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Yields of the Field Experiments 1992

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Lupins

Rothamsted Research

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92/R/LP/3

WINTER LUPINS

PLANT POPULATIONS

Object: To study the effect of sowing date on the relationship between plant population, earliness of maturity and yield of a semi-determinate variety - Long Hoos VI/VII 4.

Sponsors: G.F.J. Milford, J.E. Leach, J.M. Day, H.J. Stevenson.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 2.88 x 6.0.

Treatments:

POPULATN Plant population (number of plants per square metre):

7
14
21
28
35

NOTE: Final populations were established in spring by hand thinning where necessary the larger sown populations of 14, 28, 42, 56 and 70 seeds per square metre.

Experimental diary:

10-Sep-91 : B : Straw baled.
16-Sep-91 : B : Ploughed.
17-Sep-91 : B : Rotary harrowed, twice.
18-Sep-91 : T : **POPULATN** 7, 14, 21, 28, 35: Hand sown at 14, 28, 42, 56, 70 seeds per square metre, respectively.
20-Sep-91 : B : Opogard 500 FW at 2.8 l in 200 l.
06-Nov-91 : B : Draza at 5.5 kg.
15-Jan-92 : B : Sportak 45 at 1.1 l in 220 l.
10-Apr-92 : T : **POPULATN** 28, 35: Hand thinned to required population.
19-May-92 : B : Aphox at 0.28 kg with Farmon Blue at 0.66 l in 220 l.
28-May-92 : B : Radar at 1.0 l in 200 l.
28-May-92 : B : Aphox at 0.28 kg with Farmon Blue at 0.60 l in 200 l.
09-Jun-92 : T : Alto 100 SL at 0.80 l and Metasystox 55 at 0.56 l in 300 l (except two plots).
15-Jun-92 : T : Metasystox 55 at 0.42 l in 220 l (two plots not sprayed on 9 June).
08-Jul-92 : B : Calirus at 2.0 kg in 260 l.
08-Jul-92 : B : Decis at 0.80 l in 200 l.
01-Sep-92 : B : Combine harvested.

Previous crops: W. & s. lupins 1991, s. wheat 1992.

92/R/LP/3

- NOTES: (1) Yields were taken from one set of 20 plots, measurements of plant N uptake were made on the other set of 20 plots.
(2) Crop growth and development contents were made during the growing season. Crop samples were taken for physiological determination during spring and summer.

GRAIN TONNES/HECTARE

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

POPULATN	
7	2.09
14	4.08
21	4.21
28	4.03
35	3.89
Mean	3.66

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

POPULATN
0.321

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	12	0.454	12.4
GRAIN MEAN DM%	72.0		
PLOT AREA HARVESTED	0.00160		

92/W/LP/2

SPRING LUPINS

ROW SPACING

Object: To test the effects of plant density on the yield and maturity of two lines of spring-sown *Lupinus albus* - Woburn, Butt Furlong.

Sponsors: J.M. Day, G.F.J. Milford, J.E. Leach, H.L. Stevenson.

Design: 4 blocks of 2 x 3 plots.

Whole plot dimensions: 2.0 x 5.0.

Treatments: All combinations of:-

1. **GENOTYPE** Line:

CH 306
C 342

2. **ROW SPAC** Row width and seed spacing (cm):

12.5+7	12.5 cm between rows, 7 cm within rows
25+7	25 cm between rows, 7 cm within rows
12.5+14	12.5 cm between rows, 14 cm within rows

Experimental diary:

20-Sep-91 : B : Ploughed.

21-Sep-91 : B : Rolled.

19-Mar-92 : B : Rotary cultivated with crumbler attached.

: T : **GENOTYPE** and **ROW SPAC**: Seed drilled.

01-Apr-92 : B : Opogard 500 FW at 1.6 l in 200 l.

15-Jun-92 : B : Hand weeded.

20-Jul-92 : B : Aphox at 0.28 kg with Vassgro Spreader at 0.45 l in 300 l.

08-Sep-92 : B : Combine harvested.

Previous crops: Potatoes 1990, s. barley 1991.

92/W/LP/2

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

ROW SPAC	12.5+7	25+7	12.5+14	Mean
GENOTYPE				
CH 306	0.11	0.09	0.05	0.08
C 342	0.07	0.06	0.06	0.07
Mean	0.09	0.07	0.06	0.07

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

GENOTYPE	ROW SPAC	GENOTYPE ROW SPAC
0.017	0.021	0.030

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	15	0.042	57.7
GRAIN MEAN DM%	75.8		
PLOT AREA HARVESTED	0.00100		