7.2 PULSE AGRONOMY TRIAL - GNARWARRE (LANDMARK)

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Aim:
To investigate the impact of sowing date on the performance of a range of pulse crops.

Background:
Producers in southern Victoria have been trying to identify a suitable pulse crop to include in their crop rotation plans. Results to date have been somewhat inconsistent, with wet and cold winter conditions causing disease problems and poor yields in many of the pulse crops grown

Sowing times:
(Two sowing times for each variety)

- Early Sowing; 16th May 2003 - Lupins and Faba Beans
- Mid Sowing; 7th August 2003 - Field Peas, Chick Peas x 2, Lupins and Faba Beans
- Late Sowing; 24th September - Field Peas and Chick Peas x 2

Treatments:
(5 varieties x 2 sowing times for each variety)

1: Chick Pea (Howzat) - Desi type chick pea released in 2002. It has the best Ascochyta resistance of all varieties. It is expected to be grown widely with the resurgence of chickpeas. Sowing rate: 100kg/ha

2: Chick Pea (Bumper) - Kabuli type chick pea to replace Kaniva. Sowing rate: 150kg/ha We may have a new variety available to include in this trial next year to replace Bumper.

3: Faba Beans (Manafest) - A large seeded faba bean suited to medium/high rainfall areas. Moderately resistant to Chocolate spot and rust but susceptible to Ascochyta Blight. Sowing rate: 150kg/ha.

4: Field Peas (Kaspa) – A new high yielding, later flowering, vigorous, semi-leafless Dunn type variety suitable for all areas of Victoria. Pod shatter resistant, excellent lodging resistance and harvestability. Sowing rate: 100kg/ha.

5: Lupins (Jindalee) – A high yielding lupin suited to the higher rainfall areas. Good harvest height and superior resistance to phomopsis and stem blight.

Results: (average of 3 reps)

Table 66: Results Pulse Agronomy Trial

Early Sowing (16/05/03)	Yield (T/ha)	$/Tonne	Gross Margin ($/Ha)
Jindalee	0.29	225	65
Manafest	0.83	265	220
Mid Sowing (07/08/03)			
Jindalee	1.10	225	248
Manafest	1.59	265	421
Bumper	1.09	500	545
Howzat	1.58	270	427
Kaspa	2.10 (average of 2 reps)	225	473
Late Sowing (24/09/03)			
Kaspa	1.71	225	385
Bumper	1.10	500	550
Howzat	1.72	270	464

Harvested 21/01/04 Bumper chick peas harvested 19/02/04

Discussion:

Due to the late break in 2003 the early sown pulses had very patchy establishment and poor weed control. The lupins were again attacked by hares resulting in very low yields. Previous trials and local knowledge would still indicate that early sowing (May) for Lupins and Faba Beans is best; provided soil moisture is adequate.

The idea of sowing later is to avoid the slow growth period over Winter which causes disease and weed problems. It allows better weed control (resistance strategy) as well as splitting the work load at sowing and harvest time.

The mid sowing treatments established well and benefited from good October rains. A dry November was the only factor that prevented them from yielding to their potential. (possibly another 20-30% yield)

The late sown treatments established well but suffered from a dry November. Results were surprisingly good (similar to mid sowing) which highlights the ability of the pulses (particularly chick peas) to extract stored moisture and to tolerate hot windy days late in the season.

Summary:

This trial has run for the past 3 years at the SFS Gnarwarre site. Chick peas have shown consistently good returns. We now have the local knowledge to help grow pulses in this area.

Sowing time, weed control, paddock selection; and extensive knowledge on how to control disease are some of the issues that we have had to overcome in the last few years. We are now looking for more growers to adopt the findings of these trials and grow chick peas in large scale demonstration areas.

7.3 PEA VARIETY DEMONSTRATION - GNARWARRE

Location: "South Roxby" Gnarwarre

Researchers: Wes Arnott (SFS Ltd)
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Background:
Farmers in the region have been searching for a reliable pulse crop for some years. Disease pressures, soil waterlogging and other agronomic problems has meant that pulse yields have often been disappointing. With the implementation of raised beds, new pulse crop options have become available. With beds, the issue of the crop lodging into the furrows can however cause harvesting difficulties.

Aim:
To assess a number of commercial pulse varieties for yield and standability.

Design:
1 x 1.7 metre wide bed of each variety were sown with a plot length of 31 metres. The bed was harvested using a plot harvester.

Planting Date: 8th July 2003
Fertiliser: 100 kg/ha MAP at sowing
Planting Rate: approximately 200 kg/ha
Pea weevil control:
2 applications of insecticide at commercial rates.

Results and Discussion:

Variety	Yield kg/ha	Harvest Standability[3]
Midichi	1,922	2
Murta	1,605	2
Courier	1,913	2
Crown	2,211	2
Excell	2,259	5
Primo	1,221	3
Kaspa	2,461	5
Average	**1,942**	

There were 2 varieties of peas that both yielded well and had good standability at harvest, namely Excell and Kaspa. If peas are to be grown on raised beds, then both these varieties could be considered because of their standability trait. It is important however to make sure that other agronomic issues such as disease resistance and grain quality are considered along with marketing options, before a final decision on varietal choice is made.

[3] A rating of 1 = crop flat on the ground, 5 = erect stature no lodging into furrows at harvest