

F9. Sowing Time x Variety x Seeding Rate, LRZ (Yenda), New South Wales

Aim

To maximise performance of a range of new field pea varieties across a range of sowing dates. The information from this trial will be used to improve current grower sowing time recommendations and variety selections.

Treatments

Varieties: Kaspas, Yarrum, Sturt, OZP0703, PBA Twilight, PBA Gunyah, OZP0805, OZP0901
Sowing dates: 20 April (Early); 15 May (Mid); 21 June (Late)
Plant populations: Targeted 30 & 50 plants/m²
Row Spacing/Stubble: 30cm, direct drilled into wheat stubble
Fertiliser: Legume Starter @ 115kg/ha at sowing

Results and Interpretation

- Grain yields - Grain yield was significantly highest at the second (15 May) and third (21 June) sowing dates for all varieties ($P < 0.001$). The lower yields at the earliest sowing were not surprising given the excellent season. These plots grew luxuriously tall and bulky during the very mild and wet autumn and looked spectacular during July and August. However, given the continuing good season, the early sowings grew too vigorous and lodged badly during pod fill. Consequently, smothering and lack of light resulted in excessive smothering, disease and pod abortion and restricted seed fill, all combining to significantly reduce yield. This is the “classic” self-destruct syndrome characteristic of early sown field pea during average to excellent growing conditions. Variety yields were also highly significantly different, as was the interaction with sowing time ($P < 0.001$). Yarrum was the outstanding variety at all sowings, only OZP0805 coming close to its performance. Yarrum has regularly preformed well in southern NSW and this has been attributed to its superior seed set, PM and PSbMV resistance. Plant populations had no affect on yield.
- Seed Size - Yarrum and OZP0805 had the largest seed size ($P < 0.001$) while the Sturt and the Kaspas types (Kaspas, OZP0601 & OZP0602) the smallest. Seeding rate and sowing time did not significantly affect seed size, with the notable exception of OZP0805 where seed size increased as sowing was delayed ($P < 0.001$ for Var X Sowing Date).

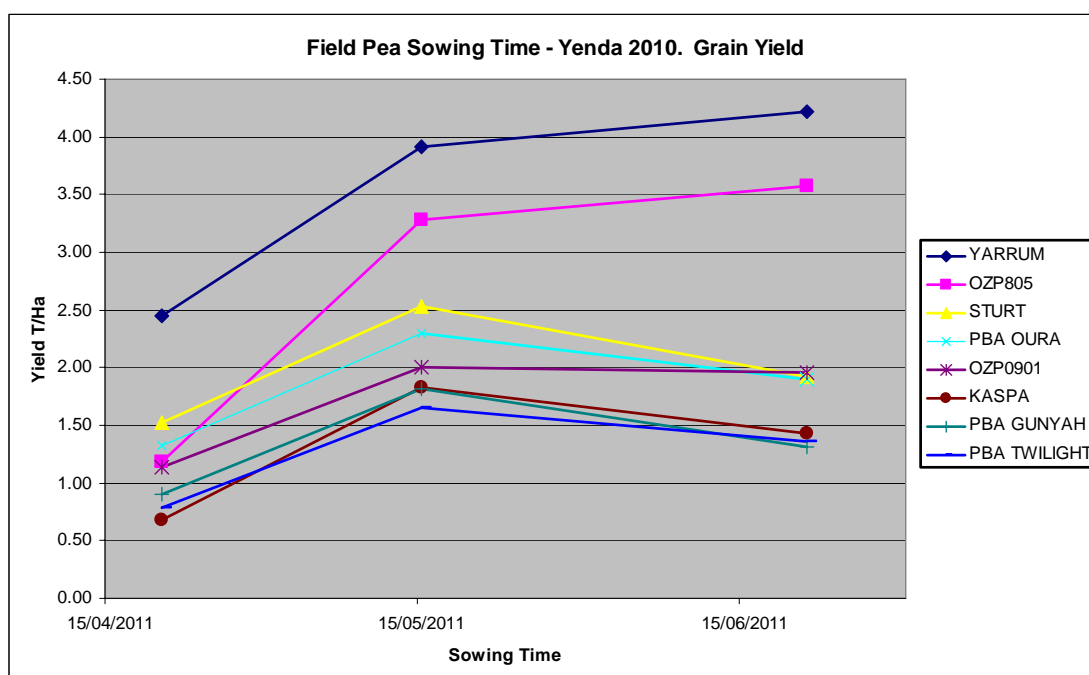


Figure F9.1. The main effect of sowing date on grain yield (t/ha) of field peas at Yenda in 2010.

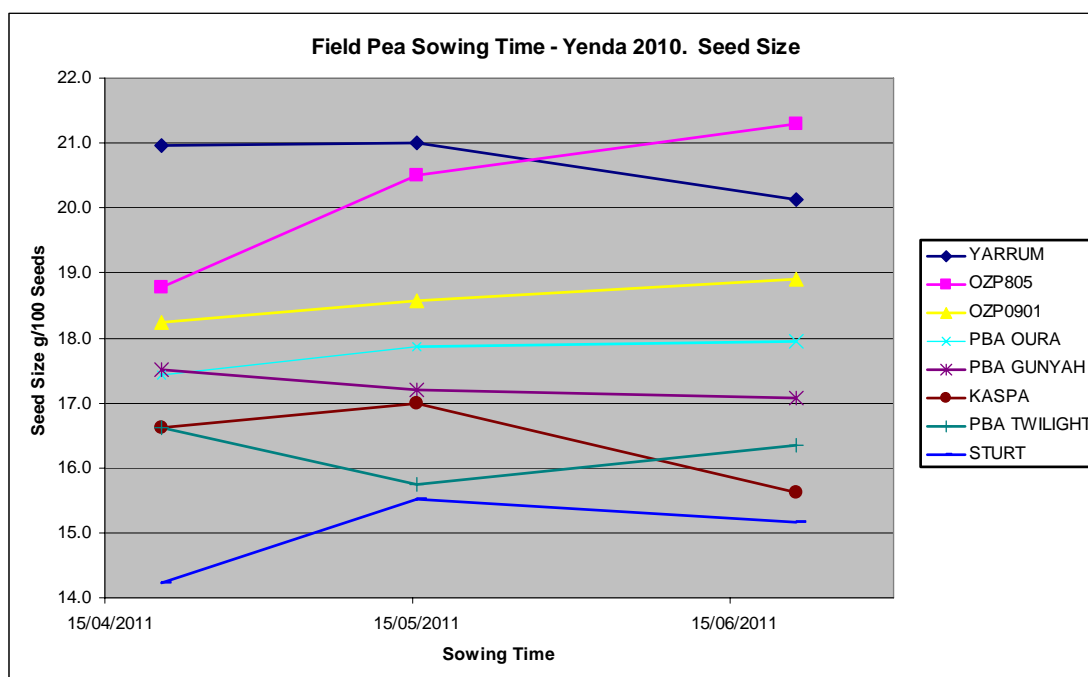


Figure F9.2. The main effect of sowing date on grain weight (g/100seed) of field peas at Yenda in 2010.

Key Findings and Comments

- Yield of all varieties peaked when sown between mid May and late June during the highly favourable season of 2010.
- Performance at the later sowings was unusually good, again due to the favourable finish.
- Early sowings suffered from excessive dry matter production, disease and the classic “self-destruct syndrome” of peas that are too well grown.
- Yarrum was the best variety, followed by OZP0805.
- Seed size varied mainly with variety and was generally not affected by sowing date or seeding rate.