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Yields of the Field Experiments 1982

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Rothamsted Research

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82/R/BE/7

SPRING BEANS

EFFECTS OF PESTS AND PATHOGENS

Object: To assess the benefits from three amounts of pest and disease control on irrigated and unirrigated s. beans - W. Barnfield I.

Sponsors: J. McEwen, R. Bardner, A.J. Cockbain, J.M. Day, K.E. Fletcher, D.H. Lapwood, B.J. Legg, R.M. Webb, T.D. Williams, J.F. Witty, D.P. Yeoman.

Design: 4 randomised blocks of 2 plots split into 3.

Whole plot dimensions: 4.27 x 13.7.

Treatments: All combinations of:-

Whole plots

1. IRRIGATN	Irrigation:
NONE	None
FULL	Full (total 25 mm)

Sub plots

2. PATHCONT	Pest and pathogen control:
STANDARD	None
ENHANCED	Phorate at 2.2 kg, combine drilled Pirimicarb at 0.14 kg on 15 June, 1982 Benomyl at 0.50 kg on 2 July
FULL	Aldicarb at 10 kg on 24 Mar Phorate at 2.2 kg, combine drilled Fosetyl-Al at 2.2 kg on 1 June Pirimicarb at 0.14 kg on 15 June Benomyl at 0.50 kg on 2 July Benomyl at 0.56 kg on 30 July Propiconazole at 0.13 kg on 30 July and on 13 Aug

Basal applications: Weedkillers: Trietazine at 1.0 kg with simazine at 0.14 kg in 250 l.

Seed: Minden, sown at 230 kg.

Cultivations, etc.:- Disced: 24 Sept, 1981. Ploughed: 29 Jan, 1982. Spring-tine cultivated twice: 23 Mar, 24 Mar. Rotary harrowed: 24 Mar. Seed sown: 25 Mar. Weedkillers applied: 27 Mar. Combine harvested: 2 Sept. Previous crops: S. barley 1980 and 1981.

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

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82/R/BE/7

GRAIN TONNES/HECTARE

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

PATHCONT IRRIGATN	STANDARD	ENHANCED	FULL	MEAN
NONE	3.52	3.94	4.38	3.95
FULL	3.80	4.09	4.41	4.10
MEAN	3.66	4.01	4.40	4.02

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

TABLE	PATHCONT	IRRIGATN* PATHCONT
SED	0.085	0.120

* WITHIN THE SAME LEVEL OF IRRIGATN ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	12	0.170	4.2

GRAIN MEAN DM% 81.7

SUB PLOT AREA HARVESTED 0.00293

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