

PBA Samira[®]

Faba bean



PBA

PULSE BREEDING AUSTRALIA

Better pulse varieties faster

New benchmark southern variety



KEY FEATURES

- Highest yielding faba bean available for the southern region
- Excellent Ascochyta blight resistance, including the new strain recently identified in the mid north of South Australia
- Wide adaptation and very responsive to high yielding situations
- Vigorous plant with good stem strength
- Improved chocolate spot and rust resistance compared to Fiesta VF and Farah[®]
- Medium sized seed, similar to Fiesta VF and Farah[®] and suited to the Middle East markets

MAIN ADVANTAGES

PBA Samira[®] is a high yielding faba bean that has shown wide adaptation throughout southern Australia. Yield is generally greater than current varieties in all areas. PBA Samira[®] is particularly responsive to high yielding situations.

PBA Samira[®] has a good overall level of disease resistance. It is resistant to Ascochyta blight, including the new strain that has recently been identified in the mid north of South Australia.

PBA Samira[®] is less susceptible to chocolate spot and rust than Fiesta VF and Farah[®].

SEED PROTECTION & ROYALTIES

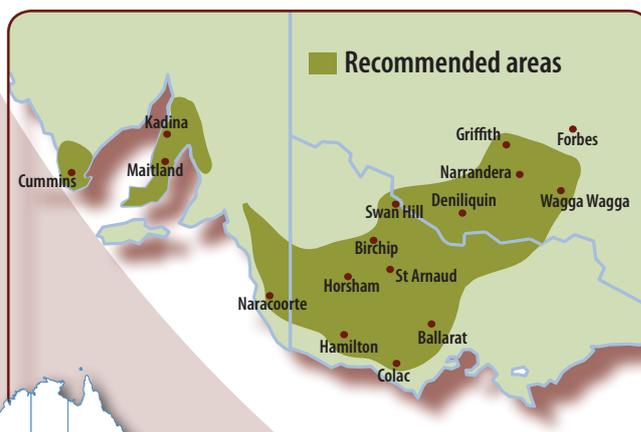
PBA Samira[®] is protected under Plant Breeder's Rights (PBR) legislation. Growers can only retain seed from production of PBA Samira[®] for their own seed use.

An End Point Royalty (EPR) of \$3.85 per tonne (GST inclusive), which includes breeder royalties, applies upon delivery of this variety.

Seed is available from the commercial partner Seednet.

Seednet
Planting Productivity

AREA OF ADAPTATION



YIELD & ADAPTATION

PBA Samira[®] is currently the highest yielding faba bean variety for southern Australia. It is widely adapted and has shown a yield advantage of more than 5% over all other varieties in most districts throughout South Australia, Victoria and southern New South Wales.

PBA Samira[®] is a later flowering variety than Fiesta VF and Farah[®]. This enables it to take advantage of late season rainfall, which can result in very high yields in longer season environments.

PBA Samira[®] is well suited to higher rainfall districts where its lower susceptibility to disease reduces the risk of production. It is resistant to the new strain of Ascochyta that has recently been identified in the mid north of South Australia.

PBA Samira[®] is not adapted to northern NSW or southern QLD as it is too late to flower and mature, and the level of rust resistance is not adequate for the high disease risk in the region.

Long term (2007–2013) yield of faba bean in South Australia

(yields expressed as % Fiesta VF)

Variety	Mid North	South East	Yorke P	Lower EP	Mallee
PBA Samira [®]	107	106	105	107	113
Fiesta VF	100	100	100	100	100
Farah [®]	99	100	100	100	101
Nura [®]	97	96	101	98	108
PBA Rana [®]	94	95	92	94	93
Fiesta VF (t/ha)	2.72	3.09	3.79	2.13	1.68

Source: Trial results from Pulse Breeding Australia (PBA) and National Variety Trials (NVT) programs

Long term (2007–2013) yield of faba bean in Victoria and southern New South Wales

(yields expressed as % Fiesta VF)

Variety	Victoria				Southern NSW	
	Wimmera	North Central (irrigated)	North East	South West	South East	South West (irrigated)
PBA Samira [®]	101	114	109	112	106	100
Fiesta VF	100	100	100	100	100	100
Farah [®]	99	99	100	99	99	100
Nura [®]	96	93	98	97	96	99
PBA Rana [®]	92	94	96	97	96	94
Fiesta VF (t/ha)	2.46	4.31	2.63	3.89	2.56	3.75

Source: Trial results from Pulse Breeding Australia (PBA) and National Variety Trials (NVT) programs

Disease resistance rating of faba bean varieties in southern Australia

Variety	Plant height	Flower time	Maturity	Lodging resistance	Ascochyta blight*		Chocolate spot	Cercospora	Rust	PSbMV Seed staining
					Foliage	Seed				
PBA Samira [®]	Medium	Mid	Early/Mid	MR	R	R	MS	S	MS	S
Fiesta VF	Medium	Early/Mid	Early/Mid	MS	MR	MS	S	S	S	S
Farah [®]	Medium	Early/Mid	Early/Mid	MS	MR/R	MR/R	S	S	S	S
Nura [®]	Short	Mid	Early/Mid	MR	MR/R	MR/R	MS	S	MS	VS
PBA Rana [®]	Med/Tall	Mid	Mid	MR	R	R	MS	S	MS	MR

* This rating reflects the reaction to the strain of Ascochyta that is widespread throughout the southern Australian cropping zone.

Ratings to the new strain of Ascochyta in the mid north of South Australia are:

PBA Samira[®] R, Fiesta VF MS, Farah[®] MS, Nura[®] MR/R, PBA Rana[®] MS/MR

Source: Pulse Breeding Australia trials program 2007–2013

R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible,

S = Susceptible, VS = Very Susceptible

DISEASE MANAGEMENT

Ascochyta blight

- PBA Samira[®] is Resistant (R) to Ascochyta blight with a greater level of resistance than Farah[®] and Nura[®].
- Foliar fungicides that target Ascochyta blight control applied at 6–8 weeks post-sowing should not be required for PBA Samira[®]. However, crops should be monitored and managed if significant disease occurs.
- This improved resistance should reduce the risk of seed staining from this disease. Ascochyta blight protection during podding should only be required if significant disease occurs on foliage earlier in the season.

Chocolate spot

- PBA Samira[®] is rated as Moderately Susceptible (MS) to chocolate spot. It is more resistant than Fiesta VF and Farah[®] and comparable to PBA Rana[®] and Nura[®].
- Crops should be monitored regularly and managed accordingly with strategic fungicide applications, particularly in higher rainfall districts or seasons with above average rainfall.
- Foliar fungicides that target chocolate spot may need to be applied before flowering in very early sown crops.
- In high risk situations, applications of fungicides that target chocolate spot are recommended prior to canopy closure and during late flowering and pod fill.

Cercospora leaf spot

- PBA Samira[®] is Susceptible (S) to Cercospora leaf spot, along with all other Australian faba bean varieties.
- The risk of Cercospora leaf spot is greatest in paddocks with a long history of faba/broad bean production and when bean crops are grown in tight rotations.
- A foliar fungicide that targets Cercospora leaf spot is recommended to be applied at 5–8 weeks post-sowing.

Rust

- PBA Samira[®] is rated as Moderately Susceptible (MS) to rust.
- Foliar fungicides that target rust may need to be applied to crops before flowering in very early sown crops.
- Otherwise, a foliar fungicide that targets rust is only required in high risk situations, and management should be similar to that used for Nura[®] and PBA Rana[®].

Pea seed borne mosaic virus (PSbMV)

- PBA Samira[®] develops seed staining caused by Pea Seed borne Mosaic Virus (PSbMV) at a level similar to Fiesta VF and Farah[®] and less than Nura[®].
- Seed staining of susceptible varieties can have an impact on grain quality.
- PSbMV does not cause significant yield loss in faba beans, and no management practices are available to control the disease.

AGRONOMY

Plant characteristics

Paddock selection and basic requirements for production are similar to other faba bean varieties. PBA Samira[®] has the following characteristics:

- Mid flowering, similar to Nura[®] and PBA Rana[®] and 5–10 days later than Fiesta VF and Farah[®].
- Early to mid maturity, similar to Fiesta VF, Farah[®] and Nura[®].
- Medium plant height, similar to Fiesta VF and Farah[®] and taller than Nura[®].
- Lodging resistance is better than Fiesta VF and Farah[®] and similar to Nura[®] and PBA Rana[®], but can lodge in very high biomass situations.

Sowing

- PBA Samira[®] is similar to other faba bean varieties and benefits from early sowing. Delaying sowing until late May or early June can result in significant reduction in yield.
- Very early sowing can increase the risk of foliar fungal diseases for all faba bean varieties.
- PBA Samira[®] is responsive to sowing rate and a seeding rate similar to other faba bean varieties should be maintained to achieve maximum yields.

Herbicide tolerance

- In specific herbicide tolerance trials there has been no adverse effect measured at the recommended rate for registered herbicides commonly applied to faba beans.
- PBA Samira[®] has been extensively tested in breeding yield trials in which a range of herbicides registered for use in faba beans has been applied at recommended rates. No specific adverse reactions have been observed in these trials.

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SEED QUALITY

PBA Samira[®] produces medium size seeds that are comparable to, or slightly larger than, Fiesta VF and Farah[®]. The seed size varies between locations and seasons, larger seed is produced under more favourable conditions.

The overall seed colour is similar to Fiesta VF and Farah[®]. PBA Samira[®] has a low proportion of seeds with a white hilum, whereas seed of all other varieties is uniform, with a black hilum. The high level of resistance to Ascochyta blight results in minimal seed staining due to this disease.

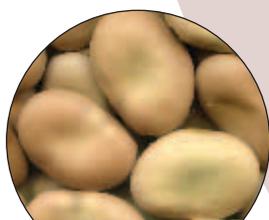
The seed of PBA Samira[®] should be suitable to co-mingle with similar varieties for export to the major food markets in the Middle East.

Seed weight (g/100 seeds) of faba bean varieties		
Variety	Average	Range
PBA Samira [®]	71	56 - 82
Fiesta VF	67	56 - 78
Farah [®]	67	54 - 75
Nura [®]	64	51 - 75
PBA Rana [®]	82	64 - 97

Source: NVT, data derived from 14 trials in 2013



PBA Samira[®]



PBA Rana[®]



Farah[®]

BREEDING

PBA Samira[®] (evaluated as AF05069 and reselected as AF05069-2) was developed by the PBA faba bean breeding program, led by the University of Adelaide.

It is the result of a complex cross that included several Ascochyta blight resistant parents, including Farah[®] and Nura[®], and was selected for resistance to Ascochyta blight and chocolate spot, wide adaptation and seed quality.



Better pulse varieties faster

PBA is an unincorporated joint venture between the GRDC, University of Adelaide, University of Sydney, SARDI, DEPI Victoria, NSW-DPI, DAFF QLD, DAFWA and Pulse Australia. It aims to deliver better pulse varieties faster.

FOR MORE INFORMATION

PBA

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PBA Faba bean

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Seednet's mission is:

"To deliver high performance seed based genetics to Australian grain growers and end user customers via superior product and service delivery channels".

Seednet is proud to partner with Pulse Breeding Australia and invest in the improvement of Australian faba bean varieties.

AGRONOMIC ENQUIRIES

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