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# Yields of the Field Experiments 1973



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## **Rothamsted Research**

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# 73/R/CS/6

#### WHEAT AFTER INTENSIVE BARLEY

Object: To study the effects of different periods of pre-cropping with barley on yields and incidence of take-all (Gaeumannomyces graminis), in wheat - Little Knott I.

Sponsors: D. Hornby, G.A. Salt.

The 13th year, winter wheat and beans.

NOTE: Only one quarter of the original experiment is continuing.

For previous years see 61/C/8(t), 62/C/7, 63-66/C/2, 67/C/2(t), 68/C/2(t), 69/R/CS/6(t), 70/R/CS/6(t), 71/R/CS/6(t) and 72/R/CS/6(t).

Design: 2 replicates of 10 plots fully randomised.

Whole plot dimensions: 4.27 x 20.1. Plot area harvested: 0.00572.

Treatments: Crop		sequence		(1961-73):-							CROPSEQN		
0	BE	В	В	В	В	В	В	WW	F	WW	WW	WW	1
WS	0	BE	В	B	B	B	В	WW	WW	WW	F	WW	2
0	WS	0	BE	В	B	B	B	WW	WW	WW	F	BE	3
BE	0	WS	0	BE	B	В	B	WW	WW	WW	WW	F	4
WS	BE	0	WS	0	BE	В	B	WW	WW	WW	WW	WW	5
WS	WS	BE	0	WS	0	BE	B	WW	WW	WW	WW	WW	6
В	B	B	В	B	В	B	B	WW	WW	WW	WW	WW	7
WS	WS	WS	WS	WS	WS	WS	WS	WW	WW	WW	WW	WW	8
WS	WW	WW	WW	WW	WW	WW	F	WW	WW	WW	WW	WW	9
BE	WW	P	В	BE	WW	P	B	F	WW	WW	WW	WW	10

where: B = barley, WS = spring wheat, WW = winter wheat, BE = beans, O = oats, P = potatoes, F = fallow.

Basal applications: Ground chalk was applied at 10.0 tonnes to equalise the previous test on half plots together with a basal application at 2.5 tonnes. Wheat: Manures: (0:14:28) at 250 kg, combine drilled, 'Nitro-Chalk' at 500 kg. Weedkillers: Terbutryne and related triazines ('Prebane 50' at 4.5 kg in 220 1) and MCPA, mecoprop and dicamba ('Tetralex Plus' at 7.0 1 in 220 1). Beans: Manures: (0:14:28) at 400 kg, placement drilled. Insecticide: Phorate at 1.1 kg as granules.

Seed: Wheat: Cappelle, sown at 200 kg. Beans: Minor, sown at 220 kg.

# 73/R/CS/6

Cultivations, etc.:- Chalk applied: 21 Sept, 1972. Ploughed: 27 Sept. Wheat: Seed sown: 13 Oct. 'Prebane' applied: 21 Oct. N applied: 12 Apr, 1973. 'Tetralex Plus' applied: 16 Apr. Combine harvested: 20 Aug.

Beans: Power harrowed, seed sown: 9 Mar, 1973. Insecticide applied: 11 June. Combine harvested: 11 Sept.

Fallow: Power harrowed: 9 Mar, 1973. Rotary cultivated: 6 June.

NOTES (1) Yields were taken for winter wheat only.

(2) Soil and plant samples were taken at monthly intervals for disease assessment, chemical and microbial analyses and further culture.

Standard error per plot. Winter wheat: Grain, tonnes/hectare: 0.246 or 4.5% (8 d.f.)

#### TABLES OF MEANS

#### WINTER WHEAT

### GRAIN: TONNES/HECTARE

#### CROPSEQN

1	2	5	6	7	8	9	10	Mean
5.72	3.92	6.01	5.42	5.39	5.94	5.89	5.70	5.50

# STANDARD ERROR OF DIFFERENCES

CROPSEQN

0.246

Mean D.M. % 86.7