PBA Flash®
Medium Red Lentil

High yielding early maturing lentil

KEY FEATURES
- Highest yielding lentil variety (average yield 4-10% higher than Nugget across all lentil growing regions)
- Excellent yield in short season and low yielding environments
- Early to mid maturity and better suited to crop topping than other varieties
- Erect growth habit and suited to no-till, inter-row sowing
- Moderately resistant to seed and foliar ascochyta blight (AB)
- Susceptible to botrytis grey mould (BGM)
- Improved tolerance to soil salinity and boron compared to Nugget
- Medium-sized red lentil with a green seed coat
- Improved milling quality

MAIN ADVANTAGES
PBA Flash® is suited to all current lentil areas but particularly shorter-season areas where its high yield and earlier maturity improves reliability of yield, especially in lower yielding situations. It is also a better option than Nugget for early sowing dates and higher rainfall areas provided botrytis grey mould is controlled. Earlier maturity makes PBA Flash® the best variety for timely crop topping and it’s well suited to no-till, inter-row sowing into standing residue. PBA Flash® is likely to be exported to medium red lentil markets, similar to Nugget.

SEED PROTECTION & ROYALTIES
PBA Flash® is protected under Plant Breeder’s Rights (PBR) legislation. Authorised growers can retain seed from production of PBA Flash® for their own seed use. An End Point Royalty of $5.50/t (including GST) applies to this variety when delivered to authorised traders. PBA Flash® is also protected by a security system that can identify the lentil variety delivered to a receival site using genetic markers. Seed is commercialised through PBSeeds and available from 2010.

AREA OF ADAPTATION

Also adapted to current lentil growing areas in NSW and WA.
YIELD & ADAPTATION

PBA Flash® has been the highest yielding variety in all regions of southern Australia, except in the Mallee where PBA Bounty® was higher yielding.

PBA Flash® is best adapted to shorter season lentil growing environments. It has also out-yielded all other varieties in higher rainfall, longer season areas, particularly in drier, lower yielding trials where yields have been excellent, but BGM must be controlled.

2003-2008 LONG-TERM YIELD OF LENTIL VARIETIES

Varieties in low and higher yielding trials across southern Australia. Yields expressed as a % of Nugget’s yield

<table>
<thead>
<tr>
<th>Variety</th>
<th>Victoria</th>
<th>South Australia</th>
<th>NSW</th>
<th>WA</th>
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<tr>
<td></td>
<td>Wimmera</td>
<td>Mallee</td>
<td>Yorke P</td>
<td>Mid North</td>
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<td>Site mean yield (t/ha)</td>
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<td>Aldinga</td>
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<td>Boomer®</td>
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Data courtesy: PBA, SARDI, DPI Victoria, I&I NSW, DAFWA, NVT

AGRONOMIC AND DISEASE TRAITS OF LENTIL VARIETIES

<table>
<thead>
<tr>
<th>Variety</th>
<th>Vigour</th>
<th>Plant height</th>
<th>Flower time</th>
<th>Maturity</th>
<th>Lodging resistance</th>
<th>Pod drop</th>
<th>Shattering</th>
<th>Ascochyta blight</th>
<th>Botrytis grey mould</th>
<th>Boron</th>
<th>Salt</th>
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<td>Boomer®</td>
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Key: Mod=moderate, Med=medium, Sht=short, E=early, M=mid, L=late, S=susceptible, MS=moderately susceptible, MR=moderately resistant, R=resistant, I=intolerant, MI=moderately intolerant, MT=moderately tolerant. * more prone to pod drop in windy environments due to improved resistance to lodging.
DISEASE MANAGEMENT
Botrytis grey mould (BGM)
PBA Flash™ is rated susceptible to BGM and is targeted towards drier, shorter season areas where BGM is generally a lower risk. The control of BGM should be a priority in all areas when growing PBA Flash™, but particularly in longer season, higher rainfall areas that are prone to the disease. Management should be as for Northfield:
- BGM prone areas - apply a preventative fungicide at canopy closure and additional sprays in wetter years, particularly if the crop is lodged and wet weather is forecast
- other areas - monitor crop growth and apply a preventative fungicide at canopy closure in wetter years when crop growth is good and subsoil moisture is high, further monitoring and sprays may be required

Ascochyta blight (AB)
PBA Flash™ has moderate resistance to foliar and seed infection by AB, similar to Nugget but not as good as Nipper® or Northfield. AB management for PBA Flash™ is similar to Nugget. Monitor crops and apply fungicides from the start of podding in front of rainfall events to prevent seed infection.
A recommended fungicide seed dressing is beneficial for early control of seedling root rots, AB and BGM.

AGRONOMY
Agronomic characteristics
Paddock selection and basic requirements for growing PBA Flash™ are similar to other lentil varieties. PBA Flash™ has the following characteristics:
- mid flowering, flowering 3 to 5 days earlier than Nugget
- earlier maturing than all other varieties
- medium plant height and height of pods, similar to Nugget
- improved lodging resistance compared to all varieties except Nipper®
- tolerance to salinity (NaCl) similar to PBA Bounty®, lower than Nipper® but higher than all other varieties
- small improvement in soil boron tolerance compared to all varieties thus reducing some production risk

Sowing
Preliminary agronomic trial data suggest that PBA Flash™ is better suited to earlier sowing dates than Nugget, Boomer® and Northfield due to a combination of erect plant type and earlier maturity BUT avoid early sowing in BGM prone areas due to increased risk of lodging and BGM infection.
- target 120 plants/m² as for Nugget
- target similar sowing dates to Nugget

Herbicide tolerance
The tolerance of PBA Flash™ to label recommended rates of registered herbicides is similar to Nugget based on three years of trials conducted in SA (calcereous alkaline soils).

Crop topping and harvest
PBA Flash™ matures earlier than all current varieties and is therefore more suited to crop-topping to control weeds. However, maturity can vary between years and locations. Yield loss or poor seed quality may result from the incorrect timing of crop topping, especially when the maturity of the crop is delayed relative to weeds such as can occur with late sowing.
Timely harvest is critical in all lentil varieties to prevent yield loss from pod drop and to maximise quality. PBA Flash™ may be more prone to pod drop in windy environments than other varieties due to its improved standing ability at maturity.

QUALITY
Seed characteristics
PBA Flash™ is a medium-sized red lentil that will be segregated and sold into similar market types as Nugget. It has a lens-shaped seed, similar but slightly rounder and larger than Nugget, with a green seed coat similar to Aldinga. In laboratory testing, PBA Flash™ demonstrated improved seed milling characteristics compared to Nugget with a higher dehulling efficiency and split yield.

Refer to detailed information at www.pulseaus.com.au
Quality assurance
Seed purity is very important in lentils with a restriction of 1% for varieties not of the same type. Prevent seed contamination when changing varieties, particularly where cotyledon or seed coat colour differs. Ensure volunteer lentils are controlled prior to sowing and implement good seed handling hygiene practices. Be particularly careful to avoid contamination of PBA Flash with green lentils such as Boomer as when split the yellow seeds will contaminate and reduce the value of the red lentil split product.

For the purpose of seed cleaning PBA Flash has a seed size larger than Nipper and Northfield, smaller than Aldinga and Boomer and similar to Nugget and Digger.

MARKETING
- PBA Flash fits into the medium sized red lentil class for human food markets
- Seed of PBA Flash will be segregated from other lentil varieties due to a unique combination of seed size and coat colour
- Open marketing to authorised grain traders with an end-point royalty of $5.50/t (including GST) on deliveries

BREEDING
PBA Flash (evaluated as CIPAL411) was developed by the PBA lentil program, led by DPI Victoria. It was produced from a cross between two lines from ICARDA, Syria (ILL7685 and ILL7180 (Nugget)). PBA Flash is part of a pipeline of varieties that will be released by PBA in the next 5 years. PBA formed a commercial partnership with PBSeeds to multiply, manage and release PBA lentil varieties. PBSeeds and PBA are delivering varieties to growers 2-4 years earlier by fast tracking the identification, multiplication, generation of information and release of new varieties. The Southern Pulse Agronomy project has been integral to the process.

At PBSeeds we are leaders in the production of fine quality seed and grains. We take great care and pride in ensuring we match our customer’s requirements. PBSeeds is proud to partner with PBA and invests in the improvement of Australian lentil varieties.

FOR MORE INFORMATION
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