

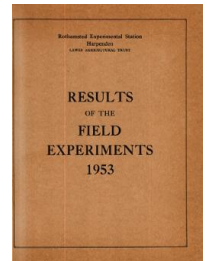
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Yields of the Field Experiments 1953

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Classical Experiments

Rothamsted Research

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53/A/1

WHEAT - BROADBALK 1953

The 110th year

For history, details of treatments etc. see "Results of the Field Experiments 1939-47" Vol. I, Section A/1.

Cultivations, etc.:

Cropped sections. Dung applied and all plots ploughed: Sept 3, 1952.
Autumn fertilizers applied: Nov 11. Seed drilled at 3 bushels per acre: Nov 12. Spring fertilizers applied: Apr 23, 1953.
Second dressing of nitrate of soda applied to plot 16: May 13.
Harvested: Aug 25. Variety: Squareheads Master 13/4.

Fallow section. Ploughed: Sept 3, 1952, Mar 22 and June 10, 1953.

Summary of Results

Section Years after Fallow	Grain: cwt per acre					Straw: cwt per acre				
	II	I	III	IV	Mean	II	I	III	IV	Mean
	1	2	3	4		1	2	3	4	
2A	29.3	20.9	23.0	25.0	24.6	60.3	48.1	46.3	47.7	50.6
2B	24.8	22.4	23.4	25.0	23.9	57.9	62.1	46.2	53.5	54.9
3	16.5	13.7	13.2	12.4	14.0	35.1	28.8	21.0	21.2	26.5
5	11.6	12.9	8.4	13.8	11.7	32.6	33.9	22.8	26.0	28.8
6	17.9	17.3	16.3	14.9	16.6	46.5	40.6	35.2	32.5	38.7
7	16.3	22.3	22.6	20.4	20.4	46.9	53.4	47.0	44.0	47.8
8	21.9	22.6	22.9	28.1	23.9	48.8	58.8	53.8	55.7	54.3
9	19.9	18.5	17.9	16.4	18.2	45.8	46.1	35.3	30.3	39.4
10	16.4	25.5	20.2	19.1	20.3	34.7	44.4	35.4	35.8	37.6
11	16.0	24.0	19.8	17.2	19.2	31.7	41.2	35.8	34.1	35.7
12	18.6	24.7	21.4	19.0	20.9	36.3	50.3	41.1	38.8	41.6
13	24.2	24.3	22.6	18.6	22.4	46.6	47.9	45.3	35.7	43.9
14	16.8	23.5	22.6	19.1	20.5	37.9	39.8	41.5	39.8	39.8
15	25.7	19.9	19.4	14.9	20.0	51.6	37.9	40.2	31.0	40.2
16	24.1	22.5	20.3	17.6	21.1	51.9	49.6	48.7	48.9	49.8
17	20.2	14.7	14.9	8.5	14.6	36.2	25.5	25.4	19.8	26.7
18	23.9	26.1	20.7	21.0	22.9	49.2	47.5	44.5	42.8	46.0
19	19.3	19.5	15.8	15.4	17.5	38.1	40.7	35.1	32.6	36.6
20	21.1	27.8	-	-	24.4	35.5	49.8	-	-	42.6

53/A/2

BARLEY - HOOSFIELD 1953

The 102nd year

For history, details of treatments etc. see "Results of the Field Experiments 1939-47" Vol. I, Section A/2.

Cultivations, etc.: Ploughed: Sept 19, 1952. Dung applied and ploughed in: Sept 23. Fertilizers applied: Mar 3, 1953. Seed drilled at 3 bushels per acre: Apr 9. Sprayed with D.N.O.C.: May 26. Variety: Plumage Archer.

Note: Owing to the very heavy infestation with Wild Oats (*Avena Fatua*) the whole crop was cut and carted green before the oats ripened. No yields therefore were recorded.

53/A/3

WHEAT AFTER FALLOW - HOOSFIELD 1953

Without manure 1851 and since

For history, details of treatments etc. see "Results of the Field Experiments 1939-47", Vol. I, Section A/3.

Cultivations, etc.:

Cropped plots. Ploughed: Sept 6, 1952. Seed drilled at 3 bushels per acre: Oct 27. Harvested: Aug 20, 1953. Variety: Squareheads Master 13/4.

Fallow plots. Ploughed: Sept 6, 1952 and Sept 3, 1953.

Summary of Results

Plot No. of years of fallow	Mean yields: cwt per acre			Mean
	B ₂	B ₃	B ₄	
	1	1	3	
Grain	18.7	8.3	13.7	13.6
Straw	24.9	14.5	23.6	21.0

CROPS IN ROTATION - AGDELL 1953

Barley - 2nd crop of 27th course 1952-55

For history, details of treatments etc. see "Results of the Field Experiments 1939-47", Vol. I, Section A/4.

Cultivations, etc.: Ploughed: Sept 5, 1952, Seed drilled at 3 bushels per acre: Mar 2, 1953. Sprayed with MCPA, 2 pints per acre: May 26. Harvested: Aug 28. Variety: Plumage Archer.

Note: No turnips were grown and no manures were applied in 1952, the plots being fallowed.

Summary of Results

Manure to Turnips 1948	Mean yields: cwt per acre					
	None since 1848		Mineral manure No nitrogen		Complete mineral and nitrogenous manure	
	Fallow	Clover	Fallow	Clover	Fallow	Clover
Rotation Plot	5	6	3	4	1	2
Grain	5.7	11.1	7.6	16.2	3.6	5.0
Straw	5.8	11.5	8.3	16.4	4.8	8.9

MANGOLDS AND SUGAR BEET - BARNFIELD 1953

53/A/4.1

The 78th and 8th years

For history, details of treatments etc, see "Results of the Field Experiments 1939-47" Vol.I, Section A/5.

Cultivations, etc.: Dung applied: Jan 16. Ploughed: Jan 20.
Fertilizers applied: Mar 19. Seed drilled, mangolds - 9 lb per acre, sugar beet - 18 lb per acre: Apr 10. Sprayed with D.D.T. emulsion: May 11. Singling commenced: June 22. Top dressings applied: July 14. Lifted: mangolds - Oct 29, sugar beet - Nov 11. Varieties: mangolds - Yellow Globe, sugar beet - Klein E.

Erratum to "Results of the Field Experiments 1939-47" Vol.I, page A/5.1, 6th line up: dressing for plot 4(b) should read "PCa" not "NPCa".

Summary of Results

Strip	Cross Dressing				
	O	N	A	AC	C
Mangolds, Roots: tons per acre					
1	7.02	26.33	29.20	26.20	27.83
2	15.18	31.31	30.11	33.65	33.08
4	3.07	(a) 22.32 (b) 20.79*	17.85	20.74	26.26
5	2.33	19.18	12.96	13.61	21.61
6	2.43	17.75	14.93	24.72	25.46
7	1.94	21.05	19.42	27.83	27.83
8	1.19	15.13	10.28	10.53	17.81
9	19.69				
Mangolds, Leaves: tons per acre					
1	1.15	2.52	5.26	4.09	4.80
2	2.35	2.84	3.79	3.94	3.45
4	0.71	(a) 2.50 (b) 2.08*	2.94	2.72	2.84
5	0.64	1.91	2.45	2.89	3.01
6	0.69	1.74	1.96	3.47	2.74
7	0.66	2.10	2.84	4.28	3.33
8	0.71	2.08	2.40	3.43	3.79
9	2.25				
Mangolds, Plant number: thousands per acre					
1	14.4	18.0	16.9	15.9	17.8
2	18.7	18.2	18.6	17.3	17.1
4	15.7	(a) 19.5 (b) 20.7*	18.9	17.9	18.8
5	16.6	18.5	17.8	16.6	18.8
6	15.6	19.3	19.1	18.4	19.1
7	14.3	19.4	19.4	20.3	18.8
8	13.9	18.4	16.7	15.6	18.2
9	20.4				

* No nitrate of soda. Nitrogen applied as calcium and potassium nitrates.

53/A/4.2

Strip	Cross Dressing				
	O	N	A	AC	C
Sugar Beet, Roots: tons per acre					
1	7.28	18.24	18.67	18.32	19.18
2	7.71	15.24	13.02	15.76	17.13
4	2.46	(b) 12.33 [‡]	9.59	15.93	14.98
5	2.50	9.08	8.56	12.76	13.61
6	2.02	9.59	8.82	16.18	12.50
7	1.82	10.96	10.36	16.01	12.42
8	1.63	9.33	8.22	11.05	10.36
Sugar Beet, Tops: tons per acre					
1	3.03	8.61	11.50	10.28	8.91
2	3.72	7.24	7.19	8.56	7.29
4	1.08	(b) 5.19 [‡]	3.72	8.86	6.65
5	1.13	4.55	4.45	10.28	6.65
6	0.83	4.99	4.75	7.54	5.68
7	0.64	5.24	4.99	10.67	5.28
8	0.83	5.09	4.75	11.69	5.68
Sugar Beet, Plant number: thousands per acre					
1	18.6	21.5	20.4	19.8	20.2
2	21.4	21.6	22.1	20.6	19.3
4	20.6	(b) 21.8 [‡]	22.5	21.1	20.0
5	19.8	21.9	22.3	20.0	19.9
6	19.7	22.3	21.1	21.7	20.7
7	20.5	22.3	23.2	23.0	21.3
8	21.2	22.9	22.3	21.9	19.6
Sugar Beet, Sugar percentage					
1	18.00	16.91	17.45	17.22	17.66
2	17.37	17.37	17.02	16.88	17.43
4	19.13	(b) 18.06 [‡]	17.60	17.48	17.86
5	18.12	16.39	17.66	17.25	17.14
6	17.83	16.99	17.51	17.14	18.72
7	17.71	18.12	17.83	17.77	18.09
8	17.22	16.85	17.60	17.05	17.37

[‡] No nitrate of soda. Nitrogen applied as calcium and potassium nitrates.

53/A/5

HAY - THE PARK GRASS PLOTS 1953

The 98th year

For history, details of treatments etc. see "Results of the Field Experiments 1939-47", Section A/6.

Cultivations, etc.: Dung applied: Dec 2, 1952. Mineral fertilizers applied: Dec 11. Nitrogenous fertilizers applied: 1st dressing - Mar 23, 1953, 2nd dressing - April 22. Cut: 1st - July 21, 2nd - Nov 19.

Summary of Results

Yield of Hay: cwt per acre						
Plot	Not limed			Limed		
	1st Crop	2nd Crop	Total	1st Crop	2nd Crop	Total
1	14.5	4.1	18.6	20.4	2.8	23.2
2	17.2	0.0	17.2	19.7	0.0	19.7
3	16.1	0.0	16.1	16.7	0.0	16.7
4-1	20.6	1.9	22.5	20.0	1.9	21.9
4-2	22.3	4.5	26.8	36.3	4.5	40.8
5-1	10.0	3.0	13.0			
5-2	26.4	4.1	30.5			
6	36.6	4.4	41.0			
7	30.0	4.4	34.4	34.1	4.9	39.0
8	24.9	1.0	25.9	18.8	0.6	19.4
9	43.0	1.5	44.5	47.2	2.2	49.4
10	20.8	2.5	23.3	39.6	3.4	43.0
11-1	45.5	13.4	58.9	61.2	8.2	69.4
11-2	63.4	11.9	75.3	71.6	10.9	82.5
12	19.0	0.0	19.0			
13	41.5	5.2	46.7	36.9	5.6	42.5
14	60.6	8.1	68.7	60.6	4.6	65.2
15	27.4	2.2	29.6	33.7	3.9	37.6
16	47.2	3.0	50.2	45.7	2.2	47.9
17	26.7	3.8	30.5	25.0	1.1	26.1
18	18.9	3.1	22.0	27.0*	2.2*	29.2*
				31.4†	2.9†	34.3†
19	63.3	4.6	67.9	23.7*	3.0*	26.7*
				43.6†	3.4†	47.0†
20	38.5	3.4	41.9	38.3*	2.5*	40.8*
				39.8†	2.4†	42.2†

*Heavy liming

†Light liming

Note: The second crop was carted green; hay yields were estimated from the dry matter.

53/A/6

BARLEY - EXHAUSTION LAND HOOSFIELD 1953

For history, details of treatments etc. see "Results of the Field Experiments 1952", Section A/6.

Cultivations, etc.: Ploughed: Sept 4, 1952. $2\frac{1}{2}$ cwt sulphate of ammonia per acre applied: Feb 26, 1953. Seed drilled at 3 bushels per acre: Feb 27. Sprayed with M.C.P.A. 2 pints per acre: May 26. Variety: Plumage Archer.

Summary of Results

Manuring to Potatoes 1876-1901*	Grain cwt per acre	Straw cwt per acre
1 Unmanured	15.8	18.2
2 Unmanured after 6 years dung	11.8	18.0
3 Dung	22.4	25.6
4 Dung	22.8	26.4
5 Ammonium salts	17.4	19.3
6 Nitrate of soda	14.6	18.2
7 Ammonium salts and complete minerals	21.4	24.2
8 Nitrate of soda and complete minerals	20.2	23.4
9 Superphosphate	20.0	24.4
10 Complete minerals	21.8	25.7

*For certain changes see history.

53/4/7

WHEAT - WOBURN STACKYARD 1953

For history, details of treatments etc., see "Results of the Field Experiments 1939-47" Vol I, Section 4/7.

Cultivations, etc.: Ploughed: Aug 27, 1952. Seed drilled at 3 bushels per acre: Oct 10. Nitrochalk applied: Apr 20, 1953. Sprayed with DNOC 6 lb in 80 gallons: May 22. Harvested: Aug 18. Variety: Squareheads Master (13/4).

Summary of Results

Plot	Nitrochalk dressing cwt per acre	Grain: cwt per acre	Straw: cwt per acre
1	2	7.9	16.0
7	4	10.1	20.8
3	6	13.8	21.6
9	2	7.4	15.8
4	4	12.1	23.9
6	6	17.9	27.8
11b (3)	2	7.9	15.9
11b (1)	4	13.8	24.2
11b (2)	6	17.1	26.9
10a	2	7.6	14.2
10b	4	10.2	19.2
11a	6	17.7	24.6

53/4/8

BARLEY - WOBURN STACKYARD 1953

For history, details of treatments etc. see "Results of the Field Experiments 1939-47" Vol. I, Section A/7 with the exception that in 1952 it was decided to divide each plot into two, and sow one half with a Winter variety, and the other as before with a Spring variety.

Cultivations, etc.: Ploughed: Aug 26, 1952. 'Winter' seed drilled, at 3 bushels per acre: Oct 9. 'Spring' seed drilled at 3 bushels per acre: Mar 5, 1953. Nitrochalk applied: Mar 13. Sprayed with DNOC 6 lb in 80 gallons per acre: May 22. Harvested: Aug 17. Varieties: Winter - Pioneer, Spring - Plumage Archer.

Summary of Results

Plot	Nitrochalk dressing cwt per acre	Grain: cwt per acre		Straw: cwt per acre	
		Winter sown	Spring sown	Winter sown	Spring sown
3	2	16.3	8.4	12.8	7.6
7	4	9.0	15.9	10.6	13.6
1	6	8.3	16.6	11.8	14.0
9	2	19.8	8.9	14.8	9.0
4	4	17.6	18.9	21.7	16.2
6	6	25.9	25.2	26.9	22.2
11b(1)	2	20.3	14.2	21.0	12.1
11b(2)	4	26.4	19.7	28.4	17.9
11b(3)	6	31.1	24.4	34.5	22.0
11a	2	15.3	12.1	14.1	9.1
10a	4	6.6	8.7	10.1	9.1
10b	6	15.1	11.6	16.1	9.8