ROTHAMSTED RESEARCH

Yields of the Field Experiments 1956

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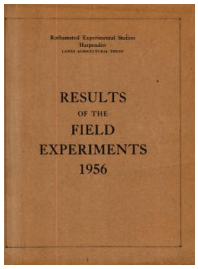

56/W/CA/4 Winter Wheat - Varieties, Seed Rates, Levels and Times of N

Rothamsted Research

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WINTER WHEAT

Varieties, seed rates, levels and times of application of N - Woburn, Roadpiece 1956, the 3rd year.

Design: 4 randomized blocks of 8 plots each, certain high order interactions being confounded with block differences. In addition each block contained 2 plots with no nitrogen, the variety × seed rate interaction being confounded.

Area of each plot: 0.0182 acres. Area harvested: 0.0138 acres.

Treatments: All combinations of:-
Varieties: Holdfast; Cappelle.
Seed rates: Holdfast, 1½; 3 bushels per acre.
Cappelle, 2; 4 bushels per acre.
Nitrogen: 0.5; 1.0 cwt N per acre applied as 'Nitro-Chalk'.
Time of application of N: half dressing in March and again in May; whole dressing mid March; mid April; mid May.

Basal dressing: 1 cwt per acre compound granular fertilizer (12% N, 12% P_2O_5, 15% K_2O) combine drilled with seed.

Cultivations, etc.: Ploughed: Sept 29, 1955. Combine drilled: Oct 26. March top dressing applied: Mar 8, 1956. April top dressing applied: Apr 12. All plots sprayed with DNOC at 8 lb in 90 gallons per acre: May 1. May top dressing applied: May 17. Combine harvested: Sept 13. Previous crop: Wheat.

Standard error per plot.
Grain (at 85% dry matter): 1.82 cwt per acre or 17.6% (12 d.f.)

Note (1) The experiment is a repetition on the same plots of the ones carried out in 1955 and 1954 (see "Results of the Field Experiments" 55/Ca/4 and 54/Ca/7.)

(2) The crop was severely and irregularly infested with weeds particularly twitch(Agrostis gigantea) and Mayweed (Matricaria).

(3) Records of incidence of disease (Take-all and Eyespot) and weeds and counts of plant, shoot and ear numbers were made.

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Summary of Results

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

	T_1	T_2	T_3	T_4	Mean	
Mean (±0.65)	12.1	12.8	14.7	6.9	11.6	
		(±0.91)				
V_1	10.7	10.2	12.8	6.8	10.1	
V_2	13.5	15.5	16.5	6.9	13.1	
Difference (±1.29)	+2.8	+5.3	+3.7	+0.1	+3.0	(±0.65)
R_1	10.1	12.0	11.9	4.7	9.7	
R_2	14.0	13.7	17.5	9.0	13.6	
Difference (±1.29)	+3.9	+1.7	+5.6	+4.3	+3.9	(±0.65)
N_1	11.2	10.9	10.6	7.8	10.1	
N_2	12.9	14.8	18.7	5.9	13.1	
Difference (±1.29)	+1.7	+3.9	+8.1	-1.9	+3.0	(±0.65)

	R_1	R_2	N_0	N_1	N_2	Mean
			(±0.65)	(± 0.46)		
Mean			5.3	10.1	13.1	10.3
	(± 0.65)		(±0.91)	(± 0.65)		(±0.41)
V_1	9.0	11.2	5.1	8.7	11.6	9.1
V_2	10.3	15.9	5.5	11.6	14.6	11.6
R_1			5.3	8.4	10.9	8.8
R_2			5.3	11.8	15.3	11.9

Mean dry matter % as harvested: 78.7

Treatments

V_1 Holdfast
V_2 Cappelle

R_1, R_2 1½, 3 bushels per acre
R_1, R_2 2, 4 bushels per acre

N_0 No N
N_1 0.46 cwt N per acre
N_2 0.93 cwt N per acre

T_1 'Nitro-Chalk' half in March half in May
T_2 'Nitro-Chalk' all in mid March
T_3 'Nitro-Chalk' all in mid April
T_4 'Nitro-Chalk' all in mid May

The V × R table does not include the plots receiving no nitrogen.

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