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84/R/BE/1 Effects of Pests and Pathogens - W. Beans

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84/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 - Highfield IV.

Sponsors: J. McEwen, R. Bardner, A.J. Cockbain, D.C. Griffiths, D.H. Lapwood, R.M. Webb, D.P. Yeoman.

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)
FULL	Phorate at 1.7 kg as granules to foliage on 12 Apr, 1984
	Seed dressed with carbendazim and thiram
	Aldicarb at 10 kg on 29 Sept, 1983
	Fosetyl-Al at 1.6 kg on 14 Mar, 1984
	Benomyl at 0.56 kg and chlorothalonil at 0.98 kg in 340 l on 4 Apr
	Carbofuran at 1.7 kg on 12 Apr
	Propiconazole at 0.12 kg on 4 July

NOTES: (1) Treatment sprays were applied in 220 l except where stated.
(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: Paraquat at 0.42 kg ion in 250 l. Propyzamide at 0.85 kg with simazine at 1.2 l in 250 l. Fungicides: Benomyl at 0.50 kg with chlorothalonil at 1.0 kg and 'Agral', a wetting agent at 0.08 l, in 250 l on the first two occasions and in 200 l on the third occasion.

Seed: Banner, sown at 220 kg.

Cultivations, etc.: Heavy spring-tine cultivated: 1 Sept, 1983. Chisel ploughed twice: 2 Sept. Paraquat applied: 20 Sept. Heavy spring-tine cultivated: 24 Sept. Aldicarb treatment applied, rotary harrowed, seed sown: 29 Sept. Propyzamide and simazine applied: 30 Sept. Basal fungicides applied: 24 May, 5 June, 26 June, 1984. Combine harvested: 30 Aug. Previous crops: W. wheat 1982, s. barley 1983.

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

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GRAIN TONNES/HECTARE

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

PATHCONT	STANDARD	ENHANCED	FULL	MEAN
	4.15	4.34	4.26	4.25

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

TABLE	PATHCONT
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SED	0.230

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

STRATUM	DF	SE	CV%
BLOCK.WP	10	0.398	9.4

GRAIN MEAN DM% 85.9

PLOT AREA HARVESTED 0.00320