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Yields of the Field Experiments 1973

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73/W/CS/74 - Break Crops a Wheat - Barley

Rothamsted Research

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73/R/CS/74

BREAK CROPS AND WHEAT

Object: To study the effects of different break crops on yields and soil-borne pathogens of a following sequence of cereals - Fosters West.

Sponsors: G.V. Dyke, R.D. Prew.

The third year, spring barley.

For previous years see 71/R/CS/74(t) and 72/R/CS/74(t).

Design: 3 randomised blocks of 10 plots, split into 4.

Whole plot dimensions: 4.27 x 39.3. Sub plot area harvested: 0.00260.

Treatments: All combinations of:-

Whole plots: 1. Crops and nitrogen 1971:-

CROP 71

Barley given 50 kg N	B1
Barley given 50 kg N, undersown trefoil	B1T
Oats given 50 kg N	O1
Oats given 50 kg N, undersown trefoil	O1T
Maize given 100 kg N	MA2
Maize given 200 kg N	MA4
Spring beans (2 plots per block)	BE
Clover (2 plots per block)	CL

Sub plots: 2. Nitrogen fertiliser (cumulative to wheat 1972) kg N:-

N

None	0
50	50
100	100
150	150

Basal applications: Manures: 310 kg (0:20:20) combine drilled.

Weedkiller: MCPA, mecoprop and dicamba ('Banlene Plus' at 5.6 l in 220 l).

Seed: Julia, dressed with ethirimol, sown at 160 kg.

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Cultivations, etc.:— Ploughed: 8 Nov, 1972. Rotary cultivated: 14 Mar, 1973. Seed sown: 15 Mar. N applied: 24 Mar. Weedkiller applied: 15 May. Combine harvested: 9 Aug.

NOTE: Samples were taken in August for estimation of take-all (*Gaeumannomyces graminis*).

Standard errors per plot, grain: tonnes/hectare.

Whole plot: 0.125 or 2.3% (20 d.f.)

Sub plot: 0.303 or 5.5% (66 d.f.)

73/R/CS/74

TABLES OF MEANS

GRAIN: TONNES/HECTARE

CROP 71

	B1	B1T	O1	O1T	MA2	MA4	BE	CL	Mean
N									
0	3.81	4.06	3.80	3.88	3.46	3.97	4.05	4.18	3.94
50	5.84	6.06	5.60	5.99	6.05	6.10	5.87	6.13	5.96
100	5.83	6.19	6.15	5.74	5.78	5.95	6.06	5.74	5.92
150	5.91	6.13	6.22	6.06	6.26	5.86	5.93	5.87	6.01
Mean	5.35	5.61	5.44	5.42	5.39	5.47	5.48	5.48	5.46

STANDARD ERRORS OF DIFFERENCES

CROP 71

Excluding BE and CL 0.102
 BE v CL 0.072
 BE or CL v Remainder 0.089

N 0.078

CROP 71

N

Excluding BE and CL 0.237
 BE and CL 0.168
 BE or CL v Remainder 0.206

Except when comparing means with same level of CROP 71

Excluding BE and CL 0.247
 BE and CL 0.175

Mean D.M. % 81.2