

# Lentil Variety Trial - Dalwallinu



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## Key Messages

- Lentils are well suited to the heavier soils of Dalwallinu
- The newly released variety PBA Highland XT produced the highest yields of 1 t/ha in tough conditions.

## Aim

Identify suitable lentil varieties for Western Australian farming systems.

## Background

Lentils are rapidly expanding in the Esperance region and have a fit elsewhere in WA. DPIRD run a small NVT style program to identify suitable varieties for WA conditions and provide supporting information for newly release varieties. In this series we test 10 released varieties and 8 unreleased genotypes (data not shown here) sown in April in key locations in WA.

## Trial Details

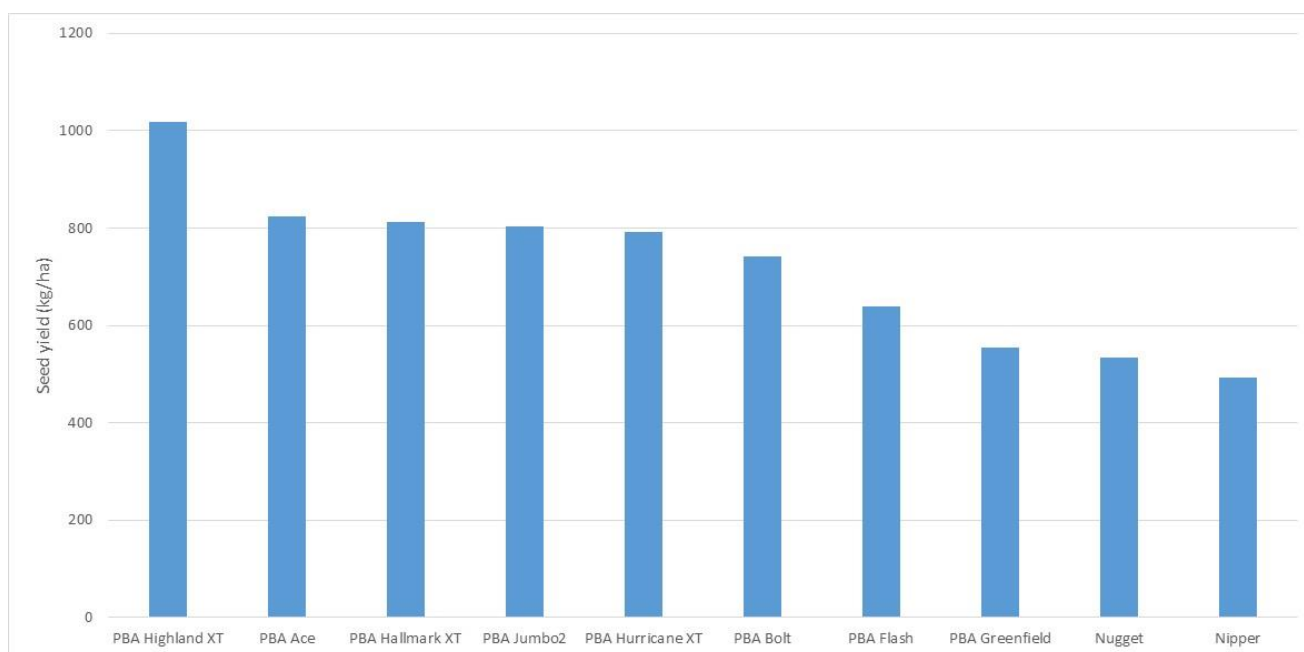
<b>Property</b>	Harry Hyde, Courtlea Road West, Dalwallinu		
<b>Plot size &amp; replication</b>	1.8 m centres x 10 m sown x 3 reps		
<b>Soil type</b>	Red-brown clay loam		
<b>Soil pH (CaCl<sub>2</sub>)</b>	0-10cm: 6.6	10-20cm: 7.8	20-30cm: 8.0
<b>EC (dS/m)</b>	0-10cm: 0.074	10-20cm: 0.112	20-30cm: 0.1
<b>Paddock rotation:</b>	2018: Cereal		
<b>Sowing date</b>	7/5/2019		
<b>Sowing rate</b>	Variety dependent: Target 100 p/m <sup>2</sup>		
<b>Fertiliser</b>	Banded 100 Kg Superphosphate treated with Impact @400 mL		
<b>Herbicides, insecticides &amp; fungicides</b>	IBS 0.83 kg/ha Terbyne Xtreme (875 g terbuthylazine/kg) + 1.2 L/ha Treflan. IAS – Chlorpyrifos 200 mL/ha + Talstar 100 mL/ha. PostEm – 9th June 500 mL/ha Clethodim + 1%MSO, 4 <sup>th</sup> September AlphaScud 300 mL/ha + 500 mL/ha Clethodim + 1%MSO + Pirimor 300 g/ha, 16 <sup>th</sup> October 3 L/ha Reglone + 0.5% wetter		
<b>Harvested</b>	24 <sup>th</sup> October		
<b>Growing season rainfall</b>	174 mm		

## Results

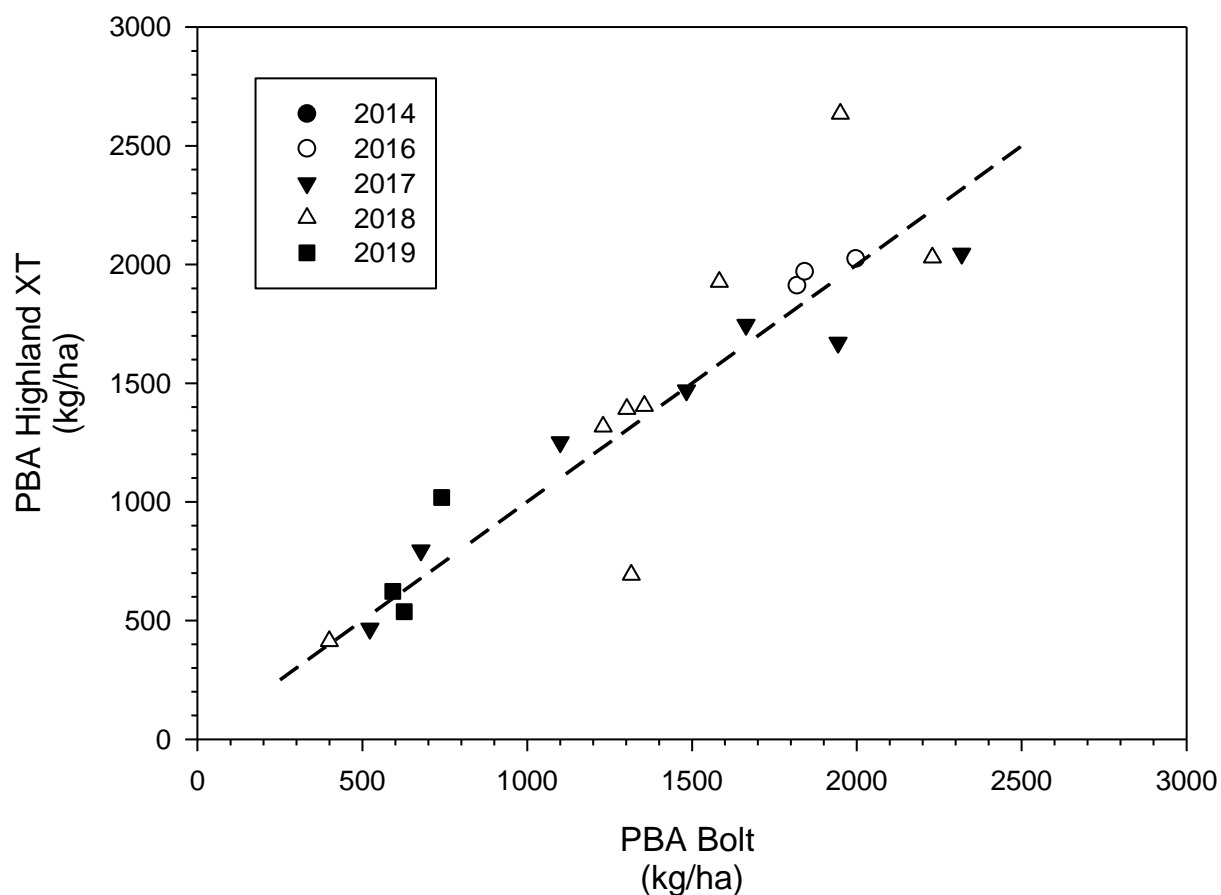
The highest yielding variety in the 2019 Dalwallinu experiment was PBA Highland XT - which was released in October 2019. PBA Highland XT, like PBA Hallmark XT and PBA Hurricane XT, shows reduced sensitivity to some sulfonylurea and imidazolinone herbicide residues from previous crop applications. PBA Highland XT has tolerance to applied imazamox and imazapyr according to APVMA permit number PER87417 and improved tolerance to flumetsulam (e.g. Broadstrike®) applied in crop.

PBA Highland XT is on average around 2% higher yielding than PBA Bolt and 5% higher yielding than PBA Hallmark XT in WA (Figure 2 and 3, DPIRD and PBA trials). Seed of PB Highland XT is available from PBseeds (03 5383 2213).

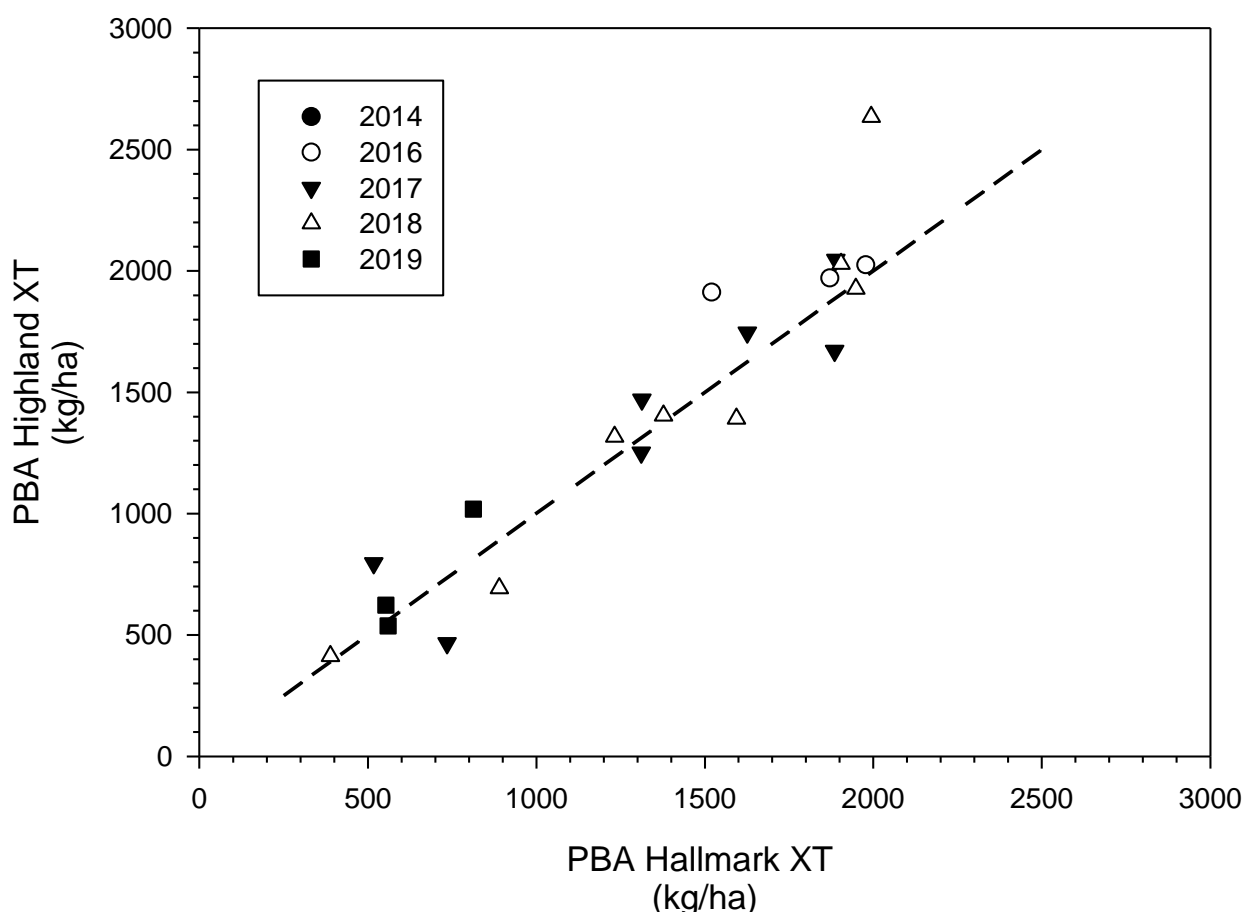
Older lentil varieties such as Nipper and Nugget did not reach canopy closure in this experiment, whilst most other lines were at full canopy closure by the beginning of September. Nipper, Nugget and the green seed type variety PBA Greenfield were lower yielding than most other released varieties, including the industry standard PBA Bolt.



**Figure 1.** Lentil variety experiment, Dalwallinu 19WH17, LSD = 168 kg/ha. (Only results from released varieties are shown here)



**Figure 2.** Seed yield comparison between PBA Bolt and PBA Highland XT in experiments conducted by DPIRD and Pulse Breeding Australia (PBA) in WA from 2014 to 2019. Dashed line indicates 1:1.



**Figure 3.** Seed yield comparison between PBA Hallmark XT and PBA Highland XT in experiments conducted by DPIRD and Pulse Breeding Australia (PBA) in WA from 2014 to 2019. Dashed line indicates 1:1.

### Comments

Like many parts of WA, Dalwallinu experienced a delayed start to sowing and a drier than normal season. Many growers chose to fallow paddocks rather than sow break crops. Despite the tough conditions, the best of the lentil varieties produced over 1 t/ha. Combining 2019 results with recent experiences in 2018 of lentil yields in a similar variety trial of 1.95 t/ha indicates lentils are well suited to the heavier soil types around Dalwallinu.

For other reports related to this trial visit GRDC's on-farm trial web site at <https://www.farmtrials.com.au>

### Acknowledgements

This experiment is one of a series conducted throughout WA funded by DPIRD to ensure lentil varieties are widely tested in WA. Pulse Breeding Australia (PBA) provided seed for experiments. Thanks to the Wongan Hills TSU for trial management and Liebe Group for their continued support in providing trial sites. Salzar Rahman and Pam Burgess provided technical assistance to ensure all treatments and measurements occurred in a timely and accurate fashion. Salzar Rahman and Stacey Hansch salaries are supported by the DPIRD/GRDC co-investment "High Value Pulses - Raising awareness, optimising yield and expanding the area of lentil, chickpea and faba bean in Western Australia" (DAW1903-004RTX)

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