

B11 Disease Management, MRZ Wimmera (Rupanyup), Victoria

B12 Disease Management, HRZ South West (Rokewood), Victoria

Aim

To investigate the efficacy of various foliar fungicide spray strategies to control fungal diseases in faba bean

Treatments

Disease Management:

Treatment	Chemical and Application Rate (gai/ha)¹	Timing
Nil	Nil	Nil
Pro+Bi	Prothioconazole + Bixafen (90+45)	5 weeks after emergence & Early flowering
Cx2	carbendazim (250)	Early and late flower
Complete (Com)	mancozeb (1600) chlorothalonil (1440) carbendazim (250)	mancozeb + chlorothalonil applied fortnightly from 5 weeks after emergence All 3 chemical applied fortnightly during flowering.
T-C/Mx2	tebuconazole (150) mancozeb (1600) carbendazim (250)	Tebuconazole @ 5 weeks after establishment, then carbendazim and mancozeb applied at early and late flowering.
T-Cx2	tebuconazole (150) carbendazim (250)	Tebuconazole @ 5 weeks after establishment, then carbendazim applied at early and late flowering.
T-eC	tebuconazole (150) carbendazim (250)	Tebuconazole @ 5 weeks after establishment, then carbendazim applied at early flowering.
T-IC	tebuconazole (150) carbendazim (250)	Tebuconazole @ 5 weeks after establishment, then carbendazim applied at late flowering.

P-Pickel T[®] fungicide seed treatment was applied to all treatments except the 'Nil' at 200ml/100kg seed (360 g/L Thiram and 200 g/L Thiabendazole)

Trials was inoculated with ascochyta and botrytis on July 18 and Aug 4 at Rupanyup and 14 July at Rokewood using spore suspension

*****Some of the treatments in this research contain unregistered fungicides, application rates and timings and were undertaken for experimental purposes only. The results within this document do not constitute a recommendation for that particular use by the author or author's organisation.***

Other Details

	Trial Site	
	Rupanyup	Rokewood
Variety	Farah	Farah
Sowing Date	15 May	26 April
Stubble (height cm)	Standing(30)	Standing (20)
Row Spacing (cm)	36	36
Plant Density (plant/m²)	20	20
Fertiliser (kg/ha)¹	80	100

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

Results and Interpretation

- Key Message: Surprisingly, despite large differences in disease symptoms, there was no difference in grain yield between the disease management strategies and the control treatment at both sites.
- Plant growth and Disease Symptoms: Establishment and growth throughout the season was excellent due to good opening rains and warm conditions following sowing. This vigorous early and rapid canopy development lead to conditions conducive for disease when combined with the high rainfall experienced from July onwards. Plants reached more than 2m in height, before lodging during the reproductive phase. Continued rainfall, in the absence of major frost and heat events resulted in very high biomass production and grain yield.

Disease levels were generally moderate to high in 2016 with a higher level of disease observed at Rupanyup than Rokewood (Table 1). Most of the disease was related to chocolate spot, although there were moderate levels of cercospera. At both sites the complete treatment ('Com') provided the best control with on low levels of disease observed. At Rokewood, all other treatments were similar, including 'Nil', with a moderate level of disease, significantly higher than the complete treatment. At Rupanyup, the 'Nil' treatment showed the highest scores, while all other treatments were in a similar range providing moderate disease control.

- **Grain Yield:** Grain yields were very high ranging between 4.3 and 5.2t/ha at Rokewood and 4.8 and 5.6t/ha at Rupanyup. Surprisingly, there was no statistically significant difference in grain yield between the disease management strategies and the control treatment at both sites. The response could be related to the long growing season, where the crop was able to continue growing late in the season and set additional flowers and pods to compensate for those impacted by earlier infection. In addition it was noted that there was very little disease staining on the seed.

Table 1. Disease scores (0=no symptoms; 100=complete infestation) of faba beans recorded at late flowering sown in disease management trials at Rupanyup and Rokewood in 2016.

Fungicide treatment	Rupanyup		Rokewood	
	Disease Score (0-100)	Grain yield (t/ha)	Disease Score (0-100)	Grain Yield (t/ha)
Nil	40	4.86	22	4.34
Pro+Bi	23	5.38	23	4.81
Cx2	33	5.48	23	4.51
Com	10	5.63	5	5.02
T-C/Mx2	33	4.80	20	5.18
T-Cx2	27	4.81	17	5.02
T-eC	30	5.59	27	4.20
T-IC	20	5.37	15	5.07
LSD	13	ns	12	ns
CV (Rep)	12	2.3	19	3.1
(Rep.Plot)	26	16.4	35	10.3