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Yields of the Field Experiments 1955

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55/R/CA/6 and 55/W/CA/6 Spring Wheat - Levels and Time of N

Rothamsted Research

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55/Ca/6.1

SPRING WHEAT

Rates and times of application of nitrogen - Rothamsted (R) Great Field I and Woburn (W) Butt Close.

Design (each field): 22 treatments arranged in 4 blocks of 13 plots each, the control and 3 treatments occurring in every block, the other 18 treatments occurring in 2 blocks. The total amounts of N applied per block were equal.

Area of each plot: 0.0212 acre. Area harvested: 0.0140 acre.

Treatments: None, and all combinations of:-

Nitrogen: 0.3; 0.6; 0.9 cwt N per acre applied as 'Nitro-Chalk'.

Times of application: All in seed bed (S); all as early top dressing (E); all as late top dressing (L); $\frac{1}{2}$ S & $\frac{1}{2}$ E; $\frac{1}{2}$ S & $\frac{1}{2}$ L; $\frac{1}{2}$ E & $\frac{1}{2}$ L; $\frac{1}{3}$ S, $\frac{1}{3}$ E & $\frac{1}{3}$ L.

Basal dressing: 1.15 cwt per acre compound fertilizer (13% P_2O_5 ; 13% K_2O) combine drilled with the seed.

Cultivations, etc.:

Great Field I (R). Ploughed: Nov - Dec 1954. Seed bed 'Nitro-Chalk' applied: Mar 31, 1955. Seed drilled at $2\frac{3}{4}$ bushels per acre with basal fertilizer: Apr 4. Early 'Nitro-Chalk' top dressing applied: Apr 30. Sprayed with D.N.C. 8 lb active material at 80 gallons per acre: May 11. Late 'Nitro-Chalk' top dressing applied: May 19. Combine harvested: Sept 1. Variety: Koga II. Previous crop: Potatoes.

Butt Close (W). Ploughed: Dec 23-28, 1954. 2 tons ground chalk per acre applied: Feb 3, 1955. Seed bed 'Nitro-Chalk' applied, seed drilled at $2\frac{3}{4}$ bushels per acre with basal fertilizer: Mar 22. Early 'Nitro-Chalk' top dressing applied: Apr 20. Late 'Nitro-Chalk' top dressing applied: May 16. Sprayed with MCPA amine at low volume: May 22. Combine harvested: Aug 23. Variety: Koga II. Previous crop: Potatoes.

Standard errors per plot. Grain: cwt per acre.

Great Field I (R): 2.01 cwt per acre or 4.5% (27 d.f.)

Butt Close (W): 2.87 cwt per acre or 11.1% (27 d.f.)

55/Ca/6.2

Summary of Results

Grain: cwt per acre

Rothamsted Great Field I

	Time of application							Mean
	S	E	L	$\frac{1}{2}S\frac{1}{2}E$	$\frac{1}{2}S\frac{1}{2}L$	$\frac{1}{2}E\frac{1}{2}L$	$\frac{1}{3}S\frac{1}{3}E\frac{1}{3}L$	
	(±1.52)						(±1.01)	(±0.50)
N: cwt per acre								41.5 ⁽¹⁾
None								44.6
0.3	44.1	42.9	44.5	46.0	45.9	44.9	44.1	45.1
0.6	45.9	45.0	43.7	43.7	45.8	44.1	46.4	45.3
0.9	46.1	44.4	45.7	45.8	44.3	45.9	45.0	
Mean (±0.84)	45.3	44.1	44.7	45.2	45.3	44.9	45.2 ⁽²⁾	44.7

(1) ±1.01 (2) ±0.58

Mean dry matter % as harvested: 84.5

Woburn Butt Close

	Time of application							Mean
	S	E	L	$\frac{1}{2}S\frac{1}{2}E$	$\frac{1}{2}S\frac{1}{2}L$	$\frac{1}{2}E\frac{1}{2}L$	$\frac{1}{3}S\frac{1}{3}E\frac{1}{3}L$	
	(±2.16)						(±1.43)	(±0.72)
N: cwt per acre								12.2 ⁽¹⁾
None								22.2
0.3	26.4	21.0	24.0	21.0	21.3	22.4	20.8	28.9
0.6	32.7	29.1	22.9	28.7	29.9	29.9	29.0	29.7
0.9	33.4	25.9	26.4	30.8	30.6	23.7	33.5	
Mean (±1.20)	30.8	25.3	24.4	26.8	27.3	25.4	27.7 ⁽²⁾	25.8

(1) ±1.43 (2) ±0.83

Mean dry matter % as harvested: 84.1

Time of application

S In Seedbed.
 E Early top dressing.
 L Late top dressing.