

Faba bean variety evaluation

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SUMMARY

The faba bean evaluation in the Southern Mallee in 1999 included commercial varieties, experimental lines with dual resistance to Ascochyta and chocolate spot, and early flowering lines. Yields were better than expected considering the dry spring conditions, with up to 1.59 t/ha achieved by some of the new lines. Fiord and Fiesta VF produced similar yields at 1.5 t/ha. Ascot's yield was a disappointing 24% less than Fiord. Varieties suited to medium to high rainfall such as Aquadulce and Icarus did not yield well, although Manafest yielded only 8% less than Fiord in 1999.

Evaluation of the field performance of faba bean varieties is part of the National Faba Bean Improvement Program (NFBIP) coordinated from the Waite Institute, Adelaide. A major objective of the NFBIP is to develop and release a faba bean that is resistant to Ascochyta and chocolate spot, flowers early and produces high yields in the drier areas of southern Australia such as the Mallee. Improved disease resistance is expected to reduce the costs of fungicide application associated with faba bean production, while it adds to both productivity and quality of the grain produced.

METHOD

VIDA Horsham manages two faba bean trial sites in the Mallee, Birchip (BCG) and Warne, as well as at sites in the Wimmera, South West, North East and on irrigation. The Birchip trial was sown on June 6.

RESULTS

Table 1.24 Yields (t/ha and % Fiord) of selected faba beans lines grown at Birchip, including long term yield results for Birchip 1992-1999 and 1998-1999

Variety	Mean yield 1999		Long term mean yield (% of Fiord)	
	(t/ha)	(% Fiord)	1992-1999	1996-99
Aquadulce	1.04	71	66	66
Ascot	0.92	62	76	
Barkool	1.30	89	98	98
Deep Purple	1.01	69	69	
FiestaVF	1.45	99	90	
Fiord	1.47	100	100	100
Icarus	1.10	75	80	
Manafest	1.35	92	75	
I*A12/I	1.59	109	109	
I*A19	1.45	99	99	
I*A44/I	1.35	92	92	
I*A56/I	1.53	104	104	
ACC611	1.56	107	96	96
ACC1048/I	1.49	102	110	110
LSD (P < 0.05)	0.208			
CV (%)	11.1			

I*A= Icarus x Ascot crosses designed to combine resistance to both Ascochyta and chocolate spot.

The faba bean trial at Birchip ([Table 1.24](#)) yielded well given the late sowing (late break) compared to previous years and an early finish (dry spring). High temperatures during October caused many plants to abort their flowers, effectively reducing yield potential. Disease pressure for Ascochyta and chocolate spot in the Mallee was very low compared to 1998. The highest yielding entries were the dual disease resistant lines, I*A12/1 and I*A56/1, while the early maturing accession, ACC611 also yielded well at 1.56t/ha. Fiord and FiestaVF were the highest yielding commercial varieties in 1999 at Birchip.

Long term yield data from the Mallee ([Table 1.24](#)) indicate that Fiord and FiestaVF are the highest yielding faba bean varieties for the Mallee, followed by Barkool.

INTERPRETATION

The 1.5 t/ha yields produced by Fiord and FiestaVF at 1.45 t/ha are encouraging, given the adverse conditions. The Icarus*Ascot (I*A) entries are very promising as they still produced yields greater or similar to Fiord despite the adverse seasonal conditions. ACC611, an early maturing variety with a buff seed coat colour, was the second highest yielding entry. I*A12/1, the highest yielding entry, produced 9% more than Fiord. It is a small bean with an attractive buff seed coat colour, similar to Fiord in grain appearance. Ascot was disappointing, yielding 24% less than Fiord. The data further indicate that Aquadulce, Icarus and Manafest are least suited to this low rainfall environment.

COMMERCIAL PRACTICE

Fiord, FiestaVF, and Barkool as short season varieties remain recommended for growing in the Mallee. ACC611, as described above, is a potential new release for the low rainfall environment.