RAISED BED LEGUME EVALUATION

Researchers: Bruce Wightman DNRE / SFS
Peter Kealy SFS

Site: Gnarrwarre

These results relate to the trial printed on page 51 of the *1998 Field Day Book*.

BACKGROUND

Poor soil structure and waterlogging are the two largest constraints to producing high yielding legume crops in south western Victoria. However, there are other inherent problems, particularly with pulse crops which include flower abortion in Spring, various fungal diseases and harvesting difficulties.

The initial success of the drainage / controlled traffic work using raised beds has sparked a new interest in trying to develop high yielding / high returning legume crops, either as a break crop in a rotation of as a fodder legume.

If raised beds can eliminate waterlogging and at the same time provide good soil structure for root development then some environmental conditions detrimental to flowering may be reduced.

In recent years great steps forward have been made on breeding and selecting new legume cultivars which are resistant to various fungal diseases. Also, new plant style such as semi-leafless peas have been produced. Their physical structures may 'fit' raised beds and ease harvesting difficulties.

Lucerne is one very successful fodder legume grown in south western Victoria but it is totally restricted to well drained soils. If raised beds offer a favourable environment to lucerne then large areas of land could be opened up for this legume.

AIM

To investigate the adaptability of a range of grain and forage legumes grown in a raised bed system. controlled traffic regime.

Crop	Variety	Sowing Rate	Sowing Date	Emergence (1st Sign)	Flowering Commenced
Faba Beans	Aquadulce	230kg/ha	5th May	End May (Slow)	4th Week August
Faba Beans	Ascot	160kg/ha	5th May	Last Week in May	Mid August
Faba Beans	Icarus	190kg/ha	13th May	End May	End August
Lupins	Gungurru	120kg/ha	5th May	3rd Week in May (Fast)	End August
Lupins	Ludet	120kg/ha	15th May	Mid June (Slow)	1st Week September. (Individual plant) Flowering Variable 29th September Start
Field Peas	Jupiter	175kg/ha	19th may	1st Week June	1st Week September
Field Peas	Magnet	175kg/ha	19th May	1st Week June	2nd Week September
Field Peas	PSG10	175kg/ha	21st May	1st Week June	2nd Week September
Field Peas	PSH10	175kg/ha	21st May	1st Week June	1st Week September
Field Peas	PSH4	175kg/ha	21st May	1st Week June	2nd Week September
Chick Peas (Desi)	Lasseter	120kg/ha	21st May	Mid June	4th Week September
Chick Peas (Kabuli)	Kaniva	150kg/ha	21st May	3rd Week June (Slow)	4th Week September
Lentils	Digger	120kg/ha	22nd May	Mid June	3rd Week September
Narbon Beans	ATC60105	100kg/ha	22nd May	Mid June	2nd Week September

Flowering Finished	Grain Yield (Hand Harvest)	Price $/t	Gross Returns	Comments About Growth
3rd Weed October	3.54t/ha	$340	$1204	Aphids infested all Faba Beans in Spring. No Lodging
2nd Week October	4.59t/ha	$225	$1033	No Lodging
3rd Week October	4.08t/ha	$205	$836	No Lodging
2nd Week October, Reflowered 3rd Week October	2.76t/ha	$140	$386	Didn't Handle Dry Conditions Well
2nd Week December	1.77t/ha	$350	$620	Flowering and Maturity too late for Geelong area
3rd Week October	4.25t/ha	$270 (split)	$1148	Most pods clear of ground
3rd Week October	5.46t/ha	$235 (feed)	$1283	Lodged badly. Pods split open when dry.
3rd Week October	4.79t/ha	$235 (feed)	$1126	Most pods clear of ground
3rd Week October	4.50t/ha	$255 (split)	$1148	Most pods clear of ground
3rd Week October	4.32t/ha	$235 (feed)	$1015	Most pods clear of ground
1st Week Nov (est.)	<1t/ha	Not Valued	-	Greater than 50% seeds badly pinched
1st Week Nov. (est)	1.7t/ha	$700	$1190	30% Seed badly pinched
1st Week No. (est)	1.5t/ha	Not valued	-	Lodged badly after flowering
3rd Week October	2.84t/ha	Not Valued	-	Lodged after flowering