

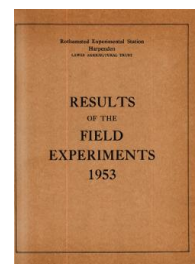
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53/CA/2 Wheat - Eyespot, Varieties, Seed Rates and Time of Applying N - Rothamsted

Rothamsted Research

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53/Ca/2.1

WHEAT

The effects of varieties, seed rates and time of applying N on the incidence of Eyespot - Great Field 1953, the 2nd year.

System of replication: 8 randomized blocks of 8 plots each, certain high order interactions and the effect of spraying being confounded with block differences. In addition each block contained two extra plots with no nitrogen, the variety $\times$ seed rate interaction being confounded.

Area of each plot: 0.0197 acre. Area harvested: 0.0129 acre.

Treatments: All combinations of

Variety: Squareheads Master 13/4; Bersee (V_1 ; V_2).

Seedrate: $1\frac{1}{2}$; 3 bushels per acre (R_1 ; R_2).

Nitrogen: 0.4; 0.8 cwt per acre applied as sulphate of ammonia (N_1 ; N_2).

Time of application of N: At time of autumn sowing; early March; mid-April; 3rd week May (T_1 ; T_2 ; T_3 ; T_4).

Spraying: 4 blocks sprayed with $12\frac{1}{2}\%$ sulphuric acid at 100 gallons per acre.

Basal dressing: None.

Cultivations, etc.: Ploughed: Sept 2, 1952. Seed drilled: V_1 - Oct 17, V_2 - Oct 21. T_1 applied: Oct 24. Sprayed 4 blocks with sulphuric acid: Mar 4, 1953. T_2 applied: Mar 5. T_3 applied: Apr 11. T_4 applied: May 22. Combine harvested: Aug 22. Previous crop: Wheat.

Standard error per plot:

Grain (at 85% D.M.): 3.41 cwt per acre or 16.3% (24 d.f.)

N.B. (1) In the Summary of Results:-

(a) The standard errors given are not valid for testing the effects of spraying for any particular treatment level; the interactions of spraying with treatments may however be tested.

(b) The $V \times R$ tables do not include the plots receiving no nitrogen

(2) Records of incidence of disease (Take-all and Eyespot) and counts of plant, shoot and straw numbers were made.

Estimates of % area lodged were also recorded.

53/Ca/2.2

Summary of Results

Grain (at 85% Dry Matter): cwt per acre

	Unsprayed				Mean
	T ₁	T ₂	T ₃	T ₄	
Mean (± 1.20)	20.6	21.8	21.4	23.5	21.8 (± 0.85)
V ₁	17.1	18.9	18.6	23.4	19.5
V ₂	24.1	24.8	24.1	23.7	24.2
Difference (± 2.41)	+7.0	+5.9	+5.5	+0.3	+4.7 (± 1.20)
R ₁	21.5	22.0	23.7	27.2	23.6
R ₂	19.7	21.7	19.0	19.9	20.1
Difference (± 2.41)	-1.8	-0.3	-4.7	-7.3	-3.5 (± 1.20)
N ₁	17.5	23.1	18.8	22.0	20.3
N ₂	23.7	20.6	24.0	25.0	23.3
Difference (± 2.41)	+6.2	-2.5	+5.2	+3.0	+3.0 (± 1.20)

	R ₁	R ₂	Diff.	N ₀	N ₁	N ₂	Mean
Mean (± 0.85)				15.1 ⁽²⁾	20.3	23.3	20.5
	(± 1.20)		(± 1.70)	(± 1.70)	(± 1.20)		(± 0.76)
V ₁	22.1	16.9	-5.2	11.7	19.1	19.9	17.9
V ₂	25.2	23.2	-2.0	18.5	21.6	26.8	23.1
Diff. (± 1.70)	+3.1	+6.3	+3.2	+6.8 ⁽¹⁾	+2.5	+6.9	+5.2
				(± 1.70)	(± 1.20)		(± 0.76)
R ₁				16.2	22.2	25.1	22.1
R ₂				14.1	18.5	21.6	18.9
Diff. (± 1.70)				-2.1 ⁽¹⁾	-3.7	-3.5	-3.2

(1) ± 2.41 (2) ± 1.70 Mean D.M.%: 87.3Treatment symbols

V₁ Squareheads Master 13/4 R₁ 1½ bushels per acre N₀ No N
V₂ Bersee R₂ 3 bushels per acre N₁ 0.4 cwt N per acre
N₂ 0.8 cwt N per acre

T₁ Sulphate of ammonia at time of autumn sowing
T₂ Sulphate of ammonia in early March
T₃ Sulphate of ammonia mid-April
T₄ Sulphate of ammonia 3rd week May

53/Ca/2.3

Grain (at 85% Dry Matter): cwt per acre

	Sprayed				Mean
	T ₁	T ₂	T ₃	T ₄	
Mean (± 1.20)	22.6	22.9	21.0	21.0	21.9
	(± 1.70)				(± 0.85)
V ₁	20.0	21.8	18.3	19.3	19.8
V ₂	25.2	24.1	23.7	22.7	23.9
Difference (± 2.41)	+5.2	+2.3	+5.4	+3.4	+4.1 (± 1.20)
R ₁	25.1	22.0	22.8	24.7	23.6
R ₂	20.1	23.9	19.1	17.4	20.1
Difference (± 2.41)	-5.0	+1.9	-3.7	-7.3	-3.5 (± 1.20)
N ₁	21.2	25.1	18.8	23.2	22.1
N ₂	24.0	20.8	23.1	18.9	21.7
Difference (± 2.41)	+2.8	-4.3	+4.3	-4.3	-0.4 (± 1.20)

	R ₁	R ₂	Diff.	N ₀	N ₁	N ₂	Mean
Mean (± 0.85)				18.7 ⁽²⁾	22.1	21.7	21.2
	(± 1.20)		(± 1.70)	(± 1.70)	(± 1.20)		(± 0.76)
V ₁	22.0	17.7	-4.3	19.0	19.7	19.9	19.7
V ₂	25.3	22.6	-2.7	18.3	24.4	23.5	22.8
Diff. (± 1.70)	+3.3	+4.9	+1.6	-0.7 ⁽¹⁾	+4.7	+3.6	+3.1
				(± 1.70)	(± 1.20)		(± 0.76)
R ₁				24.7	24.0	23.3	23.8
R ₂				12.6	20.2	20.1	18.6
Diff. (± 1.70)				-12.1 ⁽¹⁾	-3.8	-3.2	-5.2

(1) ± 2.41 (2) ± 1.20 Mean D.M.%: 85.3Treatment symbols

V₁ Squareheads Master 13/4 R₁ 1½ bushels per acre N₀ No N
V₂ Bersee R₂ 3 bushels per acre N₁ 0.4 cwt N per acre
N₂ 0.8 cwt N per acre

T₁ Sulphate of ammonia at time of autumn sowing
T₂ Sulphate of ammonia in early March
T₃ Sulphate of ammonia mid-April
T₄ Sulphate of ammonia 3rd week May