Australian Government

Australian Pesticides and Veterinary Medicines Authority

Trade Advice Notice

on imazamox and imazapyr in the product
Nufarm Intercept Herbicide for use on faba beans

APVMA product number 69353

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Preface

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is an independent statutory authority with responsibility for assessing and approving agricultural and veterinary chemical products prior to their sale and use in Australia.

The APVMA has a policy of encouraging openness and transparency in its activities and of seeking stakeholder involvement in decision making. Part of that process is the publication of Trade Advice Notices for all proposed extensions of use for existing products where there may be trade implications.

The information and technical data required by the APVMA to assess the safety of new chemical products and the methods of assessment must be undertaken according to accepted scientific principles. Details are outlined in regulatory guidance published on the APVMA website.

About this document

This Trade Advice Notice indicates that the APVMA is considering an application to vary the use of an existing registered 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 document.

Making a submission

The APVMA invites any person to submit a relevant written submission as to whether the application to vary the registration of Nufarm Intercept Herbicide should be granted. Submissions should relate only to matters that the APVMA is required by legislation to take into account in deciding whether to grant the application. These grounds relate to the trade implications of the extended use of the product. Submissions should state the grounds on which they are based. Comments received outside these grounds cannot be considered by the APVMA.

Submissions must be received by the APVMA by close of business on Tuesday 6 April 2021 and be directed to the contact listed below. All submissions to the APVMA will be acknowledged in writing via email or by post.

Relevant comments will be taken into account by the APVMA in deciding whether to grant the application and in determining appropriate conditions of registration and product labelling.

When making a submission please include:

- contact name
- company or organisation name (if relevant)
- email or postal address (if available)

- the date you made the submission.

Please note: submissions will be published on the APVMA's website, unless you have asked for the submission to remain confidential, or if the APVMA chooses at its discretion not to publish any submissions received (refer to the public consultation coversheet).

Please lodge your submission using the public consultation coversheet, which provides options for how your submission will be published.

Note that all APVMA documents are subject to the access provisions of the *Freedom of Information Act 1982* and may be required to be released under that Act should a request for access be made.

Unless you request for your submission to remain confidential, the APVMA may release your submission to the applicant for comment.

Written submissions should be addressed to:

Executive Director, Risk Assessment Capability

Australian Pesticides and Veterinary Medicines Authority

GPO Box 3262

Sydney NSW 2001

Phone: +61 2 6770 2300

Email: enquiries@apvma.gov.au

Further information

Further information can be obtained via the contact details provided above.

Further information on Trade Advice Notices can be found on the APVMA website: apvma.gov.au.

Introduction

The APVMA has before it an application from Nufarm Australia Limited to vary the registration of Nufarm Intercept Herbicide to add a use pattern for imidazolinone tolerant faba beans. Intercept Herbicide contains imazamox and imazapyr as active constituents.

The use of imazamox and imazapyr on imidazolinone tolerant faba beans is currently allowed under Permit 86849 (20 April 2019 to 30 April 2022). The permit use pattern involves the same application rate as is proposed for registration but an earlier application timing (up to BBCH 15).

Trade considerations

Commodities exported

Faba beans are considered to be a major export commodity, as are commodities of animal origin, such as meat, offal and dairy products, which may be derived from livestock fed feeds produced from treated faba beans. Residues in these commodities resulting from the use of Nufarm Intercept Herbicide may have the potential to unduly prejudice trade.

No changes are required to the current animal commodity maximum residue limits (MRLs) for imazamox and imazapyr as the maximum feeding burden for mammalian livestock and poultry to imazamox and imazapyr is not increasing as a result of the proposed use. The risk to trade associated with animal commodities does not require further consideration at this time.

Destination and value of exports

The total pulse exports (including faba beans) for 2017 to 2018, 2018 to 2019 and 2019 to 2020 were 2,073 kt (valued at $1.9 billion), 1,520 kt (valued at $1.0 billion) and 1,731 kt (valued at $1.2 billion) respectively (ABARES).[1] The market for faba bean, also known as horse bean or broad bean, is more limited than other food pulses, and is largely restricted to the Middle East, principally Egypt.[2]

[1] ABARES, Agricultural Commodity Statistics; Department of Agriculture, Water and Environment website; accessed 11 February 2021.

[2] Pulse Australia, Australian Pulse Bulletin; Pulse Australia website; November 20 2015, accessed 11 February 2021.

Proposed Australian use pattern

Table 1: Proposed use pattern for Nufarm Intercept Herbicide (33 g/L imazamox, 15 g/L imazapyr; as ammonium salts)

Crop	Pest	Rate	Critical comments
Imidazolinone herbicide tolerant faba bean – BBCH 13 – BBCH 18	Barley (*Hordeum vulgare*)- non imidazolinone tolerant varieties Barley grass (*Hordeum leporinum*) Brome (*Bromus diandrus and B.rigidus*) Indian hedge mustard (*Sisymbrium orientale*) Muskweed (*Myagrum perfoliatum*) Oats (*Avena sativa*) Triticale (*Triticosecale spp*) Wheat (*Triticum aestivum*) – non imidazolinone tolerant varieties Wild oat (*Avena fatua*), wild radish (*Raphanus raphanistrum*), wild turnip (*Brassica tournefortii*)	375 to 750 mL/ha (= 12.4 g imazamox + 5.6 g imazapyr/ha – 24.8 g imazamox + 11.3 g imazapyr/ha)	**Always add Supercharge® Elite or Banjo® at 0.5 L/100 L spray solution.** Read follow crop comments and restrictions on the label prior to use. Read compatibility section for advice on tank mixes, tank mixes with other herbicides can broaden the range of weeds controlled. Apply to imidazolinone herbicide tolerant faba bean crops from BBCH 13 – BBCH 18. Applications should be targeted at grass weeds when the majority are in the 2 to 4 leaf stage and only when within the recommended crop stages. Application to multi-tillered crops may impair weed control because of poor contact and coverage of weeds. **See compatibility.** The control of brassicaceous weeds will depend on the status of Group B resistance in the population. If other weeds require control, apply appropriate herbicides at least two weeks before or after Intercept®, and only when signs of regrowth or renewed vigour appear, otherwise the effects of the early treatment may affect the performance of the subsequent treatment.
	As above, plus: Charlock (*Sinapsis arvensis*) Dense flowered fumitory (*Fumaria densiflora*)	600 – 750 mL/ha (= 19.8 g imazamox + 9 g imazapyr/ha – 24.8 g imazamox + 11.3 g imazapyr/ha)	**Always add Supercharge® Elite or Banjo® at 0.5 L/100 L spray solution.** Read follow crop comments and restrictions on the label prior to use. **See compatibility.**

Crop	Pest	Rate	Critical comments
	Marshmallow (*Malva parviflora*) Sub clover (*Triflorium subterraneum*) **Suppression** Annual ryegrass (*Lolium rigidum*) Ψ, Bedstraw app. (*Galium tricornutum & G. aparine*), Doublegee (*Emex australis*) Silver grasses (*Vulpia bromoides & V.myuros*) Stinging nettle (*Urtica urens*)		Weed species will either be controlled or suppressed. Surviving plants will be stunted and will be uncompetitive with the crop, and seed set will be prevented or greatly reduced. Ψ The control of annual ryegrass varies from excellent to poor depending on the status of Group B resistance in the population and environmental conditions. Where the population is expected to exceed 200 plants/m2 or a high level of control is required, or the ryegrass is known to be resistant or thought to be developing resistance, an application of a suitable pre-emergent herbicide should be made prior to sowing.

Withholding periods:

Harvest: Not required when used as directed

Grazing: DO NOT graze or cut for stock food for 4 weeks after application

Restraints:

DO NOT apply by aircraft

DO NOT apply more than once per season to any one crop

Faba beans: DO NOT apply after the commencement of stem elongation

Trade advice:

Growers should note that maximum residue limits (MRLs) or import tolerances may not exist in all markets for crops treated with Intercept®. If you are growing produce for export, please check with Nufarm Australia Limited or your Industry Association for the latest information on MRLs and import tolerances before using Intercept®.

Results from residues trials presented to the APVMA

The proposed use of Nufarm Intercept Herbicide on faba beans is for application BBCH 13–18 at a maximum rate of 24.8 g imazamox + 11.3 g imazapyr/ha with a harvest withholding period (WHP) of 'Not required when used as directed' and a grazing WHP of 4 weeks. The label has the following restraint for faba beans 'DO NOT apply after the commencement of stem elongation', which is equivalent to BBCH 30.

In support of the use pattern the applicant has provided eight GLP residue trials conducted in Australia (New South Wales, Victoria, South Australia, Western Australia) during 2017 and 2019 to determine residue levels of imazapyr and imazamox in a commercial variety of imidazolinone herbicide tolerant faba beans (PBA Bendoc, code AF015369).

At 4 sites in 2019 2 application timings were used, an early timing at BBCH 14–15 (4 to 5 compound leaves emerged), and at BBCH 31 (one visibly extended internode), which is relevant to the restraint 'DO NOT apply after the commencement of stem elongation'. The other 4 trials in 2017 only addressed the early timing at BBCH 14–15. Each treatment received one application of Intercept Herbicide at the proposed (1×) maximum label rate and double (2×) the proposed maximum label rate.

Imazamox: grain

After one application at BBCH 31 at 1× the proposed rate, residues were <0.005 mg/kg (<LOD, n=4). After application at 2× the proposed rate for this timing residues were also <0.005 (4) mg/kg.

At the earlier application timing of BBCH 14–15, residues of imazamox were <0.005 (8) mg/kg following application at 1× and 2× the proposed application rate.

Based on the available residues information, it recommended that a permanent imazamox MRL for broad bean (dry) [faba bean (dry)] be established at the contemporary analytical method Limit of Quantification (LOQ) of *0.01 mg/kg. This MRL will replace the current temporary LOQ MRL of T*0.05 mg/kg.

Imazamox: straw and forage

After one application at BBCH 31 at 1× the proposed rate in straw, residues were <0.005 (<LOD, n=4) mg/kg. At the earlier application timing of BBCH 14–15, residues of imazamox were <0.005 (8) mg/kg following application at 1× and 2× the proposed application rate.

In faba bean forage at the proposed grazing withholding period of 4 weeks, imazamox residues were <0.005 mg/lg (<LOD, n=4) after 1 application at BBCH 31 at 1× the proposed rate.

For the trials with only the early application timing, after one application at BBCH 14–15 at approx. 1× the proposed rate and sampled 4 weeks after application residues of imazamox (dry weight) in forage were <LOD (4) mg/kg.

Based on the available residues information, it recommended that a permanent imazamox MRL for broad bean (dry) (faba bean (dry)) forage and fodder (fresh weight) be established at the contemporary analytical method LOQ of *0.01 mg/kg. This MRL will replace the current temporary LOQ MRL of T*0.05 mg/kg.

Imazapyr: grain

After one application at BBCH 31 at 1× the proposed rate, residues were <LOQ, 0.013, 0.024 and 0.029 mg/kg. The OECD MRL calculator estimates an MRL of 0.06 mg/kg noting a degree of uncertainty due to a small dataset. After application at 2× the proposed rate for this timing residues were 0.021, 0.040, 0.052 and 0.059 mg/kg.

At the earlier application timing of BBCH 14–15, residues of imazapyr were <LOD, <LOQ, <LOQ, <LOQ, <LOQ, <LOQ, 0.016 and 0.020 mg/kg following application at 1× the proposed application rate.

It is recommended the imazapyr MRL for broad bean (dry) (faba bean (dry)) be increased from T0.05 mg/kg to 0.07 mg/kg noting only 4 relevant trials are available at the proposed latest application timing and the HR following the 1× and 2× treatments were 0.029 and 0.059 mg/kg respectively.

Imazapyr: straw and forage

After one application at BBCH 31 at 1× the proposed rate and, residues of imazapyr (dry weight) in straw were <LOD (2), <LOQ and 0.011 mg/kg. The OECD MRL calculator estimates an MRL of 0.02 mg/kg for straw. At the earlier timing of BBCH14–15 residues of imazapyr (dry weight) in straw were <0.005 (8) mg/kg following application at 1x.

The forage dataset for each trial site at 4 weeks after application (either at BBCH 14–15 or BBCH 31) suitable for MRL estimation is, in rank order, <0.01, <0.01, <0.01, 0.075, 0.086, 0.115, 0.125 and 0.135 mg/kg (n=8). The OECD MRL calculator estimates an MRL of 0.3 mg/kg. It is recommended a broad

beans, dry [faba bean] forage and fodder MRL be established at 0.3 mg/kg for the proposed use with a 4 week grazing withholding period.

Overseas registration and approved label instructions

The applicant indicated that imazamox is registered in faba beans (broad beans) in Belgium, Canada, Croatia, France, Greece, Hungary, Ireland, Italy Japan, Morocco, the Netherlands, Poland, Switzerland and the USA. There are no registrations for imazapyr in faba beans/broad beans in overseas countries.

Codex Alimentarius Commission and overseas MRLs

The Codex Alimentarius Commission (Codex) is responsible for establishing Codex Maximum Residue Limits (CXLs) for pesticides and veterinary medicines. 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. Imazamox and imazapyr have been considered by Codex. The following relevant Codex CXLs and international MRLs have been established for imazamox and imazapyr.

Table 2: Relevant international MRLs for imazamox

Commodity	Tolerance for residues arising from the use of imazamox (mg/kg)				
	Australia	EU	Japan	Codex	USA
Residue definition	Imazamox	Sum of imazamox and its salts	MRLs for imazamox-ammonium include residues of imazamox and imazamox-ammonium	Imazamox	Exempt from the requirement of a tolerance on all food commodities when applied as a herbicide in accordance with good agricultural practices
Faba beans	T*0.05 (current) *0.01 (proposed)	-	-	-	-
Beans, dried	(T*0.05 mung bean (dry)) (*0.05 soya bean, dry)	-	0.1 (0.05 Broad beans) (0.1 soya beans, dried)	(*0.05 beans (dry)) (*0.05 beans, except broad bean and soya bean) (*0.01 soya bean (dry))	-
Pulses	-	(*0.05 beans, peas and lupins) (0.2 lentils)	(0.05 other legume/pulses)	(0.2 lentil (dry)) (0.05 peas (dry))	

Table 3: Relevant international MRLs for imazapyr

Commodity	Tolerance for residues arising from the use of imazapyr (mg/kg)				
	Australia	EU	Japan	Codex	USA
Residue definition	Imazapyr	Imazapyr	Imazapyr	Imazapyr	Imazapyr
Faba beans	T0.05 (current) 0.07 (proposed)	-	-	-	-
Beans, dried		-	0.3	-	-
Pulses		(0.3 lentils)	-	(0.3 lentil (dry)) (5 soya bean (dry))	(0.2 lentils, 4 soybean, no current registrations)

Current and proposed Australian MRLs for imazamox and imazapyr

Table 4: Current MRL Standard – Table 1

Compound		Food	MRL (mg/kg)
Imazamox			
VD	0560	Adzuki bean (dry)	T*0.05
VD	0523	Broad bean (dry) (faba bean (dry))	T*0.05
MO	0105	Edible offal (mammalian)	*0.05
PE	0112	Eggs	*0.01
VD	0561	Field pea, dry	*0.05
VD	0533	Lentil (dry)	*0.01
MM	0095	Meat (mammalian)	*0.05
ML	0106	Milks	*0.05
VD	0536	Mung bean (dry)	*T0.05
PM	0110	Poultry meat	*0.01
PO	0111	Poultry, edible offal of	*0.01
VD	0541	Soya bean, dry	*0.05
Imazapyr			
VD	0523	Broad bean (dry) (faba bean (dry))	T0.05

Compound		Food	MRL (mg/kg)
MO	0105	Edible offal (mammalian)	*0.05
PE	0112	Eggs	*0.01
VD	0533	Lentil (dry)	*0.01
MM	0095	Meat (mammalian)(in the fat)	*0.05
ML	0106	Milks	*0.01
PM	0110	Poultry meat (in the fat)	*0.01
PO	0111	Poultry, edible offal of	*0.01

Table 5: Current MRL Standard – Table 4

Compound	Animal feed commodity	MRL (mg/kg)
Imazamox		
	Broad beans, dry (faba bean) forage and fodder (fresh weight)	T*0.05
Imazapyr		
	Primary feed commodities (except forage and fodder (dry) of cereal grains; maize fodder, dry; maize forage (fresh weight), rape seed (canola) fodder (dry); rape seed (canola) forage; straw of cereal grains, dry; sunflower forage and fodder)	15

Table 6: Proposed MRL Standard – Table 1

Compound		Food	MRL (mg/kg)
Imazamox			
Delete:			
VD	0523	Broad bean (dry) (faba bean (dry))	T*0.05
Add:			
VD	0523	Broad bean (dry) (faba bean (dry))	*0.01
Imazapyr			
Delete:			
VD	0523	Broad bean (dry) (faba bean (dry))	T0.05
Add:			

Compound	Food	MRL (mg/kg)
VD 0523	Broad bean (dry) (faba bean (dry))	0.07

Table 7: Proposed MRL Standard – Table 4

Compound	Animal feed commodity	MRL (mg/kg)
Imazamox		
Delete:		
	Broad beans, dry (faba bean) forage and fodder (fresh weight)	T*0.05
Add:		
	Broad beans, dry (faba bean) forage and fodder (fresh weight)	*0.01
Imazapyr		
Delete:		
	Primary feed commodities (except forage and fodder (dry) of cereal grains; maize fodder, dry; maize forage (fresh weight), rape seed (canola) fodder (dry); rape seed (canola) forage; straw of cereal grains, dry; sunflower forage and fodder)	15
Add:		
	Broad beans, dry (faba bean) forage and fodder	0.3
	Primary feed commodities (except broad beans, dry (faba bean) forage and fodder; forage and fodder (dry) of cereal grains; maize fodder, dry; maize forage (fresh weight), rape seed (canola) fodder (dry); rape seed [canola] forage; straw of cereal grains, dry; sunflower forage and fodder)	15

Potential risk to trade

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

Imazamox: Residues of imazamox are not expected to arise in major trade commodities as a result of the proposed use and the current faba bean MRL of T*0.05 mg/kg will decrease to *0.01 mg/kg based on the new residues data and contemporary analytical method LOQ. The risk to trade with respect to imazamox is considered to be low.

Imazapyr: Appropriate MRLs for imazapyr residues that may result from the proposed uses are not established in all major markets. A Codex MRL is not established for imazapyr on faba beans. A MRL of 0.07 mg/kg is proposed noting the high residue in 4 trials which addressed the latest proposed application timing was 0.029 mg/kg and the median residue of 0.02 mg/kg. It is noted that the proposed use is for imidazolinine tolerant faba beans only and not all faba beans.

Conclusion

The APVMA has before it an application from Nufarm Australia Limited to vary the registration of Intercept Herbicide to a use on faba beans. Comment is sought on the potential for the proposed use to risk the international trade of Australian faba beans and the ability of the industry to manage any international trade risk.