ROTHAMSTED RESEARCH

Yields of the Field Experiments 1985

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85/R/BE/1 Effects of Pests and Pathogens

Rothamsted Research

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85/R/BE/1

WINTER BEANS

EFFECTS OF PESTS AND PATHOGENS

Object: To assess the effects of three amounts of pest and disease control on w. beans - Appletree.

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Design: 6 randomised blocks of 3 plots.

Whole plot dimensions: 5.33 x 15.0.

Treatments:

PATHCONT	Pest and pathogen control (in addition to basals):
STANDARD	None
ENHANCED	Seed dressed with carbendazim and thiram (1.1 g of each per kg of seed) Phorate at 1.7 kg as granules to foliage on 19 Apr, 1985
FULL	Seed dressed with carbendazim and thiram Aldicarb at 10 kg on 15 Oct, 1984 Fosetyl-Al at 1.6 kg, benomyl at 0.56 kg and chlorothalonil at 1.0 kg on 7 Mar, 1985 Carbofuran at 1.7 kg on 19 Apr Chlorothalonil at 1.0 kg, benomyl at 0.56 kg and deltamethrin at 0.0075 kg on 22 May Propiconazole at 0.12 kg, benomyl at 0.56 kg and pirimicarb at 0.14 kg on 23 July

NOTES: (1) Treatment sprays were applied in 220 l.
(2) Sides of plots were separated by strips of w. beans 5.33 m wide plus 0.66 m fallow paths, ends of plots were separated by strips of w. beans 9.2 m wide plus 0.9 m fallow paths. The separating crops received basal applications as for the plots.

Basal applications: Weedkillers: Simazine at 1.2 kg with propyzamide at 0.85 kg in 250 l. Fungicides: Chlorothalonil at 1.0 kg with benomyl at 0.50 kg and a wetting agent ('Agral' at 0.075 l) on three occasions in 240 l, 500 l and 200 l respectively.

Seed: Banner, undressed seed sown at 150 kg, dressed seed sown at 140 kg.

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Cultivations, etc.:- Heavy spring-tine cultivated: 5 Sept, 1984. Ploughed: 14 Sept. Rotary harrowed: 19 Sept. Aldicarb treatment applied, spring-tine cultivated, seed sown: 15 Oct. Weedkillers applied: 31 Oct. Basal fungicides applied: 29 May, 11 June, 3 July, 1985. Combine harvested: 24 Sept. Previous crops: S. wheat 1983, w. wheat 1984.

NOTES: Plant counts were made after establishment and components of yield were measured at maturity. Migratory nematodes, root and foliar fungi, viruses and weevils were counted at intervals during the season. Total above-ground dry matter and N content were measured in August. N content of grain was measured.

GRAIN TONNES/HECTARE

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

PATHCONT	STANDARD	ENHANCED	FULL	MEAN
	4.34	4.49	4.97	4.60

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

TABLE	PATHCONT
SED	0.245

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

STRATUM	DF	SE	CV%
BLOCK.WP	10	0.425	9.2

GRAIN MEAN DM% 78.3

PLOT AREA HARVESTED 0.00320

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