L2 Sowing Time x Disease Management, MRZ Yorke Peninsula (Paskeville), South Australia

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Aim

To maximise yield of new lentil varieties through the identification of optimum sowing dates and disease management strategies.

Treatments

Varieties: Boomer, Nipper, Northfield, Nugget, PBA Blitz, PBA Bounty, PBA Flash and PBA Jumbo

Sowing dates: 17 May (Early), 14 June (Mid)

Treatments: Nil – no fungicide applied
EarlyAsco – 2L/ha Chlorothalonil early August, flowering, and early podding
NormalAsco – 2L/ha Chlorothalonil during flowering and early podding
Complete - 2L/ha Chlorothalonil at early August, and fortnightly following canopy closure
NOTE: Botrytis Grey Mould completely controlled in all treatments through 500ml/ha Carbendazim at canopy closure, flowering and podding

Fertiliser: MAP + Zn @ 90kg/ha

Results and Interpretation

- Foliar disease – Low levels of early season ascochyta blight foliar infection did not develop further, and disease was minimal in 2011.
- Grain Yield – Yields were high in 2011 due to favourable growing conditions and minimal disease, averaging 4.2t/ha across all varieties and treatments.
  Early sown (17th May) lentils yielded higher than later (14th June) sown lentils for all varieties except PBA Blitz and PBA Flash which had similar yields at both dates, the earliest maturing varieties in this trial (Figure L2.1). Yield loss from delayed sowing in other varieties ranged from 6% in Boomer to 13% in Northfield.
  PBA Jumbo continued to perform well in 2011, with equal highest yields at both sowing dates. The very early maturing PBA Blitz was not able to capitalise on the favourable season conditions and the high yield potential at this site to the same extent as other varieties, and was equal lowest yielding at both sowing dates. Due to its early maturity PBA Blitz can be prone to shattering and pod loss in some seasons, which may be responsible for some of this lower yield in 2011.
  Although there was little disease at this site, there was a small grain yield response from foliar applications of chlorothalonil (Table L2.1). Complete ascochyta blight control (see Table L2.1) and the NormalAsco (treatment with 2L/ha chlorothalonil at early flower and early podding) yielded higher than the untreated control. These treatment strategies both included podding sprays, which may have prevented some pod abortion.

Table L2.1. Effect of fungicide treatment on grain yield (t/ha) of lentils, Arthurton 2011

Treatment	Nil	EarlyAsco	NormalAsco	Complete
Yield (t/ha)	4.08 [a]	4.12 [ab]	4.26 [c]	4.19 [bc]

lsd (P<0.05) = 0.104

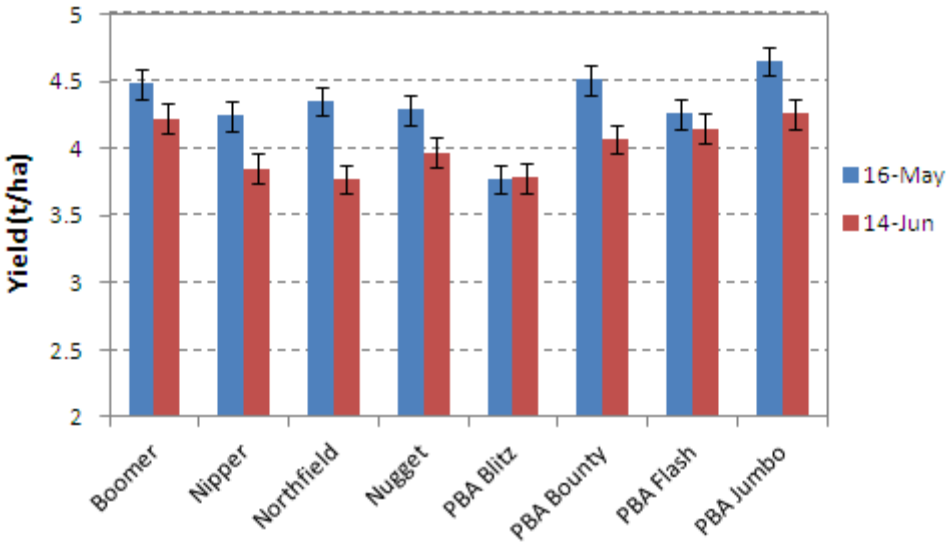

Figure L2.1. Effect of sowing date on grain yield (t/ha) of lentil varieties, Arthurton 2011.

Key Findings and Comments

- Lentil yields were high in 2011, averaging 4.2 t/ha.
- Favourable growing conditions and minimal disease resulted in equal or higher yields from early sown treatments.
- Despite low ascochyta blight foliar infection in lentils a 4% yield response was produced by treatments including application of chlorothalonil at early podding. This is most likely due to prevention of disease-related pod abortion.
- The recent lentil release PBA Jumbo was the equal highest yielding variety at both sowing dates. The early maturing PBA Blitz was not favoured by the seasonal conditions, particularly sown early, and yielded equal lowest.