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71/R/CS/59 Break Crops and Wheat - Wheat

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71/R/CS/59

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 - Geescroft.

The second year, winter wheat.

For previous year see 70/R/CS/59(t).

Design: 3 randomised blocks of 14 plots, split into 4.

Whole plot dimensions: 4.27 x 33.2. Sub plot area harvested: 0.00215.

Treatments:-

Whole plots: Crops and nitrogen 1970:-

Maize receiving N at 100 (MA2), 200 (MA4) kg as 'Nitro-Chalk' in seedbed, spring beans (2 plots per block) (BE), clover (2 plots per block) (CL) and all combinations of:-

1. Crops: Barley (B), oats (O).
2. Undersowing: None (O), trefoil (T).
3. Nitrogen: 50 (1), 100 (2) kg as 'Nitro-Chalk' in seedbed.

Sub plots:

4. Nitrogen 1971: None, 50, 100, 150 kg as 'Nitro-Chalk'.

Basal and other applications: Corrective K to clover plots at 126 kg K₂O as muriate of potash. 314 kg (0:20:20) combine drilled. Weedkiller: 2,4-D at 0.56 kg and dichlorprop at 2.24 kg in 225 l.

Cultivations, etc.: Corrective K applied: 20 Oct, 1970. Ploughed: 3 Nov. Seed combine drilled at 202 kg: 5 Nov. N applied: 8 Apr, 1971. Weedkiller applied: 14 Apr. Combine harvested: 25 Aug. Variety: Joss Cambier.

NOTE: Estimates were made of take-all (*Ophiobolus graminis*) and eyespot (*Cercospora herpotrichoides*).

Standard errors per plot.

Grain, tonnes/hectare: Whole plot: 0.238 or 4.9% (26 d.f.)
Sub plot: 0.363 or 7.5% (84 d.f.)

7L/R/CS/59

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

N: KG/HA 1971

		0	50	100	150	Mean
Crop and N 1970	Under-sowing 1970	(1) and (2)				(±0.137)
B1	O	2.73	3.94	4.32	4.26	3.81
B2	O	2.51	3.90	4.13	4.61	3.79
B1	T	3.38	3.74	4.48	4.20	3.95
B2	T	3.73	4.47	4.36	4.42	4.25
O1	O	3.52	4.97	5.50	5.36	4.84
O2	O	4.06	5.66	5.71	5.42	5.21
O1	T	3.65	5.27	5.66	5.18	4.94
O2	T	4.40	5.10	5.60	5.36	5.11
MA2	O	4.79	5.59	5.72	5.07	5.29
MA4	O	5.20	5.70	5.63	5.10	5.41
		(3) and (4)				(±0.097)
BE*	O	4.53	5.72	5.81	5.54	5.40
CL*	O	4.49	5.56	5.50	5.16	5.18
Mean (±0.056)		4.00	5.07	5.27	5.03	4.84

Mean D.M. %: 83.9

- (1) (±0.228) (3) (±0.161) For use in vertical and diagonal comparisons only
 (2) (±0.210) (4) (±0.148) For use in horizontal and interaction comparisons only

* Duplicated treatments