

Controlling Rosinweed

The aim of this trial was to identify some herbicide options for controlling Rosinweed.

Summary

Summer rain over the past 3 months has been substantial in some areas; therefore summer weed growth has been vigorous. Rosinweed is a particularly strong summer weed which is very difficult to control. This trial showed that Group B (IMI) herbicides had good control of rosinweed, while Ally® having less control, offered good suppression.

Background

Rosinweed (*Cressa cretica*) is a summer weed in the Convolvulaceae (sweet potato) family. It is spreading rapidly in the southern Mallee and is most often found on sodic plains country after a summer rain. It is a small summer weed with a large taproot and very hardy and persistent. Cultivation does not control the weed – it grows back rapidly and seems to spread even further. It is very difficult to control with herbicides.

In a demonstration of different herbicides undertaken by Nufarm in 2001 the best treatments (for kill and long term control) were:

- High rates of glyphosate (as Roundup CT at 5L/ha upto Credit/Bonus at 8L/ha)
- Credit/Bonus at 2L with either Amitrole (2L/ha) or Tordon (1L/ha)
- Credit/Bonus at 2L with metsulfuron (Ally) at 10g/ha

In the same demonstration it was also found that Starane at 0.75L/ha and Surpass at 2L/ha (with Credit/Bonus 2L/ha) had activity – especially in relation to the persistence of the weed. Triclopyr (Garlon, Invader) in combination with Credit/Bonus had insufficient activity or persistence.

Taking these results into account and the observation that Rosinweed does not appear to dominate after Clearfield technology is used (IMI group of herbicides) the BCG established a Rosinweed control trial in early November 2004. In this trial we concentrated on the IMI group of herbicides.

Methods

The Rosinweed trial was established on 8 November, 2004 three days after 25 mm of rain. The site is located 5km west of Birchip. Individual rosinweed plants were small and had branches ranging in length from 5 to 15cm at the time of spraying. The herbicides used in the trial are listed in Table 1. The trial is fully replicated (4 times) and was sprayed with a 3m boom, set up with XR11002 nozzles at 2.0 bar, with 80 L/ha of water. The weather conditions at spraying are reported in Table 2.

Table 1. Herbicides and rates used in the Rosinweed control trial.

Treatment	Active ingredients
RoundupCT 2L/ha	glyphosate 450 g/L
R'up 2L/ha + Ally 7g/ha	+ metsulfuron 600 g/kg
R'up + Flame 88 ml/ha + Arsenal 28 ml/ha	+ imazapic 240 g/L + imazapyr 250g/L
R'up + Flame 44 ml/ha + Arsenal 14 ml/ha	
R'up + Flame 88 ml/ha	+ imazapic 240 g/L
R'up + Flame 44 ml/ha	
R'up + Arsenal 28 ml/ha	+ imazapyr 250 g/L
R'up + Arsenal 14 ml/ha	

All treatments included 0.5% oil (petroleum based) and 0.2% wetter.

Flame (imazapic) and Arsenal (imazapyr) treatments at the full rate (88ml and 28ml/ha) are equivalent to a On-Duty® or Midas® application. At this rate it is expected that there will be significant carry over into the 2005 season and Clearfield tolerant wheat or canola should be sown.

Table 2. Weather conditions at the time of spraying.

Wind direction	South west
Wind speed	Light
Temperature	24°
Humidity	54%
Delta T	6.5

Weed damage was assessed on 8/12/04 (30 days after application) and 21/1/2005 (74 days after application). Weed damage was scored using the EWRS scoring systems:

- 1 – no symptoms
- 3 – some symptoms, clearly recognisable effect reversible
- 5 – severe discolouring and stunting, reduction in biomass
- 7 – heavy damage and severe reduction in biomass
- 9 – plants are dead

Results

The short and longer term effects of the herbicides on Rosinweed are listed in Table 3. RoundupCT on its own had little activity. At 30 and 74 days after application, the best level of control was found with RoundupCT + Flame 88ml + Arsenal 28ml.

Table 3. Trial results.

Treatment	30 days after application		74 days after application	
	EWRS	% reduction*	EWRS	% reduction*
RoundupCT 2L	2.0	20	1.8	18
R'up 2L/ha + Ally 7g	6.0	73	3.3	53
R'up + Flame 88 ml + Arsenal 28 ml	7.3	8	7.3	75
R'up + Flame 44 ml + Arsenal 14 ml	6.0	60	5.0	51
R'up + Flame 88 ml	6.3	73	5.3	63
R'up + Flame 44 ml	4.8	40	2.8	35
R'up + Arsenal 28 ml	6.0	65	2.0	58
R'up + Arsenal 14 ml	4.3	38	1.0	25
Significant difference	P<0.001	P<0.001	P<0.001	P<0.001
LSD	1.0	19	0.9	12

* % reduction in cover in comparison to the unsprayed control

Interpretation

RoundupCT at 2L/ha provided little control (similar to the finding by Nufarm in 2001). While the RoundupCT and Ally mix provided a reasonable level of control for the short term, it was significantly different to the full rate of IMI (Flame and Arsenal at the equivalent rate for OnDuty or Midas). The level of control with the IMI herbicides was higher than Roundup and Ally mix. It appears that cutting the rates of the constituents in the IMI herbicides used is not effective for rosinweed control or heliotrope. Heliotrope was still growing on plots sprayed with reduced rates of Flame and Arsenal.

Commercial Practice

The best option is for a full rate of Midas or OnDuty equivalent. This is not only expensive but significantly reduces cropping options for the coming season. Ally + RoundupCT provided activity on rosinweed and controlled other weeds at the site as well. If long term residual carry-over with IMI herbicides is not acceptable then 7g Ally + 2L RoundupCT will offer some activity on rosin weed whilst also controlling other summer weeds.

Note: the use of Flame (imazapic) and Arsenal (imazapyr) are not registered in Victoria for the control of summer weeds – these products were used only to differentiate activity from the active components in Midas or On Duty.