# METRIBUZIN AND OTHER HERBICIDES PRE-SOWING OF LUPINS

Peter Newman, Weeds Research Officer, Department of Agriculture & Food



## Аім

Discover alternative herbicide options for wild radish, annual ryegrass and doublegee control in lupins.

### TRIAL DETAILS

Property	Mike Bothe, Coorow	Wongan Hills Research Station
Plot size & replication	12m x 3m x 3 replications	28m x 3m x 3 replications
Soil type	Yellow gravelly sand	Yellow sand
Sowing date	8/5/07 (dry)	29/5/07 (wet)
Seeding rate	90 kg/ha Mandelup	100 kg/ha Mandelup
Fertiliser (kg/ha)	TSP 50 kg/ha	Big Phos + Mn 80 kg/ha banded
<b>Growing Season Rainfall</b>	170mm	212mm

Coorow site had plus and minus basal Simazine (2 L/ha). Wongan site had no basal simazine pre sowing (some treatments included Simazine 2 L/ha pre). Sown with knife point / press wheel seeding machinery (Coorow 18" row spacing, Wongan 9" row spacing).

#### RESULTS

**Table 1:** Ryegrass /  $m^2$  or flowering wild radish per plot (0.7m x 12m) and lupin yield for a range of herbicide treatments plus and minus Simazine 2 L/ha pre sowing – Mike Bothe, Coorow : Capeweed density (per  $m^2$ ) and lupin yield for a range of herbicide treatments at Wongan Hills Research Station.

	Coorow				Wongan Hills	
	Ryegrass /m <sup>2</sup>		Flowering radish / plot			
Treatment	minus	plus	minus	plus	capeweed /	yield
	sim	sim	sim	sim	m <sup>2</sup>	(kg/ha)
Nil	50	49.2	7.33	5.33	 52.25	2057
Metribuzin 200g/ha Pre	67.9	26.7	5.67	3.67		
Metribuzin 300g/ha Pre	48.8	27.1	2.33	1.67	11.5	2011
Metribuzin 400g/ha Pre	62.9	33.3	1	1.33		
Metribuzin 600g/ha Pre	30	14.6	3	0.67		
Metribuzin 300g/ha + Simazine 2 L/ha Pre					1.6	2196
Metribuzin 600g/ha + Simazine 2 L/ha Pre					0.17	2090
Boxer Gold 1.5 L/ha Pre					48.3	2011
Boxer Gold 2.5L/ha Pre	16.2	22.1	6.67	0.67	38.2	1971
Boxer Gold 5 L/ha Pre	13.8	6.7	7	4.67	23.2	2050
Boxer Gold 2.5 L/ha + simazine 2 L/ha Pre					4.5	2097
Boxer Gold 2.5 L/ha + Diuron 2 Lha Pre					8	2249
PN002 Pre	5.4	4.6	6.33	2		
Kerb 2 kg/ha Pre	2.9	5	8	4.67		
Kerb 2 kg/ha PSPE	10.4	7.5	10	6.33		
Trifluralin 1.6 L/ha Pre	63.3	40.4	12.67	4.33	41.17	1905
Dual Gold 500 mL/ha Pre					44.6	1918
Dual Gold 1 L/ha Pre					46.25	1971
Simazine 2 L/ha Pre					5.4	2123
Diuron 2 L/ha Pre					12.2	2176
LSD	19.8	19.8	3.6	3.6	6.1	ns

Values in bold are significantly different from the Control (nil treatment). *Lupins Research Results* 

## COMMENTS

*Metribuzin* This research and other trials at Mingenew suggest that metribuzin may be safe presowing of lupins. However 2006 and 2007 were very dry seasons which may have contributed to this crop safety in trials in both years. At the Mingenew and Coorow sites, a small area in some of the metribuzin treatments was watered by hand with an additional 30mm of simulated rainfall. There was no phyto-toxicity observed in these patches. This gives a small amount of confidence that metribuzin pre-sowing will be safe in a wet season. Further research is required to confirm this. A similar trial in 2006 (also a dry season) had similar results.

Metribuzin gave some useful suppression of wild radish, capeweed and ryegrass, particularly when added to basal simazine. Where metribuzin was applied at Mingenew (results not shown) pre sowing at 600 g/ha followed by more metribuzin post emergent, crop phyto-toxicity was responsible for approximately 20% reduction in lupin biomass. This did not result in a yield reduction. In summary, metribuzin shows some promise for use pre-emergent in lupins but is not currently registered at this timing. Future research in wet conditions will give more confidence of crop safety.

*Boxer Gold*<sup>®</sup> is a new pre-emergent ryegrass herbicide for use in wheat. Syngenta<sup>®</sup> are currently evaluating the use of this product in lupins. This research indicates that Boxer Gold<sup>®</sup> is safe when applied at the label rate of 2.5 L/ha pre-sowing of lupin. Unfortunately the Wongan site did not have any ryegrass. Boxer Gold<sup>®</sup> did demonstrate some suppression of capeweed at this site as it did in another wheat trial in 2007. At the Coorow site Boxer Gold<sup>®</sup> gave only 45% control of ryegrass. This trial was conducted under very dry conditions and the crop was sown on 45cm row spacing, hence the lack of ryegrass control with trifluralin.

*Kerb*<sup>®</sup> (propyzamide) is not registered in lupins and probably never will be. Kerb<sup>®</sup> achieved good ryegrass control in the Coorow trial, probably due to the trial being sown on very wide rows.

*PN002* is an experimental herbicide that was included under a confidentiality agreement. Crop safety and ryegrass control with herbicide both appear to be excellent at these early stages.

#### ACKNOWLEDGEMENTS

Many thanks to Mike Bothe and Wongan Hills Research Station for their cooperation. Thank you to GRDC and Syngenta for financial support.

PAPER REVIEWED BY: DAVE MEHARRY.

**CONTACT** Peter Newman Ph. 99568563 Email. pnewman@agric.wa.gov.au