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Yields of the Field Experiments 1976

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76/W/CS/99 Effects of Breaks on Take-all - Barley, S. Beans

Rothamsted Research

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76/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 fifth year, barley, spring beans.

For previous years see 72/W/CS/99(t) and 73-75/W/CS/99.

Design: 2 blocks of 9 plots.

Whole plot dimensions: 5.33 x 15.2.

Treatments: Previous crops:-

PREVCROP	1968-71	1972	1973	1974	1975
B/B/B/B	B	B	B	B	B (3 plots/block)
F/B/B/B	B	F	B	B	B
F/BE/B/B	B	F	BE	B	B
B/F/BE/B	B	B	F	BE	B
B/B/F/BE	B	B	B	F	BE

B = Barley, BE = Beans, F = Fallow

Standard applications:

Barley: (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: (0:14:28) at 400 kg.

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

Cultivations, etc.:-

All plots: Ploughed: 6 Oct, 1975. Spring-tine cultivated: 1 Mar, 1976.
Barley: Seed sown: 3 Mar, 1976. Weedkiller applied: 29 Apr.
Combine harvested: 27 July.
Spring beans: Spring-tine cultivated: 4 Mar, 1976. Seed sown: 11 Mar.
PK applied by hand: 12 Mar. Hoed by hand three times: 28 Apr, 26 May, 22 June. Combine harvested: 20 July.
Fallow: Spring-tine cultivated: 4 Mar, 1976. Hoed by hand twice: 28 Apr, 26 May.

- NOTES: (1) Soil samples were taken before sowing and after harvest and plant samples in July for incidence of 'take-all' (*Gaeumannomyces graminis*).
(2) Yields were not taken for the spring beans.

76/W/CS/99

BARLEY

GRAIN TONNES/HECTARE

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

PREVCROP	B/B/B/B	F/B/B/B	F/BE/B/B	B/F/BE/B	B/B/F/BE	MEAN
	1.61	2.01	1.79	2.37	2.85	1.98

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

TABLE	PREVCROP
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SED	0.459 MIN REP
	0.375 MAX-MIN

PREVCROP
MAX-MIN B/B/B/B V ANY OF REMAINDER
MIN-REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	8	0.459	23.2

GRAIN MEAN DM% 89.2

PLOT AREA HARVESTED 0.00434