Faba Bean, Disease Management, MRZ Wimmera (Horsham), Victoria
Faba Bean, Disease Management, HRZ Southern Wimmera (Gymbowen), Victoria

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Aim
To evaluate foliar fungicide spray strategies on disease control in new breeding lines and varieties.

Treatments
Varieties: See Figure 1.
Disease Management Strategies:

Fungicide Strategy	Chemical and Application Rate	Timing
Nil	NA	NA
Recommended	Tebuconazole 430 @ 350 ml/ha	4 weeks after emergence & @ canopy close
Strategic	Aviator Xpro @ 600 ml/ha	4 weeks after emergence & @ early flowering
Complete	Aviator Xpro @ 600 ml/ha Carbendazim 500 @ 500 ml/ha Chlorothalonil 720 @1000 ml/ha	Aviator @ 4 weeks after emergence then Chlorothalonil + Carbendazim, Fortnightly

P-Pickle 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).

*****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 Site Details

	Gymbowen	Horsham
Sowing Date	30 Apr	13 May
Stubble height (cm)	Standing (30)	Standing (20)
Row Spacing (cm)	25	36
Plant Density (plant/m^2)	20	20
Fertilizer (kg/ha)[1]	100	80

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

Results and Interpretation

- Key Messages: Despite some early infection, disease was not a significant issue in 2019 due to dry spring conditions. There was no difference in the grain yield response of varieties to disease management strategy. At the higher rainfall zone site, Gymbowen, a complete fungicide spray treatment (7 applications) increased grain yield by 5-8% compared with other strategies, which was not profitable. An early flowering line, AF12025, was the highest yielding line, similar to Curyo and consistent with previous observations.

- Establishment, Plant Growth and Disease: Establishment and early growth at both Gymbowen and Horsham were excellent in 2019, due to timely rainfall events early in the season. Early disease was noted at both sites but did not progress extensively in spring due to dry conditions. At Gymbowen, there was a low level of both cercospora and ascochyta blight in the 'Nil' fungicide treatment in July and August. PBA Amberley generally showed least symptoms and PBA Marne and AF12025 the most, but they never really progressed significantly in spring. Very little chocolate spot was seen. At Horsham, only cercospora was noted in the 'Nil' fungicide treatment, with very low levels of ascochyta and chocolate spot detected.

- Grain Yield and Seed Quality: Grain yields were very high in 2019, averaging 4.3 t/ha at Gymbowen and 4.0 t/ha at Horsham (Figures 1 & 2). At both sites there was no interaction between variety/breeding line and fungicide treatment, so only main effects have been presented. At Gymbowen, the complete fungicide spray treatment (7 applications) increased grain yield by 5-8% compared with other strategies,

which was not profitable (Figure 1A). There were no differences in yield between fungicide treatments at Horsham (data not shown). Comparing across the varieties/breeding lines at both sites indicate similar trends. AF12025, an early flowering line, was the highest yielding line 9% and 6% higher than PBA Samira at Gymbowen and Horsham, respectively (Figure 1B & 2). PBA Bendoc was equivalent at both sites while both PBA Marne and PBA Amberley were significantly less (9-14%) than PBA Samira.

These results are consistent with the varietal/breeding line results observed at the lower rainfall zone site, Curyo, with AF12025 again showing the highest yields. They also match the long-term trend in Victoria, with this line consistently producing the highest grain yields.

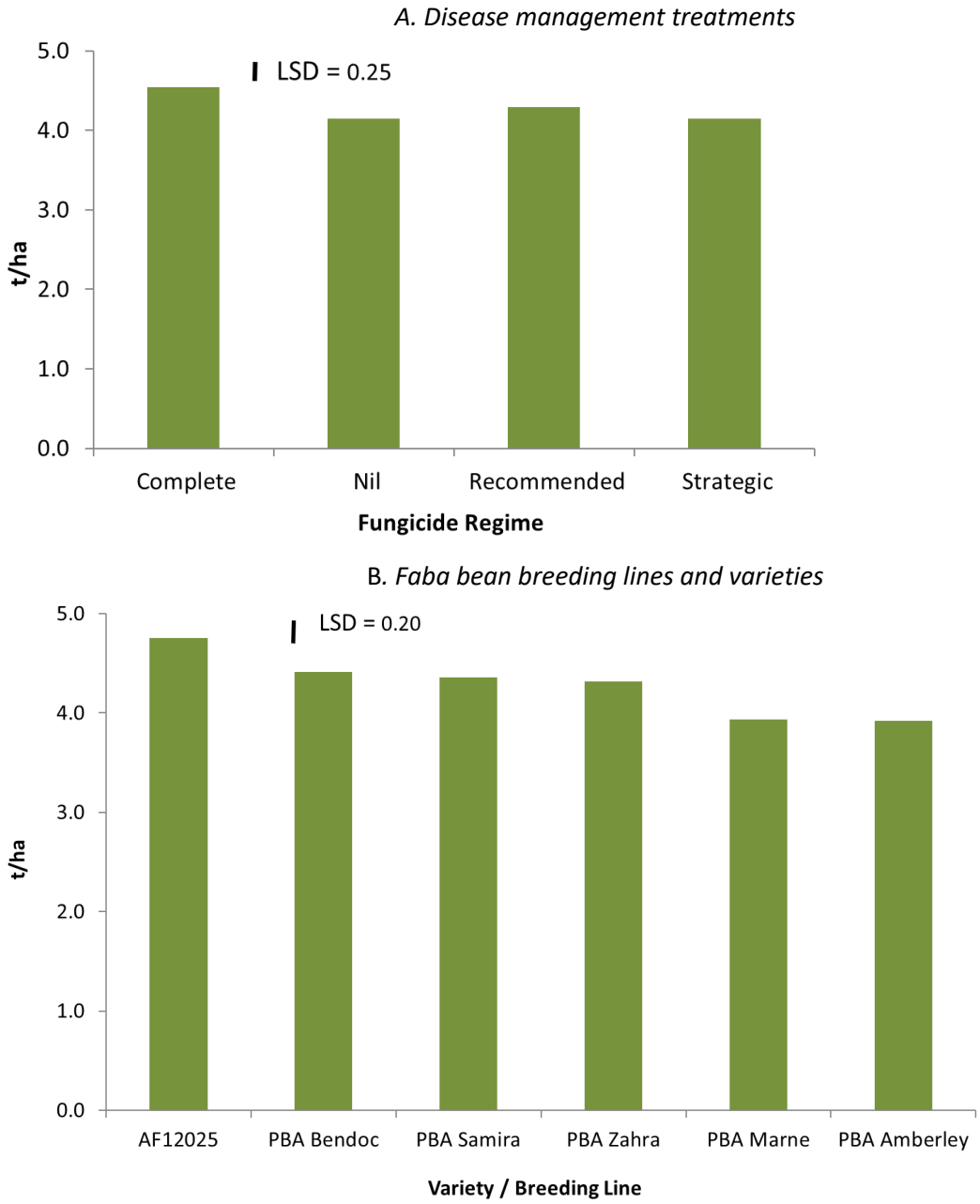

Figure 1. Grain yield (t/ha) of *A. disease management treatments* (averaged for all varieties) and B*. faba bean breeding lines and varieties* (averaged for all disease management treatments) sown in a disease management trial at Gymbowen in 2019.

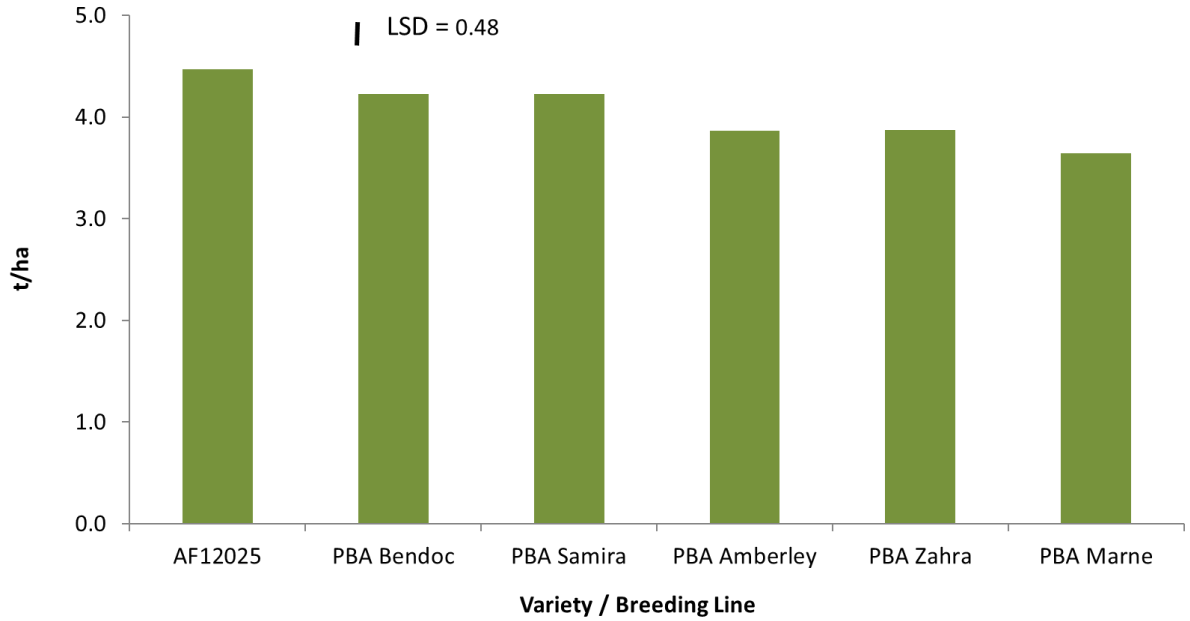

Figure 2. Grain yield (t/ha) of faba bean breeding lines and varieties (averaged for all disease management treatments) sown in a disease management trial at Horsham in 2019.

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