

Faba Bean, Herbicide Tolerance (Group B Timing), HRZ Southern Wimmera (Telangatuk), Victoria

Aim

To investigate the tolerance of a newly released faba bean variety PBA Bendoc to residual (simulated) and in-crop application timings of Group B herbicides in comparison with the commercial variety PBA Samira.

Treatments

Varieties: PBA Bendoc and PBA Samira

Herbicide treatments: See Table 1.

Other Site Details

Sowing date	21 May
Planting density	20
Stubble height (cm)	Standing (20)
Row Spacing (cm)	30
Fertiliser (kg/ha)¹	100

1. MAP (9.2, 20.2, 0, 2.7) + Zn (2.5)

Results and Interpretation

- **Key Messages:** Group B herbicide application timing significantly influenced herbicide damage of faba bean varieties. Herbicide damage scores generally increased with delaying herbicide application timing from PSPE to 4 node, 8 node and flowering stages. Although the level of damage in PBA Bendoc was significantly less than PBA Samira, both varieties showed the highest sensitivity to in-crop application of sulfonylurea herbicides (Table 1). Grain yield results are not presented due to soil variability and poor root nodulation caused by soil acidity.
- **Establishment and Growth:** Establishment of faba bean varieties was generally uniform despite some slug issues earlier in the season. However, plant growth was very slow and highly variable due to cool conditions and soil variability. Waterlogging in the middle of winter also impacted parts of the trial. Low soil pH (4.5 in CaCl₂) at the site caused poor root nodulation which resulted in yellowing of leaves, stunting of growth and reduced biomass accumulation.
- **Herbicide Damage:** Visual herbicide damage score recorded about 20 weeks after sowing showed significant difference between the herbicide treatments, however these differences were dependent on the variety. It is worth noting that the herbicide damage scores might have been confounded by the effect of poor nodulation. Herbicide damage scores generally increased with delaying herbicide application timing from PSPE to 4 node, 8 node and flowering stages (Table 1). In PBA Samira, all treatments except PSPE and in-crop application of 'Imi2' and PSPE application of 'Imi1' caused significant visual damage (Table 1). In contrast, PBA Bendoc showed tolerance to all the herbicide treatments except 'SU1' and 'SU2' applied in-crop and 20 gai/ha flumetsulam applied PSPE (Table 1). Although the level of damage in PBA Bendoc was significantly less than PBA Samira, both varieties showed the highest sensitivity to in-crop application of sulfonylurea herbicides (Table 1).

Table 1. The effect of various Group B herbicides and application timings on visual herbicide damage score (0 – no damage, 100 – complete plant death) of faba bean varieties at Telangatuk, Victoria in 2018.

Active ingredient (g/ha)	Application Timing	Herbicide Damage (0-100)	
		AF15369	PBA Samira
Nil (0)		0	0
Sulfonylureas			
'SU1'	PSPE	19	60
	4 node	90	95
	8 node	50	93
	Flowering	45	78
'SU2'	PSPE	1	25
	4 node	58	93
	8 node	30	65
	Flowering	35	68
Imidazolinones			
'Imi1'	PSPE	4	8
	4 node	6	75
	8 node	6	19
	Flowering	5	48
'Imi2'	PSPE	1	1
	4 node	1	8
	8 node	3	3
	Flowering	3	3
Sulfonamide			
Flumetsulam (20)	PSPE	16	18
	4 node	4	29
	8 node	3	9
	Flowering	5	14
LSD_{ChemTrt*Var} (P<0.05)		12	
CV		29	