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Numerical Results of the Field Experiments 1968

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68/C/12 Previous Crops X N for Barley

Rothamsted Research

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68/c/12.1

PREVIOUS CROPS X N FOR BARLEY 1966 - 68

(BY)

The effect of previous cropping and nitrogen on the yield of barley - Fosters Corner 1968, the third year - barley.

Design: A single replicate of 3 x 3 x 3 x 3 in 3 blocks of 9 plots, split for N in 1967 and 1968, with split plot confounding and a component of the 4 factor interaction confounded with blocks. Whole plot randomisation restricted.

Area of each sub plot: 0.0107. Area harvested: 0.0063.

Treatments: All combinations of:-

Whole plots (applied 1966):-

1. Cropping: Spring wheat (W), Kale (K), Italian Ryegrass (G).
2. Nitrogen: None (Q0), 1.0 (Q2), 2.0 (Q4) cwt N as 'Nitro-Chalk'.

Sub plots (applied to barley 1967 and 1968):-

3. 1967 Nitrogen: None (R0), 0.5 (R1), 1.0 (R2) N as 'Nitro-Chalk'.
4. 1968 Nitrogen: None (N0), 0.5 (N1), 1.0 (N2) N as 'Nitro-Chalk'.

Basal applications: 2.5 cwt (0:20:20) combine drilled.

Cultivations, etc.: Ploughed: 18 Sept, 1967. Seed drilled at 145 lb, 'Nitro-Chalk' applied: 29 Feb, 1968. Combine harvested: 22 July. Variety: Maris Badger.

NOTES: (1) For previous years' results see 'Results' 66/c/19 and 67/c/15.

(2) Samples of grain were taken at harvest for determination of percentage N.

Standard errors per plot. Grain:

Whole plot: 2.34 or 8.5% (16 d.f.)

Sub plot: 5.39 or 19.6% (40 d.f.)

68/c/12.2

SUMMARY OF RESULTS

GRAIN

Crop in 1966	N 1966			N 1967			N 1968			Mean
	Q0	Q2	Q4	R0	R1	R2	N0	N1	N2	
	(±1.35)			(1) and (2)			(1) and (2)			(±0.78)
W	24.9	27.8	26.6	27.4	25.3	26.6	29.0	25.2	25.1	26.4
K	28.0	26.9	29.1	27.0	30.4	26.6	33.6	26.7	23.7	28.0
G	28.3	27.7	28.8	31.0	29.9	23.9	36.4	26.3	22.2	28.3
				(1) and (2)			(1) and (2)			
		Q0		27.1	28.6	25.5	32.2	26.0	22.9	27.1
		Q2		30.1	27.5	24.8	32.2	26.8	23.4	27.5
		Q4		28.2	29.4	26.9	34.5	25.3	24.7	28.2
							(±1.80)			(±1.04)
				R0			34.9	28.3	22.2	28.5
				R1			33.0	26.2	26.3	28.5
				R2			31.1	23.7	22.4	25.7
Mean (±1.04)							33.0	26.0	23.7	27.6

(1) (±1.66) For use in vertical and diagonal comparisons
 (2) (±1.80) For use in horizontal and interaction comparisons

Mean D.M. %: 86.4