



AUSTRALIAN PULSE VARIETIES

2016



GRDC

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Welcome to this definitive guide to Australian pulse varieties.

This guide provides details of the grain traits of all chickpea, faba bean, field pea, lentil and mungbean varieties grown in Australia, both current and past. This guide demonstrates the tremendous improvement in grain quality achieved by Australian pulse plant breeders over the past three decades.

Pulse Breeding Australia (PBA) is a world class Australian breeding program delivering highly adapted chickpea, field pea, lentil, faba bean and lupin varieties to growers across Australia since 2006. The breeding teams for each crop have been able to achieve higher yielding varieties with improved adaptation and disease resistance, while improving grain quality to match the requirements of our export markets. Plant breeders in the National Mungbean Improvement Program fulfil this role for mungbean varieties.

The National Mungbean Improvement Program is a collaborative initiative between the Grains Research and Development Corporation (GRDC) and Department of Agriculture and Fisheries (DAF), Queensland focusing on the delivery of superior mungbean varieties for Australian growers and superior quality for the marketplace.

The details provided in this publication for each pulse variety are:

- year of release
- seed weight, expressed as grams per 100 seeds
- seed coat colour
- seed shape
- primary production region.

[Ⓛ] indicates that a variety is protected by Plant Breeder's Rights (PBR).

Pulse Australia welcomes feedback about the value and detail of the information provided in this guide. Contact details for Pulse Australia's industry development managers are detailed on the last page of this guide.

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Pulse Australia is the industry's peak body, operating across the entire supply chain. Pulse Australia's industry development managers provide advice and support regarding variety development, on-farm pulse production and the export of quality Australian pulse grain.

Pulse Australia receives financial support from the GRDC and many grain exporting companies across Australia. Their support underpins Pulse Australia's ability to drive continuous improvement in the profitability of the pulse grain industry in Australia.



Acknowledgments:

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Very large kabuli chickpea (9–11 mm)



Kimberley Large[Ⓛ]

Released: 2008
Seed weight: 55–65 g/100
Production region: West (Ord)



Macarena

Released: 1984
Seed weight: 50–65 g/100
Production region: North (Central Queensland) and West (Ord)

Large kabuli chickpea (8–10 mm)



Genesis™ Kalkee

Released: 2012
Seed weight: 40–50 g/100
Production region: North and South



Nafice[Ⓛ]

Released: 2005
Seed weight: 40–50 g/100
Production region: South



Bumper[Ⓛ]

Released: 1998
Seed weight: 40–50 g/100
Production region: North

Medium kabuli chickpea (7–9 mm)



PBA Monarch[Ⓛ]

Released: 2013
Seed weight: 35–45 g/100
Production region: South and North



Genesis™ 114

Released: 2010
Seed weight: 35–45 g/100
Production region: North and South



Almaz[Ⓛ]

Released: 2005
Seed weight: 35–45 g/100
Production region: South



Kaniva

Released: 1980s
Seed weight: 35–45 g/100
Production region: South

Small kabuli chickpea (6–8 mm)



Genesis™ 079

Released: 2010
Seed weight: 20–30 g/100
Production region: South



Genesis™ 425

Released: 2006
Seed weight: 25–35 g/100
Production region: South



Genesis™ 090

Released: 2005
Seed weight: 25–35 g/100
Production region: South



AUSTRALIAN CHICKPEA



Medium desi chickpea



PBA Maiden^(d)

Released: 2013
Seed weight: 21–25 g/100
Production region: South and West



Ambar^(d)

Released: 2013
Seed weight: 16–20 g/100
Production region: West and South



Neelam^(d)

Released: 2013
Seed weight: 16–20 g/100
Production region: West and South



PBA Striker^(d)

Released: 2012
Seed weight: 21–23 g/100
Production region: South and West



PBA Boundary^(d)

Released: 2011
Seed weight: 19–22 g/100
Production region: North and South



PBA Pistol^(d)

Released: 2011
Seed weight: 22–26 g/100
Production region: North (Central Queensland)



PBA HatTrick^(d)

Released: 2009
Seed weight: 19–22 g/100
Production region: North



PBA Slasher^(d)

Released: 2009
Seed weight: 18–22 g/100
Production region: South



Genesis™ 836

Released: 2006
Seed weight: 16–20 g/100
Production region: West



Flipper^(d)

Released: 2005
Seed weight: 16–20 g/100
Production region: North



Kyabra^(d)

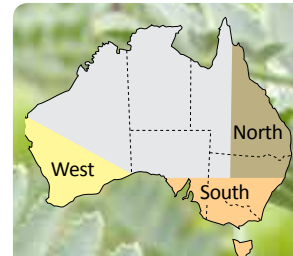
Released: 2005
Seed weight: 23–27 g/100
Production region: North



Yorker^(d)

Released: 2005
Seed weight: 20–23 g/100
Production region: North

AUSTRALIAN CHICKPEA



AUSTRALIAN CHICKPEA



Medium desi chickpea



Moti[®]
Released: 2003
Seed weight: 19–21 g/100
Production region: North
(Central Queensland)



Jimbour
Released: 2001
Seed weight: 19–21 g/100
Production region: North



Gully
Released: 2000
Seed weight: 20–24 g/100
Production region: North



Howzat
Released: 2000
Seed weight: 21–23 g/100
Production region: North
and South

Small desi chickpea



Genesis™ 510
Released: 2008
Seed weight: 14–18 g/100
Production region: West



Genesis™ 509
Released: 2008
Seed weight: 14–18 g/100
Production region: South



Genesis™ 508
Released: 2005
Seed weight: 14–18 g/100
Production region: South



Tyson
Released: 1980s
Seed weight: 12–16 g/100
Production region: South



Amethyst
Released: 1980s
Seed weight: 14–18 g/100
Production region: North



**AUSTRALIAN
FIELD PEA**



Rounded (Kaspa type) dun field pea



0 5 10 15 20 25mm

PBA Wharton⁽¹⁾

Released: 2013
Seed weight: 20–26 g/100
Coat colour: pale brown
Production region: South, West and North



0 5 10 15 20 25mm

PBA Gunyah⁽¹⁾

Released: 2010
Seed weight: 20–26 g/100
Coat colour: pale brown
Production region: South and West



0 5 10 15 20 25mm

PBA Twilight⁽¹⁾

Released: 2010
Seed weight: 20–26 g/100
Coat colour: pale brown
Production region: South and West



0 5 10 15 20 25mm

Kaspa⁽¹⁾

Released: 2002
Seed weight: 20–26 g/100
Coat colour: pale brown
Production region: South and West

Dimpled dun field pea



0 5 10 15 20 25mm

PBA Coogee⁽¹⁾

Released: 2013
Seed weight: 22–27 g/100
Coat colour: brown-green
Production region: North



0 5 10 15 20 25mm

PBA Percy⁽¹⁾

Released: 2011
Seed weight: 20–26 g/100
Coat colour: brown-green
Production region: South and North



0 5 10 15 20 25mm

PBA Oura⁽¹⁾

Released: 2011
Seed weight: 18–25 g/100
Coat colour: brown-green
Production region: South and North



0 5 10 15 20 25mm

Yarrum

Released: 2004
Seed weight: 20–26 g/100
Coat colour: brown-green
Production region: North



0 5 10 15 20 25mm

Parafield

Released: 1999
Seed weight: 21–27 g/100
Coat colour: brown-green
Production region: South



0 5 10 15 20 25mm

Morgan⁽¹⁾

Released: 1998
Seed weight: 16–22 g/100
Coat colour: brown-green
Production region: South

White field pea



PBA Hayman⁽¹⁾

Released: 2013
Seed weight: 12–18 g/100
Coat colour: white
Production region: South, West and North



PBA Pearl⁽¹⁾

Released: 2012
Seed weight: 20–26 g/100
Coat colour: white
Production region: South, West and North



SW Celine⁽¹⁾

Released: 2008
Seed weight: 20–27 g/100
Coat colour: white
Production region: South and North



Bundi

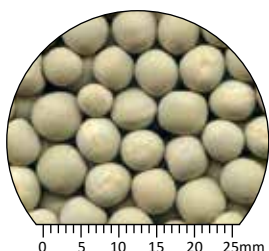
Released: 2007
Seed weight: 20–28 g/100
Coat colour: white
Production region: South



Sturt

Released: 2006
Seed weight: 17–24 g/100
Coat colour: white
Production region: South and North

Blue-seeded field pea



Maki

Released: 2008
Seed weight: 20–26 g/100
Coat colour: blue-green
Production region: North



Excell

Released: 2000
Seed weight: 20–26 g/100
Coat colour: blue-green
Production region: South

Marrowfat field pea



Jupiter

Released: 1990s
Seed weight: 28–34 g/100
Coat colour: white
Production region: South



**AUSTRALIAN
FIELD PEA**



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AUSTRALIAN LENTIL



Large green lentil



PBA Giant^(b)
 Released: 2014
 Seed weight: 6.5–7.5 g/100
 Coat colour: green
 Shape: lens
 Production region: South



Boomer^(b)
 Released: 2008
 Seed weight: 6.0–7.0 g/100
 Coat colour: green
 Shape: lens
 Production region: South

Medium green lentil



PBA Greenfield^(b)
 Released: 2014
 Seed weight: 5.0–6.0 g/100
 Coat colour: green
 Shape: lens
 Production region: South

Large red lentil



PBA Jumbo2^(b)
 Released: 2014
 Seed weight: 4.5–5.5 g/100
 Coat colour: grey
 Shape: lens
 Production region: South



PBA Jumbo^(b)
 Released: 2010
 Seed weight: 4.5–5.5 g/100
 Coat colour: grey
 Shape: lens
 Production region: South



Aldinga
 Released: 1993
 Seed weight: 4.5–5.5 g/100
 Coat colour: green
 Shape: lens
 Production region: South

Medium red lentil



PBA Bolt^(d)

Released: 2012
Seed weight: 4.0–5.0 g/100
Coat colour: grey
Shape: lens
Production region: South



PBA Ace^(d)

Released: 2012
Seed weight: 4.0–5.0 g/100
Coat colour: grey
Shape: lens
Production region: South



PBA Blitz^(d)

Released: 2010
Seed weight: 4.5–5.5 g/100
Coat colour: grey
Shape: lens
Production region: South



PBA Flash^(d)

Released: 2009
Seed weight: 4.0–5.0 g/100
Coat colour: green
Shape: lens
Production region: South



Nugget

Released: 1999
Seed weight: 3.5–4.5 g/100
Coat colour: grey
Shape: lens
Production region: South



Digger

Released: 1993
Seed weight: 3.5–4.5 g/100
Coat colour: grey
Shape: lens
Production region: South

Small red lentil



PBA Hurricane XT^(d)

Released: 2013
Seed weight: 3.0–4.0 g/100
Coat colour: grey
Shape: round
Production region: South



PBA Herald XT^(d)

Released: 2011
Seed weight: 2.5–3.5 g/100
Coat colour: grey
Shape: lens
Production region: South



PBA Bounty^(d)

Released: 2009
Seed weight: 3.0–4.0 g/100
Coat colour: grey
Shape: round
Production region: South



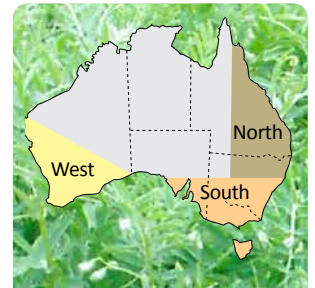
Nipper^(d)

Released: 2008
Seed weight: 2.5–3.5 g/100
Coat colour: grey
Shape: round
Production region: South



Northfield

Released: 1994
Seed weight: 2.5–3.5 g/100
Coat colour: tan
Shape: round
Production region: South



AUSTRALIAN LENTIL





Broad bean



0 5 10 15 20 25mm

PBA Kareema^(b)

Released: 2009
Seed weight: 130–170 g/100
Production region: South

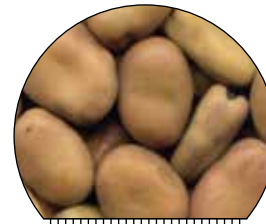


0 5 10 15 20 25mm

Aquadulce

Released: 1990s
Seed weight: 110–150 g/100
Production region: South

Large faba bean



0 5 10 15 20 25mm

PBA Nasma^(b)

Released: 2015
Seed weight: 61–79 g/100
Production region: North



0 5 10 15 20 25mm

PBA Zahra^(b)

Released: 2015
Seed weight: 62–86 g/100
Production region: South

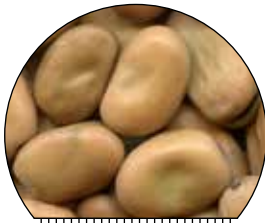


0 5 10 15 20 25mm

PBA Rana^(b)

Released: 2011
Seed weight: 65–85 g/100
Production region: South

Medium faba bean



0 5 10 15 20 25mm

PBA Samira^(b)

Released: 2014
Seed weight: 55–75 g/100
Production region: South



0 5 10 15 20 25mm

PBA Warda^(b)

Released: 2013
Seed weight: 50–70 g/100
Production region: North



0 5 10 15 20 25mm

Nura^(b)

Released: 2006
Seed weight: 50–70 g/100
Production region: South



0 5 10 15 20 25mm

Cairo^(b)

Released: 2004
Seed weight: 50–70 g/100
Production region: North



0 5 10 15 20 25mm

Farah^(b)

Released: 2004
Seed weight: 55–75 g/100
Production region: South



0 5 10 15 20 25mm

Fiesta VF

Released: 1998
Seed weight: 55–75 g/100
Production region: South

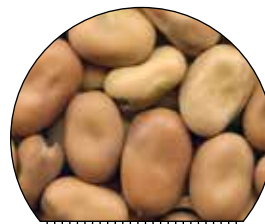
Small faba bean



0 5 10 15 20 25mm

Doza^(b)

Released: 2008
Seed weight: 40–60 g/100
Production region: North



0 5 10 15 20 25mm

Fiord

Released: 1983
Seed weight: 35–55 g/100
Production region: South



0 5 10 15 20 25mm

Barkool

Released: 1980s
Seed weight: 30–50 g/100
Production region: North

Australian sweet lupin



PBA Jurien^(b)

Released: 2015
Seed weight: 10–17 g/100
Production region: West and South



PBA Barlock^(b)

Released: 2013
Seed weight: 10–16 g/100
Production region: West and South



PBA Gunyidi^(b)

Released: 2010
Seed weight: 10–16 g/100
Production region: West and South



Jenabillup^(b)

Released: 2007
Seed weight: 9–17 g/100
Production region: West and South



Coromup^(b)

Released: 2006
Seed weight: 10–18 g/100
Production region: West and South



Mandelup^(b)

Released: 2005
Seed weight: 9–17 g/100
Production region: West and South



Jindalee

Released: 2001
Seed weight: 8–14 g/100
Production region: South



Quilinock^(b)

Released: 2001
Seed weight: 9–17 g/100
Production region: West



Tanjil^(b)

Released: 1999
Seed weight: 8–14 g/100
Production region: West



Wonga^(b)

Released: 1998
Seed weight: 8–14 g/100
Production region: West and South

Australian albus lupin



Amira^(b)

Released: 2012
Seed weight: 22–42 g/100
Production region: West



Andromeda^(b)

Released: 2005
Seed weight: 21–40 g/100
Production region: West



Luxor^(b)

Released: 2005
Seed weight: 23–42 g/100
Production region: South



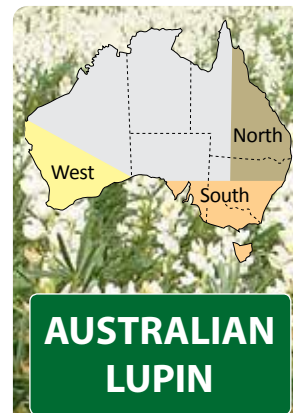
Rosetta

Released: 2005
Seed weight: 23–43 g/100
Production region: South



Kiev Mutant

Released: 1970s
Seed weight: 23–44 g/100
Production region: South



AUSTRALIAN LUPIN



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AUSTRALIAN MUNGBEAN



Large-seeded shiny green mungbean



Jade-AU[Ⓛ]
 Released: 2013
 Seed weight: 6.0–7.3 g/100
 Coat colour: shiny green
 Production region: North



Crystal[Ⓛ]
 Released: 2008
 Seed weight: 5.9–7.1 g/100
 Coat colour: shiny green
 Production region: North



White Gold
 Released: 2002
 Seed weight: 7.1–8.3 g/100
 Coat colour: shiny green
 Production region: North



Reselected Emerald
 Released: 1993
 Seed weight: 5.0–6.7 g/100
 Coat colour: shiny green
 Production region: North



Berken
 Released: 1975
 Seed weight: 5.0–6.7 g/100
 Coat colour: shiny green
 Production region: North

Small-seeded shiny green mungbean



Celera II-AU[Ⓛ]
 Released: 2014
 Seed weight: 3.2–3.5 g/100
 Coat colour: shiny green
 Production region: North



Green Diamond[Ⓛ]
 Released: 1997
 Seed weight: 3.3–3.7 g/100
 Coat colour: shiny green
 Production region: North



Celera
 Released: 1969
 Seed weight: 3.2–3.5 g/100
 Coat colour: shiny green
 Production region: North

Black gram (Mungo)



Regur
 Released: 1975
 Seed weight: 4.5–5.6 g/100
 Coat colour: black
 Production region: North

Large-seeded dull green mungbean



Satin II[Ⓛ]
 Released 2008
 Seed weight: 5.9–7.1 g/100
 Coat colour: dull green
 Production region: North

THE AUSTRALIAN INDUSTRY

Chickpea



Australian Export Market



5 year average exported **611,000 tonnes**

Export value **\$351 million**

91% exported
Other destinations include Asia, North America & Europe
Australia is the world's largest exporter of desi chickpea

Breeding Objectives



Superior marketing qualities include:



Pulse Breeding Australia (PBA) aims to increase high quality chickpea production through:

- Specific adaptation to agro-climatic regions
- Improved agronomics & yield potential
- Improved disease resistance



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THE AUSTRALIAN INDUSTRY

Faba Bean



Australian Export Market



5 year average exported **267,000 tonnes**

Export value **\$138 million**

92% exported
Major destinations are the Middle East & North Africa
Australia is the world's leading exporter of faba bean

Breeding Objectives



Superior marketing qualities include:



Pulse Breeding Australia (PBA) aims to increase high quality faba bean production through:

- Regional adaptation
- High yielding
- Improved disease resistance
- Enhanced agronomic traits



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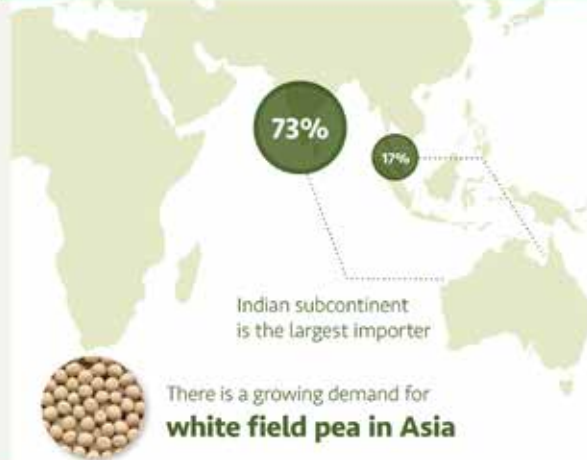
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THE AUSTRALIAN INDUSTRY

Field Pea



Australian Export Market



5 year average exported **191,000 tonnes**

Export value **\$80 million**

60% exported

Other destinations include Africa, Pacific & Europe

Australia is the world's **leading exporter of dun type field pea**

Breeding Objectives



Superior marketing qualities include:

Long grain storage

Sweet tasting



Low moisture content seed



Pulse Breeding Australia (PBA) aims to increase high quality field pea production through:

- Regional adaptation
- High yielding
- Improved disease resistance
- Enhanced agronomic traits



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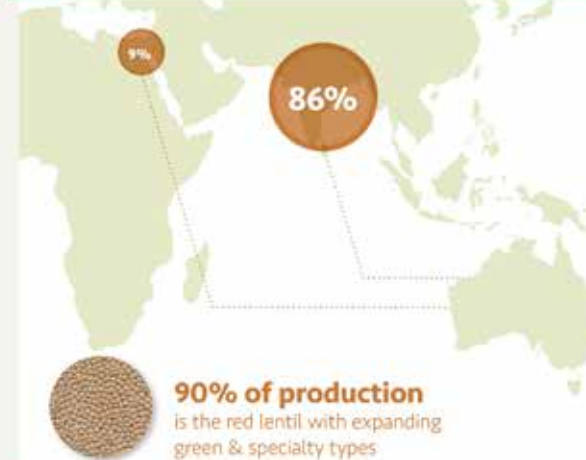
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THE AUSTRALIAN INDUSTRY

Lentil



Australian Export Market



5 year average exported **279,000 tonnes**

Export value **\$185 million**

95% exported

Other destinations include Africa, Asia & Europe

Indian subcontinent is the largest importer of **Australian red lentil**

Breeding Objectives



Superior marketing qualities include:

Bright seed colour & high quality

Fast & consistent cooking time



Uniform seed size & splitting



Pulse Breeding Australia (PBA) aims to increase high quality red & green lentil varieties production through:

- Improved yield potential & regional adaptation
- Improved disease resistance & tolerance to toxic levels of salt & boron
- Red lentils are bred for consistent grey seed coat colour



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THE AUSTRALIAN INDUSTRY

Lupin



Australian Export Market



5 year average exported
331,000 tonnes

Export value
\$96 million

50% exported
Other destinations include
North Africa & North America



Main species grown is
Australian sweet lupin
(*L. albus*/*olus*)



Albus lupins are
marketed to North
Africa as a snack food

80% of production
is in Western Australia



Breeding Objectives



Pulse Breeding Australia (PBA) aims to increase high quality sweet lupin varieties production through:

- Improved yield potential & herbicide tolerance
- Improved dehulling efficiency



Superior marketing qualities include:

High protein content

Low toxins
(phoratoxins)



Low alkaloid (bitterness)



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THE AUSTRALIAN INDUSTRY

Mungbean



Australian Export Market



5 year average exported
66,000 tonnes

Export value
\$67 million

90% exported
Other destinations include
North America, Europe & the
Middle East



Australia primarily exports **large seeded shiny green mungbean**

Australia exports the **highest quality grain**



Breeding Objectives



Australian Mungbean Association (AMA) aims to maximise productivity & quality in Australian dryland & irrigation farming systems:

- High yielding
- Uniformity of flowering & maturity
- Disease resistance & plant architecture



Superior marketing qualities include:

Shiny green coat

Uniform seed size



Highest level of food safety



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