Clearfield: a Clear Winner in Brome Grass Control

Aim: To evaluate the efficacy of different formulations of imidazolinones (Group B imi's) and the sulfonylureas (Group B SU's) on brome grass.

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Elders Agronomy

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Location: Goodlands

Background: Brome grass is becoming a problem weed in many cropping focused programs. The Clearfield system, using an imi-tolerant wheat and the imi-herbicide Midas, gives control of brome grass. Monza and Atlantis offer suppression only of brome grass. This trial site was selected after a blowout of brome grass in 2003.

Trial Details:

Plot replication	3 reps x 17 treatments
Soil type	Red sandy loam
Sowing date	24th May
Conditions at sowing	Moist, friable
Machinery	Bourgault bar & box, 10" k/p with press wheels
Seeding rate	60 kg/ha of Clearfield STL
Fertiliser	80 kg/ha Agstar Extra, 50 L/ha Flexi N IBS
Herbicides and Insecticides	1st July: TriflurX @ 1.1 L/ha, Roundup Powermax @ 0.8 L/ha
Paddock History	2003 = wheat

Results:

Table 1: Final assessment of % Control (plant numbers) of brome grass 102 days after application.

Treatment	% CONTROL		Treatment	% CONTROL	
Product A Rate 3	100	a	Product C Rate 3	85	bcde
Product B Rate 2	100	a	Raptor 30 g/ha	82	cde
Product A Rate 2	99	a	Product C Rate 2	78	de
Clearsol 112 mL/ha	99	a	Product C Rate 1	75	e
Product B Rate 1	96	abc	**OnDuty 20 g/ha**	**74**	**e**
Clearsol 56 mL/ha	94	abc	**Monza 25 g/ha**	**60**	**f**
OnDuty 40 g/ha	**92**	**abcd**	**Atlantis 330 mL/ha**	**61**	**f**
Raptor 40 g/ha	90	abcd	*LSD (P=.05)*	12.5	
Raptor 50 g/ha	89	abcd	*Standard Deviation*	7.5	
Product A Rate 1	89	abcd	*CV*	8.75	

Notes

- If two numbers have the same letter then we cannot be confident that the differences between the two are due to the treatment imposed and may be due to chance.
- **Brome age was 2 leaf to 5 tiller** with the majority of brome grass out of the Monza and Atlantis timing ie. Greater than 3 leaf. Herbicides were applied on the 1st July.
- **Crop age at application was 4 leaf to 2 tillers**. OnDuty or Midas (OnDuty + MCPA) must not be used before 4 leaf wheat stage. Atlantis must not be used before 3 leaf wheat stage.
- Products A, B and C are under evaluation for use in Clearfield crops. Raptor and Clearsol are not registered for use in Clearfield wheat; the only products registered for use in wheat are bolded.
- OnDuty & Midas must only be used in Clearfield varieties. The only Clearfield varieties currently available are Clearfield STL and Clearfield JNZ.

Results

The imidazolinones, offering alternative Group B chemistry, gave significantly greater control at this timing than Monza or Atlantis (Table 1). Bear in mind that this timing is better suited to the imi's. Even still, the control advantage is superior given the reduced seed set, which will lead to fewer problems at harvest and the following year.

Products A and B look promising but are still at the development stage. Clearfield systems must be carefully planned as there are many factors to consider.

Summary:

- Clearfield chemistry significantly increased brome grass control, at this timing, compared to the SU's. Monza & Atlantis efficacy is greatly improved when brome grass is 1-3 leaf.
- Clearfield offers control, not suppression.
- There are many factors that must be weighed up before deciding upon the weapon of choice for brome grass control. Clearfield is a complete system, whereas Monza & Atlantis are simply herbicides.

Technically reviewed by: Mike Jackson, Peter Carlton

Elders would like to acknowledge Mike Jackson from Nufarm for generating the data & the Stanley's for hosting and seeding the trial site.