

Lupin Row Space, Cowra

Wide row-space reduced both establishment and grain yield of both narrow-leaf and albus lupins.

The trial

The aim was to investigate the impact of row-space on lupins, both narrow-leaf (*Lupinus angustifolius*) and albus (*Lupinus albus*).

Site details

Location: Cowra

Soil type: red chromosol

Soil test: 0–10 cm, late February:

pH _{CaCl₂}	4.9
Aluminium	<0.1%
Colwell phosphorus	29 mg/kg
Organic carbon	0.75%
Cation Exchange Capacity (CEC)	5.2 Meq/100 g

Rainfall: 497 mm annual total 2007, 206 mm in-crop

Previous crop: triticale

Management

Sowing rate: various targeting 45 plants/m²

Sowing date: 6 June

Fertiliser: 100 kg/ha DAP

Herbicide: 5 June–1 L/ha Roundup PowerMAX™ and 75 ml/ha Goal®
7 June–simazine (900 g/kg) 500 g/ha

Insecticide: 7 June–100 ml/ha Talstar®

Desiccant: 26 November–2 L/ha Reglone®

Harvest date: 28 November

Treatments

Row spacing: 15 cm and 30 cm

Varieties: narrow-leaf lupins–Coromup[Ⓛ], Jindalee[Ⓛ] and Mandelup[Ⓛ]
albus lupins–Luxor[Ⓛ], Rosetta[Ⓛ] and Kiev Mutant

Seasonal review

The season began with two good rainfall events. The first at the end of April with 28 mm over 4 days, followed by 35 mm two weeks later. Good rain fell during June and July (85 mm) although temperatures were cold and frosty delaying emergence of later sown treatments. August, September, October and November were very dry. The late sowing in a season with so little spring rain dramatically reduced lupin crop growth and yield.

Results

The target plant population was 45 plants/m² however actual establishment was less (Table 1). The 30 cm row space treatments were half that of those at 15 cm row space.

Lupin yield at 15 cm row spacing was significantly higher (473 kg/ha) than 30 cm row spacing (Table 1). The narrow-leaf varieties yielded significantly higher than the albus varieties (Table 1 and Figure 1) when sown at 15 cm row space.

Table 1. Plant establishment (plants/m²) and grain yield (kg/ha) of six lupin varieties grown at 15 and 30 cm row spacing at Cowra.

Variety	Plant population (plants/m ²)		Grain yield (kg/ha)	
	15 cm	30 cm	15 cm	30 cm
Coromup	32	20	1515	1091
Jindalee	32	18	1683	1010
Mandelup	29	14	1596	1131
Kiev_Mutant	26	15	1313	761
Luxor	41	21	1246	929
Rosetta	42	11	1576	1165
Mean	34	17	1488	1015
Trial mean	25			
<i>Isd</i> -variety	9.4			
<i>Isd</i> -row-space			130	
Species comparison				
Narrow-leaf–mean			1598	1077
Albus–mean			1378	952
<i>Isd</i> (species)			140	

2007



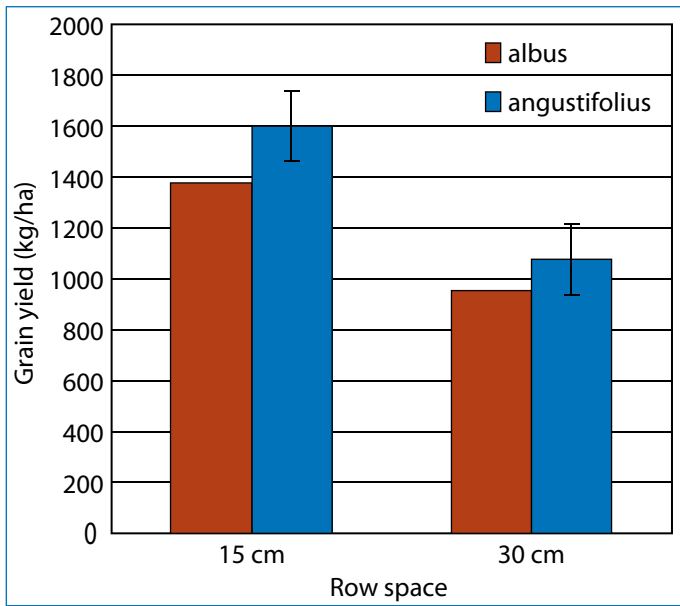


Figure 1 Comparison of grain yield for narrow-leaf lupin and albus lupin grown at two row spaces.

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Acknowledgements: The contributions of Matt Newell, Rod Fisher, Vince van der Rijt, Graeme Heath and the staff at Cowra Agricultural Research Station in conducting this trial is gratefully acknowledged.

Further information: available from the project team agronomists at NSW DPI Wagga Wagga, Condobolin, Parkes, Hillston, Temora, Cowra and Moulamein.



This publication is produced as part of GRDC project DAN00098 'Development of agronomy packages for new varieties for southern NSW (VSAP)'.

Variety Specific
AGRONOMY
Packages

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (March 2008). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.