

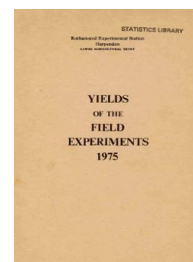
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75/ W/CS/99 - Effects of Breaks on Take-all - Barley, Beans

Rothamsted Research

Rothamsted Research (1976) 75/ W/CS/99 - *Effects of Breaks on Take-all - Barley, Beans* ; Yields Of The Field Experiments 1975, pp 195 - 196 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/W/CS/99

EFFECTS OF BREAKS ON TAKE-ALL

Object: To study the phenomenon of 'take-all' (*Gaeumannomyces graminis*) decline in barley - Woburn Butt Furlong.

Sponsor: D. Hornby.

The fourth year, barley, spring beans.

For previous years see 72/W/CS/99(t) and 73-74/W/CS/99.

Design: 2 blocks of 9 plots.

Whole plot dimensions: 5.33 x 15.2.

Treatments: Previous crops:-

| 1968-71 | 1972 | 1973 | 1974 | PREVCROP |
|---------|------|------|-----------------------|----------|
| B | B | B | B (4 plots per block) | B/B/B/B |
| B | F | B | B | B/F/B/B |
| B | F | BE | B | B/F/BE/B |
| B | B | F | BE | B/B/F/BE |

B = Barley, BE = Beans, F = Fallow

Standard applications:

Barley: Manures: (20:14:14) at 420 kg combine drilled. Weedkiller: Ioxynil at 0.53 kg and mecoprop at 1.6 kg in 280 l.

Spring beans: Manures: (0:14:28) at 400 kg placement drilled. Weedkiller: Simazine at 0.84 kg in 280 l. Insecticide: Demeton-s-methyl at 0.20 kg in 390 l.

Seed: Barley: Julia, dressed with ethirimol, sown at 160 kg.
Spring beans: Minden, sown at 220 kg.

Cultivations, etc.:-

All plots: Ploughed: 11-13 Dec, 1974. Spring-tine cultivated: 25 Feb, 1975.

Barley: Seed sown: 28 Feb, 1975. Weedkiller applied: 22 May.
Combine harvested: 12 Aug.

Spring beans: Spring-tine cultivated with crumbler: 21 Apr, 1975. Seed sown: 23 Apr. Weedkiller applied: 26 Apr. Insecticide applied: 14 July. Combine harvested: 26 Aug.

Fallow: Spring-tine cultivated with crumbler: 21 Apr, 1975. Spring-tine cultivated: 22 May.

NOTE: Soil samples were taken before sowing and after harvest and plant samples in July for incidence of 'take-all' (*Gaeumannomyces graminis*).

75/W/CS/99

*** TABLES OF MEANS ***

BARLEY GRAIN TONNES/HECTARE

| PREVCROP | B/B/B/B | B/F/B/B | B/F/BE/B | B/B/F/BE | MEAN |
|----------|---------|---------|----------|----------|------|
| | 1.42 | 2.08 | 2.16 | 2.19 | 1.73 |

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

| TABLE | PREVCROP | |
|-------|----------|----------------------------|
| SED | 0.270 | B/B/B/B V ANY OF REMAINDER |
| | 0.341 | ANY OF REMAINDER |

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

| STRATUM | DF | SE | CV% |
|----------|----|-------|------|
| BLOCK.WP | 9 | 0.341 | 19.7 |

GRAIN MEAN DM% 87.0

PLOT AREA HARVESTED 0.00434

SPRING BEANS GRAIN TONNES/HECTARE

MEAN 0.76

MEAN DM% 86.7