

## Herbicide reaction

Jindalee<sup>®</sup> has been extensively evaluated for variation in herbicide tolerance at Wagga, NSW and does not differ significantly from other varieties. Some yield loss may occur with Eclipse<sup>®</sup> applied at the 2 leaf stage.

## Sowing

Jindalee<sup>®</sup> is suited to a range of sowing dates. Maximum potential yield is improved when Jindalee<sup>®</sup> is sown early, provided the required plant density is achieved. Jindalee does not suffer from poor pod set because of excessive vegetative growth when sown early. It has prolific pod set when late sown or in lower rainfall areas.

**Table 4: Yields of Jindalee<sup>®</sup> and other varieties as a % of Merrit according to sowing time on Lower Eyre Peninsula. (SAGIT trials 1998-2000 inclusive).**

Variety	Sowing time		
	Early-Mid May	Late May to Mid June	Late June to Early July
Jindalee <sup>®</sup>	108	113	103
Merrit	100	100	100
Belara <sup>®</sup>	96	96	107
Wonga <sup>®</sup>	93	103	98
Tallerack <sup>®</sup>	95	93	104

Sowing rates should achieve a minimum plant density of 45 to 60 plants/m<sup>2</sup>. Weight of grain sown should relate to seedbed conditions, germination % and grain weight which is generally similar to Merrit and Wonga<sup>®</sup>.

## Soil nutrient requirements

Jindalee<sup>®</sup> is similar to other varieties in its soil nutrient requirements. However, limited experimental data suggests that Jindalee<sup>®</sup> is more tolerant to manganese deficiency than is Merrit or Gungurru. Use of manganese foliar sprays would still be recommended in situations where manganese deficiency is known to be an issue with when growing lupins.

## Compiled by

Wayne Hawthorne and Tim Richardson, SA Field Crop Evaluation Program, SARDI, SA as participants in the Australian Coordinated Lupin Improvement Program.

## Information provided by

Field Crop Evaluation Program and Field Crop Pathology, SA Research and Development Institute, and NSW Agriculture Lupin Breeding Program, Wagga NSW.

Some information contained in this brochure is subject to change and summarises the knowledge of Jindalee<sup>®</sup> to September 2002. Continuing agronomic evaluation or changes in pathogenicity of pests and diseases make it necessary for farmers to regularly seek updated information.

## Publication

Printing kindly financed by the South Australian Grains Industry Trust and the South Australian Research and Development Institute.

## Seed available from

AWB Seeds Ltd has the responsibility for commercialising Jindalee<sup>®</sup>. Seed sales will be through a range of seed retailers.

SARDI



GRDC

Grains Research & Development Corporation



PRIMARY INDUSTRIES AND RESOURCES SA



Government of South Australia

**SA Field Crop Evaluation Program,  
SARDI**

GPO Box 397 ADELAIDE, SOUTH AUSTRALIA 5001  
Telephone: 08 8303 9480 Facsimile: 08 8303 9378  
International Code +618

201460-008

# JINDALEE<sup>®</sup>

**A mid season flowering lupin suited to mid and high rainfall areas of South Eastern Australia**

## Summary

- Jindalee<sup>®</sup> is a mid-season flowering lupin (tested as WL318).
- Jindalee<sup>®</sup> is later flowering than current lupin varieties, but has a prolific primary pod set.
- Jindalee<sup>®</sup> is intermediate in its susceptibility to anthracnose, being slightly better than Merrit, but does not have the resistance of Wonga<sup>®</sup> or Tanjil<sup>®</sup>.
- Jindalee<sup>®</sup> has higher yields to Merrit and Wonga<sup>®</sup> in all rainfall situations, but is suggested to be most suited to medium to high rainfall situations in South Australia provided anthracnose resistance is not considered essential.
- Jindalee<sup>®</sup> has excellent stem strength and resistance to lodging and pod loss.
- Jindalee<sup>®</sup> is moderately resistant to brown leaf spot and pleiochaeta root rot.
- Jindalee<sup>®</sup> is very resistant to phomopsis on both stem and seeds.
- Jindalee<sup>®</sup> is tolerant of premature wilt on duplex soils, and appears to have resistance to phytophthora on these soils.
- Jindalee<sup>®</sup> has similar seed size and protein content to Wonga<sup>®</sup> and Tanjil<sup>®</sup>, but less than Merrit.



SARDI



SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE



## Breeding

Jindalee<sup>®</sup> was selected in SA by W.A. Hawthorne, and developed by the Australian Coordinated Lupin Improvement Program. It was jointly released by NSW Agriculture and SARDI, and registered under PBR in 2001. An endpoint royalty will apply to Jindalee<sup>®</sup>.

## Grain yield

Jindalee<sup>®</sup> has a higher grain yield than Merrit and Wonga<sup>®</sup> in all South Australian agricultural districts and rainfall zones as shown in tables 1 and 2. It is considered less suited to lower rainfall districts because of its lateness.

**Table 1: Yields of Jindalee<sup>®</sup>, Wonga<sup>®</sup>, and Kalya<sup>®</sup> as a % of Merrit according to agricultural district, in the period 1995 - 2001 (SAFCEP trial data, weighted average, number of observations in italics).**

Variety	Agricultural district		
	Upper South East	Lower South East	Eyre Peninsula
Jindalee <sup>®</sup>	105 (26)	104 (17)	105 (25)
Wonga <sup>®</sup>	103 (26)	102 (17)	101 (25)
Kalya <sup>®</sup>	101 (24)	100 (14)	99 (21)
Merrit	100	100	100
Merrit t/ha	2.63 (26)	2.94 (17)	2.13 (25)
	Murray Mallee	Mid North	Overall
Jindalee <sup>®</sup>	109 (15)	105 (24)	105 (107)
Wonga <sup>®</sup>	105 (17)	101 (24)	102 (109)
Kalya <sup>®</sup>	104 (17)	100 (20)	100 (96)
Merrit	100	100	100
Merrit t/ha	1.02 (17)	2.03 (24)	2.17 (109)

**Table 2: Yields of Jindalee<sup>®</sup>, Wonga<sup>®</sup>, and Kalya<sup>®</sup> as a % of Merrit according to rainfall zone, in the period, 1995 - 2001 (SAFCEP trial data, weighted average, number of observations in italics).**

Variety	Rainfall zone		
	Over 500 mm	450 – 500 mm	400 – 450 mm
Jindalee <sup>®</sup>	104 (23)	105 (35)	105 (27)
Wonga <sup>®</sup>	102 (23)	102 (35)	101 (27)
Kalya <sup>®</sup>	100 (20)	101 (31)	100 (21)
Merrit	100	100	100
Merrit t/ha	2.84 (23)	2.44 (35)	2.22 (27)
	350 – 400 mm	Below 350 mm	Overall
Jindalee <sup>®</sup>	109 (16)	111 (6)	105 (107)
Wonga <sup>®</sup>	104 (18)	105 (6)	102 (109)
Kalya <sup>®</sup>	102 (18)	102 (6)	100 (96)
Merrit	100	100	100

## Plant characteristics

Jindalee<sup>®</sup> is mid-season maturing, later than Merrit, thus providing good adaptation to medium and higher rainfall areas where excess vegetative growth can otherwise lead to poor primary pod set. Its late-ness can however disadvantage it in low rainfall areas or in quick finishing seasons. Jindalee<sup>®</sup> is similar to Merrit in early vigour, is taller, but its harvestability and standability are similar. It also has good pod retention to minimise harvest losses. Crops should however be harvested without delay when mature, and windrowing could be considered.

## Disease resistance

Jindalee<sup>®</sup> is intermediate in its susceptibility to anthracnose, so is slightly better than Merrit, but not as resistant as Wonga<sup>®</sup>. It is very resistant to phomopsis on the stem and seeds. It is moderately resistant to brown leaf spot and pleiochaeta root rot. Like Merrit, Jindalee<sup>®</sup> is moderately susceptible to cucumber mosaic virus on seed, so test seed annually.

The use of a fungicidal seed treatment protectant will provide some early season brown leaf spot and pleiochaeta root rot protection, particularly when soil inoculum levels are high and in situations of late sowing and higher rainfall.

Anthracnose	Mod. Susceptible to Mod. Resistant	Like Merrit, less than Wonga <sup>®</sup>
Brown leaf spot	Mod. Resistant	Like Myallie <sup>®</sup> , better than Merrit
Pleiochaeta root rot	Mod. Resistant	Like Kalya <sup>®</sup> , better than Merrit
Cucumber mosaic virus	Mod. susceptible	Like Merrit
Phomopsis	Very Resistant	Better than Belara <sup>®</sup> and Merrit

## Grain quality

On average, Jindalee<sup>®</sup> has slightly smaller grain weight and size to Wonga<sup>®</sup> and Merrit.

**Table 3: Summary of grain quality characteristics on samples from variety trials in SA. (SAFCEP data, 2000-2001 inclusive).**

	Protein % 2001	100 . weight g. 2001	Protein % 2000	100 seed weight g. 2000
Jindalee <sup>®</sup>	29.1	15.1	29.1	14.0
Merrit	31.1	15.6	31.2	14.6
Kalya <sup>®</sup>	31.0	15.7	30.8	14.9
Wonga <sup>®</sup>	31.0	15.0	30.2	14.2
No. of trials	14	14	14	14

Seed size	Similar to Wonga <sup>®</sup> , but smaller than Merrit, much smaller than Moonah <sup>®</sup> or Danja
alkaloids	Similar to Wonga <sup>®</sup> , but slightly less than Danja
Crude protein %	Similar to Wonga <sup>®</sup> , but less than Merrit, much less than Belara <sup>®</sup>
Seed colour	Dark mottle like Merrit