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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.



**Summary of Results**  
Grain (at 85% dry matter): cwt per acre

Previous rotation 1954	Spray Sulphuric acid		Seed Rate Single Double	Diff.	N:		Diff.	Mean
	None	(±1.10)			cwt per acre 0.46	0.93		
<u>Holdfast</u>								
Wheat	18.8	18.6	18.5	(± 1.29) +0.4	(±1.01)* 16.0	21.4	(± 1.29) +5.4	(± 0.78) 18.7
Potatoes	24.2	23.3	21.6	+4.2	21.2	26.2	+5.0	23.7
Wheat	29.6	25.7	23.8	+7.8	26.0	29.4	+3.4	27.7
Beans	37.0	32.7	31.6	+6.6	34.6	35.2	+0.6	34.9
Mean	27.4	25.1	23.9	+4.7 (± 0.65)	24.4	28.0	+3.6 (± 0.65)	26.2 (± 0.32)
			Seed rate		(±0.65)**			
			Single		22.4	25.3	(± 1.10) +2.9	
			Double		26.5	30.8	+4.3	
			Difference	(±1.10)	+4.1	+5.5	+1.4 (± 1.56)	
<u>Cappelle</u>								
Wheat	24.2	20.8	23.6	(± 1.29) -2.2	(±1.01)* 20.4	24.7	(± 1.29) +4.3	(± 0.78) 22.5
Potatoes	35.6	36.0	34.7	+2.2	31.2	40.4	+9.2	35.8
Wheat	39.6	39.3	36.6	+5.7	37.6	41.3	+3.7	39.5
Beans	49.3	49.8	47.0	+5.1	48.4	50.7	+2.3	49.6
Mean	37.2	36.5	35.5	+2.7 (± 0.65)	34.4	39.3	+4.9 (± 0.65)	36.8 (± 0.32)
			Seed rate		(±0.65)**			
			Single		33.0	38.0	(± 1.10) +5.0	
			Double		35.8	40.6	+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.