Elders Resistance Boom Results 2002

Aim: To assess the effectiveness of a range of herbicides on a number of ryegrass populations throughout the 'Liebe' area with an 'in situ' method of resistance testing.

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Background: The level of herbicide resistance testing by farmers is extremely low due to a number of factors including the cost of testing, the variability of results obtained from testing and the practicalities of the test results. The Elders Resistance Boom was developed to provide a faster, cheaper, flexible and more accurate method of resistance testing. The boom can be set up to test the resistance profile of any weed with a range of chemical groups, with the results immediately useful to the farmer.

Trial Details:

Plot size and replication	6 x 2m wide plots, 25m length
Herbicide Treatments	Targa 300 mL/ha + 0.75% Uptake
	Sertin 500 mL/ha + 0.75% Uptake
	Aramo 300 mL/ha + 1% Hasten
	On Duty 40 g/ha + 0.5% Hasten
	Select 250 mL/ha + 1% Hasten
	Fusion 280 g/ha + 0.75% Hasten
	Hoegrass 1.5 L/ha + 0.25% Wetter
	Achieve 200 g/ha + Hoegrass 300 mL/ha + 0.75% Supercharge
	Oust 200 g/ha + 1% Hasten
	Select 220 mL/ha + Targa 100 m/ha + 1% Hasten
Boom Details	Standard 02 nozzles, 2 bar pressure, 80 L/ha water

Results:

Herbicide	Average % Control	% Paddocks with >80% Control	% Paddocks with <40% Control	Number of Paddocks Tested
Targa	3	0	100	5
Hoegrass	2	0	100	13
Sertin	59	50	50	4
Select	86	78	0	18
Fusion	70	44	17	18
Aramo	80	67	17	12
Select/Targa	72	50	0	10
Achieve/Hoegrass	34	0	33	6
On-Duty	33	0	100	5
Oust	22	0	81	16

Note: Paddocks selected for testing tended to be problem paddocks with regards to ryegrass control. Levels of resistance reported here therefore are not a true reflection of the average resistance levels found in paddocks in this area.

Interpretations/Comments: The level of ryegrass resistance to Targa and Hoegrass (both Group A fops) was extreme. The level of resistance of Group A dims varied slightly with Sertin only controlling 59% of the ryegrass population on average. Select, Fusion and Aramo (a new 'dim' herbicide due for release in 2003) had slightly better results. Although paddocks have not been exposed to the new active ingredient in Aramo, there are still paddocks showing resistance. Aramo will have to be used in an integrated resistance management program to prolong its effective life.

Fop/dim mixes i.e. Select/Targa and Achieve/Hoegrass are not giving high levels of control as would be expected. The mixing of the fop and dim may be questioned as the most effective way to control ryegrass, perhaps a strong dose of 'dim' alone would be better at controlling ryegrass.
Oust is a non-selective group B chemical. The resistance levels for oust indicate that Group B chemicals would struggle to control ryegrass in these paddocks. On-Duty is also a Group B chemical but is used in IT wheat and canola systems. From these results, IT wheat and canola is not providing an alternative for controlling ryegrass.

Summary:

- The levels of resistance reported are from targeted problem ryegrass paddocks and are not a true indication of the areas overall resistance status.
- There is a high level of ryegrass resistance to 'fop' chemicals in these tests.
- 'Fop/dim' mixes are not giving better control of ryegrass than 'dim' chemicals at high rates.
- Select and Aramo ('dims') are not giving total control of ryegrass and must be used within a management program that rotates chemical use to prolong the life of these chemicals.
- Ryegrass tested is showing a high level of resistance to Group B chemicals.