



# PBA Gunyidi lupins did it in dry conditions

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**P**BA Gunyidi was the highest yielding lupin variety across South Australia in 2015, beating Mandelup by 4 % when averaged across all sites.

Nine released varieties and 21 advanced lupin breeding lines were evaluated at eight sites across South Australia in 2015. All site average yields were below long term averages, ranging from 0.63 t/ha at Keith to 1.54 t/ha at Ungarra.

Seeding started at Wanilla on 1 May and concluded at Mundulla on 12 June. Seeding was completed within a day or so of the co-operating farmer.

The Eyre Peninsula, Mid North and Mallee experienced above average April rainfall. This was followed by below average rainfall for May through to July on the Eyre Peninsula and Mid North, with good rains in August.

The Mallee had average rainfall for May and July, June was well-below average and August below average. The South East had an exceptionally dry growing season. Overall the South East April to August rainfall was well-below average.

The entire state experienced a dry spring, with below average rainfall in September and well-below average in October. The Mallee and South East experienced frost and extreme heat conditions throughout the flowering period. South East yields reflect the growing conditions, being below half of the long term average for the region.

There were few obvious signs of virus infection in 2015 trials and no phomopsis detected.



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New variety PBA Jurien averaged 2 % lower than Mandelup across the state, out-performing Mandelup at Tooligie and on the South East. PBA Jurien has the highest regional long-term yield for the Eyre Peninsula and South East.

PBA Gunyidi had its greatest advantage at Tooligie on the Upper Eyre Peninsula in 2015, with a 22 % increase over Mandelup and on the South East, where at all sites it out-yielded Mandelup.

Although they did not out-yield Mandelup in 2015 at Spalding, PBA Gunyidi and Jenabillup have the highest long-term regional production yields of 106 % of site average for this region.

PBA Barlock was the second top-performing variety in 2105. It performed similarly to Mandelup at Wanilla and out-yielded Mandelup only at Tooligie and on the South East (sites where Mandelup performed poorly in 2015).

At all other sites Mandelup performed better than PBA Barlock. Long term averages show PBA Barlock out-yielding Mandelup on the Eyre Peninsula.

The contribution of data and information for this report from the Pulse Breeding Australia Lupin Breeding Program by Dr. Jon Clements (DAFWA) and Mark Richards (NSW DPI) is greatly acknowledged. ■

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# Lupins

SA Lupin Variety Trial Yield Performance (2015 and predicted regional performance (2009-2015), expressed as % of site average yield)																										
Variety	Lower Eyre Peninsula					Upper Eyre Peninsula					Mid North			Mallee			South East									
	2015		Long term average across sites			2015		Long term average across sites			2015		Long term average across sites			2015		Long term average across sites								
	Wan-illa	Ung-arra	t/ha	% of Site Mean	No. Trials	Tool-igie	t/ha	% of Site Mean	No. Trials	Spal-ding	2015	t/ha	% of Site Mean	No. Trials	Lam-eroo	2015	t/ha	% of Site Mean	No. Trials	Keith	Mun-dulla	Fran-ces	2015	t/ha	% of Site Mean	No. Trials
Danja	94	74	1.80	79	9	76	1.36	78	7	90	1.65	88	3	103	1.50	92	3	84	71	93	84	71	93	1.47	88	12
Jenabillup	88	105	2.30	101	16	98	1.69	97	12	100	2.00	106	7	90	1.64	100	6	97	96	82	96	96	82	1.70	102	26
Jindalee	88	88	1.85	81	16	85	1.37	79	12	93	1.67	89	7	90	1.46	89	6	92	67	91	92	67	91	1.40	84	26
Mandelup	104	105	2.24	98	16	81	1.72	99	12	108	1.98	105	7	104	1.75	106	6	93	89	80	93	89	80	1.70	102	26
PBA Barlock	106	92	2.39	105	13	106	1.83	106	10	99	1.82	97	6	85	1.57	96	5	105	98	98	105	98	98	1.69	102	22
PBA Gunyidi	99	109	2.41	106	14	103	1.80	104	11	103	1.99	106	7	95	1.68	103	6	110	100	99	110	100	99	1.69	102	25
PBA Jurien	98	101	2.46	108	9	101	1.85	107	5	90	1.93	102	5	95	1.63	99	4	96	99	86	96	99	86	1.71	103	15
Quilinoock	97	106	2.24	98	6	108	1.62	94	4	94	-	-	-	88	-	-	-	79	103	77	79	103	77	1.64	99	7
Wonga	92	79	2.08	91	14	68	1.60	93	11	90	1.61	86	7	69	1.45	88	6	99	82	88	99	82	88	1.50	90	25
<b>Site av yield (t/ha)</b>	<b>1.53</b>	<b>1.54</b>	<b>2.28</b>			<b>0.97</b>	<b>1.73</b>			<b>1.22</b>	<b>1.88</b>			<b>0.91</b>	<b>1.64</b>			<b>0.63</b>	<b>0.65</b>	<b>0.82</b>	<b>0.63</b>	<b>0.65</b>	<b>0.82</b>	<b>1.66</b>		
LSD (0.05) (t/ha)	16	10				21				6				13				23	16	16	23	16	16			
Date Sown	1 May	8 May				7 May				6 May				5 May				20 May	12 June	27 May	20 May	12 June	27 May			
Soil Type	S	S				SL				SL/CL				S				S	S/C	S	S	S/C	S			
pH(water)	6.1	6.5				7.5				6.1				7.0				5.9	5.8	5.8	5.9	5.8	5.8			
J-M/A-O rain (mm)	25/328	20/268				-				61/348				71/175				73/188	48/229	45/245	73/188	48/229	45/245			
Previous Year Crop	wheat	balrey				wheat				wheat				barley				canola	barley	pasture	canola	barley	pasture			
Site Stress Factors	-	-				-				-				dl				fr, de, dl	de, dl	de, dl	fr, de, dl	de, dl	de, dl			

Data source: SARDI/GRDC, NVT and PBA Australian Lupin Breeding Program. 2009-2015 MET data analysis by National Statistics Program.

**Abbreviations**

Soil Type: S - Sand, C - Clay, L - Loam

Stress Factors: fr - frost damage (reproductive), de - pre-flowering moisture stress, dl - post-flowering moisture stress