



# Canola volunteer control 2019



Spring Edition

# 1. Introduction

In any cropping system, plants from the previous season have the potential to germinate and compete for valuable resources such as water and nutrients as well as being a potential host for disease and insects. For farmers, the key to preventing volunteers from becoming a problem is to plan ahead and use the right tool.

The purpose of this guide is to offer possible solutions for controlling Roundup Ready, TT, Clearfield, dual herbicide tolerant (TT/RR, CL/TT) canola and conventional canola volunteers in both crop and fallow situations. These guidelines also apply to Brassica juncea volunteers. When making spray decisions to control canola volunteers, farmers should be aware of previous herbicide tolerant canola cropping history and modify herbicide choice accordingly. Decisions also need to consider the potential for spray drift, safe plant back periods and the stage of development of the canola.

Volunteer canola is one of many weeds likely to be present in summer fallows following a canola crop. Volunteer canola plants can result from a number of circumstances:

- Seed lost/spilt at harvest.
- Incorrect herbicide use for fallow clean up (especially if the volunteer canola plant has a herbicide resistance trait).
- Seed movement around farm (e.g. spillage or stock).
- Low Level Presence (LLP) of approved<sup>1</sup> plant traits and/or GM events in seed.

Volunteer canola is also likely following cereals that contained volunteers from the previous canola crop. Control strategies need to consider the entire weed spectrum, resistance management objectives, tank-mixtures and timing of application.

## 2. Identification and control of volunteer canola

It is essential to monitor the appearance of volunteer canola in both crop and non-crop situations. The primary aim of volunteer management should be to limit the distribution of volunteer plants by preventing pollen movement and seed set in years subsequent to growing of the crop.

Volunteers are likely to be found for up to 3 years after growing canola and should be controlled prior to flowering. It is also important to avoid burial of seed to a depth greater than 5cm as this can increase the seed bank life.

## Key points

- Volunteer canola can be difficult to control so it is best treated when small (prior to 4 leaf).
- Glyphosate alone may not control canola volunteers; canola is not listed on any label as a weed that can be controlled by glyphosate.
- Take the opportunity to manage glyphosate resistance by using alternative herbicides in a double knock or in a tank mix and adding residual herbicides in summer fallows.
- Select herbicide products for canola volunteer control that are registered by the APVMA and always follow the label directions of use.
- Growth stage of the target canola is critical to achieving satisfactory control especially with some products listed as an “option” for canola volunteer control.
- Products listed as an “option” for canola volunteer control will often require a tank mix partner to achieve effective control. Always use a full rate of an appropriate tank-mix herbicide.

**In addition to areas that have been cropped to canola, the following situations must be assessed for volunteers:**

- In areas where seed or grain spillage has resulted during transport.
- In any area where ineffective machinery clean down may deposit viable seed.
- In areas where grazing animals excrete for 7 to 10 days after digesting seed.

**Volunteer canola should be controlled as follows:**

- **In non-crop situations** – Through the use of grazing, mowing, cultivation or herbicide application as outlined in Table 1 to prevent the canola reaching maturity and seed set. Canola growing over summer is often moisture stressed and will be very hard to kill with glyphosate alone.
- **Prior to crop establishment** – Through the use of a knockdown herbicide as outlined in Table 2, and/or through cultivation.
- **In-crop** – Through the use of an appropriate registered herbicide as outlined in Table 3.



<sup>1</sup> As approved by the Office of Gene Technology Regulator (OGTR)

Before application, users should always follow the herbicide label directions of use and consult the applicable product stewardship guidelines which have been designed to minimise the development of herbicide resistance in weed populations.

**Table 1:** Herbicide options to control volunteer canola in summer fallow and non-cropping situations #

Canola herbicide tolerance technology			Herbicide product		
TT *	CL **	GP ***	Common Trade Names	Active ingredient	Mode of action group
			Amicide® Advance 700	2,4-D amine	I
			Estercide® Xtra 680	2,4-D LVE ester	I
			Agritone® 750	MCPA amine	I
			Polo® 570 LVE	MCPA ester	I
			Spray.Seed® 250, Revolver®	Paraquat + diquat	L
			Gramoxone® 360 PRO, Shirquat® 250	Paraquat	L
			Alliance®	Amitrole + parquat	L+Q
			B-Power®	Butafenacil	G
			Sledge® + Raze®	Pyraflufen-ethyl + glyphosate	G + M
			Amitrole® T	Amitrole + ammonium thiocyanate	Q
	X		Associate®	Metsulfuron Methyl	B

**TT = Triazine tolerant      CL = Clearfield      GP = Glyphosate tolerant**  
**#** Product label claims for control of canola volunteers in fallows. Always refer to product label directions of use.  
**\*** Triazine herbicides used alone will not control TT canola volunteers.  
**\*\*** Group B herbicide options alone may not control Clearfield (imidazolinone tolerant) canola volunteers.  
**\*\*\*** Glyphosate herbicide used as a standalone option is not registered for control of canola volunteers.

**KEY**        Registered for use      X Use NOT recommended on product label

**Table 2:** Pre-plant herbicide options to control canola volunteers in winter crop situations #

Canola herbicide tolerance technology			Herbicide product			Winter Crop Situation					
TT *	CL **	GP ***	Common Trade Names	Active Ingredient	Mode of action group	Wheat & barley	Other cereals, Triticale & Durum	Other cereals, Oats	Field peas and/or lupins	Chickpeas	Faba beans and/or lentils
			Spray Seed®, Revolver®	Paraquat + diquat	L						
			Gramoxone® 360 PRO, Shirquat® 250	Paraquat	L						
			Amitrole® T	Amitrole	Q						
			Alliance®	Amitrole + paraquat	L+Q						
			Balance® 750 WG	Isoxaflutole	H						
			B-Power®	Butafenacil	G						
			Sharpen® WG	Saflufenacil	G						
X			Gesatop®, Simazine 900 DF, Simazine 900 WG	Simazine	C						
<b>Tank-mix options with glyphosate or paraquat #</b>											
			Amicide® Advance 700	2,4-D amine	I						
			Estercide® Xtra 680	2,4-D LVE ester	I						
			Paradigm™	Florasulam + halauxifen	B		DO				
			Logran B-Power®	Butafenacil + triasulfuron	G + B	WO					
			Hammer®, Nail®	Carfentrazone ethyl	G						
			Terrain®, Valor® 500 WG	Flumioxazin	G						
			Sledge®	Pyraflufen-ethyl	G						
			Sharpen® WG	Saflufenacil	G						

**TT = Triazine tolerant      CL = Clearfield      GP = Glyphosate tolerant      WO = Wheat only      DO = Durum only**  
**#** Product label claims for control of canola volunteers pre-plant of rotation crops. Always refer to product label directions of use.  
**\*** Triazine herbicides used alone will not control TT canola volunteers.  
**\*\*** Group B herbicide options alone may not control Clearfield (imidazolinone tolerant) canola volunteers.  
**\*\*\*** Glyphosate herbicide used as a standalone option is not registered for control of canola volunteers.

**KEY**        Registered for use      X Use NOT recommended on product label

### 3. Machinery hygiene and harvest management

Management practices that can assist in volunteer management include machinery hygiene and good harvest management. Machinery hygiene including cleanliness of sowing equipment, trucks and harvest machinery will largely prevent spread of canola seed beyond the paddocks where it is sown.

Harvest weed seed control tactics including narrow windrow burning, chaff lining and use of the integrated weed seed

destructor provide additional tools to control volunteers in crop rotations.

In paddocks where canola has been grown, it is also important to minimise harvest losses. Correct timing of windrowing and harvest, and harvest efficiency are essential to ensure minimal losses. Any grain left behind after the harvest operation will act as a source of volunteers.

**Table 3:** Post-emergent herbicides to control volunteer canola in winter crop situations #

Canola herbicide tolerance technology			Herbicide product			Winter Crop Situation*						
TT *	CL **	GP ***	Common Trade Names	Active ingredient	Mode of action group	Wheat & barley	Other cereals, Triticale & Durum	Other cereals, Oats	Field peas and/or lupins	Chickpeas	Faba beans and/or lentils	Pasture
<b>Early post-emergence</b>												
	X		Broadstrike®, Broadsword®	Flumetsulam	B							
	X		Monza®	Sulfosulfuron	B							
	X		Ecilpse®	Metosufam	B							
	X		Sentry®	Imazapic + imazapyr	B	IT						
	X		Intervix®	Imazamox + imazapyr	B	CCO						
	X		Spinnaker®	Imazapyr	B							
	X		Broadsword®	Flumetsulam	B							
			Agritone® 750	MCPA amine	I							
			Polo® 570 LVE	MCPA ester	I							
X			Gesaprim®	Atrazine	C							
X			Gesatop®, Simazine 900 DF, Simazine 900 WG	Simazine	C							
			Eliminar® C	Bromoxynil + picolinafen	C + F							
			Jaguar®, Bentley®	Bromoxynil + diflufenican	C + F							
			Bromicide® MA	Bromoxynil + MCPA	C + I							
			Broadside®	Bromoxynil + MCPA + dicamba	C + I							
			Ecopar® + Agroxone 750	Pyraflufen ethyl + MCPA amine	G + I							
			Unity® + Agritone® 750	Carfentrazone ethyl + MCPA amine	G + I							
			Paradigm™ + MCPA 600 ester	Florasulam + halauxifen + MCPA	B + I							
			Vortex®	Florasulam + 2,4-D LV ester	B + I							
	X		Rexade™	Pyroxusulam + halauxifen	B + I	WO						
			Tigrex®, T-Rex®	Diflufenican + MCPA	F + I							
			Paragon®	Picolinafen + MCPA	F + I							
			Velocity®	Pyrasulfotole + bromoxynil	H + C							
			Talinor®	Bicyclopyrone + bromoxynil	H + C							
			Percept®	Pyrasulfotole + MCPA	H + I							
			Triathlon®	Diflufenican + bromoxynil + MCPA	F + C + I							
			Flight® EC	Picolinafen + bromoxynil + MCPA	C + F + I							
<b>Late post-emergence</b>												
			Amicide® Advance 700	2,4-D amine	I							
			Estercide® Xtra 680	2,4-D LVE ester	I							
			Agritone® 750	MCPA amine	I							
			Polo® 570 LVE	MCPA ester	I							
			Paradigm™ + MCPA 600 ester	Florasulam + halauxifen + MCPA	B + I							

TT = Triazine tolerant      CL = Clearfield      GP = Glyphosate tolerant  
 CCO = Clearfield cereals only      WO = Wheat only      IT = Imidazolinone tolerant (single gene) wheat and barley only  
 # Product label claims for control of canola volunteers in specific crop situations. Always refer to the product label directions of use.  
 \* Triazine herbicides used alone will not control TT canola volunteers in following rotation crops.  
 \*\* Group B herbicide options alone may not control Clearfield (imidazolinone tolerant) canola volunteers in following rotation crops.  
 \*\*\* Glyphosate herbicide used as a standalone option is not registered for control of canola volunteers.

**KEY**       Registered for use       Use NOT recommended on product label      **CCO** Clearfield cereals only

## 4. Summary

The majority of volunteer canola seedlings emerge the year following a canola crop and these volunteers can be managed through effective crop and herbicide rotation. Following canola with a cereal crop can be an effective way to control volunteer canola as it maximises the herbicide options available pre-sowing and in-crop.

Herbicide applications should be targeted at early canola stages—ideally prior to the 4-leaf stage—for more consistent and effective control. Glyphosate alone may not control canola volunteers, as canola is not listed as a weed that can be controlled on any glyphosate label. Always follow the herbicide label ‘direction of use’ and use the full rate of herbicides in an appropriate tank-mix.

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Factsheet produced in consultation with Pioneer Seeds, Pacific Seeds, Nufarm, Bayer, Syngenta, NSW DPI and Yeruga Crop Research.

## Supporting Resources

- [Weed control in winter crops](#)
- [www.grdc.com.au/IWMhub](http://www.grdc.com.au/IWMhub)
- [www.weedsmart.org.au](http://www.weedsmart.org.au)
- [Summer Fallow Spraying Factsheet](#)

## Stewardship Materials available from:

- Pioneer Seeds: [www.pioneerseeds.com.au/](http://www.pioneerseeds.com.au/)  
1800 PIONEER
- Pacific Seeds: [www.pacificseeds.com.au/](http://www.pacificseeds.com.au/)  
1800 026 990
- Nuseed: [www3.nuseed.com/au/](http://www3.nuseed.com/au/)  
1800 993 573
- Bayer: [www.crop.bayer.com.au/contact-us](http://www.crop.bayer.com.au/contact-us)  
1800 804 479
- BASF: [www.basf.com/au/](http://www.basf.com/au/)

