F11. 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 plant densities. The information from this trial will be used to improve current grower sowing time recommendations and variety selections.

Treatments

Varieties: Kaspa, Sturt, PBA Twilight, PBA Gunyah, OZP0703, OZP0901,

Plant populations: Targeted 16, 32, 48, 64 & 80 plants/m^2
Sowing date: 16 May
Row Spacing/Stubble: 30cm, direct drilled into wheat stubble
Fertiliser: Legume Starter @ 115kg/ha at sowing

Results and Interpretation

Grain yields - Seeding rate and established plant population had no significant affect on grain yield during 2010. Plots with as little at 12-14 plants per square metre had similar yields to plots varying in densities across the entire range up to 80 plants per square metre. This result is quite extraordinary considering how much plasticity was required in the lowest density plots to compensate. This is a reflection of how good the season was and of the extent of branching, podding and or seed set in these low density plots.

Varieties varied significantly (P<0.001). Sturt was the highest yielder, followed by OZP0901 and OZP0703.

Seed Size - Seed size varied significantly between varieties and increased significantly as density increased. OZP0901 had a significantly larger seed size and Sturt a significantly smaller seed size (P<0.001).

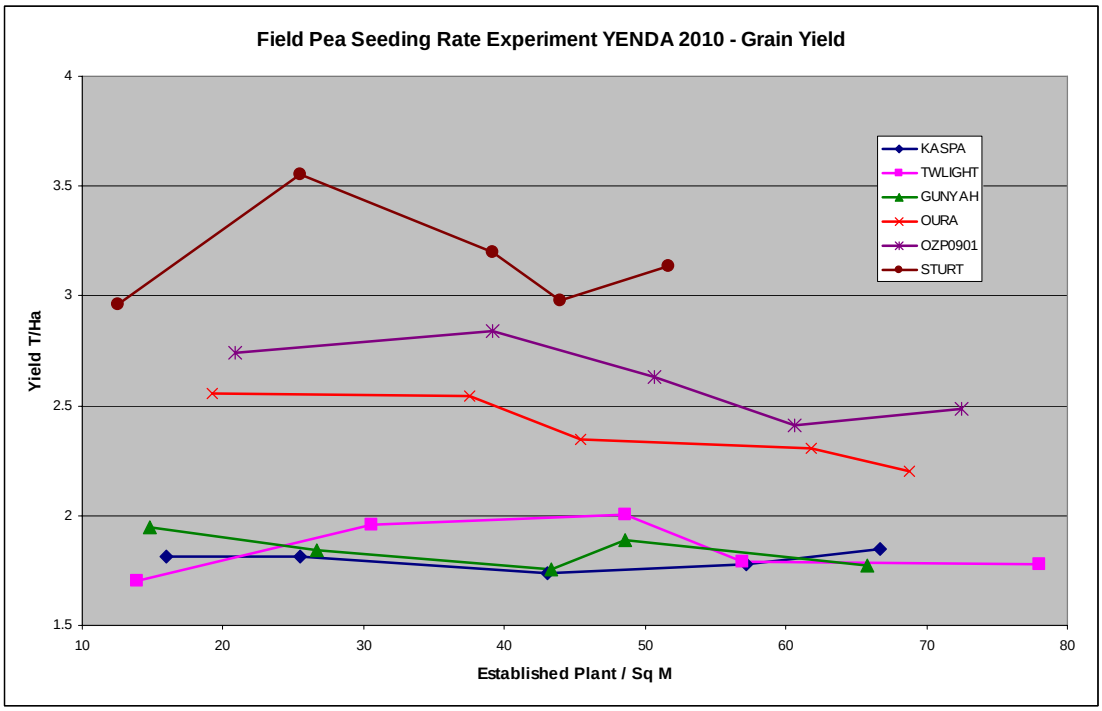

Figure F11.1. The interaction effect of genotype and seeding rate on grain yield (t/ha) of field peas at Yenda in 2010.

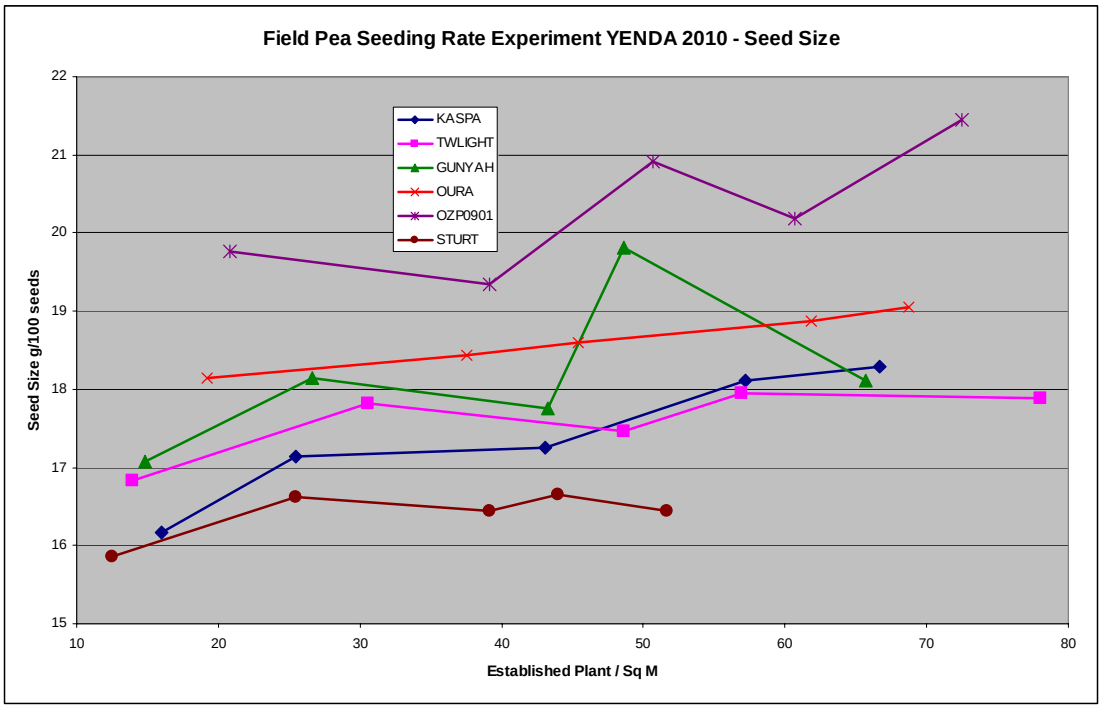

Figure F11.2. The interaction effect of genotype and seeding rate on grain weight (g/100seed) of field peas at Yenda in 2010.

Key Findings and Comments

- Yield of all varieties were largely unaffected across the range of plant density (12 to 80 plants/sqm) during the highly favourable season of 2010.
- As densities increased, seed size increased.
- Varieties differed significantly in grain yield and seed size. Sturt was the highest yielder, followed by OZP0901 and OZP0703.