ROTHAMSTED RESEARCH

Yields of the Field Experiments 1997

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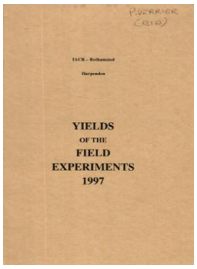

97/R/LP/10 Genotype, Row Spacing and Seed Rate – Lupins

Rothamsted Research

Rothamsted Research (1998) *97/R/LP/10 Genotype, Row Spacing and Seed Rate – Lupins ;* Yields Of The Field Experiments 1997, pp 146 - 148 **- DOI: https://doi.org/10.23637/ERADOC-1-53**

97/R/LP/10

LUPINS

GENOTYPE, ROW SPACING AND SEED RATE

Object: To test seed rate and row spacing on the structure and performance of existing determinate and new dwarf-determinate genotypes - Stackyard.

Sponsors: I. Shield, G.F.J. Milford, J.E. Leach.

Design: 3 randomised blocks of 4 x 2 x 2 plots.

Whole plot dimensions: 9.0 x 9.0.

Treatments: All combinations of :-

1. **GENOTYPE**

70	CH304/70
73	CH304/73
12	DTN 12
20	DTN 20

2. **ROW SPAC** Row spacing, cm:

R1	11
R2	36

3. **SEED RAT** Seed rate, seeds per m^2:

S1	40
S2	80

Experimental diary:

25-Jun-96 : B : Ploughed and furrow pressed.
26-Jul-96 : B : Rolled.
12-Sep-96 : B : Spring-tine cultivated.
13-Sep-96 : B : Rotary harrowed.
: **T** : Genotypes undressed drilled at 40 and 80 seeds per m^2 respectively.
23-Sep-96 : B : Stomp 400 SC at 5.0 l in 294 l. Spannit at 1.5 l in 294 l.
04-Oct-96 : B : Irrigated 25 mm.
08-Nov-96 : B : Carbetamex at 3.0 kg with MSS Simazine 50 FL at 2.3 l. Decis at 300 ml in 200 l.
12-Dec-96 : B : Rovral Flo at 1.0 l in 200 l, Standon Tebuconazole at 0.5 l in 200 l.
01-May-97 : B : Compass at 3.0 l in 200 l.
18-Jun-97 : B : Mistral at 1.0 l in 300 l.
08-Jul-97 : B : Danadim Dimethoate 40 at 850 ml in 300 l.
05-Sep-97 : B : Harvest at 3.0 l in 400 l.
23-Sep-97 : B : Combine harvested.

Previous crops: W. wheat 1995, set-aside 1996.

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NOTES: (1) Plant populations were assessed in autumn, January, April and at harvest. Leaf and branch numbers were assessed in June, time of flowering was noted, light interception was measured frequently during the growing season. Dry matter and nitrogen accumulation was assessed at intervals on certain plots. After harvest oil and nitrogen content and grain density was measured.

(2) Most plots of **GENOTYPE** 73 failed and it has been omitted from the analysis.

GRAIN TONNES/HECTARE

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

ROW SPAC	R1	R2	Mean
GENOTYPE			
70	2.21	2.04	2.12
12	2.35	1.74	2.05
20	2.22	1.74	1.98
Mean	2.26	1.84	2.05

SEED RAT	S1	S2	Mean
GENOTYPE			
70	1.52	2.73	2.12
12	1.44	2.66	2.05
20	2.03	1.93	1.98
Mean	1.66	2.44	2.05

SEED RAT	S1	S2	Mean
ROW SPAC			
R1	1.88	2.64	2.26
R2	1.45	2.24	1.84
Mean	1.66	2.44	2.05

	SEED RAT	S1	S2
GENOTYPE	**ROW SPAC**		
70	R1	1.56	2.86
	R2	1.48	2.59
12	R1	1.58	3.12
	R2	1.30	2.19
20	R1	2.50	1.94
	R2	1.56	1.93

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GRAIN TONNES/HECTARE

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

GENOTYPE	ROW SPAC	SEED RAT	GENOTYPE ROW SPAC
0.218	0.178	0.178	0.309

GENOTYPE SEED RAT	ROW SPAC SEED RAT	GENOTYPE ROW SPAC SEED RAT
0.309	0.252	0.437

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	22	0.535	26.1

GRAIN MEAN DM% 85.9

PLOT AREA HARVESTED 0.00216

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