



# A GUIDE TO USING ROUNDUP READY® HERBICIDES

Roundup Ready® PL Herbicide with PLANTSHIELD® Technology and Roundup Ready® Herbicide with PLANTSHIELD® (collectively, Roundup Ready herbicides) are members of the Roundup® brand of agricultural herbicides (which contain the 'glyphosate' active ingredient). Roundup herbicides are post-emergent and systemic with no residual soil activity. They are non-selective and give broad spectrum control of a wide range of annual and perennial weeds being well known and trusted for over 30 years.

Roundup Ready herbicides are also non-volatile, stable in sunlight, completely water soluble and easy to apply with excellent environmental features such as rapid soil binding (resistance to leaching) and biodegradation (decreased persistence).

The primary effect of glyphosate is the interruption of the shikimic acid pathway. The production of EPSPS (5-enolpyruvylshikimate-3-phosphate synthase) is inhibited by glyphosate. This ensures that plants are unable to manufacture essential amino acids, which ultimately leads to their death.

Environmental conditions affect plant function and growth, so the final level of weed control can be greatly influenced by environmental conditions and other stress factors. Applications on non-stressed plants under good environmental conditions is critical to ensuring the success of any Roundup brand herbicide application.

Similar to any commercial application of Roundup brand herbicides, ensure broadleaf weeds have at least one true leaf and grasses two true leaves before application of Roundup Ready herbicides.



**TruFlex®**  
CANOLA

**Roundup Ready®**  
CANOLA

**Roundup READY PL**  
HERBICIDE  
with PLANTSHIELD TECHNOLOGY

**Roundup READY**  
HERBICIDE  
with PLANTSHIELD TECHNOLOGY

# APPLYING ROUNDUP READY HERBICIDES

Up to two or three applications of Roundup Ready Herbicides can be made over-the-top (OTT) of Roundup Ready canola or TruFlex® canola crop, respectively, provided these following conditions are met (see rates table below):

■ For TruFlex canola









- Up to two applications of up to 1.3 kg/ha or 1.67 L/ha may be made in any one crop of Roundup Ready Herbicide with PLANTSHIELD (granule) or Roundup Ready PL Herbicide with PLANTSHIELD Technology (liquid), respectively, or
- Up to 3 applications of up to 0.9 kg/ha or 1.15 L/ha may be made in any one crop of Roundup Ready Herbicide with PLANTSHIELD (granule) or Roundup Ready PL Herbicide with PLANTSHIELD Technology (liquid), respectively.

■ For Roundup Ready canola

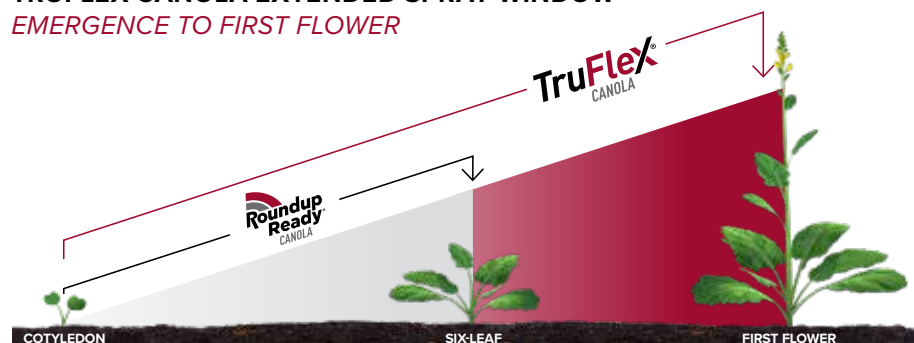
- Up to two applications of up to 0.9 kg/ha or 1.15 L/ha may be made in any one crop of Roundup Ready Herbicide with PLANTSHIELD (granule) or Roundup Ready PL Herbicide with PLANTSHIELD Technology (liquid), respectively.

- Refer to the label for tank mix instructions with atrazine. Roundup Ready Herbicide with PLANTSHIELD (granule) may be applied with an atrazine 900 g/kg water dispersible granule product OTT of TT-RR varieties.
- Applications occur within the correct timing window (up until the six leaf stage and prior to reproductive development for Roundup Ready canola and up to first flower stage for TruFlex canola).
- The applications are at least 14 days apart or with incremental crop growth of at least two new leaves between applications.
- Refer to the labels for tank mix partners.
- Ensure droplets produced are of a COARSE spray quality to minimise the risk of off target movement.
- Applications must be made in accordance with the Roundup Ready PL Herbicide with PLANTSHIELD Technology (liquid), and Roundup Ready Herbicide with PLANTSHIELD (granule) labels, which can be accessed at [crop.bayer.com.au](http://crop.bayer.com.au)

## THE RATE FARMERS NEED FOR THEIR WEED CHALLENGES

PRODUCT	ACTIVE INGREDIENT	Roundup Ready CANOLA	TruFlex CANOLA	TruFlex CANOLA
	690 g/kg glyphosate (granule)	 2 apps @ 0.9 kg/ha	 2 apps @ 1.3 kg/ha	 3 apps @ 0.9 kg/ha
	540 g/L glyphosate (liquid)	 2 apps @ 1.15 L/ha	 2 apps @ 1.67 L/ha	 3 apps @ 1.15 L/ha

## TRUFLEX CANOLA EXTENDED SPRAY WINDOW – EMERGENCE TO FIRST FLOWER



### When applying Roundup Ready Herbicides at registered rates

The window of application for Roundup Ready Herbicides extends past the six-leaf stage all the way to first flower.

# REASONS FOR MAKING TWO OR THREE APPLICATIONS OF ROUNDUP READY HERBICIDES

Weeds germinate at multiple times during the growing season. The flexibility of multiple applications adds value by:



- Maximising yield potential: minimise competition on the crop by early removal of weeds.
- Seed set / sample quality spray: minimise grain sample contamination and weed seed set by spraying at the latest opportunity to control any weeds that germinate following the first spray application.

Brassica weeds are especially strong competitors and can be more vigorous than canola, particularly at the seedling stage. Early removal of these weeds minimises their competitive effects, ensuring they do not deprive the crop of moisture, nutrients and light.

Another important characteristic of brassica weeds is their effect on the canola grain sample quality. In particular, brassica weeds can contain high levels of erucic acid and glucosinolates which have detrimental effects for human consumption. It is therefore important to utilise the additional applications of Roundup Ready herbicides to maximise control (up to six leaf stage for Roundup Ready canola and first flower for TruFlex canola) especially for any brassica weeds that may have germinated after the initial spray application(s).

A key brassica weed species is wild radish (*Raphanus raphanistrum*), it can germinate after the first (or second) spray application is made and therefore additional applications can be utilised to control later germinations.

# WHEN YOU CAN AND CANNOT APPLY ROUNDUP READY HERBICIDES

			
			
			
		<p>For Roundup Ready canola varieties, if the crop has begun reproductive development (ie. from stem elongation and/or bud initiation onwards) do not apply Roundup Ready herbicides.</p>	

\*Pre-harvest application of Roundup Ultra MAX as harvest aid and weed control. Apply to mature standing crop from early senescence (minimum of 20% of canola seeds as a random visual sample from various heights in the crop canopy from the main stem have changed to a dark brown/black colour). Always follow label instructions.

# SUMMARY

- Roundup Ready Herbicide with PLANTSHIELD is an easy to use dry formulation that does not require an additional surfactant.
- Roundup Ready PL Herbicide with PLANTSHIELD Technology is an easy to use liquid formulation that does not require an additional surfactant.
- Roundup herbicides are safe, well known and trusted for over 30 years.
- Target spray applications to actively growing weeds, with broadleaf weeds ideally having at least one true leaf and grasses two true leaves.
- Up to two or three applications of Roundup Ready herbicides can be applied OTT of Roundup Ready canola and TruFlex canola, respectively, provided they are separated by at least 14 days and crop growth of at least two new true leaves.
- When Roundup Ready herbicides are sprayed according to the label, the tolerance of TruFlex and Roundup Ready canola are excellent.
- Aim to produce a COARSE spray quality.
- The highest levels of weed control (especially on the key weed wild radish) are achieved when two or three in-crop applications of Roundup Ready herbicides are applied OTT of Roundup Ready and TruFlex canola, respectively.



For further information visit [roundupreadycanola.com.au](http://roundupreadycanola.com.au), contact your Roundup Ready canola Technology Service Provider (TSP) or visit [crop.bayer.com.au](http://crop.bayer.com.au)



Always read the label for full instructions. The information and recommendations set out in this document are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this document must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions. Roundup®, Roundup Ultra®, Roundup Ready®, PLANTSHIELD® and TruFlex® are registered trademarks of the Bayer Group. Copyright © 2020 the Bayer Group. All rights reserved.



Bayer CropScience Pty Ltd  
ABN 87 000 226 022  
Level 1, 8 Redfern Road  
Hawthorn East, VIC 3123  
Phone: 1800 636 001  
[crop.bayer.com.au](http://crop.bayer.com.au)