

1.5.2 Pulse Variety Trial - Inverleigh

Location or Trial: SFS Inverleigh Main Research site

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Summary of findings: Earlier sown beans and lupins proved that pulses can yield in a very dry year. Although yields were comparatively low, an economic analysis has revealed that this enterprise selection was still profitable. Later sowing of peas, chickpeas and lentils showed little benefit due to the lack of follow up rainfall.

Background: Pulse performance in Australian Higher Rainfall zones has been variable, in even the good years! Identifying the most suitable cultivars and their best time of seeding can aid in their agronomy, as well as contribute to some organic nitrogen fixation. Too often it appears that there are more profitable options than pulses, without a focus on sustainable weed, pest and disease management.

Objectives: To evaluate the most profitable pulse varieties and their associated resistance to diseases faced in the higher rainfall zone of southern Australia.

Growing Season Rainfall (Apr – Nov): 235 mm

Soil Nutrition: Silty Loam, pH 5.8, Nitrate Nitrogen 30 mg/kg

Trial Design:

- Trials were sown between 22nd May and 7th August in a randomised block design.
 - Trials were seeded using the SFS cone seeder.
- Four replicates were used and plot sizes were 1.45m by 12m.
 - Row spacings were 175mm.
- Fertiliser application was 100kg/ha Grain Legume Plus

Sowing Dates and Rates:

Pulse	Sowing Date	Target Sowing Rate
Lupins	22 nd May	45 plants/m ²
Beans	22 nd May	25 plants/m ²
Chickpeas	21 st July	40 plants/m ²
Peas - 1	21 st July	45 plants/m ²
Peas - 2	7 th August	45 plants/m ²

Varieties:

Lupins: Jindalee, Mandelup, Luxor and Rosetta

Beans: Nurah and Farah

Chickpeas: Genesis 090 and Naffice

Peas – 1st sowing: Kaspas, Bundi, SW Celine and SW Circus

Peas – 2nd sowing: Nitouche, Samson, Courier and Tiara lentils

Harvest Date: Beans & Lupins: 21st December, Peas & Lentils: 8th February 2007

Seed Treatment: Inoculant. P-Pickle T and Sumisclex 500.

Inputs:

Pre-emergent IBS: Sprayseed 2L/ha + Trifluralin 1L/ha

25/7/06 & 20/10/06: Fastac 200mls/ha,

10/10/06: Select 250mls/ha.

Trial Results: Bean and lupins varieties performed well especially considering the dry conditions. Beans (Figure 1) averaged 1.9 t/ha and Lupins (Figure 2), 1.4 t/ha. Pea yields suffered under dry conditions with the first time of sowing crops averaging 0.4 t/ha (Figure 3), second time of sowing (No Figure) averaged 0.075t/ha. Bundi peas were the best performers of the first sowing group with 0.7 t/ha average and SW Circus were the lowest with 0.2t/ha. Disease was not prevalent during seasonal observations.

Figure 1: Beans Yield Results – Inverleigh 2006

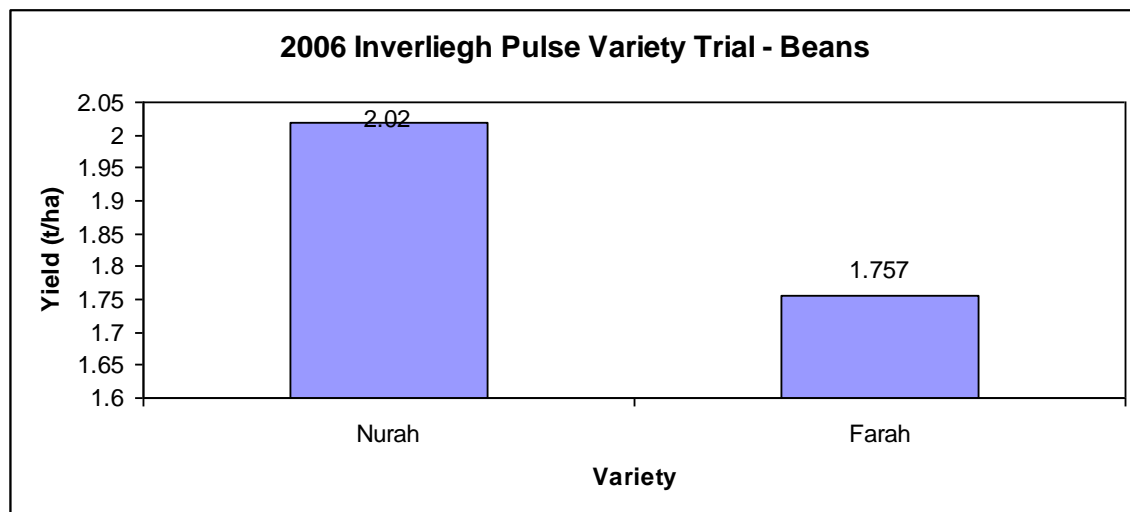


Figure 2: Lupin Yield Results – Inverleigh 2006

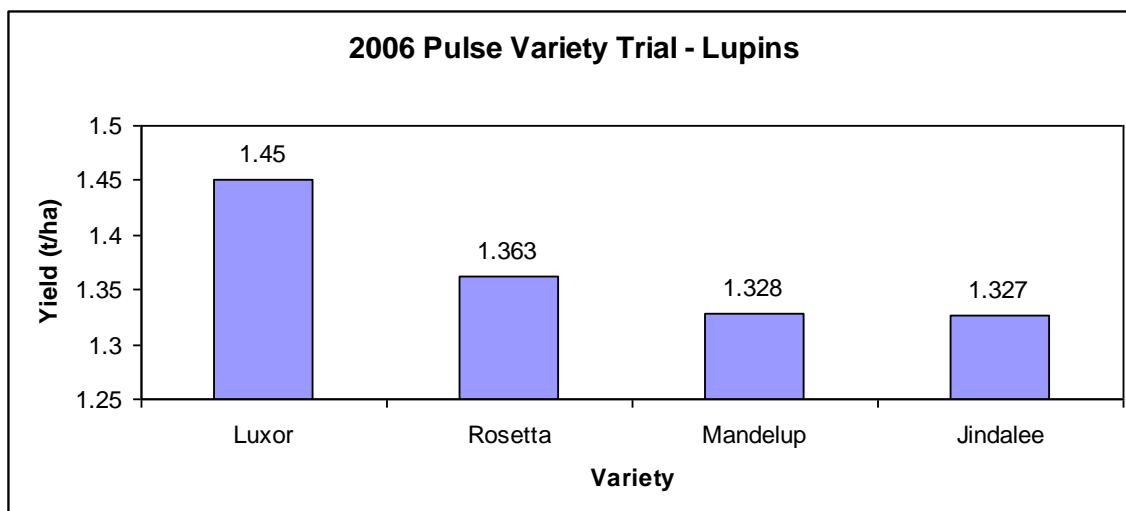
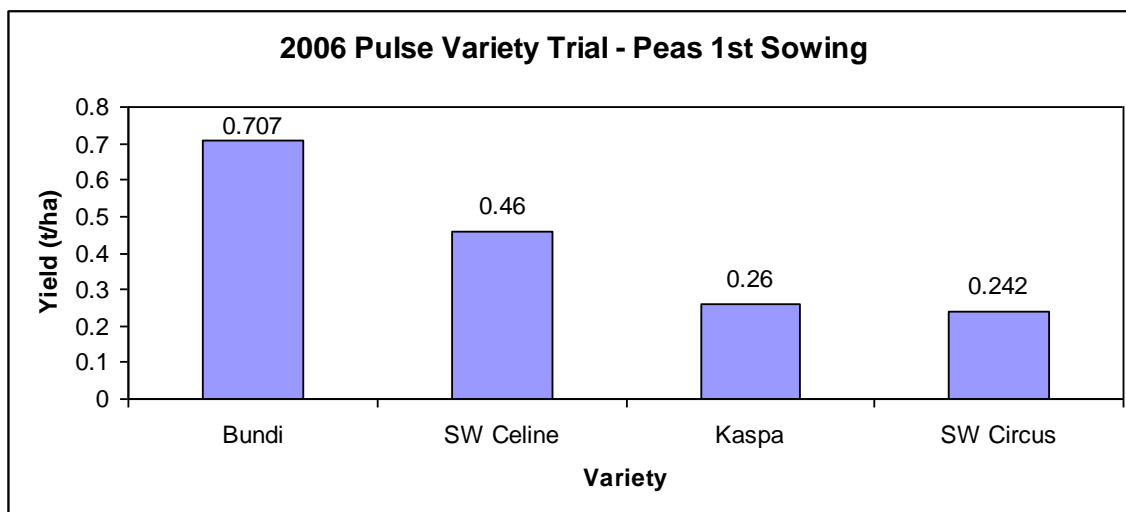


Figure 3: Peas – 1st Time of Sowing Yield Results – Inverleigh 2006



Trial Observations: As the early sowing trial seeding dates were severely compromised with late arrival of seed, it was still surprising to see that the beans and lupins did yield moderately well. Some new cultivars do show promise, including Nura Beans, Luxor Albus lupins and the Bundi white pea.

Unfortunately, the hot dry 40 degree days in October with northerly winds aborted many flowers within this trial, potentially reducing yields by at least 50%. The late harvest of the peas also meant that some pods had shattered, giving reduced yields to these treatments. Pea weevil was also highly prevalent at harvest of these plots.

Photograph: Lupin, Bean & Pea plots, days before the hot northerly winds hit.

