

No response to Flexi-N at sowing – Jerdacuttup

Summary of results

- ◆ There appeared to be no response of yield or protein to extra nitrogen applied at sowing as Flexi-N.
- ◆ Variation between control plots was as great as treatment effects.

Site Information	
Group	Jerdacuttup TOPCROP group
Farmer	Stott Redman
Soil Type	gravelly sandplain
Organic Carbon	not tested
Available N ppm	not tested
Actual annual rainfall	465 mm
Ave annual	475 mm
Growing Season	325 mm
Rainfall (GSR)	(May-Oct)
Ave GSR	450 mm
Yield Potential (t/ha)	5.0 t/ha
Yield Actual (t/ha)	3.0 t/ha
Paddock History	
2002	canola
2001	barley
2000	pasture
Seeding Date	25 May 2003
Variety	H45
& Sowing Rate	100 kg/ha
Base Fertiliser	Agstar 80 kg/ha urea 80 kg/ha on 28 June

Aim

The trial aimed to evaluate rates of nitrogen applied as Flexi-N at sowing for grain protein and yield.

Design

Alternate strips of a control rate of Flexi-N were applied on 25 May prior to sowing. Rates of Flexi-N were applied to the plots between these control runs. One of two nil runs did not have the September application of 30 L/ha Flexi-N.

What happened

All paddock operations were applied across the trial area including the urea in June and a further 30L/ha of Flexi-N on 10 September.

There was as much variation between the control plots as between control plots and other treatments. Results presented have been adjusted in relation to adjacent control plots.

There was no response of either yield or protein to additional N applied as Flexi-N at sowing.

treatment	kgN/ha	yield t/ha	protein %
Nil (no Sept Flexi-N)	0	3.03	10.5
Nil	0	3.15	10.7
Flexi-N 40 L/ha	17	3.06	10.5
Flexi-N 60 L/ha	25	2.96	10.5
Flexi-N 80 L/ha	34	3.00	10.5
Flexi-N 100 L/ha	42	3.03	10.7

The nitrogen calculator indicates that 60 kg/ha of additional nitrogen is required assuming high fertiliser efficiency for a 3 t/ha crop at 10.5% protein. The combination of Agstar at sowing and additional urea in June and Flexi-N in September supplied 61 kgN/ha, Additional N at sowing was not required for yield. However a protein response would have been

expected except if sowing nitrogen was leached beyond the root zone, which would not have lead to efficient fertiliser uptake indicated by the yields achieved on this site's history and fertiliser applied over the whole paddock.

