Better pulse varieties faster

High yielding, disease resistant, metribuzin tolerant

KEY FEATURES

- High yielding across most lupin growing areas of WA, NSW, SA and Victoria
- Resistant (R) to anthracnose, (equivalent to PBA Barlock®)
- Resistant (R) to phomopsis (equivalent to PBA Gunyidi®)
- Resistant (R) to grey spot (equivalent to PBA Barlock®)
- Tolerant to metribuzin (superior to PBA Barlock®, similar to Coromup®)
- Early flowering and early maturity
- Pale seed coat with seed size similar to Mandelup®

MAIN ADVANTAGES

PBA Jurien® is an Australian sweet lupin variety suitable for all lupin growing areas of Australia. It provides a significant yield improvement over current varieties in most regions.

PBA Jurien® is resistant to anthracnose, phomopsis and grey spot. Seed dressings are still recommended to reduce the risk of seed borne anthracnose infections.

PBA Jurien® is moderately susceptible to brown spot. Follow current best management practices to reduce the potential impact of this disease.

SEED PROTECTION & ROYALTIES

PBA Jurien® is protected under Plant Breeder’s Rights (PBR) legislation. Growers may only retain seed from production of PBA Jurien® for their own seed use.

An End Point Royalty (EPR) of $2.75 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

Seednet

Planting Productivity
YIELD & ADAPTATION

PBA Jurien\textsuperscript{a} has performed well across all regions of Australia with higher grain yields than PBA Barlock\textsuperscript{a} and PBA Gunyidi\textsuperscript{a} in all Western Australia regions as well as many of the eastern states’ regions.

PBA Jurien\textsuperscript{a} is a potential replacement for PBA Barlock\textsuperscript{a} in Agzone 1, due to its higher yields and resistance to anthracnose.

PBA Jurien\textsuperscript{a} is the best choice for Agzone 8, due to its superior yield and equivalent, moderately resistance (MR), rating for Bean Yellow Mosaic Virus (BYMV) to Jenabillup\textsuperscript{a}.

Long-term yield expressed as a % of Mandelup\textsuperscript{a} in Western Australia (2008–2014)

<table>
<thead>
<tr>
<th></th>
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<td>116</td>
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<td>94</td>
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<tr>
<td>Tanjil\textsuperscript{a}</td>
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<td>95</td>
<td>92</td>
<td>90</td>
<td>91</td>
<td>94</td>
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<tr>
<td>Mandelup\textsuperscript{a} (t/ha)</td>
<td>2.95</td>
<td>2.51</td>
<td>2.07</td>
<td>2.16</td>
<td>2.28</td>
<td>1.93</td>
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<td>2.42</td>
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Long-term yield expressed as a % of Mandelup\textsuperscript{a} in New South Wales (2008–2014)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Long Season (6)</th>
<th>North East (3)</th>
<th>North West (8)</th>
<th>South East (25)</th>
<th>South West (5)</th>
<th>Short Season (5)</th>
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<tbody>
<tr>
<td>PBA Jurien\textsuperscript{a}</td>
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<td>97</td>
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<td>99</td>
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<td>92</td>
<td>102</td>
<td>102</td>
<td>99</td>
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<tr>
<td>Wonga\textsuperscript{a}</td>
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<td>95</td>
<td>88</td>
<td>87</td>
<td>87</td>
<td>92</td>
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<tr>
<td>Mandelup\textsuperscript{a} (t/ha)</td>
<td>2.25</td>
<td>1.98</td>
<td>2.04</td>
<td>2.33</td>
<td>1.69</td>
<td>2.02</td>
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</table>

Long-term yield expressed as a % of Mandelup\textsuperscript{a} in Victoria and South Australia (2008–2014)

<table>
<thead>
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<td>100</td>
<td>102</td>
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<tr>
<td>Coromup\textsuperscript{a}</td>
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<td>95</td>
<td>96</td>
<td>89</td>
<td>90</td>
<td>92</td>
</tr>
<tr>
<td>Jenabillup\textsuperscript{a}</td>
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<td>102</td>
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<tr>
<td>PBA Barlock\textsuperscript{a}</td>
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<td>97</td>
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<td>96</td>
<td>99</td>
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<tr>
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<td>84</td>
<td>88</td>
<td>86</td>
<td>84</td>
<td>83</td>
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<tr>
<td>Mandelup\textsuperscript{a} (t/ha)</td>
<td>1.87</td>
<td>2.08</td>
<td>2.02</td>
<td>2.01</td>
<td>1.65</td>
<td>1.14</td>
<td>1.97</td>
</tr>
</tbody>
</table>

Source: Trial results from Pulse Breeding Australia (PBA) and National Variety Trials (NVT) programs. The number in brackets ( ) shows the number of trials.
Pulse Breeding Australia

**DISEASE MANAGEMENT**

- Resistant (R) to anthracnose, equivalent to PBA Barlock\(^a\) and Tanjil\(^a\). Seed dressings are still recommended to reduce the risk of seed borne infection.
- Resistant (R) to phomopsis stem blight, equivalent to PBA Gunyidi\(^a\), Coromup\(^a\) and Mandelup\(^a\).
- Resistant (R) to grey spot, equivalent to PBA Barlock\(^a\).
- Moderately susceptible (MS) to brown spot. Follow current best practice for disease management.

**Virus**

- Moderately resistant (MR) to Cucumber Mosaic Virus (CMV) seed transmission, equivalent to PBA Gunyidi\(^a\) and Mandelup\(^a\).
- Moderately resistant (MR) to Bean Yellow Mosaic Virus (BYMV) and Black Pod Syndrome (late infection BYMV), similar to Jenabillup\(^a\), and better than PBA Barlock\(^a\).

<table>
<thead>
<tr>
<th>Variety</th>
<th>Lodging (high rainfall)</th>
<th>Brown spot</th>
<th>Phomopsis (stem)</th>
<th>Anthracnose</th>
<th>Grey spot</th>
<th>CMV (seed)</th>
<th>BYMV</th>
<th>Aphid</th>
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<tbody>
<tr>
<td>PBA Jurien(^a)</td>
<td>MS/MS</td>
<td>MS</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>MS/MR</td>
<td>MR</td>
<td>R</td>
</tr>
<tr>
<td>Coromup(^a)</td>
<td>MS/MS</td>
<td>MS</td>
<td>R</td>
<td>MR</td>
<td>R</td>
<td>MR</td>
<td>MS</td>
<td>R</td>
</tr>
<tr>
<td>Jenabillup(^a)</td>
<td>MS/MS</td>
<td>MS/MS</td>
<td>R</td>
<td>MS</td>
<td>R</td>
<td>MS/MR</td>
<td>MR</td>
<td>R</td>
</tr>
<tr>
<td>Mandelup(^a)</td>
<td>MS/MS</td>
<td>MS</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>MS/MR</td>
<td>S</td>
<td>S</td>
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<tr>
<td>PBA Barlock(^a)</td>
<td>MR/MS</td>
<td>MS</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>MR</td>
<td>MS</td>
<td>R</td>
</tr>
<tr>
<td>PBA Gunyidi(^a)</td>
<td>MR/MS</td>
<td>MS/MS</td>
<td>R</td>
<td>MS</td>
<td>R</td>
<td>MS/MR</td>
<td>MS</td>
<td>R</td>
</tr>
<tr>
<td>Quilinock(^a)</td>
<td>MS/MS</td>
<td>MS/MS</td>
<td>V/S</td>
<td>V/S</td>
<td>R</td>
<td>MS/MR</td>
<td>MS</td>
<td>S</td>
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<tr>
<td>Tanjil(^a)</td>
<td>MS/MS</td>
<td>MS</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>MS</td>
<td>R</td>
</tr>
<tr>
<td>Wonga(^a)</td>
<td>MR/MS</td>
<td>MS/MS</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>MS</td>
<td>R</td>
</tr>
</tbody>
</table>

*Source:* Pulse Breeding Australia (PBA) trials program 2008–2014

R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, VS = Very Susceptible

**AGRONOMY**

**Agronomic characteristics**

- PBA Jurien\(^a\) has similar agronomic characteristics to PBA Gunyidi\(^a\), with flowering time slightly earlier than PBA Barlock\(^a\) and similar to PBA Gunyidi\(^a\).
- PBA Jurien\(^a\) is taller than PBA Barlock\(^a\) and PBA Gunyidi\(^a\), similar to Mandelup\(^a\) and Coromup\(^a\).
- PBA Jurien\(^a\) is moderately susceptible (MS) to lodging in high rainfall regions, equivalent to Mandelup\(^a\).

**Herbicide tolerance**

- PBA Jurien\(^a\) shows equivalent tolerance to registered herbicides for lupin including metribuzin as Coromup\(^a\), with greater tolerance than Mandelup\(^a\).

**Harvestability**

- Harvest height is similar to Mandelup\(^a\), and is higher than PBA Barlock\(^a\) and PBA Gunyidi\(^a\).
- Harvest grain loss risk is similar to that of PBA Gunyidi\(^a\). PBA Jurien\(^a\) is less resistant to pod shattering than PBA Barlock\(^a\), but not as susceptible as Mandelup\(^a\).
- PBA Jurien\(^a\) has a slightly higher risk of lodging in high yielding situations than PBA Barlock\(^a\).

**Plant disease resistance of PBA Jurien\(^a\) in comparison to other Australian sweet lupin varieties**

**DISEASE MANAGEMENT**

- Resistant (R) to anthracnose, equivalent to PBA Barlock\(^b\) and Tanjil\(^b\). Seed dressings are still recommended to reduce the risk of seed borne infection.
- Resistant (R) to phomopsis stem blight, equivalent to PBA Gunyidi\(^b\), Coromup\(^b\) and Mandelup\(^b\).
- Resistant (R) to grey spot, equivalent to PBA Barlock\(^b\).
- Moderately susceptible (MS) to brown spot. Follow current best practice for disease management.

**Virus**

- Moderately resistant (MR) to Cucumber Mosaic Virus (CMV) seed transmission, equivalent to PBA Gunyidi\(^b\) and Mandelup\(^b\).
- Moderately resistant (MR) to Bean Yellow Mosaic Virus (BYMV) and Black Pod Syndrome (late infection BYMV), similar to Jenabillup\(^b\), and better than PBA Barlock\(^b\).

**Plant disease resistance of PBA Jurien\(^b\) in comparison to other Australian sweet lupin varieties**

**DISEASE MANAGEMENT**

- Resistant (R) to anthracnose, equivalent to PBA Barlock\(^c\) and Tanjil\(^c\). Seed dressings are still recommended to reduce the risk of seed borne infection.
- Resistant (R) to phomopsis stem blight, equivalent to PBA Gunyidi\(^c\), Coromup\(^c\) and Mandelup\(^c\).
- Resistant (R) to grey spot, equivalent to PBA Barlock\(^c\).
- Moderately susceptible (MS) to brown spot. Follow current best practice for disease management.

**Virus**

- Moderately resistant (MR) to Cucumber Mosaic Virus (CMV) seed transmission, equivalent to PBA Gunyidi\(^c\) and Mandelup\(^c\).
- Moderately resistant (MR) to Bean Yellow Mosaic Virus (BYMV) and Black Pod Syndrome (late infection BYMV), similar to Jenabillup\(^c\), and better than PBA Barlock\(^c\).

**Plant disease resistance of PBA Jurien\(^c\) in comparison to other Australian sweet lupin varieties**

**DISEASE MANAGEMENT**

- Resistant (R) to anthracnose, equivalent to PBA Barlock\(^d\) and Tanjil\(^d\). Seed dressings are still recommended to reduce the risk of seed borne infection.
- Resistant (R) to phomopsis stem blight, equivalent to PBA Gunyidi\(^d\), Coromup\(^d\) and Mandelup\(^d\).
- Resistant (R) to grey spot, equivalent to PBA Barlock\(^d\).
- Moderately susceptible (MS) to brown spot. Follow current best practice for disease management.

**Virus**

- Moderately resistant (MR) to Cucumber Mosaic Virus (CMV) seed transmission, equivalent to PBA Gunyidi\(^d\) and Mandelup\(^d\).
- Moderately resistant (MR) to Bean Yellow Mosaic Virus (BYMV) and Black Pod Syndrome (late infection BYMV), similar to Jenabillup\(^d\), and better than PBA Barlock\(^d\).
PBA Jurien
Australian sweet lupin

GRAIN QUALITY
PBA Jurien® has medium to large seed, similar to Mandelup® and the alkaloid content is similar to PBA Gunyidi®. Alkaloid contents fluctuate between years, sites and varying seasonal conditions.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Seed weight</th>
<th>Seed protein</th>
<th>Seed alkaloid</th>
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</thead>
<tbody>
<tr>
<td>PBA Jurien®</td>
<td>98</td>
<td>102</td>
<td>105</td>
</tr>
<tr>
<td>Danja®</td>
<td>84</td>
<td>105</td>
<td>123</td>
</tr>
<tr>
<td>Jenabillup®</td>
<td>103</td>
<td>103</td>
<td>67</td>
</tr>
<tr>
<td>PBA Barlock®</td>
<td>91</td>
<td>97</td>
<td>115</td>
</tr>
<tr>
<td>PBA Gunyidi®</td>
<td>89</td>
<td>102</td>
<td>100</td>
</tr>
<tr>
<td>Tanjil®</td>
<td>88</td>
<td>100</td>
<td>113</td>
</tr>
<tr>
<td>Mandelup®</td>
<td>168 mg</td>
<td>32.1 %</td>
<td>0.017 %</td>
</tr>
</tbody>
</table>

Source: Pulse Breeding Australia (PBA)
Seed weight: data is average of 3 sites in WA 2014
Protein and alkaloid: % as received, whole seed, 6 sites, 2010–2014

BREEDING
PBA Jurien® (tested as WALAN2385) was developed by the PBA Lupin breeding program, led by the Department of Agriculture and Food Western Australia.
PBA Jurien® is from a 2003 cross, 03A013R–ARR1–54, between 03L F1 female bulk 1 and 95L335–17–15 (=WALAN2231).

PBA Jurien® is named after the coastal town of Jurien Bay, which is adjacent to major lupin growing regions in WA. The word ‘Jurien’ is an old Swedish male name adapted from the Low German name ‘Jurian’ or ‘Jurien’ which is a variant of ‘Georg’. The original meaning is ‘farmer.’

Disclaimer: Recommendations have been made from information available to date and considered reliable, and will be updated as further information comes to hand. Readers who act on this information do so at their own risk. No liability or responsibility is accepted for any actions or outcomes arising from use of the material contained in this publication. Reproduction of this brochure in any edited form must be approved by Pulse Breeding Australia © 2015

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

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 lupin varieties.

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Tim Weaver, Pulse Australia, Ph: 0427 255 086