

Improved PRR resistant desi chickpea

Prepared by NSW DPIRD, May 2025

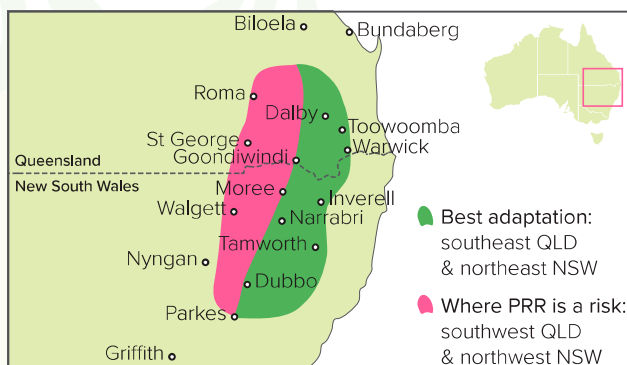


CBA Spin[®] at Narrabri NSW in August 2023.

Key advantage – improved PRR resistance

CBA Spin[®] offers growers in northern NSW and southern QLD improved *Phytophthora* root rot (PRR, caused by the pathogen *Phytophthora medicaginis*) resistance compared to current commercial varieties. It is suited to areas where PRR is considered a production risk.

CBA Spin[®] has a NVT disease rating for PRR of MSS (P). This is a higher rating than CBA Captain[®] (S), PBA Seamer[®] (S), PBA Boundary[®] (VS), PBA Drummond[®] (VS) and Kyabra[®] (VS).



CBA Spin[®] is best adapted to northeast NSW and southeast QLD, or where PRR is likely to be a production risk. (paddocks with a history of PRR).

KEY FEATURES OF CBA SPIN[®]

- Highest *Phytophthora* root rot (PRR) resistance rating (MSS [P]) of all commercially available varieties.
- *Ascochyta* blight resistance similar to CBA Captain[®] and PBA Seamer[®] (MS [P]) for Pathogen Group 2 – northern region isolates (the target growing region).
- Medium to tall with an erect plant type.
- Mid flowering with mid to late maturity.
- Large angular seed with yellow-brown seed coat.



CBA Spin[®] (right) compared to PBA HatTrick[®] (left) in PRR treated plots at Narrabri in 2023.

Yield and adaption

CBA Spin[®] is adapted to areas of northern NSW and southern QLD where PRR is considered a production risk. In the absence of PRR, other commercial chickpea varieties (CBA Captain[®]) may have a yield advantage over CBA Spin[®].

CBA Spin[®] flowers and matures later than CBA Captain[®] and PBA Drummond[®]. It is best suited to medium and high rainfall zones of northern NSW and southern QLD.

CBA Spin[®] has been evaluated in northern NSW and southern QLD NVT since 2022. For location specific yield data see <https://app.nvt.grdc.com.au/>

Long term (2020–2024) predicted yield of CBA Spin[Ⓢ] and current varieties in the south-east region of Queensland

GRDC NATIONAL VARIETY TRIALS		Predicted yield (% of mean)				
		2020	2021	2022	2023	2024
Variety	Number of trials	1	0	0	1	0
PBA Drummond [Ⓢ]	2	106			113	
CBA Spin [Ⓢ]	1				102	
Kyabra [Ⓢ]	2	104			100	
CBA Captain [Ⓢ]	2	98			97	
PBA Seamer [Ⓢ]	2	97			94	
PBA Boundary [Ⓢ]	2	99			92	
PBA HatTrick [Ⓢ]	2	98			90	
Mean yield (t/ha)		1.38	0.00	0.00	2.46	0.00

Source: <https://app.nvt.grdc.com.au/lty/table/chickpea-desi/qld/seq/>

Long term (2020–2024) predicted yield of CBA Spin[Ⓢ] and current varieties in the north-east region of New South Wales

GRDC NATIONAL VARIETY TRIALS		Predicted yield (% of mean)				
		2020	2021	2022	2023	2024
Variety	Number of trials	1	1	0	1	1
PBA Drummond [Ⓢ]	4	108	98		112	107
CBA Captain [Ⓢ]	4	99	103		96	101
CBA Spin [Ⓢ]	2				103	95
PBA Seamer [Ⓢ]	4	96	101		95	95
PBA Boundary [Ⓢ]	4	94	90		94	93
PBA HatTrick [Ⓢ]	4	93	93		92	92
Kyabra [Ⓢ]	4	97	84		103	92
Mean yield (t/ha)		2.33	2.79	0.00	1.29	4.25

Source: <https://app.nvt.grdc.com.au/lty/table/chickpea-desi/nsw/ne/>

Disease resistance

Ascochyta blight (AB)

Caused by *Phoma rabiei*, formerly *Ascochyta rabiei*.

CBA Spin[Ⓢ] has a NVT AB resistance rating of MS (P) to Pathogen Group 2 – northern region isolates (the target growing region), the same as CBA Captain[Ⓢ], similar to PBA Seamer[Ⓢ], higher than PBA Boundary[Ⓢ] (S), PBA HatTrick[Ⓢ] (S), PBA Drummond[Ⓢ] (VS) and Kyabra[Ⓢ] (VS).

Phytophthora Root Rot (PRR)

Caused by *Phytophthora medicaginis*.

CBA Spin[Ⓢ] has a NVT disease rating for PRR of MSS (P). This is a higher rating than CBA Captain[Ⓢ] (S), PBA Seamer[Ⓢ] (S), PBA Boundary[Ⓢ] (VS), PBA Drummond[Ⓢ] (VS) and Kyabra[Ⓢ] (VS).

NVT disease resistance rating abbreviations

VS = very susceptible

S = susceptible

MSS = moderately susceptible – susceptible

MS = moderately susceptible

(P) = provisional rating

Botrytis grey mould (BGM) and virus

There has been no evaluation of BGM or virus resistance for CBA Spin[Ⓢ]. Susceptible responses similar to other commercial varieties are expected.

For current chickpea NVT disease resistance ratings see <https://nvt.grdc.com.au/nvt-disease-ratings?crop=17>

NVT disease resistance ratings of desi chickpeas

Variety	GRDC NATIONAL VARIETY TRIALS	
	Phytophthora root rot	Ascochyta blight (Pathogen group 2 – north)
CBA Spin [®]	MSS (P)	MS (P)
CBA Captain [®]	S	MS (P)
Kyabra [®]	VS	VS
PBA Boundary [®]	VS	S
PBA Drummond [®]	VS	VS
PBA HatTrick [®]	S	S
PBA Seamer [®]	S	MS



CBA Spin[®] (indicated by pink arrows) performing well under natural PRR pressure at Bellata in 2024.

Agronomy

CBA Spin[®] is an erect desi with adaptation suitable to the northern NSW and southern QLD chickpea growing environments in paddocks where PRR risk is high. It is mid flowering with mid to late maturity. CBA Spin[®] flowers later than CBA Captain[®] and PBA Drummond[®]. It has a medium to tall plant height with very good height to the lowest pod and moderate lodging resistance providing excellent harvestability.

Seed quality

CBA Spin[®] is a standard 'Indian' type desi chickpea with an angular seed shape and yellow-brown seed-coat. Seed size is similar to Kyabra[®] and larger than CBA Captain[®], PBA Drummond[®] and PBA Seamer[®].



Unloading CBA Spin[®] showing yellow-brown seed colour.

Seed protection and royalties

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

An end point royalty (EPR) of \$4.50 per tonne (ex-GST), which includes breeder royalties, applies upon delivery of this variety.

Seed of CBA Spin[®] is available from northern region CBA seed partners.



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CHICKPEA BREEDING AUSTRALIA

Better pulse varieties faster

Chickpea Breeding Australia (CBA) is a collaboration between NSW DPIRD and GRDC that sees \$30M invested in the capacity and capability of the former Pulse Breeding Australia (PBA) Chickpea Program to breed better varieties faster.

CBA Spin[®] was developed by the PBA Chickpea Program, led by NSW Department of Primary Industries & Regional Development, with partners GRDC, Department of Primary Industries (QLD), Agriculture Victoria and the South Australian Research and Development Institute.

FOR MORE INFORMATION

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