Legume and oilseed herbicide tolerance

Key findings

- Sakura (BAY-191) and Boxer Gold produced slight effects on all 3 types of canola.
- Raptor had no negative impact on beans at Hart in 2009.

Why do the trial?

To compare the tolerance of legumes and canola varieties to a range of herbicides and timings.

How was it done?

Plot size 2m x 3m Fertiliser MAP @ 60 kg/ha

Seeding date 30th May 2009

14 strips of canola, pasture, vetch, chickpeas, faba beans, field peas and lentils were sown. 61 herbicide treatments were applied across these crops at one of 5 timings.

The timings were

Pre sowing (IBS)

Post seeding pre-emergent (PSPE)

Early post emergent (3 – 4 node)

Post emergent (6 node)

Late post emergent (10 node)

21st May

26th May

29th June

8th July

31st July

Treatments were visually assessed and scored for herbicide effects 4 weeks after application.

Crop damage ratings were:

1 = no effect

2 =slight effect

3 = moderate effect

4 =severe effect

5 = death

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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 depending on soil and weather conditions.

Sakura (BAY-191) and Boxergold applied pre-sowing had slight effects on all 3 canola varieties and the Frontier balansa. NUL-1493 had slight effects on the Clearfield canola, TT canola, Frontier balansa and Herald medic. Other pre-sowing pre-emergent herbicides had little or no effect on all of the crops. A reminder that registrations for these herbicides are limited or not recommended for many of these crop types.

Post sowing pre-emergent (PSPE) herbicide treatments Balance and Balance + Simazine produced an excellent result killing all but the chickpeas. All PSPE treatments caused severe effects on all of the pasture and canola types.

A new addition in 2009, Terbyne was safe in chickpeas, beans and peas and is registered for these crops. Note that lentils and vetch are not on the label. It is a triazine (group C) herbicide and provides good control of mustards, turnips, radish and thistles.

Raptor applied early post emergent had no effect on either of the bean varieties. There is currently a permit for the use of Raptor in beans but it should be noted that in past years moderate effects have been observed.

Conclude, Precept, Velocity and Banvel M did a good job of controlling all crops when applied at the post-emergent 5 node stage. Ecopar + MCPA Amine and Affinity Force + MCPA Amine produced the weakest effects across the range of crops at this timing, Ecopar was slightly softer on pastures.

All knockdown treatments achieved at least severe effects on all crops accept for the 2 vetch varieties. The 2 different herbicide groups of Alliance (Group F and Group L) and Basta (Group N) produced complete control. Morava was slightly more tolerant than the Capello at Hart in 2009. The most effective knockdown treatments for killing vetch were glyphosate + Cadence, Alliance or Basta.

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Legume & Oilseed					Canola			Beans		Chick Peas Vetch		Lentil	ntil Pasture			
Herbicide Tolerance				44C79	rR Cobbler	Garnet	Farah	Nura	Kaspa	Genesis 090	Capello	Morava	Nipper	Frontier Balansa	Scimitar	Angel
Sown:	215/09				AT					Ge						
		Treatment	Rate kg/ha	5	5	5	140	140	100	80	45	45	45	15	15	15
Pre-sow 21/05	1	NIL		1	1	1	1	1	1	1	1	1	1	1	1	1
	2	A vadex Xtra	1600ml	1	1	1	1	1	1	1	1	1	1	1	1	1
۷ 2	3	Dual Gold	500ml	1	2	1	1	1	1	1	1	1	1	1	1	1
ŝov	4	NUL 1493	1000ml	2	2	1	1	1	1	1	1	1	1	2	2	1
Pre-	5	Boxer Gold	2500ml	2	2	2	1	1	1	1	1	1	1	2	1	1
	6	Sakaura (BAY-191)	118g	2	2	2	1	1	1	1	1	1	1	3	1	1
PSPE 26/05	1	NIL		1	1	1	1	1	1	1	1	1	1	1	1	1
	2	Diuron	850g	4	5	4	1	1	1	1	1	1	1	5	2	3
	3	Simazine	850g	4	1	4	1	1	1	1	1	1	1	5	3	3
	4	Diuron +Simazine	410g/410g	3	3	4	1	1	1	1	1	1	1	4	3	3
	5	M etribuzin	280g	5	4	5	1	1	1	1	1	1	2	5	4	4
	6	Terbyne	1000g	5	3	5	1	1	1	1	1	1	2	5	5	5
	7	Spinnaker	70g	2	5	4	1	2	1	1	1	1	3	4	3	1
	8	Spinnaker + Simazine	40g/850g	4	4	4	1	2	1	1	1	1	2	4	4	3
	9	Balance	100g	5	5	5	5	5	5	1	5	5	5	5	5	5
	10	Balance + Simazine	100g/830g	5	5	5	5	5	5	1	5	5	5	5	5	5
3-4 node 29/06	1	NIL		1	1	1	1	1	1	1	1	1	1	1	1	1
	2	Simazine	850g	4	3	3	1	1	1	1	1	1	1	5	2	1
	3	M etribuzin	280g	5	4	5	5	3	2	5	2	2	2	5	5	5
	4	Broadstrike	25g	2	5	4	3	3	2	1	3	2	1	3	1	1
	5	Brodal Options	150ml	5	5	5	4	4	2	3	4	4	3	5	4	4
	6	Brodal Options +M CPA Amine	150ml/150ml	5	5	5	4	4	2	4	4	4	4	5	4	4
	7	Sniper 750WG	50g	5	5	5	4	4	3	3	4	4	3	4	4	4
	8	Spinnaker+wetter	70g/0.2%	3	5	5	3	3	1	3	3	3	3	3	3	2
	9	Raptor+wetter	45g/0.2%	2	5	4	1	1	1	2	3	2	2	4	3	2
5 node 08/07	1	NIL		1	1	1	1	1	1	1	1	1	1	1	1	1
	2	Logran+wetter	10g/0.1%	3	5	5	5	5	5	5	5	5	5	5	5	2
	3	Ally+wetter	7g/0.1%	3	5	5	5	5	5	5	5	2	5	5	5	4
	4	Eclipse SC +Uptake	50ml/0.5%	1	5	5	5	5	5	4	5	5	4	5	4	4
	5	Ecopar + M CPA Amine	400ml/500ml	5	5	5	3	3	5	3	3	2	3	2	1	1
	6	Conclude +Uptake	700ml/0.5%	5	5	5	5	5	5	5	5	5	5	5	5	4
	7	Precept +Hasten	750ml/1%	5	5	5	5	5	5	5	5	5	5	5	5	5
	8	Velocity + Hasten	670ml/1%	5	5	5	5	5	5	5	5	5	5	5	5	5
	9	Banvel M	1	5	5	5	5	5	5	5	5	5	5	5	5	5
	10	Intervix + Hasten	600ml/1%	1	5	5	4	4	4	5	4	3	5	5	5	2
	11	Midas +Hasten	900ml/0.5%	4	5	5	4	4	4	5	5	3	5	5	5	2
	12	Hussar OD +wetter	100ml/0.25%	3	5	5	5	5	5	5	5	5	5	5	5	5
	13	Crusader + Uptake	500ml/0.5%	1	5	5	5	5	5	5	5	5	5	5	5	4
	14	Atlantis OD +Hasten	330ml/1%	2	5	5	5	5	5	5	5	5	5	5	5	5
	15	Affinity Force + M CPA Amine	100ml/500ml	5	5	5	4	4	3	5	3	2	3	2	2	2
	16	Atrazine + Hasten	833g/1%	5	1	5	3	1	4	5	4	3	4	5	5	4
	17	Lontrel	150ml	1	1	1	5	5	5	5	5	5	5	5	5	5
8 node 31/07	1	NIL		1	1	1	1	1	1	1	1	1	1	1	1	1
	2	M CPA Sodium	700ml	4	4	4	5	5	1	2	3	3	2	2	2	2
	3	M CPA Amine	350ml	4	4	4	4	4	1	3	3	3	2	2	2	2
	4	Amicide 625	1.2L	5	5	5	5	5	5	5	5	4	4	4	3	3
	5	2,4-D Ester	70ml	4	4	4	4	4	2	2	3	3	3	5	5	5
	1	NIL		1	1	1	1	1	1	1	1	1	1	1	1	1
	2	Sprayseed	2L	5	5	5	4	4	5	5	4	4	4	5	5	5
	3	Glyphosate	1	5	5	5	4	4	5	4	3	3	5	5	5	5
	4	Glypho sate +LVE 680	1L/500ml	5	5	5	5	5	5	5	5	4	5	5	5	5
/0/	5	Glypho sate + Hammer	1L/50ml	5	5	5	4	4	5	5	3	3	5	5	5	5
5 node 08/07	6	Glyphosate + Goal	1L/100ml	5	5	5	4	4	5	5	3	3	5	5	5	5
	7	Glypho sate + Cadence	1L/115g	5	5	5	5	5	5	5	5	5	5	5	5	5
	8	Alliance	2L	5	5	5	5	5	5	5	5	5	5	5	5	5
	9	Glyphosate // Sprayseed 3DAS	12L//12L	5	5	5	5	5	5	5	4	3	5	5	5	5
	10	Sprayseed // Sprayseed 3DAS	12L//12L	5	5	5	5	4	5	4	4	3	4	5	5	5
	11	Basta	2.5L	5	5	5	5	5	5	5	5	5	5	5	5	5
		Buota	2.02			_	_	_	_			9			_	_

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