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72/W/CS/99 Effect of Breaks on Take-all - Barley

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Rothamsted Research (1973) *72/W/CS/99 Effect of Breaks on Take-all - Barley*; Yields Of The Field Experiments 1972, pp 256 - 257 - DOI: <https://doi.org/10.23637/ERADOC-1-62>

72/W/CS/99

EFFECT OF BREAKS ON TAKE-ALL

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

Sponsor: D. Hornby.

The first year, barley. Crop sequences 1 and 4 - 9.

Design: 2 blocks of 9 plots.

Whole plot dimensions: 5.33 x 15.2. Area harvested: 0.00429.

Treatments:-

Whole plots: Crop sequences (CS):-								
	1968-71	1972	1973	1974	1975	1976	1977	1978
1	B	B	B	B	B	B	B	B
2	B	F	B	B	B	B	B	B
3	B	F	Be	B	B	B	B	B
4	B	B	F	Be	B	B	B	B
5	B	B	B	F	Be	B	B	B
6	B	B	B	B	F	Be	B	B
7	B	B	B	B	B	F	Be	B
8	B	B	B	B	B	B	F	Be
9	B	B	B	B	B	B	B	F

B = Barley, BE = Spring beans, F = Fallow.

Basal applications:- 7.5 tonnes magnesian limestone, 500 kg (20:15:15) combine drilled. Weedkiller: Paraquat at 0.56 kg ion in 280 l, Ioxynil, bromoxynil, dichlorprop and MCPA ('Tetroxone' at 5.6 l in 280 l.)

Seed: Julia (seed dressed with ethirimol) sown at 160 kg.

Cultivations, etc.: Paraquat applied: 10 Sept, 1971. Ploughed: 27 Sept. Magnesian limestone applied: 4 Nov. Deep-tine cultivated: 5 Nov. Seed combine drilled: 15 Mar, 1972. 'Tetroxone' applied to barley plots: 3 May. Paraquat applied to fallow plots: 7 June. Combine harvested: 11 Aug.

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

Standard error per plot.

Grain, tonnes/hectare: 0.493 or 12.4% (6 d.f.)

72/W/CS/99

TABLE OF MEANS

GRAIN: TONNES/HECTARE

CS							
1	4	5	6	7	8	9	Mean
3.62	4.52	4.10	3.37	3.86	4.49	3.88	3.98

STANDARD ERROR OF DIFFERENCES

CS 0.493

Mean D.M. %: 87.2