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

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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 |
| ----- | ----- |
| 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