



1990

Depth of placement and rates of nitrogen for lupins on the South Coast.

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TITLE: Depth of Placement and rates of Nitrogen for Lupins on the South Coast

PERSONNEL: Seymour, M. (RO) and Burgess, P. (TO)

DATE: 1990

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TRIAL NUMBER: 90E13

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Trial No. 90E13

Title. Starter nitrogen for lupins, rates x depth of placement

Aim.

To determine if the application of nitrogen at seeding will enable lupins to grow vigorously at the beginning of the season, and have better growth at flowering. Deep placement is used to reduce the effects of high nitrogen fertiliser on plant establishment.

Treatments.

6 nitrogen rates (0, 1.25, 2.5, 5, 10, and 20 kgN/ha) applied as Agran-34 x 2 depth of placements (with seed or 5cm below seed)

Site Details

Soil type: Gibson sand/deep phase

Paddock history:

1988 = lupins, 1989 = cereals

Site preparation:

5/5/90 Roundup @ 0.75l/ha, 16/5/90 S/seed @ 1.5l/ha + Simazine @ 2l/ha

17/5/90 Cultivated across all blocks

Sowing details:

28/5/90 sown as per schedule

@ 195 kg/ha of super-Mn, placed 5cm below seed, press wheels used.

Post sowing treatments:

7/6/90 Lorsban @ 140ml/ha, Cymbush @ 300ml/ha misted across site (RLEM and pasture loopers)

9/7/90 Sertin @ 500ml/ha + oil @1% vol.

9/7/90 KCL @ 90kg/ha topdressed across plots.

Harvest date: 9/12/90

Comments:

The highest rate of fertiliser nitrogen (20kgN/ha) when applied with the seed reduced plant establishment. Drymatter production at flowering was only increased if fertiliser was applied with the seed. Seed yield was reduced by placing 10 and 20 kgN/ha with the seed. Deep placing nitrogen had no effect on seed yield. Preliminary analysis as shown in Table 1 does not separate the effects of placement and fertiliser.

90E13 Effect of placement and rate of nitrogen on seed yield, establishment and drymatter production of lupins.

Nitrogen rate (kg N/h		Yield kg/ha	Establishment counts pl/sqm	Drymatter at flowering	
With Seed	5cm below seed			g/plant	g/sqm
0	0	3075	42	10.3	446
1.25	0	3028	45	10.7	480
2.5	0	2958	49	9.9	468
5	0	2964	39	12.6	443
10	0	2881	44	13.0	367
20	0	2550	26	15.8	385
0	1.25	3019	47	12.0	509
0	2.5	3069	49	9.3	474
0	5	3047	41	10.7	453
0	10	3156	43	11.3	446
0	20	3117	42	11.6	446
P < (Nitrogen)		0.001	0.003	0.002	ns
LSD 95% =		155 kg/ha	9 pl/sqm	2.6 g/plant	