Trade Advice Notice

on

Boscalid

in the product

Nufarm Filan Fungicide
(APVMA product number 59032)

Date: April 2009

About this document

This is a Trade Advice Notice.

It indicates that the Australian Pesticides and Veterinary Medicines Authority (APVMA) is considering an application for registration of an agricultural or veterinary chemical. It provides a summary of the APVMA's residue and trade assessment.

Comment is sought from industry groups and stakeholders on the information contained within this notice.

The APVMA will only consider comment on submissions that relate to the **trade implications** of the extended use of the product. Comments received outside these grounds will not be considered by the APVMA. Comments made on appropriate grounds will be considered with details posted on the APVMA website noting what action has/will be taken in regard to concerns.

Any advice the APVMA receives through this consultation which it relies on to grant this application will be noted in a subsequent Advice Summary.

Advice Summaries can be found at:
http://www.apvma.gov.au/registration/data_requirements_subpage.shtml

About this consultation

The APVMA invites comment on this Trade Advice Notice until the 7 May 2009. Submissions should be addressed to:

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1. **INTRODUCTION**

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has before it an application from Nufarm Australia Limited to extend the use of Nufarm Filan Fungicide containing 500 g/kg boscalid as the active constituent. The applicant proposes to include use on potatoes, tomatoes, capsicum, eggplant and peppers to control Early blight (*Alternaria solani*).

Nufarm Filan Fungicide will be applied to the vegetable crops in conjunction with Nufarm Polyram DF Fungicide Spray containing 700 g/kg metiram (Product number 58901). The Nufarm Polyram DF Fungicide Spray uses are not considered here as the product is currently registered for use on potatoes and tomatoes at the required rate. Label extension of Nufarm Polyram DF Fungicide Spray on capsicum, eggplant and peppers is subject to a separate submission.

The proposed Australian use pattern for Nufarm Filan Fungicide is given below:

Nufarm Filan Fungicide (500 g/kg boscalid)

Crop	Pest	Rate	WHP	Critical Comments
Potatoes	Early blight (*Alternaria solani*)	Ground application 150 g/ha (75 g ai/ha) + POLYRAM® DF Aerial application 150 g/ha (75 g ai/ha) + POLYRAM® DF	Harvest 7 days	Apply as part of a protectant program using two sprays 10 to 14 days apart. Apply only as a tank mixture with POLYRAM DF at registered rates. Refer to the POLYRAM DF label for full directions for use before applying in a tank mixture with FILAN. The tank mixture should be used when conditions favour disease development in the period between row closure and the beginning of flowering. If overhead irrigation is used apply immediately following irrigation. Use the shorter interval when disease pressure remains high. Further sprays of FILAN + Polyram DF may be applied after a two application break provided that the total number of FILAN + POLYRAM DF sprays does not exceed one third of the total number of sprays applied for early blight.

Tomatoes, capsicum, eggplant & peppers	Early blight (*Alternaria solani*)	150 g/ha (75 g ai/ha) + POLYRAM® DF at 1.7 – 2.2 kg/ha	Harvest 14 days	DO NOT use in covered situations. Apply as part of a protectant program using two sprays 10 to 14 days apart. Apply only as a tank mixture with POLYRAM DF at registered rates. Refer to the POLYRAM DF label for full directions for use before applying in a tank mixture with FILAN. FILAN should be used when conditions favour disease development. If overhead irrigation is used apply immediately following irrigation. Use the shorter interval when disease pressure remains high. Further sprays of FILAN + POLYRAM DF may be applied after a two application break provided that the total number of FILAN + POLYRAM DF sprays does not exceed one third of the total number of sprays applied for early blight.

Withholding periods:

Potatoes: DO NOT harvest for 7 days after application.
Capsicums, eggplant, peppers & tomatoes: DO NOT harvest for 14 days after application.

Export slaughter interval (ESI):
Forage and fodder produced from areas previously treated with products containing boscalid such as Nufarm Filan Fungicide: Do not feed to livestock for 7 days before slaughter.

2. TRADE CONSIDERATIONS

2.1 Commodities Exported

Potatoes, tomatoes, capsicums and eggplants are the commodities exported. Animal commodities derived from livestock that have been fed treated commodities or crops grown in rotation after direct application of Filan to a crop (rotational crops), or animal feed commodities derived from rotational crops can also be exported. The vegetable crops included on the label are not considered to be major export commodities as determined in Part 5B AgMORAG. Of the possible crops that may be grown in rotation, following those proposed for use on the label, cereals and pulses are considered to be major export commodities however residues in grain/seeds are expected to be close to or below the LOQ of 0.05 mg/kg.

2.2 Destination and Value of Exports

The value and destinations of Australian exports of beef, mutton, lamb, and dairy products are summarised in the tables 1 to 3.[1]

Table 1: Export markets for Australian beef.

Value of beef exports	1998	1999	2000	2001	2002	2003	2004	2005	2006
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Beef and veal									
Americas									
Canada	104.6	128.0	148.1	204.4	320.2	110.9	38.1	32.6	43.8
United States	735.2	805.1	1 172.8	1 699.7	1 593.6	1 332.3	1 374.4	1 186.4	1 180.7
Asia									
Chinese Taipei	108.2	123.2	116.7	132.6	152.3	126.7	124.2	148.3	134.6
Hong Kong, China	23.6	16.6	18.2	17.8	17.1	15.0	27.3	18.7	13.5
Indonesia	6.1	33.3	40.8	37.2	46.1	38.4	26.7	33.6	39.0
Japan	1 312.4	1 369.7	1 537.3	1 728.2	1 237.7	1 384.4	2 189.8	2 244.8	2 172.1
Korea, Rep. of	87.6	201.9	221.7	228.9	320.4	250.7	434.4	494.8	734.7
Malaysia–Singapore	66.7	68.7	70.6	78.7	91.4	86.8	74.4	48.9	29.2
Philippines	40.4	38.5	34.3	55.8	36.1	23.0	4.3	5.9	3.7
Europe									
European Union	58.6	61.3	37.4	48.4	53.5	49.2	62.8	56.8	77.2
CIS	58.2	18.1	3.8	14.4	2.9	0.7	2.0	4.6	61.0
Eastern Europe	43.6	6.9	6.3	1.2	9.1	4.5	1.3	0.4	0.4
Middle East									
Kuwait	3.6	1.6	0.3	4.6	1.8	9.8	3.4	1.0	0.9
Saudi Arabia	7.4	3.3	2.1	23.0	11.6	7.8	3.1	1.7	4.5
United Arab Emirates	5.4	2.5	4.4	11.6	10.9	7.8	12.0	13.7	0.3
Oceania									
New Zealand	4.5	5.0	11.1	6.3	25.6	15.9	9.8	8.8	8.0
Pacific Isles	6.2	4.1	5.2	7.2	7.4	5.4	4.5	4.0	6.3
Papua New Guinea	12.3	14.1	14.1	11.5	9.8	4.9	5.2	4.3	5.8
Total beef and veal	2 768.3	2 963.3	3 464.1	4 357.3	4 002.6	3 475.3	4 390.2	4 346.7	4 604.0

Table 2: Export markets for Australian sheep meat.

Value of sheep exports	1998	1999	2000	2001	2002	2003	2004	2005	2006
	$m	$m	$m	$m	$m	$m	$m	$m	$m
Mutton									
Canada	3.2	3.1	4.6	6.8	5.2	3.6	5.8	5.4	7.1
Chinese Taipei	29.1	27.6	26.3	36.9	48.9	32.2	41.9	34.8	29.8
CIS	9.2	0.9	3.1	3.7	5.4	1.3	5.8	13.5	33.1
European Union	44.8	28.2	34.1	42.0	41.4	28.1	43.2	48.3	46.7
Japan	37.9	32.6	34.0	42.7	51.1	29.9	47.1	38.1	31.5
Korea, Rep. of	2.3	2.1	1.7	2.3	3.3	2.2	3.1	3.1	2.9
Malaysia	11.6	13.7	16.5	21.7	22.9	15.9	22.6	18.5	25.1
Papua New Guinea	8.0	7.5	6.2	7.4	6.6	6.1	5.1	5.2	4.2
Saudi Arabia	37.4	36.8	43.9	90.1	77.5	65.0	53.0	63.9	67.3
Singapore	16.4	16.5	18.4	23.4	23.2	20.4	22.0	18.6	19.5
South Africa	34.6	35.3	46.3	30.9	17.6	11.1	14.1	18.7	29.2
United States	40.3	37.1	43.9	56.4	64.7	67.9	48.6	44.4	50.2
Other	77.9	84.2	97.1	146.3	152.0	91.7	113.4	119.7	141.3
Total	352.5	325.8	376.3	510.6	519.7	375.3	425.9	432.0	487.9
Lamb									
European Union b	48.2	52.3	74.3	105.7	89.3	96.9	93.4	83.9	85.6
Japan	22.9	25.1	30.7	37.0	40.7	42.3	53.5	79.1	83.0

[1] Australian Commodity Statistics, 2007. ABARE

Papua New Guinea	12.0	13.0	16.0	18.0	15.7	14.4	17.3	19.4	20.0
South Africa	9.7	10.0	15.3	5.5	1.2	2.1	3.5	5.3	9.0
United Arab Emirates	18.1	18.2	24.2	27.4	31.6	29.9	27.0	32.8	47.1
United States	97.6	103.2	150.2	219.9	218.2	257.5	259.9	324.2	319.0
Other	87.2	96.3	137.0	165.7	169.5	159.7	184.7	233.1	229.4
Total	295.6	318.0	447.7	579.1	566.2	602.8	639.3	777.8	793.2

Table 3: Export markets for Australian dairy products.

Value of dairy exports	Unit	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Cheese								
Japan	$m	338.8	429.2	272.0	299.6	378.9	298.5	337.9
Philippines	$m	18.6	20.0	15.7	11.1	18.2	13.7	13.1
Saudi Arabia	$m	123.6	148.2	98.9	69.0	81.5	103.5	86.7
United Kingdom	$m	38.7	21.5	15.2	18.3	20.5	20.1	14.8
United States	$m	39.1	48.3	36.1	33.9	45.4	54.8	53.1
Other	$m	391.0	366.3	361.9	306.6	330.9	345.5	319.0
Total	$m	949.9	1 033.4	799.8	738.4	875.4	836.1	824.6
Butter and butterfat								
Egypt	$m	34.6	23.5	18.9	6.4	10.5	12.5	13.9
Malaysia	$m	14.7	14.4	12.7	13.5	11.6	15.8	11.0
Philippines	$m	8.6	5.1	3.7	1.9	2.8	5.1	3.2
Singapore	$m	16.7	20.4	15.5	18.2	16.8	21.1	14.4
Thailand	$m	19.8	23.0	13.2	12.7	13.5	12.0	9.8
Other	$m	196.6	211.0	160.0	129.4	133.0	157.6	126.2
Total	$m	291.0	297.4	224.0	182.1	188.3	224.1	178.6
Skim milk powder								
Japan	$m	48.9	53.7	29.6	13.3	10.6	12.5	11.1
Malaysia	$m	87.4	88.4	51.4	52.7	64.2	77.1	72.2
Philippines	$m	181.4	143.5	69.0	59.8	49.4	72.0	46.1
Singapore	$m	51.8	52.8	38.4	41.3	57.7	56.1	67.1
Thailand	$m	67.2	69.1	33.2	20.0	21.7	76.8	51.1
Other	$m	257.5	290.5	184.1	198.8	216.3	234.3	257.3
Total	$m	694.2	697.9	405.6	386.0	419.9	528.9	505.0
Casein								
Japan	$m	19.9	26.7	20.6	23.3	23.1	30.4	31.8
United States	$m	56.7	80.5	81.4	68.8	56.6	27.3	32.4
Other	$m	23.4	15.5	26.4	30.4	36.4	31.3	49.3
Total	$m	100.1	122.6	128.4	122.5	116.1	88.9	113.5
Whole milk powder								
Malaysia	$m	26.9	39.2	22.3	28.9	33.1	23.8	14.5
Singapore	$m	31.7	29.7	25.2	21.4	30.9	44.6	41.4
Taiwan	$m	54.9	54.1	44.9	40.0	31.5	22.8	13.5
Thailand	$m	24.9	22.6	14.0	12.0	8.6	10.5	12.3
Other	$m	441.8	425.5	273.4	218.9	220.3	231.9	193.1
Total	$m	580.2	571.1	379.8	321.1	324.4	333.6	274.9
Other products								
Fresh milk	$m	82.0	98.1	98.1	104.0	108.7	107.3	96.3
Other fresh products	$m	12.7	7.9	5.5	9.6	9.1	6.3	11.8
Condensed milk	$m	111.5	123.7	133.3	121.0	139.8	147.5	156.9
Other powders	$m	223.2	276.6	272.1	253.9	244.9	241.2	211.0
Total	$m	429.4	506.2	509.1	488.6	502.6	502.3	476.0

2.3 Results from residues trials presented to the APVMA

The Public Release Summary (PRS) for Nufarm Filan Fungicide (April 2004) contains further information on the environmental fate of boscalid. A copy of the PRS is available from the APVMA website.

Potatoes
To support the use of boscalid on potatoes, the applicant provided details of 4 Australian trials plus 16 trials conducted in the US. Detectable residues were not found in potatoes from either Australian trials (n = 4) at the proposed rate (0 – 35 days after last application DALA) or US trials (n = 16) in which a much higher application rate was employed (6.8× , 29 – 30 DALA). However, in 4 European rotational cropping trials, residues were present at low levels up to 0.06 mg/kg in potatoes that were planted as rotational crops. In other rotational crop studies, the maximum residue in root and tuber vegetables was 0.32 mg/kg in radish roots. On the basis of the data provided it is proposed that an MRL of 0.5 mg/kg be established for boscalid on potatoes to cover residues resulting from both direct application and those arising from uptake in rotational situations. The 7 day withholding period associated with the Nufarm Polyram DF product and use on potatoes should also apply to the use of Filan Fungicide. Other root and tuber vegetables that may be grown in rotational situations will be accommodated by a proposed All Other Foods MRL (see Rotational Crops below).

Tomatoes, capsicum, eggplant and peppers
The applicant has provided details of 6 Australian trials on tomatoes and capsicums. At the proposed 14 day WHP residues in tomatoes were 0.01, 0.02 and 0.08 mg/kg after the last application at 75 g ai/ha (1× proposed rate).

At the proposed 14 day WHP residues in capsicums were 0.02, 0.03 and 0.04 mg/kg after the last application at 75 g ai/ha (1× proposed rate). An MRL of 1 mg/kg is proposed for fruiting vegetables, other than cucurbits. The data provided would support a withholding period of 'Not required when used as directed' however, withholding periods should be the same as those recommended for Polyram DF which will be applied at the same time as boscalid under the proposed use pattern. This requires a 14 day WHP for tomatoes, capsicum, eggplant and peppers.

The highest tomato residue of 0.08 mg/kg in the Australian trials would give a maximum predicted residue of 0.17 mg/kg in wet tomato pomace or 0.87 mg/kg on a dry weight basis. It is proposed to establish an MRL of 1 mg/kg for tomato pomace, dry as a livestock feed for inclusion in Table 4 of the MRL Standard.

Rotational crops
In the rotational crop studies provided, the maximum residue found in a crop for human consumption was 0.32 mg/kg in radish roots (after treatment of the primary crop with 5 applications of boscalid, each application at 415 g ai/ha and a plantback interval of 14 days - a clear decline in residues in radish roots was not observed for samples grown after plantback intervals of 30 and 45 days). It is proposed that an MRL of 0.5 mg/kg be established for All Other Foods to cover the likelihood of residues appearing in various commodities in rotational crop situations.

A significant number of overseas trials were provided for commodities from rotational crops which may be used as livestock feeds. This included 2 trials on wheat (planted after treatment to strawberries), 6 trials on peas and beans, 49 trials on cereals and soybeans and 26 trials on grasses, alfalfa and clover. The maximum residue in a commodity from a rotational crop which may be used as a livestock feed was 9.5 mg/kg (dry weight) in bean forage (after treatment of soil with 3 applications of boscalid at a total rate of 2 kg ai/ha and a 14 day plantback interval). It would be appropriate to establish a Table 4 entry of 15 mg/kg for boscalid in primary feed commodities based on a proposed restriction of the annual application rate of boscalid to 2 kg ai/ha.

The maximum predicted livestock dietary exposure to boscalid will be as a result of the consumption of grape pomace as 20% of the diet with primary feed commodities derived from rotational crops making up the remaining 80% as shown below.

Cattle- 500 kg bw, 20 kg DM/day

Commodity	% in diet	Feed intake	Residue, mg/kg	% DM	Livestock dietary exposure		
					mg/animal	ppm	mg/kg bw
Grape pomace	20	4	10.5 (STMR-P)	100	41.9	2.1	0.08
Primary feed commodities	80	16	9.5 (HR)	100	152	7.6	0.30

The maximum predicted boscalid intake for cattle will be 9.7 ppm, increasing from the current maximum feeding level of 2.1 ppm from the currently registered use on grapes. In an animal transfer study provided with the initial application to register the product, dairy cattle were fed boscalid at 18 ppm in the diet for 28 days. The highest residues were present in the cream, kidney, fat and liver at 0.381, 0.318, 0.292 and 0.182 mg/kg, respectively. The highest residue detected in whole milk was 0.096 mg/kg on day 18 of the treatment. Predicted residues from feeding on boscalid at 9.7 ppm are summarised in table 4.

Table 4: Predicted boscalid residues in tissues and milk of cattle.

Substrate	Boscalid (mg/kg)	
	18 ppm	9.7 ppm (predicted)
Kidney	0.318	0.171
Liver	0.182	0.098
Fat	0.292	0.157
Muscle	0.058	0.031
Whole milk	0.096	0.052
Cream	0.381	0.205
Milk fats		0.41

The predicted residue in milk fats is derived from the predicted residue in cream of 0.205 mg/kg and the nominal fat content of cream of 50%. These results support the following increases in the mammalian animal commodity MRLs for boscalid.

MM 0095	Meat (mammalian) [in the fat]	from 0.1 to 0.3 mg/kg
MO 0105	Edible offal (mammalian)	from 0.05 to 0.3 mg/kg
ML 0106	Milks	from *0.02 to 0.1 mg/kg
	Milk fats	new MRL at 0.7 mg/kg

The partition coefficient of boscalid in octanol/water (K_{ow} log P = 2.96) suggests fat solubility. As residues in fat were approximately 5× higher than muscle, the meat MRL is established 'in the fat', and it is also appropriate to establish a corresponding milk fats MRL.

2.4 Overseas registration and approved label instructions

Products containing boscalid are currently registered in several overseas countries including the USA, the EU and Japan.

2.5 Codex Alimentarius commission and overseas MRLs

The Codex Alimentarius Commission (Codex) is responsible for establishing Codex Maximum Residue Limits (CXLs) for pesticides. Codex CXLs are primarily intended to facilitate international trade, and accommodate differences in Good Agricultural Practice (GAP) employed by various countries. Some countries may accept Codex CXLs when importing foods. Boscalid has been considered by Codex and the JMPR in 2006, however MRLs for the crops included in this submission have not been established. As rotational crop studies were not fully considered by JMPR, Codex MRLs do not account for residues in rotational crops.

The US residue definition for boscalid in animal commodities is the same as Australia (Sum of boscalid, 2-chloro-N-(4'-chloro-5-hydroxybiphenyl-2-yl) nicotinamide and the glucuronide conjugate of 2-chloro-N-(4'-chloro-5-hydroxybiphenyl-2-yl) nicotinamide). The EU residue definition for animal commodities is sum of boscalid and M510F01 including its conjugates, which is also effectively the same as the Australian definition.

The following overseas residue MRLs/ tolerances have been established for plant commodities:

Country/status	Commodity	Tolerance, mg/kg
Australia (proposed)	All other foods	0.5
	Fruiting vegetables, other than cucurbits	1
	Potato	0.5
Japan	Potato	0.05
	Tomato	5
	Egg plant	2
	Pimento (sweet pepper)	10
EU	Potato	0.5
	Tomatoes (cherry tomatoes)	1
	Peppers (chilli peppers)	2
	Aubergines (egg plants) (pepino)	1

The following overseas animal commodity MRLs /tolerances have been established for boscalid:

Country	Commodity	Tolerance, mg/kg
Australia (proposed)	Edible offal (mammalian)	0.3
	Meat (mammalian) [in the fat]	0.3
	Milks	0.1
	Milk fats	0.7
USA	Cattle, fat	0.3
	Cattle, meat	0.10
	Cattle, meat by-products, except kidney and liver	0.35
	Milk	0.10
	Sheep, fat	0.30
	Sheep, meat	0.10
	Sheep, meat by-products	0.35
Japan	Cattle, muscle	0.10
	Cattle, fat	0.30
	Cattle, liver	0.35
	Cattle, kidney	0.35
	Cattle, edible offal	0.35
	Milk	0.10
	Sheep, muscle	0.1
	Sheep, fat	0.30
	Sheep, liver	0.35
	Sheep, kidney	0.35
	Sheep, edible offal	0.35
EU	Meat, preparations of meat, offals, blood, animal fats fresh chilled or frozen, salted, in brine, dried or smoked or processed as flours or meals; other processed products such as sausages and food preparations based on these	0.5
	Bovine meat	*0.05
	Bovine fat	0.3
	Bovine liver	0.2
	Bovine kidney	0.3
	Bovine edible offal	0.3
	Milk and cream, not concentrated, nor containing added sugar or sweetening matter, butter and other fats derived from milk, cheese and curd	*0.05
	Sheep meat	*0.05
	Sheep fat	0.3
	Sheep liver	0.2
	Sheep kidney	0.3
	Sheep edible offal	0.3

It is noted that MRLs for boscalid in animal commodities have not been established in Taiwan or Korea.

2.6 Current and proposed Australian MRLs for boscalid.

The following changes to the Australian MRL standard are proposed for boscalid:

Table 1

Compound	Food		MRL (mg/kg)
DELETE:			
Boscalid	MO 0105	Edible offal (mammalian)	0.05
	MM 0095	Meat (mammalian) [in the fat]	0.1
	ML 0106	Milks	*0.02
ADD:			
Boscalid		All other foods	0.5
	MO 0105	Edible offal (mammalian)	0.3
	VO 0050	Fruiting vegetables, other than Cucurbits	1
	MM 0095	Meat (mammalian) [in the fat]	0.3
	ML 0106	Milks	0.1
		Milk fats	0.7
	VR 0589	Potato	0.5

Table 4

Compound	Animal feed commodity		MRL (mg/kg)
ADD:			
Boscalid		Primary feed commodities	15
		Tomato pomace, dry	1

For full details of current boscalid MRLs, please refer to the APVMA website http://www.apvma.gov.au and follow the Residues link.

2.7 Potential Risk to Trade

Export of treated produce containing finite (measurable) residues of boscalid may pose a risk to Australian trade in situations where no residue tolerance is established in the importing country or where residues in Australian produce are likely to exceed a residue tolerance established in the importing country.

Risk to trade from direct application
For the crops included on the label, detectable residues of boscalid are not expected to occur in potatoes after direct application of the product. Detectable residues may however occur in tomatoes, capsicums, peppers and egg plant after direct application. The major export market for these crops is New Zealand, which will recognise Australian MRLs through the Trans Tasman Mutual Recognition Agreement.

Risk to trade arising from rotational crop situations
Detectable residues may be present in rotational vegetable crops. However these are not considered to be major export commodities. Residues in cereal grains or the seeds of pulse crops grown in rotational situations were generally below the LOQ (0.05 mg/kg), with few exceptions (up to 0.07 mg/kg in wheat grain). Only small areas of these crops are likely to be grown in rotation with vegetable crops and as these commodities will be bulked and blended before export the risk of detectable residues in grain or pulses destined for export is considered to be low. Comment is sought on the potential risk to trade in grains and pulses.

The use of boscalid in rotational situations has the potential to result in significant residues in animal feeds and livestock. The risk to trade in animal commodities is outlined below.

The proposed uses of boscalid are not on commodities that are significant livestock feeds. However approval of the application would require the establishment of an MRL of 15 mg/kg for primary feed commodities derived from rotational crops. This requires an associated increase in the current animal commodity MRLs. Therefore a risk to export trade in animal commodities is identified, as only the USA, Japan and the EU have established MRLs in line with those recommended for Australia and the MRL for milk in the EU is lower than that proposed for Australia.

It is noted that some major markets for Australian animal commodities (Korea and Taiwan) have not established relevant boscalid MRLs. Importantly, no Codex MRLs are established for animal commodities as crop rotation and the resulting residues has not been fully considered by the JMPR to date. The animal transfer study provided with the initial application to register the product suggests that boscalid residues will be below detectable limits in animal commodities, including milk, after 7 days on clean feed. A seven day export slaughter interval may be recommended for livestock that have been fed on rotational primary feed commodities to ensure residues are below detectable limits in animal commodities destined for export to markets where no MRLs have been set. Such an export interval is not practical for cattle producing milk.

In order to apply an ESI or otherwise manage residues in feedstuffs, the livestock producer must have some knowledge of the treatment history of the feed they are using or have been supplied. If the livestock producer is unaware of the rotational crop residue in a supplied feed and there is no Commodity Vendor Declaration (CVD) or analysis of the feed to determine the residue impact on the livestock, an ESI is not practical. Data are not currently available to determine for how long residues of concern would remain in the field and produce significant residues in subsequent rotational crops. Therefore the length of time, or number of crops that an ESI would need to be applied to in a rotational system following treatment with boscalid cannot be defined. Comments are sought from the relevant industry groups on whether or not an ESI is manageable or practical in this case noting that this is not a direct application situation and traceabilty of supplied feeds could be a major issue.

The proposed MRLs are based on an annual application rate of 2 kg ai/ha. The applicant has proposed that use of boscalid be restricted to a maximum of 2 applications per crop. Appropriate label restrictions should ensure that an annual

application rate of 2 kg ai/ha is not exceeded. Comments are sought on the ability of label statements and industry systems to manage and limit boscalid applications to a maximum annual application rate.

3. CONCLUSION

Boscalid residues in potatoes will be below detectable limits after direct application. However, low levels of boscalid may be present in potatoes grown in rotational situations. Residues may be present in tomatoes and peppers. However, the main export market for these crops is New Zealand which will recognise any Australian MRLs through the Trans Tasman Mutual Recognition Agreement.

With respect to other crops grown in rotational situations, residues in cereal grains or the seeds of pulse crops were generally below the LOQ (0.05 mg/kg), with few exceptions (up to 0.07 mg/kg in wheat grain). As these commodities will be bulked and blended before export the risk of detectable residues in grain or pulses destined for export is low. While detectable residues may be present in rotational vegetable crops, these are not considered to be major export commodities so the risk to Australian trade is also considered to be low.

Residues likely to be present in forage and fodder crops grown in a rotational crop situation requires an increase in the animal commodity MRLs, together with a new MRL for such feed commodities. A risk to trade in animal commodities has been identified, as only the USA, Japan and Europe have established MRLs in line with those required for Australia. A depuration study suggests that there will be no detectable boscalid residues in animal tissues after 7 days on clean feed. A 7 day export slaughter interval is proposed for livestock that have been fed on rotational primary feed commodities to ensure residues in animal commodities destined for export to markets where no MRLs have been set are below detectable limits. However the practicality of an ESI recommendation is questionable in this situation.

The APVMA is seeking advice on the potential for the proposed new uses of Nufarm Filan Fungicide on potatoes, tomatoes, capsicums, eggplant and peppers to unduly prejudice Australian export trade. Specifically:

1. Residues in cereal grains and pulse crops and the potential for trade risk.
2. The ability of an Export Slaughter Interval to effectively manage residue risks in livestock consuming feeds which may contain residues of boscalid despite not having been directly treated with boscalid.
3. Residues in milk and milk products and the potential for trade risk.
4. The ability for the annual application rate of boscalid to be managed by label statements and restrictions and industry systems given that application may occur to more than one crop in any one year.

Following advice received on the acceptability of the available residues management options, the APVMA will determine if risks to trade associated with the proposed uses of Nufarm Filan Fungicide on potatoes, tomatoes, capsicums, eggplant and peppers are acceptable.