PBA Pearl
White field pea

Superior grain yield potential

KEY FEATURES
- Semi-leafless, semi-dwarf plant type
- High yield potential and broad adaptation
- Early to mid season flowering
- Early maturing: suitable for crop topping
- Good lodging resistance at maturity
- White seed marketable for human consumption

MAIN ADVANTAGES
PBA Pearl® (tested as OZP0819) has superior grain yield potential and is the first broadly adapted white seeded field pea variety released for Australia.

PBA Pearl® is a semi-leafless, semi-dwarf, erect growing variety. It has good early season plant vigour, flowers early to mid season and produces a high number of pods per plant. Crop maturity is uniform, early and suitable for crop topping. At maturity PBA Pearl® has superior lodging resistance compared to other semi-dwarf varieties.

Disease management for PBA Pearl® is similar to other field pea varieties. Specifically it is a low risk option for regions prone to bacterial blight compared to Kaspa®, but is not as tolerant as PBA Percy®. It also has good resistance to downy mildew and bean leaf roll virus.

PBA Pearl® produces medium to large spherical white pea seed suitable to market for human consumption or for stockfeed. PBA Pearl® is initially recommended for regions where growers can deliver white pea seed for export or for domestic sale.

AREA OF ADAPTATION
PBA Pearl® is initially recommended for regions with potential to market white pea grain for domestic stockfeed or human consumption export. However, PBA Pearl® is broadly adapted across all the major field pea production regions.

SEED PROTECTION & ROYALTIES
PBA Pearl® is protected under Plant Breeder's Rights (PBR) legislation. Growers can only retain seed from their production of PBA Pearl® for their own seed use.

An End Point Royalty (EPR) of $2.97 per tonne (GST inclusive), which includes breeder royalties, applies upon delivery of this variety. Seed is available from the commercial partner Seednet.
YIELD & ADAPTATION

PBA Pearl™ has high yield potential and has broad adaptation.

PBA Pearl™ is the highest yielding field pea variety available to growers in medium to long growing season climates.

In low rainfall or short season regions PBA Pearl™ has similar yield potential to other short season varieties recently released such as PBA Gunyah™.

The relative experimental grain yield for recent field pea variety releases are graphically presented in Figure 1. This graph is based on yield data from 173 experiments grown across Australia’s southern cropping zone from 2006 to 2011.

Growers can use the graph (Figure 1) to estimate the yield advantage of growing PBA Pearl™ on their farm compared to recent releases or older varieties such as Kaspa™ or Parafield.

FIGURE 1: Relative yields compared to the variety Kaspa™ from 2006 to 2011 from 173 field experiments.

Long-term Multi Environment mean yield predictions for field pea (% of Kaspa™) (2005-2011)

<table>
<thead>
<tr>
<th>Variety</th>
<th>Victoria</th>
<th>New South Wales</th>
<th>Western Australia</th>
<th>South Australia</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mallee</td>
<td>Wimmera</td>
<td>North/West</td>
<td>South/East</td>
</tr>
<tr>
<td>Yellow pea type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBA Pearl™</td>
<td>110</td>
<td>106</td>
<td>117</td>
<td>106</td>
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<td>Sturt™</td>
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<td>106</td>
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<td>100</td>
</tr>
<tr>
<td>Kaspa type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaspa™</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>PBA Twilight™</td>
<td>103</td>
<td>101</td>
<td>107</td>
<td>100</td>
</tr>
<tr>
<td>PBA Gunyah™</td>
<td>103</td>
<td>101</td>
<td>105</td>
<td>102</td>
</tr>
<tr>
<td>Australian dun type</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PBA Oura™</td>
<td>104</td>
<td>104</td>
<td>113</td>
<td>107</td>
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<tr>
<td>PBA Percy™</td>
<td>99</td>
<td>102</td>
<td>111</td>
<td>107</td>
</tr>
<tr>
<td>Parafeld</td>
<td>95</td>
<td>96</td>
<td>97</td>
<td>99</td>
</tr>
<tr>
<td>Yarrum™</td>
<td>98</td>
<td>98</td>
<td>116</td>
<td>105</td>
</tr>
<tr>
<td>Kaspa™ (t/ha)</td>
<td>1.57</td>
<td>2.32</td>
<td>1.60</td>
<td>2.40</td>
</tr>
</tbody>
</table>

Source: Trial results from Pulse Breeding Australia (PBA)
PBA Pearl
White field pea

AGRONOMY
Growers should follow the recommended regional crop management guidelines for semi-dwarf field pea varieties;
- Optimal sowing time periods and sowing rates
- Optimal harvest time periods and practices
- Optimal weed management

PBA Pearl is soft seeded in crop rotations.
PBA Pearl matures early and uniformly making it suitable for crop-topping.
PBA Pearl has superior crop lodging resistance at harvest.
PBA Pearl has moderate resistance to pod shattering, but is not as resistant as sugar pod type varieties such as Kaspa.

### Niche grain type

<table>
<thead>
<tr>
<th>Variety</th>
<th>Relative seed size, % of cv Kaspa</th>
<th>Plant habit</th>
<th>Flowering time</th>
<th>Maturity time</th>
<th>Plant lodging, at maturity</th>
<th>Pod shattering, at maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBA Pearl</td>
<td>M-L (105%)</td>
<td>SD-SL</td>
<td>Early-Mid</td>
<td>Earl</td>
<td>Good</td>
<td>MR (NSP)</td>
</tr>
<tr>
<td>SW Celine</td>
<td>M-L (105%)</td>
<td>SD-SL</td>
<td>Early</td>
<td>Early</td>
<td>Fair-Good</td>
<td>S (NSP)</td>
</tr>
<tr>
<td>Sturt</td>
<td>S-M (85%)</td>
<td>C</td>
<td>Early-Mid</td>
<td>Mid</td>
<td>Poor</td>
<td>MR (NSP)</td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td>Kaspa</td>
<td>M (100%)</td>
<td>SD-SL</td>
<td>Late</td>
<td>Mid</td>
<td>Fair-Good</td>
</tr>
<tr>
<td>PBA Twilight</td>
<td>M (102%)</td>
<td>SD-SL</td>
<td>Early</td>
<td>Early</td>
<td>Fair-Good</td>
</tr>
<tr>
<td>PBA Gunyah</td>
<td>M (102%)</td>
<td>SD-SL</td>
<td>Early-Mid</td>
<td>Early</td>
<td>Fair-Good</td>
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<th>Pod shattering, at maturity</th>
</tr>
</thead>
</table>
| Australian dun type
| PBA Oural  | M (100%)                         | SD-SL       | Early-Mid      | Early         | Fair-Good                   |
| PBA Percy   | M-L (110%)                       | C           | Early          | Early         | Poor                        |
| Morgan      | S-M (80%)                        | Tall-SL     | Late           | Late          | Poor-Fair                   |
| Parafield   | M-L (110%)                       | C           | Mid            | Mid           | Poor                        |
| Yarrum      | M (100%)                         | SD-SL       | Late           | Mid           | Poor-Fair                   |

Key: SD=semi-dwarf, C=conventional, SL=semi-leafless, S=susceptible, MS=moderately susceptible, MR=moderately resistant, R= resistant, SP=sugar pod type pod, NSP=non sugar pod type pod. Relative seed size: S = Small, M = Medium, L = Large.

DISEASE MANAGEMENT
Growers should follow the regional disease management guidelines for field pea to minimise risk of yield loss;
- Sow within recommended time periods
- Follow recommended crop rotation practices
- Avoid sowing disease infected seed
- Use predictive models to manage blackspot
- Use recommended seed and foliar fungicides to control fungal mildews and blackspot
- Follow pesticide recommendation for control of pea weevil and budworm

PBA Pearl has good resistance to bean leaf roll virus (BLRV) and downy mildew.

PBA Pearl is moderately susceptible to bacterial blight and a lower risk option compared to susceptible varieties such as Kaspa, for regions prone to this disease.

PBA Pearl is susceptible to blackspot, powdery mildew and Pea seed borne mosaic virus (PSbMV), similar to Kaspa.

### Disease Management Table

<table>
<thead>
<tr>
<th>Variety</th>
<th>Blackspot (Ascochyta)</th>
<th>Bacterial blight (Field rating)</th>
<th>Downy mildew (Parafield strain)</th>
<th>Powdery mildew</th>
<th>PSbMV</th>
<th>BLRV (Field rating)</th>
</tr>
</thead>
</table>
| Yellow pea type
| PBA Pearl     | MS                    | MS                              | R                               | S              | S     | MS-MR*              |
| SW Celine     | MS                    | S                               | S                               | S              | S     | S                   |
| Sturt         | MS                    | MS                              | MR                              | S              | S     | MS-MR*              |

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<th>Powdery mildew</th>
<th>PSbMV</th>
<th>BLRV (Field rating)</th>
</tr>
</thead>
</table>
| Kaspa type
| Kaspa       | MS                    | S                               | MR                              | S              | S     | S                   |
| PBA Twilight| MS                    | S                               | R                               | S              | S     | S                   |
| PBA Gunyah  | MS                    | S                               | R                               | S              | S     | S                   |

| Australian dun type
| PBA Oural  | MS                    | MR                              | MR                              | S              | S     | MS-MR*              |
| PBA Percy  | MS                    | R                               | S                               | S              | S     | S                   |
| Morgan     | MS                    | MS                              | MR                              | S              | S     | S                   |
| Parafield  | MS                    | MS                              | S                               | S              | S     | S                   |
| Yarrum     | MS                    | MS                              | S                               | R              | R     | R                   |

Key: S=susceptible, MS=moderately susceptible, MR=moderately resistant, R=resistance. PSbMV=Pea seed borne mosaic virus. BLRV = Bean leaf roll virus * Requires validation

REFER TO DETAILED INFORMATION AT www.pulseaus.com.au
Ute guides, crop and disease management bulletins
Better pulse varieties faster

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

FOR MORE INFORMATION

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Field pea Blackspot Sowing Guides;
www.agric.wa.gov.au/cropdisease

PBA Pearl
White field pea

GRAIN QUALITY

PBA Pearl® produces a medium to large sized white field pea seed with a yellow split.

The grain has a clear seed coat and is smooth and spherical.

MARKETING

PBA Pearl® produces grain that is marketable as a white or yellow pea and can be exported to Asian countries for production of yellow split dhal, pulse flour, roasted snack food or for pea noodles.

The grain is also suitable for stockfeed.

BREEDING

PBA Pearl® is released by the PBA Field pea program. The line was bred from a complex crossing program completed in 2002 and pedigree based selection conducted at VIC DPI-Horsham.

The line was extensively evaluated across Australia by PBA and promoted for variety release on the basis of its superior yield potential and broad adaptation.

The variety is named after Pearl beach on the central coast of NSW.

PULSE AGRONOMY

Agronomy and disease management information has been developed with the assistance of the ‘Southern region pulse agronomy project’ co-funded by GRDC, SARDI, DPI Victoria and NSW-DPI.