



**Australian Government**  
**Australian Pesticides and  
Veterinary Medicines Authority**



## TRADE ADVICE NOTICE

on Imazamox and Imazapyr in the Product Crop Care Intervix Herbicide for  
Clearfield Crops

APVMA Product Number P60683

DECEMBER 2011

© Commonwealth of Australia 2011

This work is copyright. Apart from any use permitted under the *Copyright Act 1968*, no part may be reproduced without permission from the Australian Pesticides & Veterinary Medicines Authority. Requests and inquiries concerning reproduction and rights can be made to:

The Manager, Public Affairs  
Australian Pesticides and Veterinary Medicines Authority  
PO Box 6182  
KINGSTON ACT 2604  
Australia

Email: [communications@apvma.gov.au](mailto:communications@apvma.gov.au)

This document is published by the APVMA. In referencing this document the APVMA should be cited as both author and publisher.

Website: This publication is available from the APVMA website: <http://www.apvma.gov.au>

---

## CONTENTS

---

<b>PREFACE</b>	<b>IV</b>
<b>About this document</b>	<b>iv</b>
<b>Making a submission</b>	<b>iv</b>
<b>Further information</b>	<b>v</b>
<hr/>	
<b>1 INTRODUCTION</b>	<b>2</b>
<b>2 TRADE CONSIDERATIONS</b>	<b>3</b>
<b>2.1 Commodities exported</b>	<b>3</b>
<b>2.2 Destination and value of exports</b>	<b>3</b>
<b>2.3 Proposed Australian use-pattern</b>	<b>3</b>
<b>2.4 Results from residues trials presented to the APVMA</b>	<b>5</b>
<b>2.5 Codex alimentarius commission and overseas MRLs</b>	<b>6</b>
<b>2.6 Current and proposed Australian MRLs for imazamox and imazapyr</b>	<b>7</b>
<b>2.7 Potential risk to trade</b>	<b>9</b>
<hr/>	
<b>3 CONCLUSIONS</b>	<b>10</b>

### List of tables

Table 1: Proposed use pattern	3
Table 2: Codex CXLs and overseas residue MRLs/tolerances for imazamox and imazapyr	6
Table 3: Current relevant entries in the MRL Standard – Table 1, Table 3 and Table 4	7
Table 4: Proposed changes to the MRL Standard – Table1 and Table 4	8

## PREFACE

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is the Australian Government regulator 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 proposed extensions of use for existing chemicals where there may be trade implications, as defined in *Ag MORAG: Manual of Requirements and Guidelines* Part 5B.

## About this document

This is a [Trade Advice Notice](#).

It indicates that the Australian Pesticides and Veterinary Medicines Authority (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 **Crop Care Intervix Herbicide for Clearfield Crops** containing the existing active constituents imazamox and imazapyr 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. In relation to this document, these grounds relate to the **trade implications** of the extended use of the product. Comments received outside these grounds cannot be considered by the APVMA.

Submissions must be received by the APVMA by close of business on **1st February 2012** 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 Group name (if relevant)
- Postal Address
- Email Address (if available)
- The date you made the submission.

All personal and **confidential commercial information (CCI)**<sup>1</sup> material contained in submissions will be treated confidentially.

Written submissions on the APVMA's proposal to grant the application for registration that relate to the **grounds for registration** should be addressed in writing to:

Pesticides Contact Officer  
Pesticides Program  
Australian Pesticides and Veterinary Medicines Authority  
PO Box 6182  
Kingston ACT 2604

**Phone:** (02) 6210 4748

**Fax:** (02) 6210 4776

**Email:** [pesticides@apvma.gov.au](mailto:pesticides@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: <http://www.apvma.gov.au>

---

<sup>1</sup> A full definition of "confidential commercial information" is contained in the Agricultural and Veterinary Chemicals Code Act 1994 (Agvet Code).

## 1 INTRODUCTION

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has before it an application from Crop Care Australasia Pty Limited to vary the registration of the product, Crop Care Intervix Herbicide for Clearfield Crops, containing 33 g/L imazamox and 15 g/L imazapyr. Crop Care are proposing to add a use on Clearfield barley with the same use pattern currently registered for Clearfield wheat. The proposed extension of use requires establishment of MRLs for imazamox and imazapyr in barley.

The potential for imazamox and imazapyr residues in barley to unduly prejudice trade is discussed below.

## 2 TRADE CONSIDERATIONS

### 2.1 Commodities exported

Barley and animal commodities derived from livestock fed treated feeds are considered to be major export commodities. However, no changes are proposed to the animal commodity MRLs of imazamox and imazapyr which are established at the respective LOQs. No further consideration of animal commodities is required in this notice.

### 2.2 Destination and value of exports

In 2009-10 Australia exported 4256 kt of barley, valued at \$1098 million (source ABARES).

Information on the destination of Australian exports of barley is not readily available. Information on the ABARES website indicates that the major world importers of barley are China, European Union, Japan, Russian Federation and Saudi Arabia.

### 2.3 Proposed Australian use-pattern

The proposed Australian use pattern for Crop Care Intervix Herbicide for Clearfield Crops in barley is summarised below.

**Table 1: Proposed use pattern**

CROP CARE INTERVIX HERBICIDE FOR CLEARFIELD CROPS (33 G/L IMAZAMOX AND 15 G/L IMAZAPYR)

CROP	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Clear field barley	Brome ( <i>Bromus diandrus</i> and <i>B. rigidus</i> )	Intervix	<b>Always add Supercharge® at 0.5L/100L spray solution.</b> Apply to crops from the 3 leaf stage to 1 <sup>st</sup> node stage (Z31). When using high rates of Intervix at 3 leaf stage, avoid spray overlap as growth can be delayed. Intervix Herbicide is predominantly a post-emergence herbicide therefore delay treatment as long as possible to allow maximum grass germination. Application to multi-tillered crops may impair weed control because of poor contact and coverage of weeds.  High rates of Intervix Herbicide will increase the level of weed control but will increase carry over potential. DO NOT use in marginal areas unless the following crop is a CLEARFIELD crop. Tank mixes with other herbicides can broaden the range of weeds controlled – see Compatibility. Tank mixes
	Barley ( <i>Hordeum vulgare</i> )	375-750 mL/ha	
	Barley grass ( <i>Hordeum leporinum</i> )	(12 – 25 g imazamox /ha);	
	Indian hedge mustard ( <i>Sisymbrium orientale</i> )		
	Muskweed ( <i>Myagrum perfoliatum</i> )	(6 – 11 g imazapyr /ha)	
	Oat ( <i>Avena sativa</i> )		
	Triticale ( <i>Triticosecale spp</i> )		
Wheat ( <i>Triticum aestivum</i> ) – non			

<p>CLEARFIELD</p> <p>Wild oat (<i>Avena fatua</i>)</p> <p>Wild radish (<i>Raphanus raphanistrum</i>)</p> <p>Wild Turnip (<i>Brassica tournefortii</i>)</p>			<p>with Transit® at 150mL/ha will provide control of composite and legume weeds. Tank mixes with Polo 570 LVE Herbicide at 500mL/ha will provide control of composite and brassicaceous weeds. The control of brassicaceous weeds will depend on the status of Group B resistance in the population. The addition of Polo 570 LVE will improve control and provide an additional mode of action for resistance management.</p>
<p>Annual ryegrass (<i>Lolium rigidum</i>)<sup>ψ</sup></p> <p>Dense flower fumitory (<i>Fumaria densiflora</i>)</p> <p>Marshmallow (<i>Malva parviflora</i>)</p> <p>Sub clover (<i>Trifolium subterraneum</i>)</p> <p><b>Suppression</b></p> <p>Bedstraw spp. (<i>Galium tricomutum</i> and <i>G. aparine</i>)</p> <p>Doublegee (<i>Emex australis</i>)</p> <p>Silver grasses (<i>Vulpia bromoides</i> and <i>B. myuros</i>)</p>	<p>600-750 mL/ha</p> <p>(20 – 25 g imazamox /ha);</p> <p>(9 – 11 g imazapyr /ha)</p>		<p>If other weeds require control, apply appropriate herbicides at least two weeks before or after Intervix and only when signs of regrowth or renewed vigor appear, otherwise the effects of the early treatment may affect the performance of the subsequent treatment.</p> <p>Weed species will either be controlled or suppressed. In both cases, surviving plants will be stunted and will be uncompetitive with the crop, and seed set will be prevented or greatly reduced.</p> <p><sup>ψ</sup>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/m<sup>2</sup>, 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 should be made prior to sowing. A follow up grass selective herbicide may also be necessary.</p>

**Restrains:**

Apply ONLY to certified canola, wheat and barley varieties with the CLEARFIELD Technology, excluding CL STL and CL JNZ. DO NOT apply to conventional or other herbicide tolerant canola, wheat and barley varieties.

**DO NOT** apply to crops that are stressed due to conditions such as waterlogging, too little moisture, frost, disease or nutritional disorders.

**DO NOT** apply by aircraft.

**DO NOT** apply if rain is expected within 2 hours of application.

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

**WITHHOLDING PERIOD**

Harvest: Not required when used as directed.

Grazing: Do not graze or cut for stock food for 4 weeks after application.

## 2.4 Results from residues trials presented to the APVMA

### Imazamox

#### *Grain*

In Australian barley trials, residues of imazamox in grain were <0.01 (n=4) mg/kg after application at 25 – 50 g ai/ha (1 - 2x the proposed maximum rate). Residues in wheat grain in Australia from imazamox applications of 25-50 g ai/ha (1-2x) were <0.01 mg/kg (n=6). The residues in wheat grain in Canada from imazamox applications of 20-41 g ai/ha (0.8-1.7x) were <0.05 mg/kg (n=10).

An MRL of \*0.05 mg/kg is recommended for imazamox on GC 0640 Barley in line with that previously recommended for wheat.

#### *Forage and fodder*

In Australian barley trials, residues of imazamox in barley forage at the proposed 4 week grazing withholding period were 0.28 and 0.31 mg/kg (dry weight) after application at 25 g ai/ha (1x the proposed maximum rate). In Australian wheat trials, residues in wheat forage at 28 days after application at the maximum proposed rate (25 g ai/ha) were 0.13, 0.2, 0.27, 0.36 mg/kg (dry weight). In Canada at rates of 20-41 g ai/ha scaled residues recorded in forage at 28 days were <0.05 (n=9) and 0.21 mg/kg (dry weight). In the USA at rates of 66 - 68 g ai/ha scaled residues recorded in forage at 28 days were <0.05 (n=9), 0.07, 0.09, 0.17, 0.21, 0.3 mg/kg (dry weight).

An MRL of 0.7 mg/kg is recommended for imazamox on Barley forage and fodder in line with that previously recommended for wheat forage and fodder.

#### *Straw*

In Australian barley trials, residues of imazamox in barley straw (as received) at harvest after treatment at 25 – 50 g ai/ha (1 - 2x the proposed maximum rate) were <0.01 (n=3) and 0.01 mg/kg. Residues in wheat straw in Australia from imazamox applications of 25 - 50 g ai/ha (1 - 2x) were <0.01 (n=5) and 0.01 mg/kg. The residues in straw in Canada from imazamox applications of 20-41 g ai/ha (0.8 - 1.7x) were <0.05 mg/kg (n=10). The residues in straw in the USA from imazamox applications of 66.1-68.4 g ai/ha (~2.7x) were <0.05 mg/kg (n=20).

An MRL of \*0.05 mg/kg is recommended for imazamox on Barley straw in line with that previously recommended for wheat straw.

### Imazapyr

#### *Grain*

In Australian barley trials residues of imazapyr in barley grain at harvest after treatment at 11 – 22 g ai/ha (1 - 2x the proposed maximum rate) were <0.01 (n=4) mg/kg. In Australian wheat trials residues in grain at harvest 83-104 days after treatment at 7-28 g ai/ha were <0.05 mg/kg (n=13).

An MRL of \*0.05 mg/kg is recommended for imazapyr on GC 0640 Barley.

### *Forage and fodder*

In Australian barley trials, residues of imazapyr in barley forage at the proposed 4 week grazing withholding period were 0.16 and 0.31 mg/kg (dry weight) after application at 11 g ai/ha (1× the proposed rate). In Australian wheat trials rates of 14-15 g ai/ha (~1.3×) at PHIs of 25-29 days resulted in residues of <0.05 (n=5) and 0.087 mg/kg.

The current MRL for imazapyr on 'Forage of cereal grains [fresh weight]' at 0.2 mg/kg remains appropriate. It will however be modified to recognise the fact that fodder may also be taken from immature plants with a relatively high moisture content. The MRL will also be converted to dry weight. Assuming a moisture content of 25% for wheat forage, the HR is 0.35 mg/kg dry weight. The recommended MRL is 'Forage and fodder of cereal grains [except maize fodder and maize forage] at 0.7 mg/kg.

### *Straw*

In Australian barley trials, residues of imazapyr in barley straw (as received) at harvest after treatment at 11 – 22 g ai/ha (1 - 2× the proposed maximum rate) were <0.01 (n=3) and 0.01 mg/kg. In Australian wheat trials residues in straw at harvest 83-104 days after treatment at 7-28 g ai/ha (up to 2.5×) were <0.05 mg/kg (n=13).

It is recommended that the MRL of \*0.05 mg/kg for imazapyr on AS 0654 Wheat straw and fodder, dry is replaced with an MRL of \*0.05 mg/kg for imazapyr on 'Straw of cereal grains, dry' to cover the additional use on barley.

## 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. Imazamox and imazapyr have not been considered by Codex. No changes are proposed to Australian animal commodity MRLs (which are established at the LOQ) and they will not be considered further. The following relevant overseas residue MRLs/ tolerances have been established for imazamox and imazapyr:

**Table 2: Codex CXLs and overseas residue MRLs/tolerances for imazamox and imazapyr**

COUNTRY/STATUS	COMMODITY	IMAZAMOX, MG/KG	IMAZAPYR, MG/KG
Australia (proposed)	Barley	*0.05	*0.05
EU	Barley	*0.05	-

Japan	Wheat	0.2	0.05
USA	All	Exempt from the requirements of a tolerance on all food commodities when applied as a herbicide at GAP	
	Corn		0.05

## 2.6 Current and proposed Australian MRLs for imazamox and imazapyr

Current relevant MRLs and the residue definition for imazamox and imazapyr are presented below. A full listing of MRLs can be found at <http://www.apvma.gov.au/residues/standard.php>.

Table 3: Current relevant entries in the MRL Standard - Table 1, Table 3 and Table 4

MRL STANDARD: TABLE 1

COMPOUND	FOOD	MRL (MG/KG)
IMAZAMOX		
MO 0105	Edible offal (mammalian)	*0.05
MM 0095	Meat [mammalian]	*0.05
ML 0106	Milks	*0.05
GC 0654	Wheat	*0.05
IMAZAPYR		
MO 0105	Edible offal (mammalian)	*0.05
MM 0095	Meat (mammalian) [in the fat]	*0.05
ML 0106	Milks	*0.01
GC 0654	Wheat	*0.05

MRL Standard: TABLE 3

COMPOUND	RESIDUE
IMAZAMOX	Imazamox
IMAZAPYR	Imazapyr

MRL STANDARD: TABLE 4

COMPOUND	ANIMAL FEED COMMODITY	MRL (MG/KG)
----------	-----------------------	-------------

COMPOUND	ANIMAL FEED COMMODITY	MRL (MG/KG)
IMAZAMOX		
	Wheat forage and fodder	0.7
	Wheat straw	*0.05
IMAZAPYR		
	Forage of cereal grains [fresh weight]	0.2
AS 0645	Maize fodder (dry)	*0.05
AF 0645	Maize forage (green)[fresh weight]	*0.05
	Primary feed commodities [other than maize fodder (dry), maize forage (green)[fresh weight], canola fodder (dry), canola forage (green), forage of cereal grains [fresh weight] and wheat straw and fodder, (dry)]	15
AS 0654	Wheat straw and fodder, dry	*0.05

The following changes are proposed to Australian imazamox and imazapyr MRLs:

Table 4: Proposed changes to the MRL Standard - Table1 and Table 4

MRL STANDARD: TABLE 1

COMPOUND	FOOD	MRL (MG/KG)
IMAZAMOX		
ADD:		
GC 0640	Barley	*0.05
IMAZAPYR		
ADD:		
GC 0640	Barley	*0.05

MRL STANDARD: TABLE 4

COMPOUND	ANIMAL FEED COMMODITY	MRL (MG/KG)
IMAZAMOX		
ADD:		
	Barley forage and fodder	0.7
	Barley straw	*0.05

COMPOUND	ANIMAL FEED COMMODITY	MRL (MG/KG)
IMAZAPYR		
DELETE:		
	Forage of cereal grains [fresh weight]	0.2
	Primary feed commodities [other than maize fodder (dry), maize forage (green)][fresh weight], canola fodder (dry), canola forage (green), forage of cereal grains [fresh weight] and wheat straw and fodder, (dry)]	15
AS 0654	Wheat straw and fodder, dry	*0.05
ADD:		
	Forage and fodder of cereal grains [except maize fodder and maize forage]	0.7
	Primary feed commodities [maize fodder (dry), maize forage (green)][fresh weight], canola fodder (dry), canola forage (green), forage and fodder of cereal grains and straw of cereal grains, dry]	15
	Straw of cereal grains, dry	*0.05

## 2.7 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.

Residues of imazamox and imazapyr in barley grain through use of Intervix are expected to be <LOQ. The risk to Australia's export trade in barley is considered to be low.

The overall risk to export trade in animal commodities is also considered to be low. No changes are required to the current animal commodity MRLs which are established at the respective LOQs.

### 3 CONCLUSIONS

It is proposed to establish permanent MRLs for imazamox and imazapyr on barley. Comment is sought on the potential for imazamox and imazapyr in Crop Care Intervix Herbicide for Clearfield Crops to prejudice Australian trade when it is used on barley for the control of various weeds.

A more detailed technical assessment report on the evaluation of the trade implications of this chemical can be obtained by contacting the APVMA at (02) 6210 4748. Alternatively, the reports can be viewed at the APVMA Library, which is located at:

18 Wormald Street  
Symonston ACT, 2609

Office hours: 9.00 - 5.00 (EST) Monday to Friday