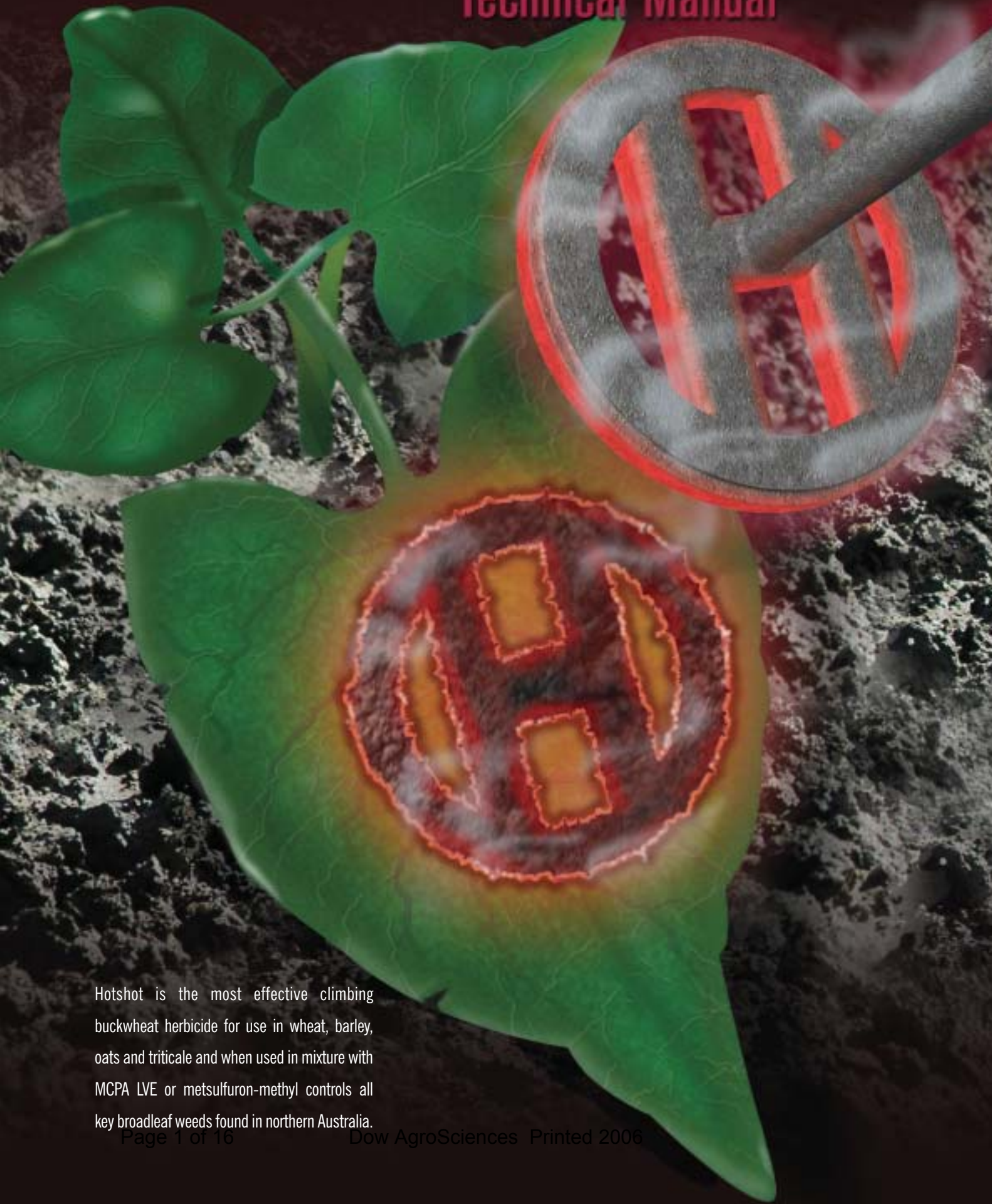


# Hotshot\* Herbicide

## Technical Manual



Hotshot is the most effective climbing buckwheat herbicide for use in wheat, barley, oats and triticale and when used in mixture with MCPA LVE or metsulfuron-methyl controls all key broadleaf weeds found in northern Australia.

# Contents

Introduction	2
New generation herbicide	3
Efficacy on climbing buckwheat (black bindweed)	4
2005 demonstration data	5
Weed spectrum	6
Weed susceptibility	7
Residual control of climbing buckwheat	8
Plantback periods	8
Crop growth stages	9
Crop safety	10
Crop safety summary	11
Directions for use	12
Resistance management	13
Mixing and application	14
Product compatibility	14
Withholding periods	14
What the experts think	15

## Introduction

Hotshot\* Herbicide represents a new standard in climbing buckwheat (black bindweed) control. Hotshot contains a brand new molecule specifically developed for use as a selective post-emergent herbicide to control broadleaf weeds. Researched, developed and produced by Dow AgroSciences, the winter cropping specialists, Hotshot provides outstanding control of climbing buckwheat in wheat, barley, oats and triticale. Furthermore, when mixed with MCPA LVE or metsulfuron-methyl (Ally®), Hotshot controls all key broadleaf weeds found in northern Australia with excellent crop safety.

In this brochure you will find the results of extensive trials with Hotshot conducted in Australia along with vital product information such as weed susceptibility, product compatibility and plantback periods. For any further information, please contact your local Dow AgroSciences Territory Manager or call direct on 1800 700 096.

# New generation herbicide

## NEW GENERATION HOTSHOT\* HERBICIDE

Hotshot contains fluroxypyr and a new molecule, aminopyralid. Aminopyralid is a pyridine carboxylic acid discovered and developed by Dow AgroSciences for use as a selective, post-emergent herbicide to control key broadleaf weeds. It is a new generation active ingredient that is effective at very low rates when compared with other herbicides.

## MODE OF ACTION

The aminopyralid in Hotshot moves systemically throughout the plant and deregulates metabolic pathways affecting the growth processes of the plant. This disruption occurs when aminopyralid binds at receptor sites normally used by the plant's natural growth hormones and results in control and death of susceptible plant species.

## HERBICIDAL ACTIVITY

Hotshot is a systemic, phloem and xylem mobile herbicide that is rapidly absorbed by leaves and roots. Symptoms are typical of those for the auxinic mode of action (Group I). Within hours of application depending on weed species, the aminopyralid causes symptoms such as thickened, curved and twisted stems and leaves, cupping and crinkling of leaves, stem cracking, narrow leaves with callus tissue, hardened growth on stems, enlarged roots and proliferated growth.

*There are clear benefits for integrating Hotshot into your weed control program.*

Key attribute	Benefit
Robust climbing buckwheat (black bindweed) control	Effective control even in tough conditions
Effective control of small (up to 4 leaf) and large (up to 8 leaf) climbing buckwheat	Wide weed application window to get effective control
Residual control of climbing buckwheat	Fewer germinations and a cleaner start to summer fallow
Excellent crop safety	Improved crop yield
Compatible with MCPA LVE and metsulfuron-methyl	The mixture controls all key broadleaf weeds
Compatible with Topik® and Wildcat® herbicides	One-pass weed control
Group I Mode of action	Provides an alternative to ALS-inhibitor herbicides for ALS herbicide-resistant weeds



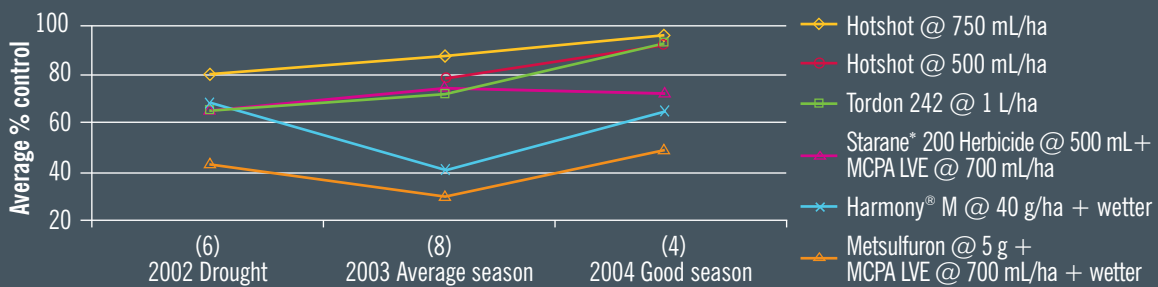
2005 demonstration site, North Star Road (Trial 054008RA) DAA = days after application

# Efficacy on climbing buckwheat



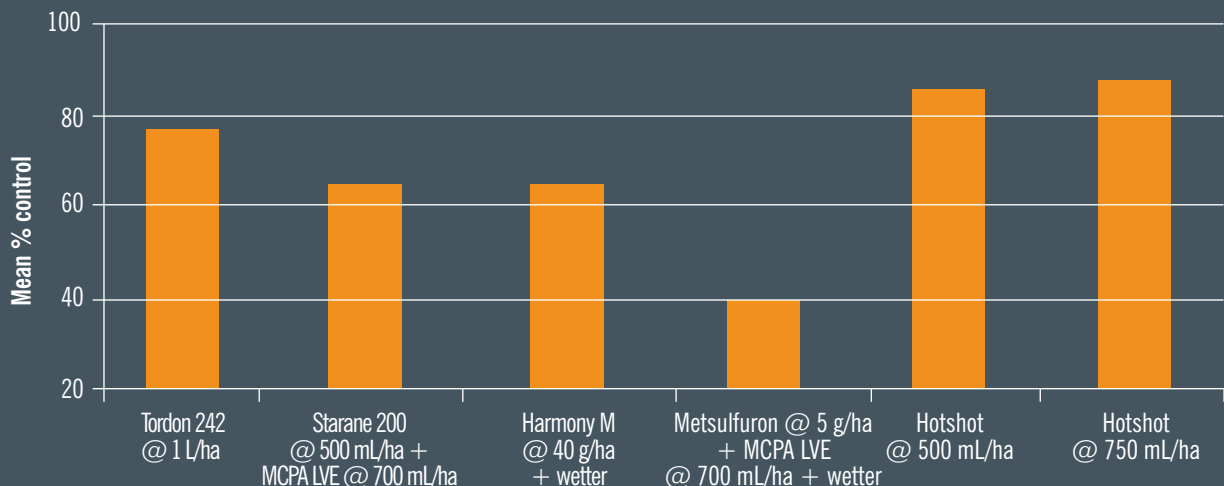
Dow AgroSciences has conducted trials with Hotshot® Herbicide on climbing buckwheat since 2002. Hotshot has been compared to current standards on climbing buckwheat. As shown in the summary below, Hotshot @ 500 mL/ha showed similar efficacy on climbing buckwheat as the best standard Tordon® 242 Cereal Herbicide whereas Hotshot @ 750 mL/ha was the most reliable treatment across all seasons.

## Control of climbing buckwheat (Number of Trials)



Across three seasons, Hotshot @ 500 mL/ha or 750 mL/ha gave the best control of climbing buckwheat, as shown in the summary below.

## Control of climbing buckwheat 2002 to 2004 (three seasons)



# 2005 demonstration data

During 2005, a number of unreplicated demonstration sites were carried out on climbing buckwheat (*Fallopia convolvulus*) to show agronomists. Below are the results from some of the sites that were visited, which show Hotshot® Herbicide to have excellent activity on climbing buckwheat.

## Comparison of Hotshot vs Standards for control of climbing buckwheat, 2005

Trial number	054005RA	054008RA	054020RA	054018RA	052006DD	052007DD		
Location	Westmar	North Star	Croppa Creek	Bellata	Quirindi	Spring Ridge		
State	Qld	NSW	NSW	NSW	NSW	NSW		
Application date	25-Jul-05	25-Jul-05	12-Aug-05	9-Aug-05	24-Aug-05	14-Sep-05		
Crop	Wheat	Barley	Wheat	Wheat	Wheat	Barley		
Crop variety	Strzelecki	Gairdner	Sunvale	Sunlin	Lang	Capstan		
Weed stage	cots-6 LF	cots-2 LF	cots-6 LF	3-8 LF	cots-6 LF	2-8 LF		
Weed density (/sqm)	400	100	100	20-500	10-40	200		
Soil moisture at application	Moist	Moist	Moist	Moist	Moist	Moist		
Assessment (DAA)	64	64	68	77	71	50		
Treatment	Product Rate/ha	Percent control						Mean
Untreated		0	0	0	0	0	0	<b>0</b>
Hotshot	500 mL	95	85	65	100	100	100	<b>91</b>
Hotshot	750 mL	98	90	80	99	100	100	<b>95</b>
Starane® 200 Herbicide MCPA LVE	750 mL 700 mL	95	70	60	70	90	95	<b>80</b>
Harmony M	40 g	40	85	50	50	85	85	<b>66</b>
Tordon® 242 Herbicide	1 L	80	60	65	85	100	95	<b>81</b>
Metsulfuron MCPA LVE	5 g 700 mL	40	30	10	40	70	–	<b>38</b>
Hotshot Metsulfuron	500 mL 5 g	90	80	85	98	100	–	<b>91</b>
Hotshot MCPA LVE	500 mL 700 mL	90	95	70	100	100	100	<b>93</b>
Hotshot Metsulfuron	750 mL 5 g	95	95	90	99	100	100	<b>97</b>
Hotshot MCPA LVE	750 mL 700 mL	98	98	85	99	100	100	<b>97</b>

# Weed spectrum

	Hotshot* Herbicide	Hotshot + Metsulfuron	Hotshot + MCPA LVE	Hotshot + Topik®/Wildcat®
<b>Weeds controlled</b>	Climbing buckwheat	Climbing buckwheat	Climbing buckwheat	Climbing buckwheat
	Prickly lettuce	Prickly lettuce	Prickly lettuce	Prickly lettuce
	Vetch	Vetch	Vetch	Vetch
	Volunteer chickpea	Volunteer chickpea	Volunteer chickpea	Volunteer chickpea
	Volunteer faba bean	Volunteer faba bean	Volunteer faba bean	Volunteer faba bean
	Volunteer pea	Volunteer pea	Volunteer pea	Volunteer pea
		Common sowthistle	Common sowthistle	Wild oats
		Mustards	Mustards	
		Turnip weed	Turnip weed	
		Volunteer canola	Volunteer canola	
		Wild turnip	Wild turnip	
		Deadnettle	Variogated thistle	
		New Zealand spinach		
		Spiny emex		
	Wireweed			
<b>Where to use</b>	Use when climbing buckwheat is the dominant weed	Use where there is a wider weed spectrum and when plantback to following crops and ALS resistant weeds are not considerations	Use when plantback to following crops and ALS resistant weeds are a consideration	Use where buckwheat and non-FOP resistant wild oats are present

## HOTSHOT SUMMARY

Attribute	Hotshot
Active ingredient	10 g/L aminopyralid + 140 g/L fluroxypyr
Mode of action	Group I herbicide
Crop growth stage	3–4 leaf to first node
Water rate (recommended minimum)	80 L/ha
Plantback period winter crops	4–6 months (Northern Grain Region)
Plantback period summer crops	3–9 months (Northern Grain Region)
Withholding period	7 days (Grazing)
Formulation type	E0 (water in oil emulsion)
Flammability	Non-flammable
Rainfast period	After 1 hour
Container size	5, 20, 110 L
Poison schedule	S6

# Weed susceptibility

WEED*	HERBICIDE RATE PER HECTARE				
	Hotshot* Herbicide 750 mL	Hotshot 500 mL	Hotshot 750 mL + 5 g metsulfuron (600 g/kg)	Hotshot 750 mL + 700 mL MCPA LVE	Tordon* 242 Herbicide 1 L
<b>Climbing buckwheat (2–4 leaf)</b> <i>(Fallopia convolvulus)</i> (black bindweed)	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
<b>Climbing buckwheat (6–8 leaf)</b>	● ● ●	● ●	● ● ●	● ● ●	● ●
<b>Common sowthistle</b> <i>(Sonchus oleraceus)</i>	● ●	●	● ●	● ● ●	● ● ●
<b>Deadnettle</b> <i>(Lamium amplexicaule)</i>	X	X	● ● ●	●	X
<b>Fleabane</b> <i>(Conyza bonariensis)</i>	● ●	●	● ●	● ● ●	● ●
<b>Mexican poppy</b> <i>(Argemone mexicana)</i>	●	●	●	● ●	●
<b>Mustards</b> <i>(Sisymbrium spp.)</i>	X	X	● ● ●	● ● ●	● ● ●
<b>New Zealand spinach</b> <i>(Tetragonia tetragonioides)</i>	● ●	●	● ● ●	● ●	● ●
<b>Prickly lettuce</b> <i>(Lactuca serriola)</i>	● ● ●	● ● ●	● ● ●	● ● ●	● ●
<b>Small-flowered mallow</b> <i>(Malva parviflora)</i>	● ●	●	● ●	● ●	●
<b>Spiny emex</b> <i>(Emex australis)</i>	● ● ●	● ●	● ● ●	● ● ●	● ● ●
<b>Turnip weed</b> <i>(Rapistrum rugosum)</i>	X	X	● ● ●	● ● ●	● ● ●
<b>Variegated thistle</b> <i>(Silybum marianum)</i>	● ●	●	● ●	● ● ●	● ● ●
<b>Vetch</b> <i>(Vicia sativa)</i>	● ● ●	● ● ●	● ● ●	● ● ●	● ●
<b>Volunteer canola</b> <i>(Brassica x napus var. napus)</i>	X	X	● ● ●	● ● ●	● ● ●
<b>Volunteer chickpea</b> <i>(Cicer arietinum)</i>	● ● ●	● ● ●	● ● ●	● ● ●	● ●
<b>Volunteer faba bean</b> <i>(Vicia faba)</i>	● ● ●	● ● ●	● ● ●	● ● ●	● ●
<b>Volunteer field pea</b> <i>(Pisum sativum)</i>	● ● ●	● ● ●	● ● ●	● ● ●	● ●
<b>Wild turnip</b> <i>(Brassica tournefortii)</i>	X	X	● ● ●	● ● ●	● ● ●
<b>Wireweed</b> <i>(Polygonum aviculare)</i>	● ●	●	● ● ●	● ●	●

\* Refer to label for weed size

## KEY

Good control	● ● ●
Moderate control	● ●
Poor control	●
No control	X

# Residual control of climbing buckwheat

Hotshot\* Herbicide has shown effective residual control of secondary germinations of climbing buckwheat. This was clearly demonstrated in a trial conducted at Bellata, NSW in 2004 where control of second germinations of climbing buckwheat was effective 103 days after application.



## Plantback periods

### MINIMUM RECROPPING PERIODS

Aminopyralid remains active in the soil for extended periods depending on rate of application, soil type (clay content), rainfall, temperature, humidity, soil moisture and soil organic matter. The table below shows plantback periods to particular crops following application of Hotshot in the Northern Grain Region.

### NORTHERN NEW SOUTH WALES AND QUEENSLAND

Plantback periods for rotational crops following application of Hotshot for rates up to 750 mL/ha on black cracking clay soils.

These plantback periods are based on normal rainfall pattern. During drought conditions (or when rainfall is less than 100 mm for a period of four months or greater) the plantback period may be significantly longer.



Winter crop	Plantback period (months)	Summer crop	Plantback period (months)
Barley	4	Maize	5
Canola	4	Mungbean	5
Chickpea	6	Sunflower	5
Faba bean	6	Soybean	5
Lucerne	6	Cotton	9
Wheat	4	Sorghum	3

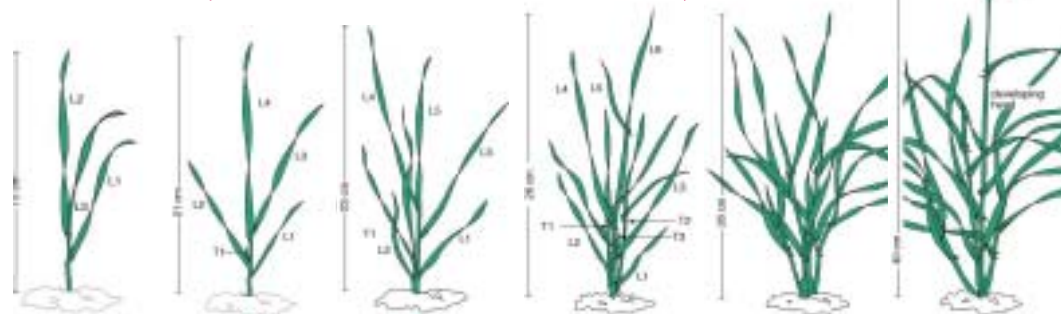
### SOUTHERN NEW SOUTH WALES, VICTORIA, SOUTH AUSTRALIA AND WESTERN AUSTRALIA

Plantback periods for rotational crops following application of Hotshot for rates up to 500 mL/ha.

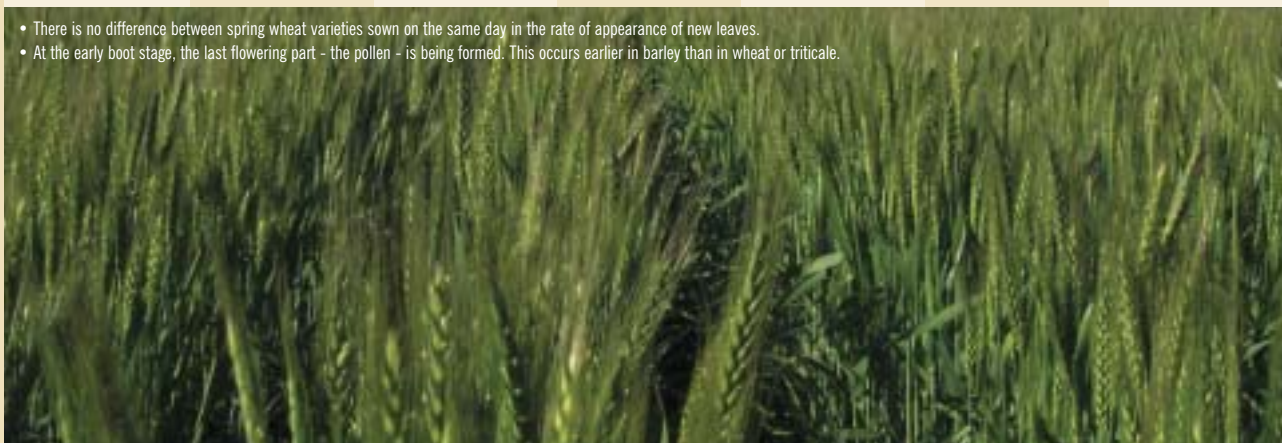
Winter crop	Plantback period (months)
Barley, Canola, Wheat	9
Chickpea, Faba bean Field pea, Lucerne, Lupin Medic, Sub clover	20

# Crop growth stages

Hotshot\* Herbicide +/- metsulfuron  
Hotshot + MCPA LVE







	3 leaf stage	Start of tillering	Tillering stage	Fully tillered stage	Start of jointing	Early boot stage
<b>Crop growth stage</b>	Three leaves (L) have unfolded, fourth leaf present, yet to fully expand.	First tiller (T1) appears from between a lower leaf and the main shoot. Usually 4 leaves are on the main tiller.	Tillers come from the base where leaves join the stem and continue forming, usually until there are 5 leaves on the main shoot. Secondary roots developing.	Usually no more tillers form after the very young head starts forming in the main tiller. Tillering completed when first node detected at base of main stem.	Jointing or node formation starts at the end of tillering. Small swellings – joints – form at the bottom of the main tiller. Heads continue developing and can be seen by dissecting a stem.	The last leaf to form – the flag leaf – appears on top of the extended stem. The developing head can be felt as a swelling in the stem.
<b>Zadok's decimal code</b>	3 leaves unfolded (Z13).	4 leaves unfolded (Z14). Main shoot and 1 tiller (Z21).	5 leaves on main shoot or stem (Z15). Main shoot and 1 tiller (Z21).	6 leaves on the main shoot or stem (Z16). Main shoot and three tillers (Z23).	First node formed at base of main tiller (Z31).	Z35–Z45.
<b>Herbicide spraying stage</b>	Suitable stage for spraying many herbicides, but too early for 4 leaf stage.	Suitable stage for spraying at the 3–4 leaf stage. Too early for the 5 leaf stage of application.	Suitable for spraying many herbicides at the 5 leaf tillering stage.	Many herbicides can be sprayed up to the end of tillering.		



- There is no difference between spring wheat varieties sown on the same day in the rate of appearance of new leaves.
- At the early boot stage, the last flowering part - the pollen - is being formed. This occurs earlier in barley than in wheat or triticale.

# Crop safety

Hotshot\* Herbicide offers high levels of crop safety on a wide range of cereal varieties. Trials undertaken between 2003 and 2005 applied at rates up to two times the maximum use rate, demonstrated excellent crop tolerance to Hotshot by most varieties.

	No effect on yield compared to untreated
	Non significant reduction in yield versus untreated
	Significant reduction in yield versus untreated
	No data

Durum variety	2003		2004		2005	
	750 mL	1.5 L	750 mL	1.5 L	750 mL	1.5 L
EGA Bellaroi	–	–				
Kamilaroi					–	–
Wollaroi	–	–				
Yallaroi						

Wheat variety	2003		2004		2005	
	750 mL	1.5 L	750 mL	1.5 L	750 mL	1.5 L
Baxter						
Cunningham					–	–
EGA Hume						
Ellison	–	–	–	–		
Giles						
Hartog						
Kennedy						
Lang						
Leichhardt					–	–
Mulgara			–	–	–	–
Petrie						
Rees	–	–	–	–		
Strzelecki						
Sunbri			–	–	–	–
Sunbrook			–	–	–	–
Sunco						
Sunlin						
Sunstate						
Sunvale						

Barley variety	2003		2004		2005	
	750 mL	1.5 L	750 mL	1.5 L	750 mL	1.5 L
Binalong						
Cowabbie						
Fitzroy	–	–				
Gairdner						
Grimmett						
Grout						
Kaputar			–	–	–	–
Lindwall			–	–	–	–
Mackay						
Tallon						
Tantangara						

# Crop safety summary

- No effect on yield over 3 years
- Significant reduction in yield versus untreated in one year
- Significant reduction in yield versus untreated in more than one year
- No data

Durum variety	Hotshot* Herbicide		Starane* 200 Herbicide		Tordon* 242 Herbicide		
	Rate	750 mL	1.5 L	1 L	2 L	1 L	2 L
<b>3 year summary</b>							
EGA Bellaroi							
Kamilaroi							
Wollaroi							
Yallaroi							

Wheat variety	Hotshot		Starane 200		Tordon 242		
	Rate	750 mL	1.5 L	1 L	2 L	1 L	2 L
<b>3 year summary</b>							
Baxter							
Cunningham							
EGA Hume							
Ellison							
Giles							
Hartog							
Kennedy							
Lang							
Leichhardt							
Mulgara							
Petrie							
Rees							
Strzelecki							
Sunbri							
Sunbrook							
Sunco							
Sunlin							
Sunstate							
Sunvale							

Barley variety	Hotshot		Starane 200		Tordon 242		
	Rate	750 mL	1.5 L	1 L	2 L	1 L	2 L
<b>3 year summary</b>							
Binalong							
Cowabbie							
Fitzroy							
Gairdner							
Grimmett							
Grout							
Kaputar							
Lindwall							
Mackay							
Tallon							
Tantangara							

# Directions for use

**TABLE 1: NORTHERN NEW SOUTH WALES AND QUEENSLAND**

Crop	Growth stage	Weeds controlled	Weed growth stage	Rate/ha	Critical comments
Barley, Oats, Triticale, Wheat	Apply from 3 leaf to first node (Z13 to Z31.	<b>Climbing buckwheat</b> ( <i>Fallopia convolvulus</i> ) (black bindweed)	Seedling up to 2–4 leaf	500 mL	
			Seedling up to 6–8 leaf	750 mL	
		<b>Prickly lettuce</b> ( <i>Lactuca serriola</i> ) <b>Vetch</b> ( <i>Vicia sativa</i> ) <b>Volunteer chickpea</b> ( <i>Cicer arietinum</i> ) <b>Volunteer faba bean</b> ( <i>Vicia faba</i> ) <b>Volunteer field pea</b> ( <i>Pisum sativum</i> )	Seedling up to 6 leaf		
		<b>Common sowthistle</b> ( <i>Sonchus oleraceus</i> ) <b>Deadnettle</b> ( <i>Lamium amplexicaule</i> ) <b>Mustards</b> ( <i>Sisymbrium</i> spp.) <b>New Zealand spinach</b> ( <i>Tetragonia tetragonioides</i> ) <b>Turnip weed</b> ( <i>Rapistrum rugosum</i> ) <b>Volunteer canola</b> ( <i>Brassica x napus</i> var. <i>napus</i> ) <b>Wild turnip</b> ( <i>Brassica tournefortii</i> ) <b>Wireweed</b> ( <i>Polygonum aviculare</i> )	Seedling up to 4 leaf	500–750 mL + 5 g metsulfuron (600 g/kg)	DO NOT USE in oats.  Add a 100% concentrate non-ionic surfactant (e.g. BS-1000®) at the rate of 100 mL/100 L water.  Note: this mixture should be used where there are non-ALS resistant weeds only.
	Apply from 4 leaf to first node (Z14 to Z31)	<b>Common sowthistle</b> ( <i>Sonchus oleraceus</i> ) <b>Mustards</b> ( <i>Sisymbrium</i> spp.) <b>Spiny emex</b> ( <i>Emex australis</i> ) <b>Turnip weed</b> ( <i>Rapistrum rugosum</i> ) <b>Variogated thistle</b> ( <i>Silybum marianum</i> ) <b>Volunteer canola</b> ( <i>Brassica x napus</i> var. <i>napus</i> ) <b>Wild Turnip</b> ( <i>Brassica tournefortii</i> )		500–750 mL + 500 or 700 mL MCPA LVE	Use the higher rate of MCPA LVE only from 5 leaf cereal growth stage onwards.
Wheat	Apply from 3 leaf to first node (Z13 to Z31)	<b>Wild oats</b> ( <i>Avena sterilis</i> ssp. <i>ludoviciana</i> ) ( <i>Avena fatua</i> ) (non 'fop' resistant)	2–4 leaf	500–750 mL + 85 mL Topik® 240EC	Add Uptake* Spraying Oil at the rate of 500 mL/100 L water.

# Directions for use *continued*

**TABLE 2: SOUTHERN NEW SOUTH WALES, VICTORIA, SOUTH AUSTRALIA AND WESTERN AUSTRALIA**

Crop	Growth stage	Weeds controlled	Weed growth stage	Rate/ha	Critical comments
Barley, Oats, Triticale, Wheat	Apply from 3 leaf to first node (Z13 to Z31)	Volunteer faba bean Volunteer field pea Volunteer lupin Volunteer vetch	Seedling up to 4 leaf	500 mL	DO NOT plant susceptible crops for up to 20 months after application, as specified in General Instructions – Minimum Recropping Periods.



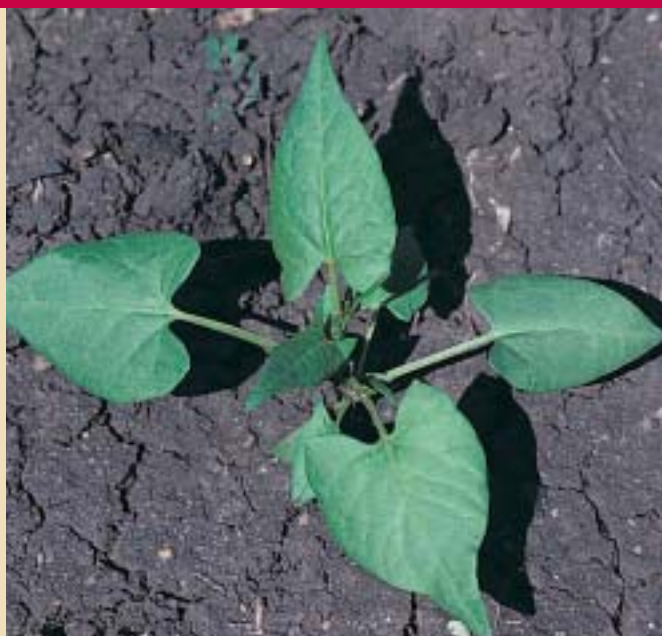
## Resistance management

Hotshot® Herbicide contains members of the pyridine group of herbicides. The product has the disrupters of plant cell growth mode of action. For weed resistance management, the product is a Group I Herbicide.

Some naturally-occurring weed biotypes resistant to the product and other disrupters of plant cell growth herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by this product or other herbicides that are disrupters of plant cell growth.

Since the occurrence of resistant weeds is difficult to detect prior to use, Dow AgroSciences Australia Limited accepts no liability for any losses that may result from the failure of this product to control resistant weeds.

Strategies to minimise the risk of herbicide resistance are available. Contact your farm chemical supplier, consultant, local Department of Agriculture or local Dow AgroSciences representative.



# Mixing and application

Hotshot® Herbicide can be mixed with water only. Mix only sufficient chemical for each day's use and avoid storing mix. Half fill the spray tank with water and add the required quantity of Hotshot and complete filling. Agitate continuously to ensure thorough mixing before and during application.

Tank mixtures: Wettable powder or dry flowable formulations (e.g. water dispersible granules such as metsulfuron) should be added to the spray tank first, followed by suspension concentrates (flowables), water soluble salts and then emulsifiable concentrate formulations (e.g. MCPA LVE). Hotshot is an EO formulation which is similar to an emulsifiable concentrate formulation. Add spraying oils and surfactants (wettors) last, if required.

## BROADCAST APPLICATION IN CROPPING SITUATIONS

### Ground application (boom)

- Apply Hotshot with an accurately calibrated boom sprayer, in at least 80 L/ha water.
- Use a medium quality spray as defined by the International BCPC Spray Classification System or the ASAE S572 definitions.
- Set the boom at a height to ensure a double overlap of the nozzle pattern.

Spray recommendation guide	Ground application
Minimum spray volume	80 L/ha
Nozzle type	Hydraulic nozzles
Droplet size (microns)	150-250 VMD
Where possible do not spray when	Temperature >28°C, relative humidity <40%

# Product compatibility

Broadleaf herbicides	Grass herbicides	Adjuvants
MCPA LVE metsulfuron-methyl Starane* 200 Herbicide chlorsulfuron	Topik® 240EC (wild oats only) Wildcat® (wild oats only)	BS-1000 (when mixed with metsulfuron-methyl or Wildcat) Uptake* Spraying Oil (when mixed with Topik 240EC)

# Withholding periods

## Cereals (Barley, Oats, Triticale and Wheat)

**Harvest:** NOT REQUIRED when used as directed.

**Grazing:** DO NOT graze or cut crops for stock food for 7 days after application.



# What the experts think

I was very impressed with the ability of Hotshot\* Herbicide to control climbing buckwheat. Hotshot is far better than other winter cereal herbicides used to tackle this pesky weed. Buckwheat control is hard to achieve particularly when they get sizable and I look forward to its development for use in fallow as well.

With the current products available, many treated buckwheat plants in winter cereals can often go on to cause problems in the following fallow. I believe Hotshot will greatly reduce this problem.

**Paul McIntosh**  
Consultant Agronomist

Bindweed is one of the most difficult weeds to control. If you use Hotshot I feel confident you won't have to come back in the summer to control it. I think Hotshot is going to be the new best option in bindweed control. Bindweed is one of our worst weeds and we have been getting reasonable control but Hotshot will ensure we get more reliable control. It will be the best of both worlds. It's got the knockdown and residual capacity. It will be the major herbicide for control of bindweed in winter cereals and I can see a lot of it being used in the future. It will also be good as a tank mix with other broadleaf herbicides to give a wider spectrum of weed control. It is very robust especially where you have heavy populations of bindweed. Robustness and the ability to tank mix are the keys benefits of Hotshot.

**Peter McKenzie**  
Consultant Agronomist



Based on the two trials I have seen, it appears to be the best bindweed control option in cereals. Although it has a few gaps in its weed spectrum when used alone, it can be mixed with metsulfuron-methyl or MCPA LVE to pick up brassicas and deadnettle as well.

It seems to have good compatibility with grass herbicides, especially group A herbicides such as Topik and Wildcat.

Bindweed control is more important than just control in cereals. It is one of the most expensive weeds as it seems to survive through our traditional cereal sprays making the first spray post-harvest very expensive. I am expecting Hotshot will help us overcome some of those issues with bindweed post-harvest because of its superior control in cereals. From a crop safety point of view I think it will be equivalent to Starane\* 200 Herbicide and better than a lot of other broadleaf winter cereal herbicides.

**Greg Giblett**  
Consultant Agronomist  
Page 15 of 16

For more information contact 1800 700 096 or

Jon Dadd	Tamworth	0427 460 290
Richard Jackman	Dubbo	0429 476 345
Kevin Melmeth	Toowoomba	0427 700 207
Emma Twine	Goondiwindi	0429 878 662