## DEFINING THE RELATIVE PERFORMANCE OF FIELD PEAS AND ALBUS LUPINS ON THE RED EARTH SOILS OF THE LOW RAINFALL WHEATBELT

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## AIM

- 1. To compare the yield of the new Albus lupin Andromeda with Kiev Mutant in a low rainfall area.
- 2. To compare the performance of Kaspa field pea with the trailing types in a low rainfall area.

## BACKGROUND

Kaspa is a high yielding semi-leafless dun-type field pea (*Pisum sativum*) with shatter-resistant pods, improved standing ability and good early vigour. It is easier to harvest than trailing-type varieties because pods are held above ground level even when the crop lodges. Kaspa is well suited to areas receiving greater than 400mm average annual rainfall. It flowers about three to five days later than Parafield, but pod development is rapid and it matures at about the same time as Parafield (three to seven days later than Dundale). Kaspa is more determinate than other field pea varieties and will not continue to flower and set pods as readily as other varieties after stress at podding, including after frost damage.

The new *Lupinus albus* variety Andromeda has a significantly higher level of resistance to anthracnose than the current variety Kiev Mutant and has potential in the medium to low rainfall area of the Northern Wheatbelt (east of a line from Nabawa to Mingenew to Carnamah) with an anthracnose management package. Andromeda is later flowering than Kiev mutant and is expected to be lower yielding in the absence of lupin anthracnose. Its development has been fast tracked in conjunction with the Council of Grain Grower Organisations (COGGO) and GRDC. Andromeda was released in 2005, and first commercial production will occur in 2006.

I RIAL DETAILS			
Property	Hyde Park Farms, Liebe Main Trial Site, Dalwallinu		
Plot size & replication	3 reps. Each plot 1.44 m wide.		
Soil type	Red loam		
Sowing date	27 <sup>th</sup> May (180mm spacing with knifepoints)		
Seeding rate	Each variety of both species adjusted to achieve 60 plants/ $m^2$		
Fertiliser (kg/ha)	80kg DAP		
Paddock rotation	2004 = pasture, 2003 = wheat (Calingiri), 2002 = pasture, 2001 = lupins		
Herbicides	27 <sup>th</sup> May: 1.2 Lt Wipeout 450 plus 100mL Wetter. 100mL Talstar + 1.1 Kg Bladex+ 2.4 L Sprayseed 28 <sup>th</sup> July: 1L Hasten + .3L Aramo + 100mL Le Mat		
Growing Season Rainfall	258.5mm		

Results **Table 1:**Yield, and gross income of Albus lupins and Field peas sown on 27<sup>th</sup> May.

Variety	Yield (t/ha)	Gross Income \$/ha*
Andromeda	.211	48
Kiev mutant	.447	103
Helena	1.288	217
Dundale	1.084	258
Kaspa	1.096	219

\* Based on cash price for Albus lupins of \$230/tonne and \$200/tonne for field peas. Currently Albus can fetch up to \$350-400/tonne but this is as a result of extremely restricted domestic supply and is not expected to hold once supply increases.



Figure 1: Performance of Albus lupin and Field pea varieties

## COMMENTS

Helena is the highest yielding field pea in this trial and confirms other trial experience where the later maturity of Kaspa results in its yield potential being limited in lower rainfall environments.

Albus lupins cannot compete on yield with field peas, especially where they are sown later in May. This is an ideal sowing time for the field peas as it minimises the risk for black spot. However, lupins are more suited to an earlier sowing time. Andromeda does not yield well in comparison to Kiev mutant in low rainfall environments as it has a longer maturity than Kiev mutant.

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