PBA Nasma(Þ)
Faba bean

The information in this document is current as at February 2019.
For updated information after this date, please refer to NVT results.

PBA
PULSE BREEDING AUSTRALIA
Better pulse varieties faster

Larger grain size, northern variety

KEY FEATURES

- High yielding across all faba bean growing areas of northern New South Wales and southern Queensland
- Suggested as an alternative to PBA Warda(Þ)
- Moderately resistant to resistant to faba bean rust (similar to PBA Warda(Þ))
- Moderately resistant to Bean Leaf Roll Virus (BLRV), superior to PBA Warda(Þ)
- Similar flowering and maturity times to PBA Warda(Þ)
- Larger seed size than PBA Warda(Þ) with uniform seed size and colour

MAIN ADVANTAGES

PBA Nasma(Þ) has a larger seed size than other varieties grown in the northern region. It is superior to PBA Warda(Þ) with uniform seed size and colour. PBA Nasma(Þ) is readily accepted in the human consumption market.

PBA Nasma(Þ) is well adapted to northern New South Wales where it has out-yielded PBA Warda(Þ) by 3% in both rain fed and irrigated trials.

PBA Nasma(Þ) has a similar level of resistance to faba bean rust and superior resistance to Bean Leaf Roll Virus (BLRV) compared to PBA Warda(Þ).

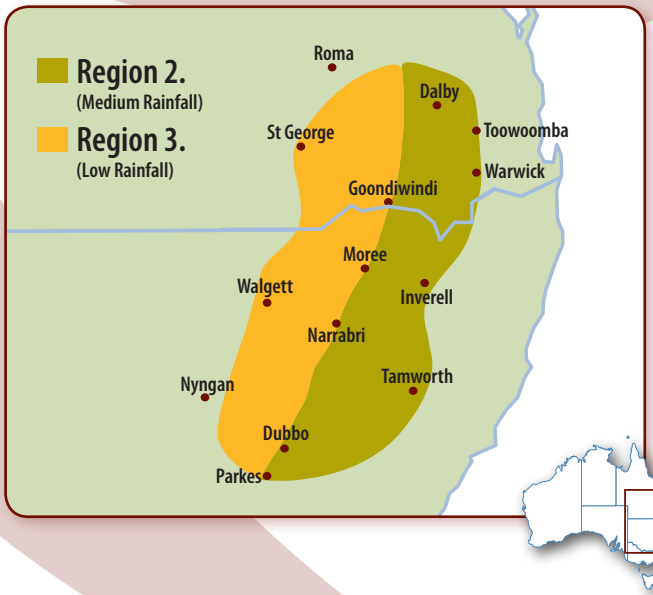
SEED PROTECTION & ROYALTIES

PBA Nasma(Þ) is protected under Plant Breeder's Rights (PBR) legislation. Growers may only retain seed from production of PBA Nasma(Þ) 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.

AREA OF ADAPTATION



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YIELD & ADAPTATION

- PBA Nasma^{Ф} is an early maturing variety, similar to PBA Warda^{Ф}. It is well adapted to the growing season in northern New South Wales and southern Queensland.
- Extensive yield evaluation of PBA Nasma^{Ф} in northern New South Wales, at Pulse Breeding Australia (PBA) and National Variety Trial (NVT) sites, shows that its yield is on average 3% greater than PBA Warda^{Ф}. This yield advantage has been obtained in both rain fed and irrigated trials.
- PBA Nasma^{Ф} is suggested as an alternative to PBA Warda^{Ф} for growers in northern New South Wales and southern Queensland who are targeting larger seed size for premium markets.
- PBA Nasma^{Ф} is resistant to moderately resistant to faba bean rust, the major fungal disease in northern New South Wales and southern Queensland.
- PBA Nasma^{Ф} is moderately susceptible to chocolate spot. It has a superior level of resistance to BLRV compared to PBA Warda^{Ф}, which will benefit growers in areas prone to virus infection.
- PBA Nasma^{Ф} is susceptible to Ascochyta blight, but this is not considered to be a major disease in northern New South Wales.
- PBA Nasma^{Ф} is not recommended for southern New South Wales where Ascochyta blight and chocolate spot are significant diseases.

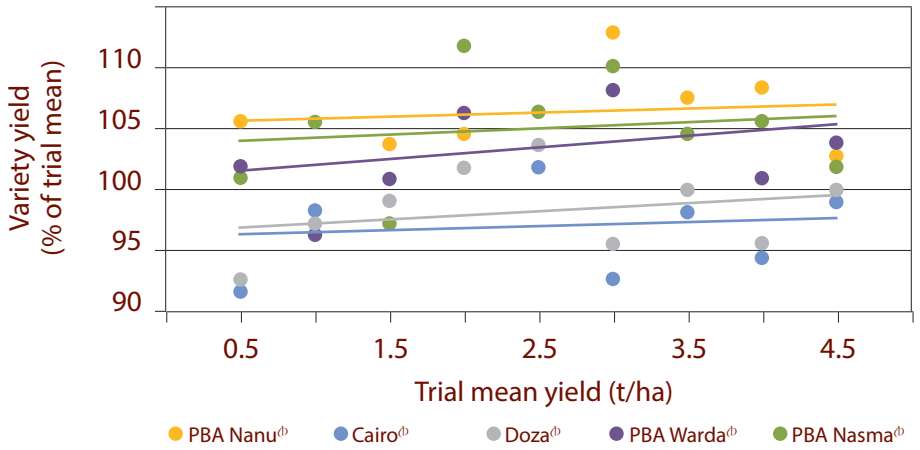

Figure 1: Long term (2013–2017) yield of faba bean varieties in northern NSW in comparison to trial mean.
Source: Trial results from NVT and Pulse Breeding Australia (PBA), 2013–2017.

Agronomic features and disease rating of faba bean varieties in northern Australia

Variety	Plant height	Flower time	Maturity	Lodging resistance	Rust	Chocolate spot	BLRV
PBA Nasma^{Ф}	**Medium**	**Early**	**Early**	**MR**	**MR–R**	**MS**	**MR**
Cairo^{Ф}	Tall	Mid/Late	Mid/Late	MS	MS	VS	S
Doza^{Ф}	Medium	Early	Early	MR	MR–R	MS	MS
Fiesta VF	Medium	Mid/Late	Mid/Late	MS	S	S	S
Fiord	Medium	Mid	Mid	MR/MS	S	S	S
PBA Nanu^{Ф}	Medium	Early	Early	MR	MR–R	MS	MR
PBA Warda^{Ф}	Medium	Early	Early	MR	MR–R	MS	MR–MS

R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible
Source: Pulse Breeding Australia trials program 2013–2017

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DISEASE MANAGEMENT

Faba bean rust

- PBA Nasma$^{\Phi}$ is moderately resistant to resistant to faba bean rust, similar to PBA Warda$^{\Phi}$.
- For northern New South Wales and southern Queensland, this level of resistance will provide adequate protection against rust and there will be no or minimal yield loss in most seasons.
- However, foliar fungicide application may be required if rust appears early in the season followed by warm and frequent rain events.
- In disease favourable seasons, a prophylactic mancozeb spray prior to canopy closure is recommended. This will be effective for both rust and chocolate spot.

Chocolate spot

- PBA Nasma$^{\Phi}$ is moderately susceptible to chocolate spot, but this disease is generally not a significant problem in northern New South Wales. However, it can be a problem in wet and humid years.
- Mancozeb prevents infection to both chocolate spot and rust and is recommended to be used prior to canopy closure. Carbendazim and procimidone are reported to be more effective in preventing chocolate spot infection, but have restrictions on the number of applications per season. None of these fungicides have a curative action.

Ascochyta blight

- PBA Nasma$^{\Phi}$ is susceptible to Ascochyta blight, similar to PBA Warda$^{\Phi}$ and Doza$^{\Phi}$. However, this disease is not prevalent in northern New South Wales and southern Queensland, where PBA Nasma$^{\Phi}$ is recommended.

Bean leaf roll virus (BLRV)

- PBA Nasma$^{\Phi}$ is moderately resistant to BLRV. Good yields have been obtained in the presence of severe BLRV pressure in the target region.
- Its level of BLRV resistance is superior to PBA Warda$^{\Phi}$.


Chocolate spot on susceptible variety.

AGRONOMY

Plant characteristics

PBA Nasma$^{\Phi}$ has significantly larger seed than PBA Warda$^{\Phi}$. Growers are advised to check compatibility with their seeder and make adjustments as necessary.

There is no other requirement for adjusting agronomic practices for growing PBA Nasma$^{\Phi}$. Paddock selection and agronomic management is similar to current varieties.

- Flowering and maturity time is similar to PBA Warda$^{\Phi}$.
- Plant height is medium, similar to PBA Warda$^{\Phi}$.
- Lodging resistance is similar to PBA Warda$^{\Phi}$.
- PBA Nasma$^{\Phi}$ can withstand mild frost at the vegetative stage, similar to PBA Warda$^{\Phi}$ and better than Doza$^{\Phi}$. Severe frost at flowering/early pod set may cause yield losses.

Sowing

- Early sowing is recommended to achieve maximum yield potential.
- Sowing later than mid–May is likely to cause a reduction in yield.
- Seed crops of PBA Nasma$^{\Phi}$ should be isolated from other faba bean varieties by at least 200 m to prevent cross-pollination.
- Calculate seeding rates to achieve a plant population of 15–20 plants/m^2. Note that seeding rates will be higher due to the larger seed size.
- Inoculation with the commercial faba bean rhizobium Group F is essential for effective nodulation.

Herbicide tolerance

- PBA Nasma$^{\Phi}$ has been extensively tested in PBA and NVT trials with the application of recommended herbicides. No adverse reactions have been observed in these trials.
- Limited herbicide testing has shown that PBA Nasma$^{\Phi}$ has no increased sensitivity to any of the recommended herbicides compared with commonly grown faba bean varieties.


Faba bean rust on susceptible variety.

REFER TO DETAILED INFORMATION AT www.pulseaus.com.au

Ute guides, crop and disease management bulletins

PULSE VMP Pulse Variety Management Package

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GRAIN QUALITY

PBA Nasma^{Ф} has a larger seed size than other varieties grown in the northern region. It is superior to PBA Warda^{Ф} with uniform seed size and colour.

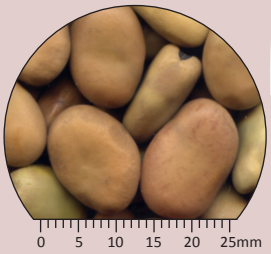
PBA Nasma^{Ф} produces medium sized beige to brown seeds, in the range of 61–79 g/100 seed which is approximately 15–20% larger than PBA Warda^{Ф}.

Darkening of seed colour under storage is similar to PBA Warda^{Ф}.

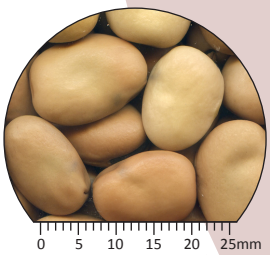
Seed weight (g/100 seeds) of faba bean varieties

Variety	Rainfed NVT data, 2017	Irrigated Narrabri data, 2017
PBA Nasma^{Ф}	**40–55**	**58–64**
PBA Nanu^{Ф}	41–46	57–61
PBA Warda^{Ф}	39–47	52–57
Cairo^{Ф}	41–45	54–56
Doza^{Ф}	40–45	52–54

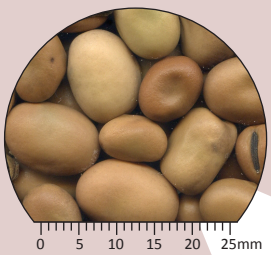
Source: NVT. Data derived from 4 rainfed trials in NSW in 2017.



PBA Nasma^{Ф}



PBA Warda^{Ф}



Doza^{Ф}

MARKETING

PBA Nasma^{Ф} is suitable for the medium seed size human consumption market. Its uniform seed size and colour will be attractive to the Middle Eastern market. PBA Nasma^{Ф} provides an alternative to growers who wish to grow a large seeded variety without compromising yield and other quality aspects.

BREEDING

PBA Nasma^{Ф} (evaluated as IX220d/2-5) was developed by the northern PBA faba bean breeding program, led by the University of Adelaide.

'Nasma' means 'morning breeze' in Arabic. The name was chosen to be familiar and easy to remember for customers in the Middle Eastern market.

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PBA is an unincorporated joint venture between the GRDC, University of Adelaide, University of Sydney, SARDI, DEDJTR Victoria, NSW DPI, DAF (QLD), DPIRD WA and Pulse Australia.

FOR MORE INFORMATION

PBA
Ron Osmond, GRDC
PO Box 536
Kingston ACT 2604
Ph: 02 6166 4500
ron.osmond@grdc.com.au

PBA Faba Bean
Kedar Adhikari
The University of Sydney
IA Watson Grains Research Centre, Locked Bag 1100
Narrabri NSW 2390
Ph: 02 6799 2231
kedar.adhikari@sydney.edu.au

SEED ENQUIRIES

Seednet
National Production and Logistics Office
7 Golf Course Rd
PO Box 1409,
Horsham Vic 3402

Ph: 1300 799 246
Fax: 03 5381 0490
admin@seednet.com.au
www.seednet.com.au

North East Australia
Jon Thelander
Regional Sales Manager
388–396 Taylor Street, (PMB 1749) Toowoomba QLD 4350
M: 0429 314 909
jon.thelander@seednet.com.au

Seednet
Planting Productivity

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

Northern NSW
Kedar Adhikari, The University of Sydney
Ph: 02 6799 2231 kedar.adhikari@sydney.edu.au

Joop van Leur, NSW, DPI
Ph: 02 6763 1204 joop.vanleur@dpi.nsw.gov.au

Bill Manning, NSW, Local Land Services
Ph: 02 6742 9210 william.manning@lls.nsw.gov.au

Southern Queensland
Paul McIntosh, Pulse Australia
Ph: 0429 566 198 paul@pulseaus.com.au

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