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# Yields of the Field Experiments 1982

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## 82/R/BE/1 Effects of Pests and Pathogens - Winter Beans

### Rothamsted Research

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82/R/BE/1

WINTER BEANS

EFFECTS OF PESTS AND PATHOGENS

Object: To assess the benefits from three amounts of pest and disease control on beans - Gt. Knott III.

Sponsors: J. McEwen, A. Bainbridge, R. Bardner, A.J. Cockbain, J.M. Day, K.E. Fletcher, D.C. Griffiths, D.H. Lapwood, R.M. Webb, T.D. Williams, 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 benomyl and thiram (1.2 g of each per kg of seed)
FULL	Phorate at 2.2 kg as granules to foliage on 2 Apr, 1982 Seed dressed with benomyl and thiram (1.2 g of each per kg of seed) Aldicarb at 10 kg on 23 Sept, 1981 Benomyl at 0.56 kg and fosetyl-Al at 2.2 kg on 8 Feb Carbofuran at 2.24 kg on 2 Apr Benomyl at 0.56 kg on 14 Apr Benomyl at 0.56 kg on 5 May Propiconazole at 0.13 kg on 15 June

NOTES: (1) Treatment sprays were applied in 340 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 and in addition received benomyl at 0.56 kg on 8 Feb and 14 Apr.

Basal applications: Weedkillers: Paraquat at 0.56 kg ion in 220 l.  
Propyzamide at 0.85 kg in 250 l. Fungicide: Benomyl at 0.55 kg in 250 l on two occasions.

Seed: Throws MS, sown at 250 kg.

Cultivations, etc.: - Heavy spring-tine cultivated twice: 9 Sept, 1981 and once: 11 Sept. Paraquat applied: 22 Sept. Spring-tine cultivated, seedbed treatments applied, rotary harrowed, seed sown: 23 Sept. Propyzamide applied: 29 Sept. Basal benomyl applied twice: 19 May, 1982, 7 June. Combine harvested: 12 Aug. Previous crops: W. wheat 1980, s. barley 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 July. Migratory nematodes, root and foliar fungi, aphids, weevils, midges and viruses were counted at intervals during the season. N content of grain was measured.

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GRAIN TONNES/HECTARE

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

PATHCONT	STANDARD	ENHANCED	FULL	MEAN
	2.97	2.99	3.04	3.00

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

TABLE	PATHCONT
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SED	0.155

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

STRATUM	DF	SE	CV%
BLOCK.WP	10	0.268	8.9

GRAIN MEAN DM% 85.1

PLOT AREA HARVESTED 0.00320