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# Yields of the Field Experiments 1981

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## 81/R/BE/5 Effects of Pests & Pathogens - W. Beans

### Rothamsted Research

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81/R/BE/5

WINTER BEANS

EFFECTS OF PESTS & PATHOGENS

Object: To assess the benefits from three amounts of pest and disease control on winter beans - Highfield VI.

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Design: 6 randomised blocks of 3 plots.

Whole plot dimensions: 4.27 x 13.7.

Treatments:

PATHCONT	Pest & pathogen control (in addition to basals):
STANDARD	None
ENHANCED	Seed dressed with benomyl and thiram (2.0 g of each per kg of seed) Fosetyl-A1 at 3.26 kg on 16 Dec, 1980 Carbofuran at 2.24 kg on 6 Apr, 1981
FULL	Seed dressed with benomyl and thiram (2.0 g of each per kg of seed) Aldicarb at 10 kg on 29 Sept, 1980 Fosetyl-A1 at 3.26 kg on 16 Dec Benomyl at 0.56 kg on 16 Dec Benomyl at 0.56 kg on 3 Feb, 1981 Fosetyl-A1 at 3.26 kg on 17 Feb Benomyl at 0.56 kg on 27 Mar Carbofuran at 2.24 kg on 6 Apr Benomyl at 0.56 kg on 29 June

- NOTES: (1) Treatment sprays were applied in 520 l on 16 Dec, 1980, 3 Feb, 1981 and 27 Mar, and in 340 l on all other occasions.  
(2) Sides of plots were separated by strips of w. beans 4.27 m wide plus 0.9 m fallow paths, ends of plots were separated by strips of w. beans 8.8 m wide plus 0.9 m fallow paths. The separating crop received basal applications as for the plots, and in addition received benomyl at 0.56 kg on 5 Jan, 1981, 12 Feb, 27 Mar and 29 June.

Basal applications: Manures: Chalk at 7.5 t. Muriate of potash at 830 kg.  
Weedkillers: Simazine at 0.17 kg with trietazine at 1.2 kg in 250 l.  
Fungicide: Benomyl at 0.56 kg in 340 l applied twice. Insecticides: Pirimicarb at 0.14 kg in 340 l. Desiccant: Diquat at 0.59 kg ion in 250 l.

Seed: Throws MS, sown at 250 kg (at 230 kg in error on ENHANCED and FULL).

Cultivations, etc.: - Chalk applied: 19 Sept, 1980. K applied: 22 Sept. Ploughed: 24 Sept. Disc harrowed and heavy spring-tine cultivated: 27 Sept. Rotary harrowed: 29 Sept. Seed sown, weedkiller applied: 30 Sept. Basal fungicide applied: 5 May, 1981, 3 June. Basal insecticide applied: 29 June. Desiccant applied: 29 Aug. Combine harvested: 1 Sept. Previous crops: W. wheat 1979, s. wheat 1980.

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

GRAIN TONNES/HECTARE

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

PATHCONT	STANDARD	ENHANCED	FULL	MEAN
	2.89	4.48	4.85	4.07

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

TABLE	PATHCONT
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SED	0.204

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

STRATUM	DF	SE	CV%
BLOCK.WP	10	0.353	8.7

GRAIN MEAN DM% 80.5

PLOT AREA HARVESTED 0.00293