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96/W/LP/1 Establishment Study on Light Soil - Lupins

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96/W/LP/1

LUPINS

ESTABLISHMENT STUDY ON LIGHT SOIL

Object: To identify seedbed conditions for the establishment and survival of autumn-sown lupins - Woburn, Stackyard C.

Sponsor: I. Shield.

Design: 3 randomised blocks of 5 plots split into 2 sub-plots.

Plot dimensions: 3.0 x 9.0.

Treatments:

Whole plots

1. **CULTIVTN** Cultivations and other operations during and after drilling:
- 1 Subsoiled, ploughed early, cultivated, rolled, shallow cultivated and tine drilled
 - 2 As 1 then rolled
 - 3 As 1 then netted
 - 4 As 3 with nematicide and insecticide at drilling
 - 5 Direct drilled with slug pellets

Sub-plots

2. **FERT** Fertilizer:
- F0 None
 - F1 N, P, K, gypsum (17.5% S) and trace elements

Experimental diary:

- 12-Sep-95 : **T** : **CULTIVTN** 1, 2, 3, 4: Subsoiled.
- 18-Sep-95 : **T** : **CULTIVTN** 1, 2, 3, 4: Ploughed.
- 21-Sep-95 : **T** : **CULTIVTN** 1, 2, 3, 4: Spring-tine cultivated, rolled.
- 25-Sep-95 : **T** : **CULTIVTN** 1, 2, 3, 4: Rotary harrowed, tine drilled CH307/40 at 42 seeds per m².
- : **T** : **CULTIVTN** 5: Direct drilled CH307/40 at 42 seeds per m² with Draza at 5.5 kg.
- : **T** : **CULTIVTN** 2: Rolled.
- : **T** : **CULTIVTN** 4: Yaltox at 100 kg.
- 28-Sep-95 : **B** : Stomp 400 SC at 3.3 l in 300 l.
- 02-Oct-95 : **T** : **CULTIVTN** 3 and 4: Netted.
- 01-Nov-95 : **T** : **FERT** F1: 20:10:10 at 250 kg, gypsum at 85.7 kg, Librel BMX at 1.0 kg.
- 27-Mar-96 : **B** : Atlas Simazine at 1.15 l in 200 l.
- 08-May-96 : **T** : **FERT** F1: 0:24:24 at 104 kg, gypsum at 85.7 kg, Librel BMX at 1.0 kg.
- 08-May-96 : **T** : **FERT** F1: 27.5% N at 182 kg.
- 30-May-96 : **B** : Lo-gran 20 WG at 37.5 g in 300 l.
- 13-Sep-96 : **T** : Combine harvested.

96/W/LP/1

Previous crops: W. beans 1994, w. wheat 1995.

- NOTES: (1) Plant density was monitored from October to April, Dry matter assessments and leaf counts were made in January. Soil penetration resistance measurements were done in November.
(2) CULTIVTN 1, 2 and 5 failed and are omitted from the analysis.

GRAIN TONNES/HECTARE

***** Tables of means *****

FERT CULTIVTN	F0	F1	Mean
3	3.15	2.78	2.96
4	2.78	2.31	2.55
Mean	2.96	2.55	2.75

*** Standard errors of differences of means ***

FERT	CULTIVTN* FERT
0.119	0.168

* Within the same level of CULTIVTN only

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	4	0.205	7.5

GRAIN MEAN DM% 84.5

SUB-PLOT AREA HARVESTED 0.00154