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Yields of the Field Experiments 1956

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56/R/CA/1 Winter Wheat - Eyespot Rotation, Varieties, Seed Rates and N - 3rd Year

Rothamsted Research

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56/Ca/1.1

WINTER WHEAT

The effects of crop sequences, varieties, seed rates, nitrogen and sulphuric acid spray on the incidence of Eyespot (Cercospora herpotrichoides) - Long Hoos I, II and III, 1956. The 3rd (final) year.

Details of treatments and crop sequences etc., are as stated in "Results of the Field Experiments" 1954, Section 54/Ca/2.1, modified as follows:

1. Seed rates in 1955 and 1956,
Holdfast: $1\frac{1}{2}$, 3 bushels per acre
Cappelle: 2, 4 bushels per acre.
2. In 1956 only, 8 of the 16 blocks were sprayed with sulphuric acid ($12\frac{1}{2}\%$ BOV in 80 gallons per acre).

Area of each plot: 0.0146 acres. Area harvested: 0.0095 acres.

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

Note: In 1956 each plot was reduced in length to allow the growing of a small area of winter oats but these failed and were abandoned.

Cultivations, etc.: Ploughed: Oct 5, 1955. Seed combine drilled: Oct 26. Acid spray applied: Mar 14, 1956. Nitrochalk applied: Mar 16, May 10. Sprayed with MCPA, 3 pints in 40 gallons per acre: May 15. Combine harvested: Sept 1.

Standard errors per plot: Grain (at 85% dry matter): cwt per acre.

Block: 1.27 cwt per acre or 4.0% (6 d.f.)

Plot: 1.83 cwt per acre or 5.8% (23 d.f.)

- Note
- (1) Germination on the Holdfast plots was very uneven.
 - (2) Records of incidence of disease (Eyespot and Take-All), estimates of % area lodged, and counts of plant, shoot and straw numbers were made.
 - (3) In 1955 the potatoes (Majestic) received 10 tons dung and 12 cwt compound fertilizer (7% N, 7% P_2O_5 , $10\frac{1}{2}\%$ K_2O) per acre.

56/Ca/1.2

Summary of Results

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

Previous rotation 1954	Spray Sulphuric acid	Diff.	Seed Rate Single Double	Diff.	N: cwt per acre 0.46 0.93	Diff.	Mean
<u>Holdfast</u>		(± 1.56)	(± 1.01) [*]	(± 1.29)	(± 1.01) [*]	(± 1.29)	(± 0.78)
Wheat	(± 1.10) 18.8 18.6	-0.2	18.5 18.9	+0.4	16.0 21.4	+5.4	18.7
Potatoes	24.2 23.3	-0.9	21.6 25.8	+4.2	21.2 26.2	+5.0	23.7
Wheat	29.6 25.7	-3.9	23.8 31.6	+7.8	26.0 29.4	+3.4	27.7
Beans	37.0 32.7	-4.3	31.6 38.2	+6.6	34.6 35.2	+0.6	34.9
Mean	27.4 25.1	-2.3 (± 0.78)	23.9 28.6	+4.7 (± 0.65)	24.4 28.0	+3.6 (± 0.65)	26.2 (± 0.32)
					(± 0.65) ^{**}	(± 1.10)	
			Seed rate Single Double		22.4 25.3 26.5 30.8	+2.9 +4.3	
<u>Cappelle</u>							
Wheat	(± 1.10) 24.2 20.8	(± 1.56) -3.4	(± 1.01) [*] 23.6 21.4	(± 1.29) -2.2	(± 1.01) [*] 20.4 24.7	+1.4 (± 1.29)	(± 1.56) (± 0.78)
Potatoes	35.6 36.0	+0.4	34.7 36.9	+2.2	31.2 40.4	+4.3 +9.2	22.5 35.8
Wheat	39.6 39.3	-0.3	36.6 42.3	+5.7	37.6 41.3	+3.7	39.5
Beans	49.3 49.8	+0.5	47.0 52.1	+5.1	48.4 50.7	+2.3	49.6
Mean	37.2 36.5	-0.7 (± 0.78)	35.5 38.2	+2.7 (± 0.65)	34.4 39.3	+4.9 (± 0.65)	36.8 (± 0.32)
					(± 0.65) ^{**}	(± 1.10)	
			Seed rate Single Double		33.0 38.0 35.8 40.6	+5.0 +4.8	
			Difference (± 1.10)		+2.8 +2.6	-0.2	(± 1.56)

Mean dry matter % as harvested: 73.8

* for use in comparisons other than horizontal

** for use in diagonal comparisons only

Note. The standard errors are for use only in comparisons within the same variety.