

### 5.3 GRAIN LEGUME VARIETY EVALUATION - FABA BEANS

**Location:** Symmons Plains and Riccarton  
(Campbell Town)

**Researchers:** Geoff Dean, Rob Howard – TIAR  
Simon Munford – DPIWE

**Growing Season rainfall (April-Nov):**  
Symmons Plains – 442mm  
Riccarton – 467mm

#### Background:

There is an important role for a grain legume break crop in the cropping rotation. To date there has been limited success with obtaining profitable yields from grain legumes in the higher rainfall areas. Newer varieties and improved management practices offer new potential. With good disease control faba beans have shown excellent yields.

#### Aim:

To evaluate a range of new varieties of grain legumes under improved management conditions.

#### Treatments:

Albus lupins, faba beans, field pea, lentils and chickpeas were grown at each site. Only data from faba beans is presented here as other crops are still being harvested at the time of writing.

Grain yields of faba beans were measured as well as assessments of early vigour, disease resistance (ascochyta), time of flowering and degree of lodging. Trials were sown on flat ground, not raised beds.

#### Results:

Mean grain yields are the following table. As in previous years Faba bean yields were very high particularly at Campbell Town as this site is usually 40% lower yielding than Symmons Plains.

There were no significant differences in the performance of different faba bean lines at Symmons Plains but at Riccarton the variety Fiesta was significantly higher yielding (statistically) than the lower yielding lines including Fiord.

**Sowing date:** Symmons Plains: 14 May 2001  
Campbell Town: 4 May 2001

#### Seeding rate:

Symmons Plains: Target density of 20 (large seeded)  
- 45 (small) plants/m<sup>2</sup>

Campbell Town: Target density of 15 (large seeded)  
- 35 (small) plants/m<sup>2</sup>

**Harvest date:** Symmons Plains: 14 January 2001  
Campbell Town: 18 January 2002

#### Fertiliser used:

Symmons Plains: 250kg/ha 4:13:7:9 + Mo

Campbell Town: 150kg/ha 4:13:7:9 + Mo

#### Weed Control:

Symmons Plains: PSPE - Stomp 2l/ha, Gesatop 2.0l/ha  
Post-em, Verdict 600ml/ha

Campbell Town: Pre-em, Treflan 1.5l/ha  
PSPE, Stomp 2l/ha, Gesatop 2l/ha

**Pest Control:** Both sites: Le-mat 200ml/ha  
Dithane 2.0kg/ha x 2

**Sponsors:** GRDC, TIAR

#### Further details:

Geoff Dean, Grain Legume Officer,  
TIAR, phone: 03 6336 5233  
[Geoff.Dean@dpiwe.tas.gov.au](mailto:Geoff.Dean@dpiwe.tas.gov.au)

The yield of 483/3 - the ascochyta resistant selection from Fiesta was disappointing as was IxA56/1B the buff coloured seed selection from IxA56/1. The latter has done well in Tasmania over the last 2 years and in an unreplicated plot at Riccarton in 2001-02 was 12% higher yielding than Fiesta (data not shown). In observation plots at Symmons Plains and Campbell Town the broad bean Aquadulce has continued to match Fiesta. Manifest and Ascot, as in previous years, yielded 5-10% lower than Fiesta (data not shown).

Both sites were sprayed twice for ascochyta.

#### Faba bean yields from replicated plots at Symmons Plains and Riccarton

Genotype	Symmons Plains		Riccarton		Overall Mean
	Yield (t/ha)	% Fiesta	Yield (t/ha)	% Fiesta	% Fiesta
Fiesta	6.70	100.0	6.16	100.0	100.0
IxA 56/1	6.68	99.7			99.7
1057/1	6.57	98.1			98.1
1060	6.62	98.8	5.69	92.2	95.5
Fiord	6.49	96.9	5.57	90.4	93.6
483/3	6.21	92.7	5.55	90.1	91.4
I*A7/5			5.50	89.2	89.2
I*A56/1B			5.49	89.1	89.1
Isd (0.05)	0.92		0.37		



**Conclusions:**

It is evident that the newer faba bean lines will play an important role as a break crop. Fiesta has yielded very well in trials (average of 6.3t/ha over last 4 years of trials at Symmons Plains). The broad bean cultivar Aquadulce has also continued to yield well - the greatest problem with this line is the large seed size and associated difficulties in sowing.

With such high yields there may be some scope to develop faba beans as a substitute for peas and lupins in stock rations ie. ignore the seed size and colour characteristics required for human consumption markets and concentrate on yield and disease resistance.



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