

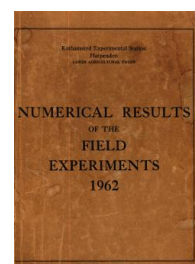
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Yields of the Field Experiments 1962

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62/W/A/9 Stackyard Woburn - Oats and Microplots

Rothamsted Research

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62/A/9.1

OATS, AND MICROPLOTS, SITES OF CONTINUOUS
WHEAT AND BARLEY EXPERIMENTS

WOBURN STACKYARD 1962

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

In 1962 the sites were sown with oats except for the areas occupied by microplots in 1961 and 1962.

Microplots 1962. Microplots with treatments similar to those of 1961 were laid down on parts of plots 7, 8 and 9 of the Continuous Wheat site; the area used for microplots in 1961 was bare fallow in 1962. Crop sequences were as follows:-

1960	1961	1962
Winter wheat*	Fallow	Sugar beet*
Barley*	Fallow	Potatoes*
Potatoes*	Fallow	Barley*

* microplots.

On potatoes and barley the residual effects of the 1960 treatments P₄, K₄ and K₈ were measured, the plots involved receiving basal N and K or P at appropriate rates.

Note: A strip of land across the south-east end of plot 4 of the Continuous Barley site was used for a microplot experiment on soil structure, the crop being sugar beet.

Area of each main plot (acres):	Area harvested (acres):
10a - 11b 0.0274	0.0106 - 0.0206
Remainder 0.0411	0.0097 - 0.0236
Area of each microplot 0.0026 acres.	Area harvested (acres): Potatoes -
0.0010, barley - 0.0013, sugar beet - 0.0012.	

Basal dressings per acre: Oats - 0.4 cwt N as 'Nitro-Chalk'.
Remainder - as 1961.

Cultivations, etc.:-

Oats: Ploughed: Oct 19, 1961. Seed drilled at 4 bushels per acre, 'Nitro-Chalk' applied: Feb 24, 1962. Sprayed with MCPA/TBA at 4 pints in 40 gallons per acre: May 15. Combine harvested: Aug 27. Variety: Condor.

62/A/9.2

Microplots: Basal P,K and ploughed-in treatment fertilisers applied, plots ploughed: Jan 26, 1962.

Potatoes: Basal N and broadcast treatment fertilisers applied on the flat, chitted seed planted by machine: Mar 27, 1962. Sprayed with demeton methyl at 6 fluid oz in 50 gallons per acre: June 14. Sprayed 3 times with copper oxychloride fungicide at 2.3 lb Cu in 40 gallons per acre: July 17, July 31 and Aug 10. Lifted: Sept 25. Variety: Majestic.

Barley: Broadcast treatment fertilisers applied, seed drilled at $2\frac{3}{4}$ bushels per acre, basal N applied: Mar 5, 1962. Harvested: Aug 27. Variety: Proctor.

Sugar beet: Basal N and broadcast treatment fertilisers applied, seed drilled at 12 lb per acre: Mar 27, 1962. Sprayed 3 times with demeton methyl at 6 fluid oz in 50 gallons per acre: June 14, June 29 and July 16. Lifted: Oct 19. Variety: Klein E (rubbed and graded).

Errata to 'Number Results of the Field Experiments' 1961 page 61/A/8.5. The basal K dressing on the first 8 lines of Total tubers and Percentage ware should read 12 NOT 4.

62/A/9.3

Summary of Results

Main plots

Crop in old scheme 1877-1927	Continuous wheat		Continuous barley	
	Wheat	Barley	Wheat	Barley
Crop 1959-61				
Crop in 1962			<u>Oats</u>	

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

Plot 1	21.7	21.1	22.6	30.6
2	20.0	24.6	20.7	30.0
3	19.8	20.2	27.6	23.0
4	29.5	29.9	24.4	21.2
5	22.0	27.9	24.5	21.1
6	24.3	28.8	32.3	26.6
7	19.5		19.3	
8	21.7		32.6	
9	27.4		31.2	
10 ax	19.5	22.8	24.9	23.6
10 bx	19.2	20.9	26.3	21.7
10 ay	21.5		27.5	
10 by	22.5		28.5	
11 ay		26.1		28.4
11 by		28.7		29.6
11 az	23.9		29.5	
11 bz	30.0		33.9	

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

Plot 1	11.9	12.2	11.4	18.8
2	9.4	12.6	9.8	17.6
3	10.2	9.5	15.8	10.9
4	18.4	21.2	10.5	12.1
5	10.2	14.6	13.9	10.9
6	11.9	15.6	16.2	14.7
7	9.0		9.7	
8	9.9		14.8	
9	14.5		15.1	
10 ax	9.1	8.2	10.7	9.7
10 bx	6.8	10.8	10.7	7.6
10 ay	9.8		11.9	
10 by	10.7		12.7	
11 ay		13.9		13.5
11 by		14.0		14.0
11 az	13.2		17.9	
11 bz	15.4		14.3	

Mean dry matter % as harvested: Grain 85.2
Straw 82.7

62/A/9.4

Microplots on continuous wheat site

Potatoes

Treatment	Plots		
	7	8	9
P K	<u>Total tubers: tons per acre</u>		
0 12	12.50	11.46	14.82
1 12	11.92	13.43	13.20
4 12	12.85	15.51	16.44
(4) 12	14.82	14.35	15.51
0 [*] 12	11.00	13.66	15.28
1 [*] 12	13.31	14.35	13.43
4 [*] 12	15.16	13.89	14.47
(4) 12	14.12	13.89	14.58
4 0	10.76	10.76	13.20
4 3	12.39	13.54	12.85
4 12	11.81	14.35	14.47
4(4)	11.58	9.95	13.20
4 0 [*]	9.14	10.53	8.10
4 3 [*]	12.39	11.69	12.27
4 12 [*]	13.31	13.54	13.54
4(4)	11.34	12.50	12.73
P K	<u>Percentage ware (1⁵/₈ inch riddle)</u>		
0 12	90.7	88.9	92.2
1 12	92.2	87.9	86.0
4 12	89.2	90.3	86.6
(4) 12	91.4	91.9	93.3
0 [*] 12	91.6	89.8	91.7
1 [*] 12	93.0	88.7	88.8
4 [*] 12	93.1	90.8	89.6
(4) 12	91.8	90.0	89.7
4 0	84.9	87.1	86.0
4 3	85.0	89.7	91.9
4 12	93.1	87.9	92.0
4(4)	85.0	86.0	84.2
4 0 [*]	81.0	82.4	84.3
4 3 [*]	88.8	83.2	90.6
4 12 [*]	88.7	88.0	90.6
4(4)	91.8	83.3	90.0

() Indicates applied in 1960. * Indicates applied to seedbed, remainder ploughed in.

All values based on 1 microplot only.

62/A/9.5

Microplots on continuous wheat site

Barley

Treatment	Plots		
	7	8	9
P K	<u>Grain (at 85% dry matter): cwt per acre</u>		
0 4	29.1	26.5	31.6
1 4	27.5	28.3	29.1
4 4	27.2	25.0	32.1
(4)4	27.4	28.6	31.1
0 4*	26.3	26.0	31.7
1 4*	26.0	23.6	31.4
4 4	32.4	28.1	29.9
(4)4	26.0	26.7	32.4
4 0	29.0	27.0	28.5
4 1	31.9	26.4	29.1
4 4	32.1	27.4	26.6
4(8)	34.2	30.8	27.8
4 0*	32.5	33.4	25.6
4 1*	34.8	28.2	29.9
4 4	34.9	32.7	27.1
4(8)	33.4	31.3	27.4

Mean dry matter % as harvested: 82.9

P K	<u>Straw (at 95% dry matter): cwt per acre</u>		
0 4	26.2	24.3	32.2
1 4	24.6	22.0	29.3
4 4	25.0	21.2	30.1
(4)4	26.7	25.9	28.4
0 4*	25.0	22.0	30.8
1 4*	23.6	22.5	30.8
4 4	30.4	25.8	30.4
(4)4	24.0	25.1	33.6
4 0	13.5	21.1	28.0
4 1	27.7	23.7	25.7
4 4	30.7	24.5	29.6
4(8)	29.6	27.3	27.6
4 0*	29.3	27.1	23.0
4 1*	31.2	24.5	28.5
4 4	34.0	29.9	26.8
4(8)	31.4	27.5	28.9

Mean dry matter % as harvested: 71.3

() Indicates applied in 1960. * Indicates applied to seedbed, remainder ploughed in.

All values based on 1 microplot only.

62/A/9.6

Microplots on continuous wheat site

Sugar beet

Treatment	Plots		
	7	8	9
P K	<u>Roots (washed): tons per acre</u>		
0 24	14.90	15.34	15.04
1 24	13.19	13.47	13.22
4 24	13.96	13.81	15.69
0 24	15.44	12.08	14.44
1* 24	13.20	15.03	11.88
4* 24	14.33	13.84	15.70
4 0	9.78	10.15	12.85
4 6	12.65	13.86	12.41
4 12	13.99	12.82	16.93
4 24	14.76	10.19	14.51
4 0*	11.56	10.22	13.37
4 6*	12.23	11.79	12.42
4 12*	13.31	12.39	14.52
4 24*	15.48	13.43	13.32
P K	<u>Sugar percentage</u>		
0 24	16.8	17.0	17.0
1 24	16.6	16.8	17.2
4 24	17.0	16.5	17.3
0 24	16.8	16.4	17.2
1* 24	17.4	16.9	17.5
4* 24	17.3	16.4	17.2
4 0	16.2	16.1	16.4
4 6	16.6	16.4	17.1
4 12	16.5	16.7	17.6
4 24	17.2	16.6	16.8
4 0*	16.4	16.2	17.0
4 6*	16.7	16.7	17.4
4 12*	16.4	15.8	17.3
4 24*	17.0	16.0	17.0

All values based on 1 microplot only except ^{F K} 0 24 which are based on 2.

*Indicates applied to seedbed, remainder ploughed in.

62/A/9.7

Microplots on continuous wheat site

Treatment	<u>Sugar beet</u>		
	7	8	9
P K	<u>Total sugar: cwt per acre</u>		
0 24	50.2	52.0	51.0
1 24	43.8	45.2	45.5
4 24	47.4	45.7	54.3
0 24	52.0	39.6	49.7
1* 24	63.3	50.7	41.5
4* 24	49.7	45.3	53.9
4 0	31.6	32.6	42.0
4 6	41.9	45.4	42.5
4 12	46.3	42.7	59.7
4 24	50.8	33.7	48.8
4 0*	38.0	33.1	45.5
4 6*	40.9	39.4	43.1
4 12*	43.7	39.0	50.2
4 24*	52.5	43.0	45.3
P K	<u>Tops: tons per acre</u>		
0 24	13.24	13.15	15.38
1 24	13.80	13.33	12.59
4 24	13.15	13.98	11.48
0 24	14.82	12.04	13.34
1* 24	14.72	13.98	12.13
4* 24	12.78	13.15	14.08
4 0	10.93	11.30	13.80
4 6	12.96	14.72	12.87
4 12	13.43	13.06	14.08
4 24	12.32	10.83	12.78
4 0*	13.33	11.48	13.15
4 6*	12.32	11.11	12.41
4 12*	13.71	11.85	15.00
4 24*	12.96	12.13	12.32

All values based on 1 microplot only except P K 0 24 which are based on 2.

*Indicates applied to seedbed, remainder ploughed in.