



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 a MRL of 0.01mg/kg is set for azoxystrobin on sweetcorn.

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	Azoxystrobin and its Z isomer	Sweetcorn	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	Azoxystrobin
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	131860-33-8
Type of compound	Strobilurin
Administration method	Foliar spray

Residues Information

Azoxystrobin is proposed for use on sweetcorn as a preventative spray against Rust and Northern Leaf Blight. Treatment is up to two applications per growing season at a rate of 250gai/ha, with a 14 day interval between treatments and withholding period of 14 days.

When used according to the Good Agricultural Practice (GAP) specified above, azoxystrobin is unlikely to result in residues in the harvested commodity, therefore the MRL has been set at the Limit of Quantification.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.03mg/kg bw/day
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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 Organization, 1997].

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

Toxicological Assessment

It is determined that the use of azoxystrobin as a fungicide for use on sweetcorn according to the GAP specified above is very unlikely to cause any acute or chronic health risk from any residues occurring in the harvested commodity.

Current MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Azoxystrobin	Cereal crops	0.2
	Sweetcorn	0.1(default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
USA		
Azoxystrobin	Corn, field, grain	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 emamectin benzoate

It is proposed that a MRL of 0.002mg/kg is set for emamectin benzoate on grapes.

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)
Emamectin benzoate	119791-41-2	Emamectin benzoate	Grapes	0.002*

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

Chemical Information

Common name of compound	Emamectin benzoate
Use of compound	Insecticide
Chemical Abstract Services (CAS) Registry number	119791-41-2
Type of compound	Avermectin
Administration method	Foliar spray

Residues Information

Application may be up to twice per growing season at 0.2 gai/100 litres, with a withholding period of 'do not apply after bunch closure'. Residue data for grapes supports a MRL of 0.002mg/kg. No animal commodity MRLs have been set, as grapes are not classed as a primary animal feed commodity.

When used according to the Good Agricultural Practice (GAP) specified above, emamectin benzoate is unlikely to result in residues in the harvested commodity, therefore the MRL has been set at the Limit of Quantification.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.0025mg/kg bw/day
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The chronic dietary exposure to emamectin benzoate 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 Organization, 1997].

The NEDI for emamectin benzoate is equivalent to 0.08% of the ADI. It is concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It has been concluded that the use of emamectin benzoate as an insecticide for use on grapes, according to the GAP specified above, is very unlikely to cause any acute or chronic health risk from any residues that may occur in the harvested commodity.

Current MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Emamectin benzoate	Kiwifruit	0.002(*)
	Pomefruit	0.002(*)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Australia		
Emamectin benzoate	Grapes	0.002(*)

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



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

Proposal to set a MRL for picoxystrobin

It is proposed that a MRL of 0.01mg/kg is set for picoxystrobin on wheat and barley crops, together with MRLs of 0.01mg/kg for cattle muscle, fat and offal.

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)
Picoxystrobin	117428-22-5	Picoxystrobin	Wheat	0.01*
			Barley	0.01*
			Cattle muscle	0.01*
			Cattle fat	0.01*
			Cattle offal	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	Picoxystrobin
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	117428-22-5
Type of compound	Strobilurin
Administration method	Foliar Spray

Residues Information

Application may be to wheat/barley crops, up to twice per growing season, at 125 gai/ha for preventative treatments, and up to 188gai/ha in the presence of high levels of Speckled Leaf Blotch disease, with a withholding period of 70 days in both cases. Residue data for crops support a MRL of 0.01mg/kg at 70 days after the last treatment.

When used according to the Good Agricultural Practice (GAP) specified above, picoxystrobin is unlikely to result in residues in the harvested commodity, therefore the MRLs have been set at the Limit of Quantification.

There is potential for crops treated with picoxystrobin to be used as animal feeds. Transfer of any residues into animal products is unlikely. Therefore, MRLs at the Limit of Quantification are proposed for cattle products to account for this.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.043 mg/kg bw/day
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The chronic dietary exposure to picoxystrobin 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 Organization, 1997].

The NEDI for picoxystrobin is equivalent to less than 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 picoxystrobin as a fungicide for use on wheat or barley, according to the GAP specified above, is very unlikely to cause any acute or chronic health risks from consumption of the harvested commodity.

Current MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Picoxystrobin	All foods	0.1(default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
EU		
Picoxystrobin	Wheat grain	0.05*

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



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

Proposal to set a MRL for quinoxifen

It is proposed that a MRL of 0.3mg/kg is set for quinoxifen on grapes.

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)
Quinoxifen	124495-18-7	Quinoxifen	Grapes	0.3

Chemical Information

Common name of compound	Quinoxifen
Use of compound	Fungicide
Chemical Abstract Services (CAS) Registry number	124495-18-7
Type of compound	Quinoline
Administration method	Foliar Spray

Residues Information

Application may be up to three times per season from the start of new growth to the start of ripening in grapes, at a rate of 2.5gai/100 litres for prevention, and up to 5gai/100 litres during periods of infection, with a withholding period of 35 days. Residue data for grapes supports a MRL of 0.3mg/kg at 35 days after the last treatment.

No animal commodity MRLs have been set, as grapes are not classed as a primary animal feed commodity.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.2mg/kg bw/day
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The chronic dietary exposure to quinoxifen 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 Organization, 1997].

The NEDI for quinoxifen is equivalent to less than 0.01% of the ADI. It is therefore concluded that the chronic dietary exposure is small and the risk is acceptable.

Toxicological Assessment

It is determined that the use of quinoxyfen as a fungicide for use on grapes, according to the Good Agricultural Practice (GAP) specified above, is very unlikely to cause any acute or chronic health risk from any residues occurring in the harvested commodity.

Current MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Quinoxyfen	Grapes	0.1(default)

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
USA		
Quinoxyfen	Grapes	0.6mg/kg



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

Proposal to set a MRL for toltrazuril

It is proposed that MRLs are set for toltrazuril, which is used as an anticoccidial agent for cattle.

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)
Toltrazuril	69004-03-1	Toltrazuril	Cattle fat	0.15
			Cattle muscle	0.1
			Cattle liver	0.5
			Cattle kidney	0.25

Chemical Information

Common name of compound	Toltrazuril
Use of compound	Anticoccidial agent
Chemical Abstract Services (CAS) Registry number	69004-03-1
Type of compound	Triazinetrione
Administration method	Oral

Residues Information

Following oral administration to cattle, toltrazuril is slowly absorbed, reaching a maximal plasma level approximately five days after treatment (when given at a dose of 15mg/kg bw). Upon mobilisation to other areas, toltrazuril reaches its highest concentrations in the liver, followed by lower doses in kidney, muscle and fat, respectively. Toltrazuril has a half-life of 154 hours and is slowly eliminated from the animal via both urine and faeces. At 70 days post administration, toltrazuril was found to have reached undetectable levels in all samples.

Dietary Risk Assessment

Acceptable Daily Intake (ADI)	0.002 mg/kg bw/day
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The chronic dietary exposure to quinoxifen 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 Organization, 1997].

The NEDI for toltrazuril is equivalent to 40% of the ADI. It is therefore concluded that the risk is acceptable.

Toxicological Assessment

It has been determined that this veterinary drug presents no acute or chronic health risks when present in cattle food commodities (excluding dairy products), at levels equal to or below the maximum residue limit.

Current MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Toltrazuril	Pig liver	2
	Pig meat	0.5
	Pig fat	0.5
	Pig kidney	2
	Poultry meat	0.5
	Poultry, edible offal	1

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
EU		
Toltrazuril	Cattle fat	0.15
	Cattle muscle	0.1
	Cattle liver	0.5
	Cattle kidney	0.25



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

Proposal to exempt calcium polysulphide (lime sulphur)

It is proposed that calcium polysulphide (lime sulphur) be exempt from the NZ (MRL) Food Standards 2005 (No.2) when used as a fungicide or an insecticide for any food-producing plant species.

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

Substance	CAS#	Condition
Calcium polysulphide (lime sulphur)	1344-81-6	Used as a fungicide or insecticide for food-producing plant species

Chemical Information

Common name of compound	Lime sulphur / Calcium polysulphide
Use of compound	Fungicide / Insecticide
Chemical Abstract Services (CAS) Registry number	1344-81-6

Residues Information

Calcium polysulphide is applied to crops as a protective fungicide or to deciduous fruit trees as an insecticide for use against scale. Calcium polysulphide has the potential, when used in this manner, to leave residues of both calcium and sulphur in treated plants. However, both calcium and sulphur are essential elements for plant nutrition and will be present naturally in healthy crop plants. Therefore it is not possible to determine how much of the sulphur and calcium residues have arisen from the use of calcium polysulphide.

It is suggested then that calcium polysulphide be suitable for an exemption from any MRLs when used as a fungicide or insecticide on any food-producing plant species.

Dietary Risk Assessment

Both calcium and sulphur are essential trace elements in human nutrition and are of very low toxicity in higher quantities, with no reported NOEL. Any consumption of residues occurring in treated crop consumption is likely to be of little toxicological concern.

Toxicological Assessment

Any residues of calcium polysulphide that are present within crop commodities at the time of harvest are of very low acute or chronic health risk concern.

Current MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Calcium polysulphide	Any food	0.1(default)
Sulphur	Any food producing plant species	exempt

International MRLs

Compound	Food	Maximum Residue Limit (mg/kg)
Australia		
Lime sulphur	Fruit, vegetables, nuts	exempt

Summary

To summarise, calcium polysulphide is suitable for an exemption from the NZ (MRL) Food Standards 2005 (No.2) for the following reasons:

- calcium polysulphide or its breakdown elements of sulphur and calcium present near minimal dietary risk from any residues; and
- levels of calcium and sulphur occur naturally in crop commodities as essential trace elements.

MRLs proposed for inclusion into Table 1 of the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2005 (No. 2) as replacements for default MRLs

	Compound Common Name	CAS#	Residue Definition	Food	Proposed MRL (mg/kg)
1	1-methylcyclopropene	3100-04-7	Ethylene receptor bound 1-methylcyclopropene	Fruit Vegetables	0.01 0.01
2	Acephate	30560-19-1	Acephate	Potatoes	0.5
3	Azaconazole	60207-31-0	Azaconazole	Pomefruit Citrus fruits Tomatoes	0.02* 0.02* 0.05
4	Azoxystrobin	131860-33-8	Azoxystrobin and its z isomer	Potatoes Tomatoes	0.01* 0.01*
5	Bentazone	25057-89-0	Bentazone and its hydroxyl derivatives	Beans – dwarf green Soya beans	0.05* 0.05*
6	Bifenthrin	82657-04-3	Bifenthrin	Brassica vegetables Kiwifruit Squash Pumpkins Tomatoes	0.05 0.01* 0.001* 0.001* 0.05
7	Buprofezin	69327-76-0	Buprofezin	Grapes Peaches Pomefruit	0.01* 0.01* 0.1
8	Chlorpyrifos	2921-88-2	Chlorpyrifos	Maize Onions	0.02 0.1
9	Clomazone	81777-89-1	Clomazone	Beans Squash Potatoes Pumpkin	0.05* 0.05* 0.05* 0.05*
10	Dodine	2439-10-3	Dodine	Nectarines Peaches	0.02* 0.02*
11	Endothal	145-73-3	Endothal	Potatoes	0.05*
12	Fenamiphos	22224-92-6	Sum of fenamiphos, fenamiphos sulfoxide and fenamiphos sulfone, expressed as fenamiphos	Kiwifruit	0.05*

	Compound Common Name	CAS#	Residue Definition	Food	Proposed MRL (mg/kg)
13	Fenoxaprop-P-ethyl	71283-80-2	Sum of Fenoxaprop-P-ethyl (all isomers), 2-(4-(6-chloro-2-benzoxazolylloxy)-phenoxy)-propionic acid and 6-chloro-2,3-dihydro-benzoxazol-2-one, expressed as Fenoxaprop-P-ethyl	Cattle fat Cattle meat Edible offal of cattle Edible offal of goat Edible offal of sheep Goat fat Goat meat Sheep fat Sheep meat Wheat	0.02* 0.02* 0.05 0.05 0.05 0.02* 0.02* 0.02* 0.02* 0.02*
14	Fluazinam	79622-59-6	Fluazinam	Brassica vegetables Potatoes Tomatoes	0.02* 0.02* 0.02*
15	Fluroxypyr	69377-81-7	Fluroxypyr	Apples Onions	0.02* 0.05
16	Flusulfamide	106917-52-6	Flusulfamide	Brassica vegetables Potatoes	0.02* 0.02*
17	Fuberidazole	3878-19-1	Fuberidazole	Barley Oats Wheat	0.05* 0.05* 0.05*
18	Halosulfuron-methyl	100784-20-1	Halosulfuron-methyl	Maize	0.01*
19	Imazapyr	81334-34-1	Imazapyr	Maize	0.05*
20	Isoproturon	34123-59-6	Isoproturon	Cereal grains	0.01*
21	Methabenzthiazuron	18691-97-9	Methabenzthiazuron	Asparagus Bulb vegetables Peas Potatoes	0.05* 0.05* 0.05* 0.05*
22	Paclobutrazol	76738-62-0	Paclobutrazol	Avocados Stonefruit	0.01* 0.01*

	Compound Common Name	CAS#	Residue Definition	Food	Proposed MRL (mg/kg)
23	Phosphine	7803-51-2	Hydrogen phosphide (Phosphine), with MRL covering phosphine arising from the use of aluminium phosphide or magnesium phosphide.	Cereal grains	0.1*
24	Propiconazole	60207-90-1	Propiconazole	Barley Mushrooms Oats Wheat	0.02* 0.05* 0.02* 0.02*
25	Spinosad	168316-95-8 (131929-60-7 + 131929-63-0)	Spinosad (sum of spinosyn A and spinosyn D)	Potatoes Tomatoes	0.01* 0.01*
26	Thiamethoxam	153719-23-4	Thiamethoxam	Maize Sweetcorn	0.02* 0.02*
27	Tolyfluanid	731-27-1	Tolyfluanid	Grapes	0.02*
28	Tralkoxydim	87820-88-0	Tralkoxydim	Barley Wheat	0.02* 0.02*
29	Tri-allate	2303-17-5	Tri-allate	Barley Peas Wheat	0.05* 0.05* 0.05*
30	Tribenuron-methyl	101200-48-0	Tribenuron-methyl	Cereal grains (except maize) Edible (mammalian) offal Maize Meat (mammalian) Milks	0.01* 0.01* 0.05* 0.01* 0.01*