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Yields of the Field Experiments 1954

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54/R/CA/2 Wheat - Eyespot, Varieties, Seed Rates and N 1st Year

Rothamsted Research

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54/Ca/2.1

WHEAT

The effects of Crop sequences, Varieties, Seed rates and Nitrogen on the incidence of Eyespot (*Cercospora herpotrichoides*) - Long Hoos 1, 2 and 3, 1954. The 1st preliminary year.

System of replication: 8 randomized blocks of 4 plots each, the interaction VRN being confounded with block differences.

Area of each plot: 0.0212 acre. Area harvested: 0.0148 acre.

Treatments: All combinations of:-

Varieties: Holdfast; Cappelle.

Seed rates: $1\frac{1}{2}$; 3 bushels per acre.

Nitrogen: 0.46; 0.93 cwt N per acre applied as nitrochalk, half in March, half in May.

Crop sequences:

During the preliminary years 1954 and 1955 four cropping systems will be set up, each on four blocks; in 1956 wheat will be taken over all 16 blocks. The crops will be:-

1954	1955	1956
Wheat	Wheat	Wheat
Wheat	Potatoes	Wheat
Potatoes	Wheat	Wheat
Beans	Potatoes	Wheat

In 1954 the 4 blocks of potatoes (Majestic) received 10 tons dung and 12 cwt compound fertilizer, (7% N, 7% P₂O₅, 10 $\frac{1}{2}$ % K₂O) the 4 blocks of beans received 4 cwt compound fertilizer, (16% P₂O₅, 16% K₂O).

Basal dressing, per acre: 1 cwt compound granular fertilizer (12% N, 12% P₂O₅, 15% K₂O) combine drilled with seed. To correct some acid areas 25 cwt ground chalk and 23 cwt hydrated lime was applied to certain blocks.

Cultivations, etc.: Ploughed: Oct 6, 1953. Seed combine drilled: Oct 26. Ground chalk applied: Dec 29. Hydrated lime applied: Jan 18 - Feb 24. 1st application of nitrochalk: Mar 9. 2nd application: May 10. Sprayed with M.C.P.A., medium volume, 2 pints per acre: May 27. Combine harvested: Sept 6-7. Varieties: Holdfast and Cappelle. Previous crop: Potatoes.

Standard error per plot:

Grain (at 85% D.M.): 2.71 cwt per acre or 6.6% (18 d.f.)

54/Ga/2.2

Summary of Results

Response to	Mean	Responses to treatments					
		Variety		Seed rate		Nitrogen:	
		Hold- fast	Capp- elle	bushels per acre		cwt per acre	
				1½	3	0.46	0.93

Grain (at 85% Dry Matter): Mean yield 41.0 cwt per acre

(±0.96)

(±1.36)

Variety (Cappelle - Holdfast)	+3.4	-	-	-1.3	+8.1	+3.4	+3.4
Seed rate (3-1½)	+4.8	+0.1	+9.5	-	-	+4.7	+4.9
Nitrogen (0.93 - 0.46)	+3.2	+3.2	+3.2	+3.1	+3.3	-	-

Mean Dry Matter % as harvested: 78.0

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