

Group B tolerant crops

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Key findings

- New crop varieties have been recently released that have improved tolerance to imidazoline (imi) herbicides.
- Group B tolerant varieties showed slight damage symptoms to herbicides registered for use. Damage to non-group B tolerant varieties was observed in many treatments.

Why do the trial?

To compare the tolerance of the new varieties to a range of group B herbicides relative to conventional non-tolerant varieties. To also measure the efficacy of herbicides for controlling crop volunteers with group B tolerance.

How was it done?

Plot size	2 m x 3 m	Fertiliser	MAP (10:22) + Zn 2% @ 75 kg/ha
Seeding date	27 th May 2013		

The crops included:

- Two strips of canola were sown - AV Garnet (not tolerant) & Clearfield 44Y84 (tolerant).
- Two strips of barley were sown - Buloke (not tolerant) & Scope (tolerant).
- Two strips of wheat were sown - Gladius (not tolerant), Grenade CL plus (tolerant).
- Two strips of lentils were sown - Flash (not tolerant) & Hurricane (tolerant).

The herbicide treatments for all the crops included:

- Two residual group B herbicide treatments were applied prior to sowing.
- Six group B post emergent (3-4 leaf or node) herbicide treatments applied 18th July 2013.
- One group B plus Group I post emergent (3-4 leaf or node) herbicide treatment applied 18th July 2013.

Treatments were visually assessed and scored for herbicide damage symptoms 5 weeks after application.

Results

Many of the herbicides are not registered for the crops that have been sprayed. It is important to check the herbicide label before following strategies used in this demonstration. Herbicide effects can vary between seasons and depend on soil and weather conditions at the time of application.

The residual herbicide treatments showed no effect to the tolerant lines of wheat, barley and lentils with only slight effect on the tolerant canola variety. Herbicide damage to the non-tolerant lines ranged from no effect (for wheat and barley) to moderate/severe in the residual treatments for canola and lentils.

For the tolerant wheat the post emergent applications of group B herbicides gave no effect. Similar crop ratings for barley were also observed across all group B herbicides except, for Midas (group B + I) which showed slight effects.

Post emergent Intervix (both 750 mL and 1500 mL) and Midas produced slight to moderate effect in the tolerant canola. OnDuty and Raptor produced no effect in the tolerant canola variety.

PBA Hurricane (formally CIPAL 1101) is a new variety released for improved tolerance to group B herbicides, similar to PBA Herald XT. In this trial PBA Hurricane showed no effect to group B herbicides, expect moderate crop damage from the Midas treatment.

For all post emergent herbicides treatments both the non-tolerant wheat and canola varieties resulted in severe effects. The non-tolerant barley and lentils showed moderate effect to Raptor, experimental 1 and 2 and severe effects to Intervix, OnDuty and Midas treatments.

Timing	Herbicide	Canola		Wheat		Barley		Lentil	
		Tol	Not Tol	Tol	Not Tol	Tol	Not Tol	Tol	Not Tol
	Nil	44Y84	Garnet	Grenade CL	Gladius	Scope	Buloke	Hurricane	Flash
	Residual 10 g Logran	1	1	1	1	1	1	1	1
	Residual 180 mL Intervix	2	4	1	1	1	1	1	4
	3-4leaf Intervix 750 mL + Hasten	1	1	1	1	1	1	1	2
	3-4leaf Intervix 1500 mL + Hasten	2	4	1	4	1	4	1	4
	3-4leaf Onduty 55 g + Hasten	2	4	1	4	1	4	1	4
	3-4leaf Midas 900 mL + Hasten	1	4	1	4	1	4	1	4
	3-4leaf Raptor 45 g + BS1000	3	4	1	4	2	4	3	4
		1	4	1	4	1	3	1	3

Crop damage ratings:

1 = no effect 2 = slight effect 3 = moderate effect 4 = severe effect 5 = death