

18WH30 Lentil VT

Authors

Mark Seymour

Location of trial

Dalwallinu

Summary (Key messages)

- Over the longer term PBA Hallmark XT has outperformed PBA Hurricane XT and growers interested in IMI tolerant lentils are encouraged to try this variety on their farm

Background

Lentil variety trials testing 10 released varieties and 20 unreleased genotypes (data not shown here) sown in April in key locations in WA.

Aim

Identify suitable lentil varieties for WA growers.

Trial Details

- Property: Ian Hyde, Fell Road Latitude S 30.252865, Longitude 116.656723
- Growing Season rainfall (GSR, April to October) = 270 mm
- Soil type: Clay Loam (1.36% organic carbon, pH 7.2)
- Sowing date April 24
- Fertiliser: Banded 100 Kg Superphosphate treated with Hi load Gold @200 mL/ha
- Herbicides – IBS 1.0 kg/ha Terbyne Xtreme (terbuthylazine) + 1 L/ha Treflan, PostEm – 20th June 25 g/ha Broadstrike, 19^h July - 100 mL/ha Brodal + 100mL/ha metribuzin (salvage to control medic – minimal crop damage), 10th July 1 L/ha Select + Hasten
- Harvested 6th November

Treatments

Trial design was row column design (Blocking = Rep+ColRep) 30 genotypes and 3 replicates. All seed was tested for seed size and seed rates adjusted to aim for 100 plants/m².

Results

Crop growth was excellent all year. We did have stiff competition from medic which residual herbicides and Broadstrike were not controlling. Therefore we decided to apply Brodal + Metribuzin, which held the medic back and had minimal effect on the lentils.

On average, 5 t/ha of dry matter and average seed yields were 1.6 t/ha. No released variety produced yielded higher than our standard variety PBA Bolt (Table 1), whilst one of the breeding lines (data not shown) did out yield PBA Bolt at Dalwallinu in 2018. The new variety PBA Hallmark XT (tested as CIPAL1422) nearly produced significantly higher yields than PBA Bolt and PBA Hurricane XT. Over the last 5 years, PBA Hallmark XT appears to be a more reliable variety than PBA Hurricane XT (Figure 1) and produces medium sized seed compared to PBA Hurricane XT's smaller seed (Table 1 and Figure 2). In southern areas, we have observed PBA Hallmark XT handles the cooler conditions slightly better than PBA Hurricane XT, and the plots are more even.

Table 1 Lentil variety experiment, Dalwallinu 18WH30 (Only results from released varieties are shown here

Variety	GY		% of Bolt	50% flowering	1000sw	
PBA Hallmark XT (CIPAL1422)	1948	gh	123	1-Sep	41	hi
NUGGET	1406	abcd	89	31-Aug	40	ghi
PBA ACE	1635	abcdefgh	103	28-Aug	43	jk
PBA BLITZ	1542	abcdef	97	24-Aug	48	m
PBA BOLT	1583	abcdefg	100	27-Aug	41	ghi
PBA FLASH	1302	ab	82	3-Sep	47	m
PBA GREENFIELD	1490	abcde	94	1-Sep	51	n
PBA HERALD XT	1562	abcdefg	99	4-Sep	30	a
PBA HURRICANE XT	1677	bcdefgh	106	1-Sep	34	b
PBA JUMBO2	1760	cdefgh	111	27-Aug	48	m
Mean	1639		104		40	
P	0.02				<0.001	
LSD	386.4		24		2	

Values followed by the same letter are not significantly different

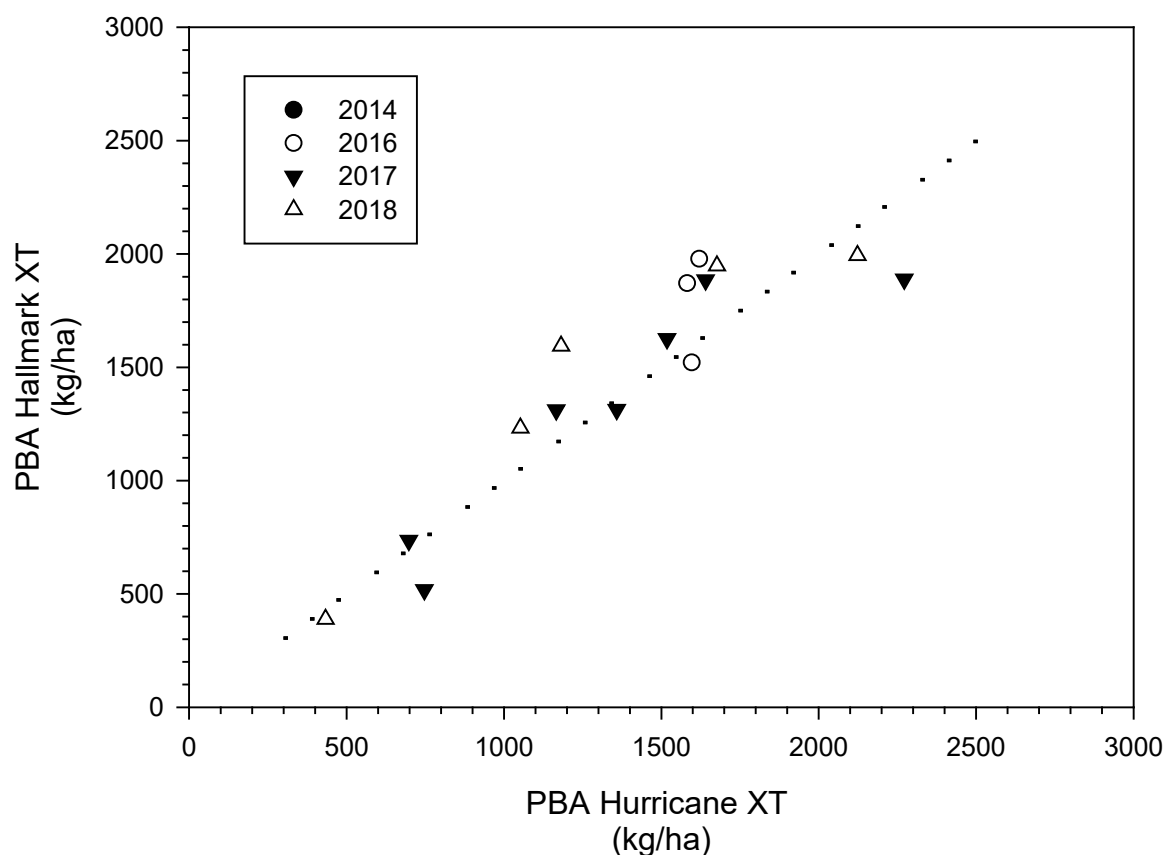


Figure 1. Seed yield comparison between PBA Hurricane XT and PBA Hallmark XT in experiments conducted by DPIRD and Pulse Breeding Australia (PBA) in WA from 2014 to 2018. Dashed line indicates 1:1.

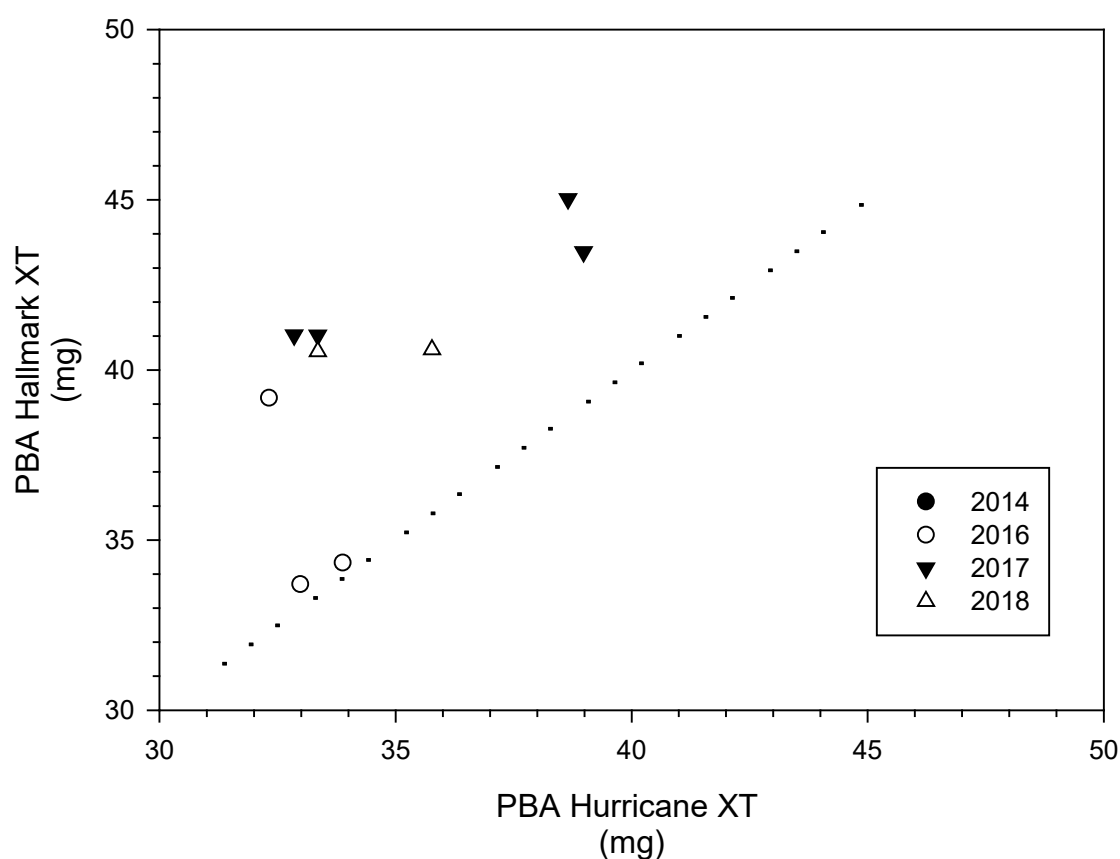


Figure 2. Seed size (mg) comparison between PBA Hurricane XT and PBA Hallmark XT in experiments conducted by DPIRD and PBA in WA from 2014 to 2018. Dashed line indicates 1:1.

Acknowledgements

This experiment is one of a series conducted throughout WA as part of the GRDC/DPIRD co-funded project “Tactical Break Crop Agronomy in Western Australia”. 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.

Links

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

For more information contact

Mark Seymour, Senior Research Officer, Esperance on 90831 143.

Email: mark.seymour@agric.wa.gov.au