

FIESTA[®]

A high-yielding faba bean with improved disease resistance and suitability for all rainfall areas.

Summary

- Fiesta[®] is an early flowering faba bean with buff-coloured seed, which is slightly larger than Fiord.
- Specific markets are being developed to exploit the slightly larger seed size of Fiesta[®].
- Fiesta[®] has consistently produced higher yields than Fiord in all areas of South Australia.
- Fiesta[®] is moderately resistant to chocolate spot, but less than Icarus and Manafest. It is slightly less susceptible to ascochyta than Fiord.
- Fiesta[®] is agronomically similar to Fiord for shattering resistance, plant standing ability and tolerance to commonly used herbicides.
- Fiesta[®] is responsive to increasing plant populations, but economics and practicalities will determine the kg/ha seeding rates used, hence plant populations achieved (seed size 1.5 times Fiord).
- To achieve best yields, higher seeding rates than those used with Fiord will be necessary.
- Fiesta[®] is less tolerant than Manafest to soil conditions that result in iron and manganese deficiency.



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Breeding

Fiesta[♢] was developed by Dr Jeff Paull and Dr Ron Knight of the Waite Institute faba bean breeding team with assistance from Wayne Hawthorne of the SARDI Field Crop Evaluation Program. It was an accession obtained from ICARDA, originating from Spain with resistance to chocolate spot. It was tested as 483 and selected in South Australia because of its yields and disease resistance. Fiesta[♢] is provisionally protected by PBR. SGB has the seed marketing rights. ABB Grain Ltd expects to be segregating Fiesta[♢] to market it separately from Fiord.

Grain yield

Long-term analyses on SAFCEP trial results from 1996 to 1998 show Fiesta[♢] has out-yielded Fiord in all districts of South Australia (Table 1).

Table 1: Yields of Fiesta[♢], and other varieties as a percent of Fiord according to agricultural district in South Australia, 1996–98 (SAFCEP data, weighted average).

Variety	Seeds (per m ²)	Lower South-East	Upper South-East	
Fiesta [♢]	32	113	101	
Manafest	24	110	96	
	32	122	104	
Aquadulce	16	112	90	
Ascot	32	96	91	
Barkool	32	96	99	
Fiord	32	100	100	
Icarus	24	96	85	
		Mid North	Yorke Peninsula	Eyre Peninsula
Fiesta [♢]	24	111	111	100
Manafest	18	92	101	93
	24	100	105	96
Aquadulce	12	80	84	78
Ascot	24	95	93	85
Barkool	24	98	105	97
Fiord	24	100	100	100
Icarus	18	80	89	78

Fiesta^ϕ has out-yielded Fiord in all rainfall areas (Table 2). Fiesta^ϕ has lower tolerance to iron and manganese deficient soils than Manafest and in these situations Fiesta^ϕ is generally lower yielding than Manafest.

Table 2: Yields of Fiesta^ϕ and other varieties as a percent of Fiord according to average annual rainfall in South Australia, 1996–98 (SAFCEP data, weighted average).

Variety	Seeds (per m ²)	Annual rainfall (mm)			
		>500	450–500	400–450	<400
Fiesta ^ϕ	24	-	106	97	115
	32	114	-	-	-
Manafest	18	-	93	90	106
	24	110	101	93	109
	32	116	-	-	-
Aquadulce	12	-	84	79	86
	16	111	-	-	-
Ascot	24	-	93	87	91
	32	98	-	-	-
Barkool	24	-	99	92	110
	32	96	-	-	-
Fiord	24	-	100	100	100
	32	100	-	-	-
Icarus	18	-	82	80	88
	24	96	-	-	-

Sowing rates

Fiesta^ϕ is responsive to increasing seeding densities. Since the seed size of Fiesta^ϕ is much larger (x1.5) than Fiord, economics and practicalities will determine the kg/ha seeding rates used. To achieve best yields, higher seeding rates than those used with Fiord will be necessary.

Plant characteristics

Fiesta^ϕ has a conventional faba bean plant morphology. It is a tall variety with excellent early plant vigour. It has similar standing ability to Fiord, but may lodge as the plant approaches maturity if the crop is tall. Fiesta^ϕ is early maturing and flowers the same time as Fiord. Fiesta^ϕ has similar ability to withstand pod shatter at maturity as Fiord. Its pods are higher from the ground than Fiord because of its early vigour and more erect bushes.

Fiesta[®] is moderately susceptible to iron and manganese chlorosis, which occurs on high pH and waterlogged soils. Its tolerance is less than Manafest, but superior to Fiord.

Disease resistance

Fiesta[®] is moderately susceptible to chocolate spot, an improvement over Fiord, but it is not as resistant as Icarus. Fiesta[®] is slightly less susceptible to ascochyta than Fiord.

Use of foliar fungicide at 6–8 weeks post-sowing will provide some early season protection against ascochyta. Widening the interval between successive faba bean crops within rotations is also recommended for reducing yield and grain quality loss from ascochyta.

The number of foliar fungicides required to control chocolate spot will depend on the season, but may be less than with Fiord. Management practices to avoid chocolate spot such as delaying sowing and reducing plant populations may be less necessary for Fiesta[®] than Fiord.

Grain quality

Fiesta[®] has buff-coloured seed, similar to Fiord, which is larger, though not as large as Manafest and Icarus. There are indications that Fiesta[®] will have good market acceptance, comparable with the Egyptian local product, due to its seed size, colour and freedom from blemishes. Fiesta[®] will be segregated from other faba beans to enable it to be marketed separately.

Table 3: 100 grain weight comparisons of Fiesta[®], Manafest, Fiord and Icarus from 12 sites in South Australia in 1998 (SAFCEP data 1998).

Variety	Seed colour	Grain weight (as g/100)
Fiesta [®]	buff	66
Manafest	buff	81
Fiord	buff	44
Icarus	green	76

Table 4: Grain quality comparisons of Fiesta[Ⓛ], Manafest, Fiord and Icarus from 4 sites across SA 1996–97 (Grain Quality Laboratory, SARDI).

Variety	Hydration capacity (%)	Splitting yield (%)	Seed colour (L)*	Protein (%)
Fiesta [Ⓛ]	82	77	52	25
Manafest	90	71	55	27
Fiord	83	76	51	23
Icarus	94	72	50	24

**a measure of the black/white component of the colour*

Fiesta[Ⓛ] had a low value for hydration capacity, average splitting percentage (limited data), and a medium to high protein concentration. Fiesta[Ⓛ] has reasonably light, bright coloured seed, as indicated by a high L* value (Table 4).

Herbicide reaction

Field trials conducted on a range of soil types across South Australia between 1994 and 1998 have provided no indications of greater sensitivity to the commonly used herbicides like simazine, metribuzin and grass controlling herbicides used at label recommended rates.

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Publication

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Seed and market availability

SGB has the sole marketing rights for seed of Fiesta[®], and as part of an industry alliance, ABB Grain Ltd is offering market contracts for segregated Fiesta[®] grain. Marketing contracts are available for 1999 sowings of Fiesta[®], with growers able to retain their own seed needs for 2000.

Contact SGB (ph. 08 8578 1407 or (fax 08 8578 1408) or ABB Grain Ltd Grainline (ph. 1800 018 205).

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