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Yields of the Field Experiments 1991



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Rothamsted Research

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91/R/LP/3

WINTER LUPINS

SEED RATES

Object: To study the effects of plant density on the growth, development, maturity date and yield of w. lupins - Long Hoos III 2.

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

Design: 4 randomised blocks of 6 plots.

Whole plot dimensions: 3.6 x 9.0.

Treatments:

POPULATN Plant populations per square metre in rows 36 cm apart:

14

28 35 (duplicated)

NOTE: The final populations were established in spring by hand thinning from larger sown populations - 35 and 70 seeds per square metre.

Basal applications: Manures: Muriate of potash at 520 kg. Weedkillers: Terbuthylazine at 0.42 kg and terbutryn at 0.98 kg in 200 l. Fluazifop-P-butyl at 0.19 kg applied with a wetting agent, 'Vassgro' at 0.2 l, in 220 l. Fungicide: Prochloraz at 0.45 kg applied with the insecticide in 200 l. Insecticide: Pirimicarb at 0.14 kg.

Seed: Lunoble, inoculated with Rhizobium, at two seed rates.

Cultivations, etc.:- Deep-tine cultivated with vibrating tines 60 cm apart and 45 cm deep: 13 Sept, 1990. K applied: 14 Sept. Ploughed and furrow pressed: 17 Sept. Cultivated with rotary grubber, harrowed, seed sown: 24 Sept. Rolled, terbuthylazine and terbutryn applied: 27 Sept. Fluazifop-P-butyl applied: 13 Dec. Fungicide and insecticide applied: 22 July, 1991. Combine harvested: 22 Oct.

NOTES: (1) The crop was netted against birds and mammals from sowing to mid-June.

(2) It was originally intended to have populations of 42 and 56 plants per square netre, but establishment was poor and these became POPULATN 35. In two blocks the target population of 35 was not achieved, and consequently 4 plots were treated as missing. Estimated values were used in the analysis.

91/R/LP/3

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

POPULATN

7 1.42 14 1.43 21 1.45 28 1.32 35 1.55

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

POPULATN

0.154 min.rep 0.134 max-min

POPULATN

max-min 35 v any of the remainder min.rep any of the remainder

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

Stratum d.f. s.e. cv%

BLOCK.WP 12 0.218 15.0

GRAIN MEAN DM% 73.1

AVERAGE PLOT AREA HARVESTED 0.00184