

Tottenham field pea variety and sowing rate trial

Nathan Border NSW Dept. of
Primary Industries, Condobolin

Key Messages

- Although there was a very late break to the season, cooler conditions through September and October maintained good yields.
- Yield varied from 1.46 - 2.56t/ha. Yarrum, Kasper and Excell were the highest yielding varieties.
- There was no significant difference between seeding rates, except for 16 plants/m² which yielded significantly less than the other seeding rates. There were not enough plants to compensate for yield in the short season.

Background

The aim of this trial was to provide localised data on optimum plant density for 6 different varieties of field peas.

Methods

Growing season rainfall for Tottenham was 154mm (June - November).

The trial was sown into a long fallow paddock (from lucerne) into good soil moisture on the 17th June 2005 and harvested on the 18th November 2005.

The trial consisted of 6 varieties and was sown at 5 sowing rates on a red loam soil.

The varieties included Excell, Kasper, Moonlight, Morgan, Parafield and Yarrum. Each variety was sown at seeding rates targeting plant populations of 16, 32, 48, 64 and 80 plants/m².

80kg/ha of Triphos fertiliser (ON; 21P; 1S; 15Ca) was sown with the trial and seed was inoculated.

The treatments were replicated 3 times. Plot size was 2m X 15m.

Results

Table 1. Yields of field pea varieties and plant populations

Variety	Plants/m ²	Yield (t/ha)
Excell	16	1.46
Excell	32	1.99
Excell	48	2.25
Excell	64	2.52
Excell	80	2.41
Kaspa	16	1.94
Kaspa	32	2.26
Kaspa	48	2.33
Kaspa	64	2.56
Kaspa	80	2.12
Moonlight	16	1.54
Moonlight	32	1.76
Moonlight	48	1.84
Moonlight	64	2.15
Moonlight	80	2.15
Morgan	16	2.03
Morgan	32	2.00
Morgan	48	1.94
Morgan	64	1.70
Morgan	80	1.65
Parafield	16	2.14
Parafield	32	1.87
Parafield	48	2.10
Parafield	64	1.81
Parafield	80	1.93
Yarrum	16	2.26
Yarrum	32	2.47
Yarrum	48	2.25
Yarrum	64	2.19
Yarrum	80	2.37
Isd (5%)		0.14

Table 2. Yields of field pea varieties.

Variety	Yield (t/ha)
Yarrum	2.31
Kaspa	2.24
Excell	2.12
Parafield	1.97
Moonlight	1.89
Morgan	1.86
Isd (5%)	0.14

Table 3. Yields of field pea plant populations.

Plants/m ²	Yield (t/ha)
16	1.9
32	2.06
48	2.12
64	2.15
80	2.1
Isd (5%)	0.13

Values that vary less than the Isd (5%) are not considered to be different.

Discussion

Although this is a relatively low growing seasonal rainfall, yields were very good. Rainfall fell at crucial times and the season remained cool through September and October giving a relatively long flowering window for the field peas.

Yarrum, Kaspa and Excell were the highest yielding varieties. Yield varied from 1.46 - 2.56t/ha (Table 1). There were significant yield differences between varieties (Table 2).

There was no significant difference between seeding rates, except for 16 plants/m² which was significantly less than the other seeding rates (Table 3). There were not enough plants to compensate for yield in the short season.

Acknowledgements

These trials were conducted with NSW DPI and CWFS. Sharon Taylor, Jim Presley and Allan L'Estrange (CWFS) provided invaluable technical assistance. The data was analysed by Helen Nicol (NSW DPI). Special thanks to David and Pam Fishpool for hosting the trial.