

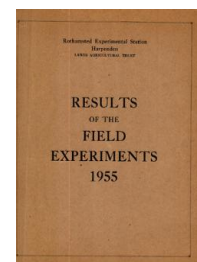
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55/R/CB/2 and 55/W/CB/2 Barley - Levels and Time of N

Rothamsted Research

Rothamsted Research (1956) *55/R/CB/2 and 55/W/CB/2 Barley - Levels and Time of N* ; Yields Of The Field Experiments 1955, pp 82 - 83 - DOI: <https://doi.org/10.23637/ERADOC-1-175>

BARLEY

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: 0.0141 acre.

Treatments: None, and all combinations of:-

Nitrogen: N_1 ; N_2 ; N_3 .

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.

Where N_1 ; N_2 ; N_3 =

Great Field I (R): 0.23; 0.46; 0.69 cwt N per acre applied as 'Nitro-Chalk'.

Butt Close (W): 0.3; 0.6; 0.9 cwt N per acre applied as 'Nitro-Chalk'.

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 drilled at 2 bushels per acre with basal fertilizer, and seed bed 'Nitro-Chalk' applied: Apr 2, 1955. Early 'Nitro-Chalk' top dressing applied: Apr 30. Sprayed with DNC 8 lb active material in 80 gallons per acre: May 11. Late 'Nitro-Chalk' top dressing applied: May 19. Combine harvested: Aug 21. Variety: Herta. Previous crop: Potatoes.

Butt Close (W). Ploughed: Dec 23-28, 1954. Applied ground chalk at 2 tons per acre: Feb 4, 1955. Seed bed 'Nitro-Chalk' applied: Mar 21. Seed drilled at 2 bushels per acre with basal fertilizer: Mar 22. Early top dressing of 'Nitro-Chalk' applied: Apr 20. Late top dressing of 'Nitro-Chalk' applied: May 16. Sprayed with MCPA amine at low volume: May 22. Combine harvested: Aug 22. Variety: Herta. Previous crop: Potatoes.

Standard errors per plot. Grain: cwt per acre.

Great Field I(R): 1.68 cwt per acre or 3.4% (27 d.f.)

Butt Close (W): 3.84 cwt per acre or 9.9% (27 d.f.)*

Note: The Woburn crop was severely and irregularly damaged by birds. Estimates of damage were made before harvesting and the yields have been corrected on the basis of these.

*At 85% dry matter.

Summary of Results

Grain: cwt per acre

Rothamsted Great Field I

	S	E	Time of application				$\frac{1}{3}S\frac{1}{3}E\frac{1}{3}L$	Mean
			L	$\frac{1}{2}S\frac{1}{2}E$	$\frac{1}{2}S\frac{1}{2}L$	$\frac{1}{2}E\frac{1}{2}L$		
N: cwt per acre	(±1.26)						(±0.84)	(±0.42)
None							46.9 ⁽¹⁾	
0.23	48.2	47.7	49.8	46.2	47.1	47.6	48.1	
0.46	50.5	51.2	47.7	49.5	50.2	48.9	49.7	
0.69	48.0	46.6	51.5	48.5	47.7	48.2	48.5	
Mean (±0.70)	48.9	48.5	49.7	48.0	48.3	48.2	49.3 ⁽²⁾	48.7

(1) ±0.84 (2) ±0.48

Mean dry matter % as harvested: 85.0

Grain (at 85% dry matter): cwt per acre

Woburn Butt Close

	S	E	Time of application				$\frac{1}{3}S\frac{1}{3}E\frac{1}{3}L$	Mean
			L	$\frac{1}{2}S\frac{1}{2}E$	$\frac{1}{2}S\frac{1}{2}L$	$\frac{1}{2}E\frac{1}{2}L$		
N: cwt per acre	(±2.89)						(±1.92)	(±0.96)
None							21.2 ⁽¹⁾	
0.3	29.7	34.7	34.0	34.8	32.6	32.2	32.6	
0.6	41.4	44.4	42.0	37.3	36.2	39.3	41.2	
0.9	46.5	50.5	41.9	48.7	44.7	45.4	46.8	
Mean (±1.61)	39.2	43.2	39.3	40.3	37.8	38.9	41.4 ⁽²⁾	38.7

(1) ±1.92 (2) ±1.11

Mean dry matter % as harvested: 84.5

Time of application

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