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Yields of the Field Experiments 1985

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85/R/CS/212 Seasonal Effects of Take-all - W. Wheat, S. Beans

Rothamsted Research

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85/R/CS/212

SEASONAL EFFECTS OF TAKE-ALL

Object: To study the incidence of take-all (*Gaeumannomyces graminis*) in continuous w. wheat and in first and second w. wheats after a break - Great Harpenden I.

Sponsor: D. Hornby.

The eighth year, s. beans, w. wheat.

For previous years see 78-84/R/CS/212.

Design: 3 randomised blocks of 4 plots.

Whole plot dimensions: 5.33 x 31.4.

Treatments:

PREVCROP Previous crops before w. wheat 1985:

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---------|------|------|------|------|------|------|------|
| CONT W | W | W | W | W | W | W | W |
| FIRST W | W | W | BE | W | W | BE | W |
| BEANS | BE | W | W | BE | W | W | BE |

BE = s. beans, W = w. wheat

NOTE: An additional crop sequence was in s. beans 1985, yields not taken.

Standard applications:

W. wheat: Manures: (0:20:20) at 330 kg, combine drilled.
'Nitro-Chalk' (27.5% N) at 330 kg. Weedkillers:
Isoproturon at 2.0 kg, bromoxynil at 0.34 kg, clopyralid at 0.07 kg and mecoprop (as 'CMPP' at 4.2 l) with the fungicides in 500 l. Fungicides: Prochloraz at 0.4 kg and carbendazim at 0.15 kg.

Seed: W. wheat: Avalon, sown at 190 kg.
S. beans: Minden, sown at 220 kg.

Cultivations, etc.:-

W. wheat: Ploughed: 8 Oct, 1984. Rotary harrowed, seed sown: 15 Oct. N applied: 12 Apr, 1985. Weedkillers and fungicides applied: 16 Apr. Combine harvested: 29 Aug.
S. beans: Ploughed: 8 Oct, 1984. Heavy spring-tine cultivated: 19 Mar, 1985. Rotary harrowed, seed sown: 20 Mar. Combine harvested: 27 Sept.

NOTE: Take-all was assessed in soil and in w. wheat roots.

85/R/CS/212

WINTER WHEAT

GRAIN TONNES/HECTARE

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

| | | | | |
|----------|--------|---------|-------|------|
| PREVCROP | CONT W | FIRST W | BEANS | MEAN |
| | 4.45 | 4.41 | 6.08 | 4.98 |

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

| | |
|-------|----------|
| TABLE | PREVCROP |
| ----- | ----- |
| SED | 0.335 |

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

| | | | |
|----------|----|-------|-----|
| STRATUM | DF | SE | CV% |
| BLOCK.WP | 4 | 0.410 | 8.2 |

GRAIN MEAN DM% 84.7

PLOT AREA HARVESTED 0.00430