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## Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007

### 1. Proposal to set MRLs for Aminopyralid

It is proposed that MRLs are set for Aminopyralid in animal products as a result of its use as a herbicide on pasture for animal feed.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Aminopyralid in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Aminopyralid	150114-71-9	Aminopyralid	Mammalian Fat	0.01(*)
			Mammalian Kidney	0.3
			Mammalian Liver	0.01(*)
			Mammalian Meat	0.01(*)
			Milk	0.01(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

#### Chemical Information

Common name of compound	Aminopyralid
Use of compound	4-amino-3,6-dichloro-2-pyridinecarboxylic acid
Chemical Abstract Services (CAS) Registry number	150114-71-9
Type of compound	Pyridine herbicide
Administration method	Spray

#### Good Agricultural Practice (GAP)

Aminopyralid is proposed for use as a herbicide for pasture. Application may be throughout weed active growth period, at up to 12L/ha with a withholding period of 4 days.

#### Residues Information

##### Animal Transfer

Residue data for mammals support MRLs of 0.3 mg/kg in kidneys, and 0.01mg/kg in liver, fat, milk and meat with a slaughter interval of 4 days. Livestock that have been grazing on treated pasture should be placed for 4 days on a pasture that has not been treated within the last 7 days. MRLs of 0.3mg/kg in kidneys and 0.01mg/kg in liver, fat, milk and meat are therefore proposed to support GAP.

## Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.5 mg/kg bw/day
<b>Acceptable Daily Exposure (ADE)</b>	0.5 mg/kg bw/day
<b>ERMA NZ PDE<sub>(food)</sub></b>	0.4 mg/kg bw/day

The potential daily exposure via food (PDE<sub>(food)</sub>) is used for dietary intake calculations. The PDE<sub>(food)</sub> is a value set by the Environmental Risk Management Authority, and 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](http://www.legislation.govt.nz).

The chronic dietary exposure to Aminopyralid 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 Aminopyralid is equivalent to 0.02% of the PDE<sub>(food)</sub>. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

## Public Health Assessment

It has been determined that the use of Aminopyralid as a herbicide for use on pasture for animal feeds, according to the GAP specified above, is very unlikely to pose any health risks from consumption of transferred residues in animal tissues.

## Consideration of International MRLs

### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

### Other International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
<b>United Kingdom</b>		
Aminopyralid	Mammalian Kidney	0.3

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**2. Proposal to set a MRL for Chlorothalonil**

It is proposed that a MRL is set for Chlorothalonil when used as a fungicide for onions.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended by deleting the following MRL:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Chlorothalonil	1897-45-6	Chlorothalonil	Onions	5

As a replacement for the deleted MRL, it is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Chlorothalonil	1897-45-6	Chlorothalonil	Onions	0.5

The resulting entry for Chlorothalonil in Schedule One of the NZ (MRL) Food Standards 2007 will therefore read:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Chlorothalonil	1897-45-6	Chlorothalonil	Beans	5
			Berries and other small fruits (except grapes)	10
			Brassica vegetables	5
			Celery	15
			Fruiting vegetables	5
			Grapes	5
			Lettuce	10
			Onions	0.5
			Peaches	30
			Stone fruits (except peaches)	10

### Chemical Information

<b>Common name of compound</b>	Chlorothalonil
<b>Use of compound</b>	2,4,5,6-tetrachloro-1,3-benzenedicarbonitrile
<b>Chemical Abstract Services (CAS) Registry number</b>	1897-45-6
<b>Type of compound</b>	Aromatic fungicide
<b>Administration method</b>	Spray

### Good Agricultural Practice (GAP)

Chlorothalonil is proposed for use as a fungicide for onions. Application may be throughout active growth, at an application rate of 1.2 kg ai/ha with a withholding period of 14 days.

### Residues Information

#### Residues

Currently a MRL of 5mg/kg is stipulated in the MRL standard for Chlorothalonil in onions. However, with current GAP residue data for onions supports a MRL of 0.5mg/kg at 14 days after the last treatment. A MRL of 0.5mg/kg is therefore proposed to support GAP.

### Dietary Risk Assessment

<b>Acceptable Daily Exposure (ADE)</b>	0.03mg/kg bw/day
<b>ERMA NZ PDE<sub>(food)</sub></b>	0.024mg/kg bw/day

The potential daily exposure via food (PDE<sub>(food)</sub>) is used for dietary intake calculations. The PDE<sub>(food)</sub> is a value set by the Environmental Risk Management Authority, and 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](http://www.legislation.govt.nz).

The chronic dietary exposure to Chlorothalonil 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 Chlorothalonil is equivalent to 61% of the PDE<sub>(food)</sub>. It is therefore concluded that the chronic dietary exposure is tolerable and the risk is acceptable.

### Public Health Assessment

It has been determined that the use of Chlorothalonil as a fungicide for use on onions, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

### Consideration of International MRLs

#### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, The current Codex Alimentarius MRL for this commodity is:

<b>Compound</b>	<b>Food</b>	<b>Maximum Residue Limit (mg/kg)</b>
Chlorothalonil	Onion, Bulb	0.5

#### Other International MRLs

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRL will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**3. Proposal to set MRLs for Clothianidin**

It is proposed that MRLs are set for Clothianidin in animal products as a result of its use as an insecticide on wheat, forage brassicas and ryegrass seed for animal feed.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Clothianidin in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Clothianidin	210880-92-5	Sum of: Clothianidin, 2-chlorothiazole-5-ylmethylguanidine, 2-chlothiazol-5-ylmethylurea the pyruvate derivative of N-(2-chlorothiazole-5-ylmethyl)-N'-methylguanidine Expressed as: Clothianidin	Mammalian fat	0.01(*)
			Mammalian kidney	0.01(*)
			Mammalian liver	0.02
			Mammalian meat	0.01(*)
			Milk	0.01(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

**Chemical Information**

<b>Common name of compound</b>	Clothianidin
<b>Use of compound</b>	[C(E)-N-[(2-chloro-5-thiazolyl)methyl]-N'-methyl-N'-nitroguanidine
<b>Chemical Abstract Services (CAS) Registry number</b>	210880-92-5
<b>Type of compound</b>	Neonicotinoid insecticide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Clothianidin is proposed for use as an insecticide seed treatment for wheat, forage brassicas and grass seed.

### Residues Information

Residue data in crops used for animal feed, and animal transfer and depletion studies support limit of quantification MRLs of 0.01mg/kg in milk, meat, fat and kidneys and a MRL of 0.02mg/kg in liver, following a forage withholding period of 42 days for wheat and brassicas and 35 days for ryegrass (seed crops). A MRL of 0.01mg/kg in milk, meat, fat and kidneys and 0.02mg/kg in liver is therefore proposed to support GAP.

### Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.1mg/kg bw/day
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The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set by the Environmental Risk Management Authority. An appropriate acceptable daily intake (ADI) is used in the absence of a  $PDE_{(food)}$ .

The chronic dietary exposure to Clothianidin 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 Clothianidin is equivalent to 0.1% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

### Public Health Assessment

It has been determined that the use of Clothianidin as an insecticide for use on wheat, forage brassicas and ryegrass seed for animal feed, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

### Consideration of International MRLs

#### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

#### Other International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
<b>Australia</b>		
Clothianidin	Edible offal (mammalian)	0.02(*)
	Meat (mammalian)	0.02(*)
	Milks	0.01(*)

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**4. Proposal to set MRLs for Cyanazine**

It is proposed that MRLs are set for Cyanazine when used as a herbicide for beans, cereal grains, onions, peas, potatoes, pulses and sweetcorn.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Cyanazine in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Cyanazine	21725-46-2	Cyanazine	Beans	0.01(*)
			Cereal grains	
			Onions	0.01(*)
			Peas	0.02(*)
			Potatoes	0.02
			Pulses	0.01(*)
			Sweetcorn	0.01(*)
			0.02(*)	

NOTE: (\*) indicates that the MRL been set at or about the limit of analytical quantification.

**Chemical Information**

<b>Common name of compound</b>	Cyanazine
<b>Use of compound</b>	2-[[4-chloro-6-(ethylamino)-1,3,5-triazin-2-yl]amino]-2-methylpropanenitrile
<b>Chemical Abstract Services (CAS) Registry number</b>	21725-46-2
<b>Type of compound</b>	Chlorotriazine herbicide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Potatoes

Cyanazine is proposed for use as a herbicide for potatoes. Application is on pre crop emergence or up to 10cm high crops, at 1-2kgai/ha.

**Residues Information**

Residue data for potatoes support a MRL at the limit of analytical quantification: 0.01mg/kg at last application not after crop height of 10cm. A MRL of 0.01mg/kg is therefore proposed to support GAP. Cyanazine is currently used safely on cereals, sweetcorn, beans, pulses and onions with the default MRL, however on reassessment of these MRLs it has been determined that as no residues are expected at the time of harvest with the current GAP, that MRLs at the limit of quantification are supported.

Cyanazine is currently used safely on peas with the default MRL, however on reassessment of this MRL it has been determined that lower levels of residues are expected at the time of harvest with the current GAP, that a MRL of 0.02mg/kg is supported.

### Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.002mg/kg bw/day
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The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set by the Environmental Risk Management Authority. An appropriate acceptable daily intake (ADI) is used in the absence of a  $PDE_{(food)}$ .

The chronic dietary exposure to Cyanazine 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 Cyanazine is equivalent to 4.5% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

### Public Health Assessment

It has been determined that the use of Cyanazine as a herbicide for use on beans, cereal grains, onions, peas, potatoes, pulses, sweetcorn, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

### Consideration of International MRLs

#### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

#### Other International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
<b>Australia</b>		
Cyanazine	Bulb vegetables	0.02(*)
	Cereal grains	0.01(*)
	Peas	0.02
	Potato	0.02
	Pulses	0.01(*)
	Sweetcorn	0.02(*)
<b>Netherlands</b>		
Cyanazine	All foods	0.05(*)

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**5. Proposal to set a MRL for Fenhexamid**

It is proposed that a MRL is set for Fenhexamid when used as a fungicide for oranges and lemons.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fenhexamid	126833-17-8	Fenhexamid	Lemons	3
			Oranges	3

The resulting entry for Fenhexamid in Schedule One of the NZ (MRL) Food Standards 2007 will therefore read:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Fenhexamid	126833-17-8	Fenhexamid	Grapes	1
			Lemons	3
			Oranges	3
			Strawberries	3

**Chemical Information**

<b>Common name of compound</b>	Fenhexamid
<b>Use of compound</b>	<i>N</i> -(2,3-dichloro-4-hydroxyphenyl)-1-methylcyclohexanecarboxamide
<b>Chemical Abstract Services (CAS) Registry number</b>	126833-17-8
<b>Type of compound</b>	Hydroxyanilide fungicide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Fenhexamid is proposed for use as a fungicide for oranges and lemons. Application may be throughout flowering, at an application rate of 50gai/100L with a withholding period of 7 days.

**Residues Information**

Residue data for oranges and lemons support a MRL of 3mg/kg at 7 days after the last treatment. A MRL of 3mg/kg is therefore proposed to support GAP.

## Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.2 mg/kg bw/day
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The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set by the Environmental Risk Management Authority. An appropriate acceptable daily intake (ADI) is used in the absence of a  $PDE_{(food)}$ .

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

## Public Health Assessment

It has been determined that the use of Fenhexamid as a fungicide for use on oranges and lemons, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

## Consideration of International MRLs

### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

### Other International MRLs

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**6. Proposal to set MRLs for Halofuginone**

It is proposed that MRLs are set for Halofuginone when used as a veterinary medicine for cattle.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Halofuginone in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Halofuginone	55837-20-2	Halofuginone	Cattle fat	0.02
			Cattle kidney	
			Cattle liver	0.03
			Cattle meat	0.03
				0.01

**Chemical Information**

<b>Common name of compound</b>	Halofuginone
<b>Use of compound</b>	trans-7-Bromo-6-chloro-3-(3-(3-hydroxy-2-piperidinyl)-2-oxopropyl)-4(3H)-quinazolinone
<b>Chemical Abstract Services (CAS) Registry number</b>	55837-20-2
<b>Type of compound</b>	Quinazolone
<b>Administration method</b>	Oral

**Good Agricultural Practice (GAP)**

Halofuginone is proposed for use in the prevention of diarrhoea in cattle.

**Residues Information**

Residue data for cattle support MRLs of 0.01mg/kg in meat, 0.02mg/kg in fat and 0.03mg/kg in liver and kidneys at 28 days after the last treatment. MRLs of 0.01mg/kg in meat, 0.02mg/kg in fat and 0.03mg/kg in liver and kidneys are therefore proposed to support GAP.

**Dietary Risk Assessment**

<b>Acceptable Daily Intake (ADI)</b>	0.0003 mg/kg bw/day
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The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set by Environmental Risk Management Authority. An appropriate acceptable daily intake (ADI) is used in the absence of a  $PDE_{(food)}$ .

The chronic dietary exposure to Halofuginone 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 Halofuginone is equivalent to 7% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

### Public Health Assessment

It has been determined that the use of Halofuginone as a veterinary medicine for use on cattle, according to the GAP specified above, is very unlikely to pose any health risks from consumption of residues in animal tissues.

### Consideration of International MRLs

#### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

#### Other International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
<b>EU</b>		
Halofuginone	Cattle fat	0.025
	Cattle kidney	0.03
	Cattle liver	0.03
	Cattle meat	0.01
<b>Japan</b>		
<u>Halofuginone</u>	Cattle fat	0.03
	Cattle kidney	0.03
	Cattle liver	0.03
	Cattle meat	0.01

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**7. Proposal to set MRLs for Milbemectin**

It is proposed that MRLs are set for Milbemectin when used as an insecticide for pome fruits, stone fruits, avocados, strawberries and citrus fruits

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended by deleting the following MRLs:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Milbemectin	51596-10-2 (milbemycin A <sub>3</sub> ) + 51596-11-3 (milbemycin A <sub>4</sub> )	Sum of: milbemycin A <sub>3</sub> , milbemycin A <sub>4</sub> , and their 8,9-Z isomers	Apples Avocados	0.005(*) 0.005(*)

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Milbemectin in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Milbemectin	51596-10-2 (milbemycin A <sub>3</sub> ) + 51596-11-3 (milbemycin A <sub>4</sub> )	Sum of: milbemycin A <sub>3</sub> , milbemycin A <sub>4</sub> , and their 8,9-Z isomers	Avocados Citrus fruits Pome fruits Stone fruits Strawberries	0.02(*) 0.02(*) 0.02(*) 0.02(*) 0.02(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

**Chemical Information**

<b>Common name of compound</b>	Milbemectin
<b>Use of compound</b>	(6 <i>R</i> ,25 <i>R</i> )-5- <i>O</i> -demethyl-28-deoxy-6,28-epoxy-25-ethylmilbemycin B mixture with (6 <i>R</i> ,25 <i>R</i> )-5- <i>O</i> -demethyl-28-deoxy-6,28-epoxy-25-methylmilbemycin B
<b>Chemical Abstract Services (CAS) Registry number</b>	51596-10-2 (milbemycin A <sub>3</sub> ) + 51596-11-3 (milbemycin A <sub>4</sub> )
<b>Type of compound</b>	Milbemycin insecticide
<b>Administration method</b>	Spray

### Good Agricultural Practice (GAP)

Milbemectin is proposed for use as an acaricide and insecticide for pears, stone fruit, strawberries and citrus fruits.

*Pears and stone fruit:* Application may be throughout December to January, at 0.7gai/100L with a withholding period of 14 days.

*Citrus:* Application may be throughout January to April, at 0.7gai/100L with a withholding period of 14 days.

*Strawberries:* Application may be throughout growth and picking, at 7-9.3gai/ha with a withholding period of 4 days.

### Residues Information

Residue data for pears, stone fruit and citrus fruits support MRLs of 0.02mg/kg at 14 days after the last treatment. A limit of quantification MRL of 0.02mg/kg is therefore proposed to support GAP. Residue data for strawberries support a MRL of 0.02mg/kg at 4 days after the last treatment. A limit of quantification MRL of 0.02mg/kg is therefore proposed to support GAP.

Milbemectin is currently used safely on apples and avocados with MRLs of 0.005mg/kg, however on reassessment of these MRLs it has been determined that a more suitable MRL to represent the current analytical techniques available for residue screening is required, therefore a MRL of 0.02mg/kg is proposed for avocados, and a crop group MRL of 0.02mg/kg is proposed for pome fruits to encompass the new MRL for pears and the reassessed MRL for apples.

### Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.03 mg/kg bw/day
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The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set the Environmental Risk Management Authority. An appropriate acceptable daily intake (ADI) is used in the absence of a  $PDE_{(food)}$ .

The chronic dietary exposure to Milbemectin 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 Milbemectin is equivalent to 0.1% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

### Public Health Assessment

It has been determined that the use of Milbemectin as an insecticide for use on pome fruits, stone fruits, avocados, strawberries and citrus fruits, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

### Consideration of International MRLs

#### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

#### Other International MRLs

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**8. Proposal to set MRLs for Spiromesifen**

It is proposed that MRLs are set for Spiromesifen when used as an insecticide for cucumber, sweet peppers and tomatoes.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Spiromesifen in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Spiromesifen	283594-90-1	Spiromesifen	Cucumber	0.2
			Peppers (sweet)	1
			Tomatoes	0.5

**Chemical Information**

<b>Common name of compound</b>	Spiromesifen
<b>Use of compound</b>	2-oxo-3-(2,4,6-trimethylphenyl)-1-oxaspiro[4.4]non-3-en-4-yl 3,3-dimethylbutanoate
<b>Chemical Abstract Services (CAS) Registry number</b>	283594-90-1
<b>Type of compound</b>	Keto-enol insectide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Spiromesifen is proposed for use as an insecticide for greenhouse cucumbers, tomatoes and capsicum. Application may be twice throughout crop growth, at 14gai/100L with a withholding period of 1 day.

**Residues Information**

Residue data for cucumbers support a MRL of 0.2mg/kg at 1 day after the last treatment. A MRL of 0.2mg/kg is therefore proposed to support GAP. Residue data for tomatoes support a MRL of 0.5mg/kg at 1 day after the last treatment. A MRL of 0.5mg/kg is therefore proposed to support GAP. Residue data for Peppers (sweet) support a MRL of 1.0mg/kg at 1 day after the last treatment. A MRL of 1.0mg/kg is therefore proposed to support GAP.

**Dietary Risk Assessment**

<b>Acceptable Daily Exposure (ADE)</b>	0.03mg/kg bw/day
<b>ERMA NZ PDE<sub>(food)</sub></b>	0.021mg/kg bw/day

The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set. The  $PDE_{(food)}$  is a value set by the Environmental Risk Management Authority, and 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](http://www.legislation.govt.nz).

The chronic dietary exposure to Spiromesifen 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 Spiromesifen is equivalent to 1% of the  $PDE_{(food)}$ . It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

### **Public Health Assessment**

It has been determined that the use of Spiromesifen as an insecticide for use on cucumbers, sweet peppers and tomatoes, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

### **Consideration of International MRLs**

#### **Codex MRLs**

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

#### **Other International MRLs**

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**9. Proposal to set MRLs for Spiroxamine**

It is proposed that MRLs are set for Spiroxamine when used as a fungicide for grapes, barley and wheat, and in animal products as a result of its use as a fungicide on barley and wheat for animal feed.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for Spiroxamine in Schedule One of the NZ (MRL) Food Standards 2007:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Spiroxamine	118134-30-8	Spiroxamine	Barley	0.05(*)
			Grapes	0.05(*)
			Mammalian Fat	0.01(*)
			Mammalian Kidney	0.05
			Mammalian Liver	0.05
			Mammalian Muscle	0.01(*)
			Wheat	0.05(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

**Chemical Information**

<b>Common name of compound</b>	Spiroxamine
<b>Use of compound</b>	8-(1,1-dimethylethyl)-N-ethyl-N-propyl-1,4-dioxaspiro[4.5]decane-2-methanamine
<b>Chemical Abstract Services (CAS) Registry number</b>	118134-30-8
<b>Type of compound</b>	Unclassified fungicide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Spiroxamine is proposed for use as a fungicide for grapes with application throughout flowering and up to 80% cap fall, at 30gai/100L with a withholding period “of up to 80% cap fall”. Spiroxamine is proposed for use as a fungicide for wheat and barley with application up to the start of flowering, at 600gai/ha with a withholding period of up to 56 days.

### Residues Information

Residue data for grapes support a MRL of 0.05mg/kg when the last treatment is at 80% cap fall. A MRL of 0.05mg/kg is therefore proposed to support GAP. Residue data for wheat and barley support MRLs of 0.05mg/kg at 56 days after last treatment. A MRL of 0.05mg/kg is therefore proposed to support GAP. Residues may occur in animal products following feeding with treated wheat and barley, as a result of animal transfer and tissue depletion studies, MRLs of 0.05mg/kg in mammalian kidney and liver and limit of quantification MRLs of 0.01mg/kg in mammalian fat and muscle are proposed to support GAP.

### Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.025mg/kg bw/day
<b>Acceptable Daily Exposure (ADE)</b>	0.02mg/kg bw/day
<b>ERMA NZ PDE<sub>(food)</sub></b>	0.014mg/kg bw/day

The potential daily exposure via food (PDE<sub>(food)</sub>) is used for dietary intake calculation where a value has been set. The PDE<sub>(food)</sub> is a value set by the Environmental Risk Management Authority, and 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](http://www.legislation.govt.nz).

The chronic dietary exposure to Spiroxamine 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 Spiroxamine is equivalent to 1.1% of the PDE<sub>(food)</sub>. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

### Public Health Assessment

It has been determined that the use of Spiroxamine as a fungicide for use on grapes, barley and wheat, and in mammalian tissues as a result of its use as a fungicide on barley and wheat for animal feed, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

### Consideration of International MRLs

#### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

#### Other International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
<b>Australia</b>		
Spiroxamine	Grapes	2
<b>EU</b>		
Spiroxamine	Barley	0.3

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**10. Proposal to set a MRL for Thiachloprid**

It is proposed that a MRL is set for Thiachloprid when used as an insecticide for onions.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Thiachloprid	111988-49-9	Thiachloprid	Onions	0.01(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

The resulting entry for Thiachloprid in Schedule One of the NZ (MRL) Food Standards 2007 will therefore read:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Thiachloprid	111988-49-9	Thiachloprid	Avocados Kiwifruit Onions Pome fruits Stone fruits (except cherries)	0.05 0.02(*) 0.01(*) 0.02(*) 0.02(*)

**Chemical Information**

<b>Common name of compound</b>	Thiachloprid
<b>Use of compound</b>	(Z)-[3-[(6-chloro-3-pyridinyl)methyl]-2-thiazolidinylidene]cyanamide
<b>Chemical Abstract Services (CAS) Registry number</b>	111988-49-9
<b>Type of compound</b>	Neonicotinoid insecticide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Thiachloprid is proposed for use as an insecticide for onions. Application may be throughout plant growth, at 500ml/ha with a withholding period of 14 days.

**Residues Information**

Residue data for onions support a limit of quantification MRL of 0.01mg/kg at 14 days after the last treatment. A MRL of 0.01mg/kg is therefore proposed to support GAP.

## Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.012mg/kg bw/day
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The potential daily exposure via food ( $PDE_{(food)}$ ) is used for dietary intake calculation where a value has been set by the Environmental Risk Management Authority. An appropriate acceptable daily intake (ADI) is used in the absence of a  $PDE_{(food)}$ .

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 0.3% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

## Public Health Assessment

It has been determined that the use of Thiacloprid as an insecticide for use on onions, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

## Consideration of International MRLs

### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

### Other International MRLs

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRLs will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.



**Proposed amendment to the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2007**

**11. Proposal to set a MRL for Thiamethoxam**

It is proposed that a MRL is set for Thiamethoxam when used as an insecticide for potatoes.

It is proposed that Schedule One of the NZ (MRL) Food Standards 2007 be amended to include:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Thiamethoxam	153719-23-4	Thiamethoxam	Potatoes	0.02(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

The resulting entry for Thiamethoxam in Schedule One of the NZ (MRL) Food Standards 2007 will therefore read:

Compound	CAS#	Residue definition	Food	Maximum Residue Limit (mg/kg)
Thiamethoxam	153719-23-4	Thiamethoxam	Kiwifruit Maize Pome fruits Potatoes Sweetcorn	1 0.02(*) 0.1 0.02(*) 0.02(*)

NOTE: (\*) indicates that the MRL has been set at or about the limit of analytical quantification.

**Chemical Information**

<b>Common name of compound</b>	Thiamethoxam
<b>Use of compound</b>	3-[(2-chloro-5-thiazolyl)methyl]tetrahydro-5-methyl-N-nitro-4H-1,3,5-oxadiazin-4-imine
<b>Chemical Abstract Services (CAS) Registry number</b>	153719-23-4
<b>Type of compound</b>	Nitroguanidine Insecticide
<b>Administration method</b>	Spray

**Good Agricultural Practice (GAP)**

Thiamethoxam is proposed for use as an insecticide for potatoes. Application may at planting of tubers as an in-furrow spray, at a rate of 133gai/ha with a withholding period of 90 days.

**Residues Information**

Residue data for potatoes support a limit of quantification MRL of 0.02mg/kg at 90 days after the last treatment. A MRL of 0.02mg/kg is therefore proposed to support GAP.

## Dietary Risk Assessment

<b>Acceptable Daily Intake (ADI)</b>	0.02mg/kg bw/day
<b>Acceptable Daily Exposure (ADE)</b>	0.02mg/kg bw/day
<b>ERMA NZ PDE<sub>(food)</sub></b>	0.016mg/kg bw/day

The potential daily exposure via food (PDE<sub>(food)</sub>) is used for dietary intake calculation where a value has been set. The PDE<sub>(food)</sub> is a value set by the Environmental Risk Management Authority, and 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](http://www.legislation.govt.nz).

The chronic dietary exposure to Thiamethoxam and its guanidine metabolite 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 Thiamethoxam and its guanidine metabolite is equivalent to 1% of the PDE<sub>(food)</sub>. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

## Public Health Assessment

It has been determined that the use of Thiamethoxam as an insecticide for use on onions, according to the GAP specified above, is very unlikely to pose any health risks from consumption of the harvested commodity.

## Consideration of International MRLs

### Codex MRLs

As specified in the NZ (MRL) Food Standards 2007 imported foods may contain agricultural compounds no greater than the level specified by Codex Alimentarius, currently no Codex Alimentarius MRLs have been determined for this agricultural compound.

### Other International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
<b>Italy</b>		
Thiamethoxam	Potatoes	0.1
<b>USA</b>		
Thiamethoxam	Potatoes	0.25

To meet New Zealand's obligations under the Agreement on the Application of Sanitary and Phytosanitary Measures the proposed MRL will be notified to the World Trade Organization. Any country may choose to comment if they believe the proposed MRLs represent a barrier to their trade.