factors resulting in levels of bacteria for each plant in the field differing greatly. In addition, the target area of action for *Agrobacterium radiobacter* is the woody stem of a plant, therefore levels occurring in harvested commodities are likely to be minimal.

Given its low toxicological concern, history of safe use in this context, and existing natural presence in the soil, it has been determined that the use of *Agrobacterium radiobacter* to control

crown gall infections for food crops is unlikely to cause any health risk from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
<i>Agrobacterium radiobacter</i>	N/A	<i>Agrobacterium radiobacter</i>	All foods	0.1 (default)

International MRLs

Compound	Condition
Australia (exemption)	
<i>Agrobacterium radiobacter</i> strains: K84 K1026	For the control of crown gall



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to exempt *Bacillus subtilis*

It is proposed that *Bacillus subtilis* be exempt from the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) when used as a fungicide or bactericide on food producing plant species.

It is proposed that Table Two of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include the following exemption:

Compound	CAS#	Condition
<i>Bacillus subtilis</i> Strain: QST713	n/a	When used as a fungicide or bactericide for food producing plant species

Chemical Information

Name of Organism:	<i>Bacillus subtilis</i>
Genus:	Bacillus
Strains:	QST 713
Use of compound:	Beneficial bacterium

Residues Information

It is proposed that *Bacillus subtilis* be included in the MRL food standards as an exemption, when used as a fungicide or bactericide for food producing plant species.

Bacillus subtilis strain QST713 exhibits its beneficial action by competing with fungi and bacteria that cause certain plant diseases.

Bacillus subtilis strain QST713 is a soil, air and water borne bacterium that is indigenous to New Zealand and can therefore be expected to be present naturally on many crops. Distinguishing additional levels of the bacterium arising from its use as an agricultural compound from those that occur naturally would therefore not be a practicable task. In addition, distribution in the field is likely to be uneven due to environmental factors, resulting in levels of bacteria for each plant in the field differing greatly.

Given its low toxicological concern and existing natural presence in the environment, it has been determined that the use of *Bacillus subtilis* as a fungicide or a bactericide on food producing plant species would be unlikely to cause any health risk from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
<i>Bacillus subtilis</i>	n/a	<i>Bacillus subtilis</i>	All foods	0.1 (default)

International MRLs

Compound	Type of MRL	Condition
Australia		
<i>Bacillus subtilis</i>	Exemption	When used to control Fusarium wilt in cotton
US		
<i>Bacillus subtilis</i> strain QST713	Exemption	When used according to label directions



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to exempt *Beauveria bassiana*

It is proposed that *Beauveria bassiana* be exempt from the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) when used as an insecticide for the control of aphids, thrips and whitefly on food producing plant species.

It is proposed that Table Two of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include the following exemption:

Compound	CAS#	Condition
<i>Beauveria bassiana</i> Strains: those that are indigenous to New Zealand	63428-82-0	When used as a biological insecticide for the control of aphids, thrips and whitefly on food producing plant species.

Chemical Information

Name of Organism:	<i>Beauveria bassiana</i>
Genus:	Cordyceps
Strains:	Those that are indigenous to New Zealand
Use of compound:	Biological insecticide

Residues Information

It is proposed that *Beauveria bassiana* be included in the MRL food standards as an exemption when used as an insecticide for the control of aphids, thrips and whiteflies on food producing plant species.

Beauveria bassiana is a soil, air and water borne bacterium that is indigenous to New Zealand and can therefore be expected to be present naturally on many crops. Distinguishing additional levels of the bacterium arising from its use as an agricultural compound from those that occur naturally would therefore not be a practicable task. In addition, distribution in the field is likely to be uneven due to environmental factors resulting in levels of virus for each plant in the field differing greatly.

Given its low toxicological concern and existing natural presence in the environment it has been determined that the use of *Beauveria bassiana* as an insecticide for the control of aphids, thrips and whiteflies on food producing plant species would be unlikely to cause any health risk from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
<i>Beauveria bassiana</i> (all strains)	63428-82-0	<i>Beauveria bassiana</i>	All foods	0.1 (default)

International MRLs

Compound	Type of MRL	Condition
US		
<i>Beauveria bassiana</i>	Exemption	When applied or used as ground and aerial foliar sprays for use only on terrestrial crops.
<i>Beauveria bassiana</i> strain: GHA	Exemption	When applied to growing crops according to good agricultural practices.



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to exempt Bronopol

It is proposed that Bronopol is exempted from the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) when used as an anti-microbial agent for farmed salmonids and farmed salmonid eggs.

It is proposed that Table Three of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Condition
Bronopol	52-51-7	When used as an antimicrobial agent for farmed salmon and salmon eggs

Chemical Information

Common name of compound	Bronopol
Chemical name of compound	2-bromo-2-nitro-1,3-propanediol
Use of compound	Anti-microbial agent
Chemical Abstract Services (CAS) Registry number	52-51-7
Type of compound	Propanediol-type
Administration method	Topical

Residues Information and Toxicological Assessment

It is proposed that Bronopol be included in the MRL food standards as an exemption when used as an anti-microbial agent for farmed salmon and farmed salmon eggs.

Bronopol has been in use for over 40 years as an anti-microbial preservative. It is widely used in cosmetics and topical pharmaceuticals for both humans and animals. Although bronopol does show some measurable toxicity to experimental animals, it is rapidly metabolised and rapidly broken down in the environment, and calculations for the estimation of dietary intake for all fin fish, using worst case scenario residues of up to 13 times the average of those found in residue studies, have shown that the ADI would not be exceeded. A conditional exemption is proposed to reflect good agricultural practices in New Zealand, where salmon are the only farmed fish, and therefore be limited to the use of Bronopol on salmon and salmon eggs only.

It has therefore been determined that the use of bronopol as an anti-microbial agent for use on farmed salmon and farmed salmon eggs, is very unlikely to pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Bronopol	52-51-7	Bronopol	All foods	0.1 (default)

International MRLs

Compound	Type of MRL	Condition
US		
Bronopol	Exemption	When used as an inert ingredient in pesticide formulations; (40.CFR.180.930)
EU		
Bronopol	Exemption	Animal species: Fin fish



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to exempt *Cydia pomonella granulosis virus*

It is proposed that *Cydia pomonella granulosis virus* be exempt from the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) when used as an insecticide for the control of codling moth larvae for food producing plant species.

It is proposed that Table Two of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include the following exemption:

Compound	CAS#	Condition
<i>Cydia pomonella granulosis virus</i> Strain: Mexican	n/a	When used to control codling moth larvae for food producing plant species

Chemical Information

Name of Organism:	<i>Cydia pomonella granulosis virus</i>
Genus:	<i>Granulovirus</i>
Strains:	Mexican
Use of compound:	Biological insecticide

Residues Information

It is proposed that *cydia pomonella granulosis virus* be included in the MRL standard as an exemption when used as an insecticide to control codling moth (*cydia pomonella*) larvae for food producing plant species.

Cydia pomonella granulosis virus exhibits its insecticidal effect by specifically infecting certain species of moth larvae and affecting larval organs.

Cydia pomonella granulosis virus is a naturally occurring insect virus that is common in New Zealand and can therefore be expected to be present naturally on certain crops. Distinguishing additional levels of the virus arising from its use as an agricultural compound from those that occur naturally would therefore not be a practicable task. In addition, distribution in the field is likely to be uneven due to environmental factors resulting in residue ranges for each plant in the field differing greatly.

Given its target specificity, low toxicological concern and existing natural presence in the environment, it has been determined that the use of *cydia pomonella granulosis virus* as a biological insecticide to control codling moth larvae for food producing plant species would be unlikely to cause any health risk from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
<i>Cydia pomonella granulosis virus</i>	n/a	<i>Cydia pomonella granulosis virus</i>	All Foods	0.1 (default)

International MRLs

Compound	Type of MRL	Condition
US		
Occlusion bodies of the <i>granulosis virus</i> of <i>cydia pomonella</i>	Exemption	No condition of use applies



Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No.2)

Proposal to exempt Fish Oil (food grade)

It is proposed that fish oil (food grade) be exempt from the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) when used as a fungicide or insecticide on all food producing plant species.

It is proposed that Table Two of the NZ (MRL) Food Standards 2005 (No. 2) be amended to include:

Compound	CAS#	Condition
Fish oil (food grade)	N/A	When used on all food producing plant species

Chemical Information

Common name of compound	Fish oil (food grade)
Use of compound	Fungicide or insecticide

Residues Information and Toxicological Assessment

Fish oil is proposed for use as a fungicide and an insecticide to control powdery mildew and insects on a range of agricultural and horticultural crops.

It is proposed that Fish oil (food grade) is included in the MRL standard as an exemption as it is present naturally in food, and also has a safe and established use as a food additive.

It is therefore concluded that the use of food grade fish oil on food crops would not pose any health risks from consumption of the harvested commodity.

Current MRLs

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fish Oil (food grade)	n/a	Fish Oil (food grade)	All foods	0.1 (default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
US		
Edible fish oil	Growing crops and crops after harvest	exempt