

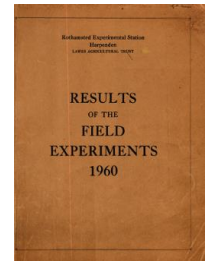
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60/W/A/8 Stackyard Woburn - Wheat and Barley and Microplots

Rothamsted Research

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60/A/8.1

WHEAT AND BARLEY, AND BARLEY AND POTATOES MICROPLOTS - WOBURN STACKYARD 1960

For history, treatments, etc., see "Details of the Classical and Long Term Experiments" 1956.

592 Strip cropping and microplots 1960: Wheat and barley were sown in strips as in 1949, except that on the south eastern of the 3 blocks of each of the old experiments, the barley strip was replaced by 2 strips, one of potatoes, one of barley, for micro-plot tests of P and K fertilisers.

Area of each main plot (acres):	Area harvested (acres):
10a - 11b 0.0274	0.0206
Remainder 0.0411	0.0234

Area of each microplot (acres):	Area harvested (acres):
11a and 11b 0.0034	Barley - 0.0019
	Potatoes - 0.0014
Remainder 0.0026	Barley - 0.0013
	Potatoes - 0.0010

Treatments (to microplots only). Certain combinations of:-
 Superphosphate:- None, 0.25 (P_1), 1.0 (P_4) cwt P_2O_5 per acre (barley and potatoes).
 Sulphate of potash:- None, 0.15 (K_1), 0.6 (K_4) cwt K_2O per acre (barley).
 Sulphate of potash:- None, 0.30 (K_2), 1.2 (K_8) cwt K_2O per acre (potatoes).
 Plots 11a and 11b being narrower than the rest were divided into 4 microplots each instead of 16 and carried tests of K only (continuous wheat site) or P only (continuous barley site).

Basal dressings per acre:
 To wheat and barley:- 0.9 cwt N as 'Nitro-Chalk'.
 To microplots:-
 Potatoes: 1.2 cwt N as 'Nitro-Chalk'.
 Barley: 0.6 cwt N as 'Nitro-Chalk'.

Cultivations, etc.: Ground chalk applied to whole area at 11 cwt per acre: Sept 10, 1959.
 Wheat: Permanent wheat site ploughed: Sept 11.
 Permanent barley site ploughed: Sept 15. Seed drilled at 3 bushels per acre: Oct 22, 1959. 'Nitro-Chalk' applied: Mar 21, 1960. Sprayed with DNOC at 2 gallons in 8 gallons per acre: May 3. Combine harvested: Aug 31. Variety: Squarehead's Master 13/4.
 Barley: Ploughed 2nd time: Nov 12 - 23, 1959. Seed drilled at $2\frac{3}{4}$ bushels per acre; 'Nitro-Chalk' applied: Mar 21, 1960. Sprayed with TCB/MCPA at 4 pints in 40 gallons per acre: May 23. Combine harvested: Aug 30. Variety: Plumage Archer.

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Microplots.

Potatoes: Ploughed 2nd time: Nov 12 - 23, 1959. Basal N, basal and treatment P and K applied on the flat: Apr 21, 1960.

Potatoes planted by machine: Apr 22. Blanks in rows planted with chitted seed: May 27. Earthed up: June 13. Lifted: Sept 19. Variety: Majestic.

Barley: Basal and treatment P and K applied: Mar 22, 1960.

Basal N applied, seed drilled at $2\frac{3}{4}$ bushels per acre: Mar 23.

Sprayed with TCB/MCPA at 4 pints in 40 gallons per acre: May 23.

Harvested: Aug 10. Variety: Plumage Archer.

Summary of ResultsMain plots

Crop in 1960 Crop in old scheme	Wheat		Barley	
	Continuous wheat	Continuous barley	Continuous wheat	Continuous barley

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

Plot 1	12.2	24.9	21.3	17.9
2	9.7	24.2	15.4	16.9
3	20.0	27.4	20.4	16.0
4	15.1	21.9	21.9	19.2
5	15.0	24.0	23.0	19.0
6	20.2	25.9	24.7	23.5
7	20.9	27.3		
8	20.3	27.2		
9	23.7	27.6		
10a	19.3	25.9	19.6	20.4
10b	20.3	24.5	18.7	17.7
11a	25.3	24.9	20.9	21.9
11b	25.7	24.5	22.5	21.8

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

Plot 1	26.4	29.3	18.4	13.5
2	18.6	25.9	12.8	13.3
3	22.9	41.4	15.1	12.4
4	26.9	23.0	18.1	13.3
5	19.2	26.7	17.3	12.9
6	22.8	31.2	17.5	15.6
7	23.5	34.7		
8	20.3	44.2		
9	29.3	47.4		
10a	22.0	34.8	11.2	13.6
10b	26.8	33.4	10.3	11.6
11a	+	+	13.5	14.3
11b	32.4	44.1	15.2	13.3

Mean dry matter % as harvested: Grain 76.6 78.7
Straw 84.5 83.9

+ Not recorded.

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MicroplotsBarley

Crop in old scheme	Treatment	No. sub plots	Continuous wheat			Continuous barley						
			Plot			Plot						
			7	8	9	11a*	11b*	11a*	11b*	9	8	7
			<u>Grain (at 85% dry matter): cwt per acre</u>									
P K			20.0	18.6	27.0	23.8	24.3	23.0	23.4	16.6		
0 4		4	20.4	18.6	26.3	24.1	26.1	25.8	24.4	19.3		
1 4		2	23.2	18.1	28.4	24.5	26.9	26.9	25.8	19.7		
4 4		2										
4 0		4	24.6	19.0	24.2	23.2	24.6	25.0	23.5	20.6		
4 1		2	25.9	18.8	24.6	22.5	26.6	27.4	24.0	21.3		
4 4		2	26.2	18.0	26.4	25.0	26.8	26.9	23.8	23.0		
			Mean dry matter % as harvested: 75.7									
			<u>Straw (at 85% dry matter): cwt per acre</u>									
0 4		4	24.0	24.3	31.6	26.9	28.0	24.0	24.2	19.6		
1 4		2	24.1	24.9	30.9	26.2	29.1	29.5	24.9	21.1		
4 4		2	26.9	26.5	31.6	27.7	28.1	29.0	28.8	23.3		
4 0		4	27.8	24.3	28.6	26.5	29.9	27.1	24.4	22.0		
4 1		2	26.0	26.5	30.0	27.5	26.7	28.1	23.9	22.0		
4 4		2	30.7	27.2	32.4	30.9	33.5	28.7	26.4	24.0		

*On these plots the number of sub plots was halved.

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Microplots												
Potatoes												
Crop in old scheme	No. sub plots	Continuous wheat			Continuous barley							
		7	8	Plot 9	11a*	11b*	11a*	11b*	Plot 9	8	7	
Treatment												
P K					Total tubers: tons per acre							
0 4	4	15.10	14.85	18.64				15.71	16.23	17.78	18.67	17.34
1 4	2	15.34	16.96	17.71				16.03	15.07	18.64	19.39	16.67
4 4	2	16.32	16.09	19.74				18.59	14.58	19.15	19.85	18.99
4 0	4	11.92	15.16	16.30			15.03	16.63		16.41	16.93	14.27
4 2	2	14.18	14.87	17.71			13.62	18.43		16.44	17.19	16.96
4 8	2	16.96	16.15	19.33			18.83	18.83		18.17	18.75	18.23
					Percentage ware (1½" riddle)							
0 4	4	91.5	88.7	91.2				91.6	88.3	93.6	94.8	94.6
1 4	2	90.9	88.1	92.0				90.0	89.9	93.5	94.4	93.5
4 4	2	91.8	92.0	91.9				87.5	89.0	92.9	93.4	95.7
4 0	4	84.6	85.9	89.8			84.8	89.1		92.1	91.2	91.0
4 2	2	91.5	89.5	88.2			86.5	91.7		92.8	91.6	94.2
4 8	2	89.4	93.3	92.7			92.8	87.7		90.6	91.9	92.0

* On these plots the number of sub plots was halved.