

# Faba Bean Variety Evaluation, Mallee, 2001

Mary Raynes, Michael Materne, Trevor Bretag. NRE - Horsham

To compare the performance of current and potential new faba bean varieties in Victoria.

## Summary:

Fiesta VF is a reliable faba bean variety suitable for most areas of Victoria. Fiord, Barkool and Ascot are also good varieties for short season environments of Victoria. Ascot produces high quality grain but yields less than Fiesta VF. The later flowering variety Manafest, which is moderately resistant to chocolate spot but is susceptible to ascochyta blight, yields best in the high rainfall areas of southwest Victoria.

## Background:

A major objective of the National Faba Bean Improvement Program (NFBIP) is to develop and release faba bean varieties that are resistant to both ascochyta blight and chocolate spot, flower early and produce high yields in the drier areas of southern Australia such as the Mallee. Improved disease resistance is expected to reduce the cost of fungicide applications and increase both productivity and grain quality.

## Method:

Faba bean trials were sown on cereal stubble at the earliest opportunity after the break of the season. Due to the late break and dry weather, the Birchip trial was sown on May 29 2001 and the Rupanyup site on July 4 2001. Sowing rate was varied according to seed size to obtain a target plant density of 20 plants/m<sup>2</sup>. Seed was inoculated with faba bean rhizobia and sown 5-6 cm deep. The trial was sown with 90 kg/ha of Grain Legume Super + zinc®. Plots were 5 m long and 6 rows wide at 0.15m row spacings.

## Results:

**Table 1. Wimmera Faba Bean yield results (%Fiesta VF), 2001 and longterm.**

	2001 individual sites				Mean 2001	Longterm 1995-2001
	Kaniva	Horsham	Rupanyup	Laen		
<b>Fiesta VF (t/ha)</b>	<b>3.99</b>	<b>2.28</b>	<b>2.82</b>	<b>1.86</b>	<b>2.87</b>	<b>3.59</b>
Aquadulce	83	75	73	71	75	90
Ascot	85	102	80	69	78	86
Barkool	91	101	-	-	86	83
Fiesta VF	100	100	100	100	100	100
Fiord	108	121	107	101	104	97
Icarus	-	67	56	-	58	68
Manafest	90	79	84	77	82	88
ACC 483/3	91	-	93	95	94	94
IC*AS 56/1/B	112	125	99	98	99	100
IC*AS 7/3	120	111	104	90	99	99
IC*AS 7/6/B	118	122	103	96	102	102
CV (%)	4.7	12	5.8	8		
LSD (5%)	8	8	8	6.4		

**Table 2. 2001 and longterm Mallee, South West and NC irrigation faba bean yield results (%Fiesta VF)**

	South West		NC Irrigation		Mallee			
	Hamilton 2001	Longterm 1993-2001	Kerang 2001	Longterm 1993-2001	Birchip 2001	Warne 2001	Walpeup 2001	Longterm 1999-2001
<b>Fiesta VF</b>	<b>2.65</b>	<b>3.00</b>	<b>1.99</b>	<b>3.26</b>	<b>0.72</b>	<b>2.05</b>	<b>1.63</b>	<b>1.93</b>
Aquadulce	134	124	-	94	78	-	-	90
Ascot	91	67	91	81	81	109	77	92
Barkool	99	71	104	99	103	-	68	99
Fiesta VF	100	100	100	100	100	100	100	100
Fiord	81	75	92	90	113	111	71	104
Icarus	76	81	122	91	53	95	-	81
Manafest	115	111	44	81	79	90	-	89
ACC 483/3	100	100	76	76	106	-	-	104
IC*AS 56/1/B	130	141	146	106	108	112	117	105
IC*AS 7/3	120	122	127	107	105	-	-	105
IC*AS 7/6/B	130	154	188	127	115	114	121	106
CV (%)	6.9		21.1		25	7.5	18.6	
LSD (5%)	0.39		0.89		14.9	0.31	0.49	

#### **Interpretation:**

The earlier flowering varieties Fiord yielded well in the Wimmera and Mallee regions in 2001 (Tables 1 and 2). The yields of Icarus, Aquadulce and Manafest were poor in these regions, as they appear more suited to areas with higher rainfall. In longterm comparisons Fiesta VF has been high yielding across all regions. However, Aquadulce and Manafest have performed well in the higher rainfall south west region (Table 2).

The potential new release ACC 483/3 is a selection from Fiesta VF with equivalent yield and better resistance to ascochyta blight. ACC 483/3 will probably be available for growers in 2004.

The Icarus\*Ascot (IC\*AS) experimental lines have better resistance to both ascochyta blight and chocolate spot than the current commercial varieties. IC\*AS 7/6/B, IC\*AS 56/1/B and IC\*AS 7/3 have yielded well in Victoria in comparative field trials from 1999 - 2001.

#### **Commercial practice:**

- Early maturing varieties Fiord, Fiesta VF, and Barkool are the best varieties for short season environments such as the southern Mallee.
- FiestaVF is a reliable variety for most regions.
- Manafest has yielded well in the south west and is moderately resistant to chocolate spot.
- Manafest is susceptible to ascochyta blight especially very early in the growing season.
- Ascot is lower yielding than other varieties but has good resistance to ascochyta blight and therefore produces good quality disease free seed.
- Delayed harvest can increase seed discolouration and therefore reduce the market value of grain.

#### **Acknowledgements**

Grains Research and Development Corporation (GRDC), Alan Bedggood, Ashley Corbett, Ashley Purdue and VIDA crop evaluation unit staff.