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85/R/M/5 Comparison of Spring-sown Grain Legumes - S. Beans, Peas and Lupins - Mixed Crops

Rothamsted Research

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85/R/M/5

SPRING BEANS, PEAS AND LUPINS

COMPARISON OF SPRING-SOWN GRAIN LEGUMES

Object: To compare yields and other attributes of three spring-sown grain legumes - Garden Plot 2.

Sponsors: J. McEwen, D.P. Yeoman.

Design: 6 randomised blocks of 3 plots.

Whole plot dimensions: 2.5 x 10.0.

Treatments:

SPECIES Species of spring-sown grain legume:

BEANS Field beans, *Vicia faba*, cv. Minden

PEAS Peas, *Pisum sativum*, cv. Progreta

LUPINS Lupins, *Lupinus albus*, cv. Vladimir

Standard applications:

All crops: Manures: Chalk at 2.9 t. Muriate of potash at 520 kg.
Weedkiller: Glyphosate at 1.4 kg in 220 l. Fungicide: Benomyl at 0.56 kg in 220 l. Insecticides: Deltamethrin at 0.0075 kg in 220 l; pirimicarb at 0.14 kg in 220 l on two occasions.

Peas and beans only: Weedkillers: Trietazine at 1.2 kg with simazine at 0.17 kg and paraquat at 0.40 kg ion in 220 l. Insecticide: Deltamethrin at 0.0075 kg in 220 l on a second occasion.

Lupins only: Weedkillers: Monolinuron at 0.77 kg with paraquat at 0.55 kg ion in 220 l. Metamitron at 2.8 kg in 220 l;

Seed: Beans: Minden, sown at 260 kg.

Peas: Progreta, sown at 200 kg.

Lupins: Vladimir, sown at 250 kg.

Cultivations, etc.:-

All crops: Chalk applied: 11 Sept, 1984. K applied: 25 Sept.
Glyphosate applied: 26 Sept. Ploughed: 1 Nov. Spring-tine cultivated, seed sown: 3 Apr, 1985. Deltamethrin applied: 2 May. Pirimicarb applied: 1 July. Benomyl applied: 2 July. Second pirimicarb applied: 9 July. Previous crops: Potatoes 1983, s. barley 1984.

Peas and beans only: Weedkillers applied: 9 Apr, 1985. Second deltamethrin applied: 23 May. Combine harvested: 6 Sept (peas), 20 Sept (beans).

Lupins only: Paraquat and monolinuron applied: 9 Apr, 1985.

Metamitron applied: 23 May. Combine harvested: 17 Oct.

NOTES: (1) Plant counts were made at establishment.

(2) The experiment was netted against birds from April to May. Pea plots had additional protection against birds when needed for the remainder of the season.

85/R/M/5

BEANS, PEAS, LUPINS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

SPECIES	BEANS	PEAS	LUPINS	MEAN
	5.48	2.71	3.99	4.06

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	SPECIES
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SED	0.286

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK	5	0.236	5.8
BLOCK.WP	10	0.496	12.2

GRAIN MEAN DM% 73.8

PLOT AREA HARVESTED 0.00156