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72/R/CS/74 Break Crops and Wheat - W. Wheat

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72/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 second year, winter wheat.

For previous year see 71/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:

Whole plots: Crops and nitrogen 1971 (CR):-

Maize (MA) receiving N at 100 (N2), 200 (N4) kg as 'Nitro-Chalk' in the seedbed, spring beans (2 plots per block) (BE), clover (2 plots per block) (CL) together with all combinations of:-

1. Crops: Barley (B), oats (O), each receiving N at 50 kg (N1) as 'Nitro-Chalk' in the seedbed.
2. Undersowing: None (O), trefoil (T).

Sub plots:

3. Nitrogen 1972: None, 50, 100, 150 kg N as 'Nitro-Chalk'.

Basal applications: 310 kg (0:20:20) combine drilled. Weedkiller: MCPA, mecoprop and dicamba ('Banlene Plus' at 5.6 l in 220 l).

Seed: Joss Cambier sown at 200 kg.

Cultivations, etc.: Corrective K applied: 29 Oct, 1971. Ploughed: 1 Nov. Seed combine drilled: 2 Nov. N applied: 5 Apr, 1972. Weedkiller applied: 28 Apr. Combine harvested: 29 Aug.

NOTE: Samples were taken for estimation of take-all (*Gaeumannomyces graminis*) and eyespot (*Cercospora herpotrichoides*). Samples of grain were taken for sieving and % N.

Standard errors per plot.

Grain, tonnes/hectare: Whole plot: 0.130 or 2.6% (20 d.f.)
Sub plot: 0.329 or 6.6% (66 d.f.)

72/R/CS/74

TABLES OF MEANS

GRAIN: TONNES/HECTARE

CR

	BN10	BN1T	ON10	ON1T	MAN2	MAN4	BE	CL	Mean
N: KG/HA									
0	2.26	3.93	3.19	4.25	4.23	5.28	4.54	5.74	4.37
50	3.93	4.73	5.13	5.29	5.59	5.84	5.48	6.06	5.36
100	5.17	4.90	5.54	5.69	5.40	5.37	5.51	5.21	5.35
150	4.56	4.49	5.09	5.03	5.03	4.78	4.95	4.60	4.81
Mean	3.98	4.51	4.74	5.07	5.06	5.32	5.12	5.41	4.97

Mean D.M.%: 84.5

STANDARD ERRORS OF DIFFERENCES

CR

Excluding BE v CL 0.106
 BE v CL 0.075
 BE or CL v REMAINDER 0.092

N 0.085

CR

N

Excluding BE and CL 0.256
 BE and CL 0.181
 BE or CL v REMAINDER 0.218

Unless same level of CR

Excluding BE and CL 0.269
 BE and CL 0.190