

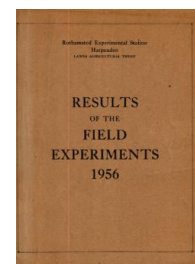
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Yields of the Field Experiments 1956

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56/R/BA/2 Four-course Rotation

Rothamsted Research

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56/Ba/2.1

FOUR COURSE ROTATION EXPERIMENT

2nd year of revised scheme

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

Area of each sub plot (acres): Potatoes, 0.0120; barley, 0.0129; beans (whole plot), 0.0244; wheat, 0.0129.

Area harvested (acres): Potatoes, 0.0093; barley, 0.0057; beans, 0.0097; wheat, 0.0056.

Note: The winter sown beans were badly thinned by frost and the crop was resown in spring.

Cultivations, etc.:

Potatoes. Ploughed: Sept 9, 1955 and Nov 17. Fertilizers applied broadcast on flat: Apr 7, 1956. Machine planted: Apr 11. Earthed up: June 26. Sprayed with copper fungicide, 3 lb in 80 gallons per acre: July 25. Sprayed with sulphuric acid 20% BOV: Sept 13. Lifted: Oct 10. Variety: Majestic.

Barley. Ploughed: Oct 11, 1955. Fertilizers applied, seed drilled at 3 bushels per acre: Mar 15, 1956. Sprayed with MCPA at 3 pints in 40 gallons per acre: May 15. Combine harvested: Sept 8. Variety: Plumage Archer.

Beans. Ploughed: Sept 23, 1955. Fertilizers applied: Oct 14. Seed drilled at 300 lb per acre: Oct 17. Whole block ploughed: Apr 11, 1956. Seed drilled at 200 lb per acre: Apr 12. Combine harvested: Oct 10. Variety: Spring Tick.

Wheat. Ploughed: Sept 24 - 26, 1955. Seed drilled at $2\frac{3}{4}$ bushels per acre: Oct 18. Potash and phosphate fertilizers applied: Oct 26. Nitrogen treatments applied: Apr 24, 1956. Sprayed with MCPA at 3 pints in 40 gallons per acre: May 22. Combine harvested: Sept 8. Variety: Yeoman.

56/Ba/2.2

Summary of Results

Previous Manure	Treatment Year applied	P ₂ O ₅ : cwt per acre	Potatoes				Barley (at 85% dry matter): cwt per acre							
			Total tubers: tons per acre	Percentage Ware (1 1/2" riddle)	Grain matter): cwt per acre	Mean	Diff.	Mean	Diff.					
			N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre	N: cwt per acre		
			0.2	0.6	0.2	0.6	0.2	0.6	0.2	0.6	0.2	0.6		
	1954		9.69	12.97	11.33	+3.28	84.4	79.7	82.1	-4.7	19.5	27.5	23.5	+8.0
	1953		8.19	9.68	8.94	+1.49	83.6	87.0	85.3	+3.4	15.9	26.8	21.4	+10.9
Dung	1952	0.24	9.18	13.20	11.19	+4.02	87.8	78.4	83.1	-9.4	22.8	28.3	25.6	+5.5
	1951		8.22	11.01	9.62	+2.79	85.1	84.5	84.8	-0.6	20.1	26.3	23.2	+6.2
	1950		9.25	11.79	10.52	+2.54	87.8	82.2	85.0	-5.6	16.7	26.6	21.6	+9.9
	1954		9.11	10.11	9.61	+1.00	90.3	86.4	88.4	-3.9	22.0	29.1	25.6	+7.1
Adco (straw compost)	1953		8.42	9.99	9.21	+1.57	87.2	82.7	85.0	-4.5	26.9	18.9	22.9	-8.0
	1952	0.12	8.19	10.10	9.15	+1.91	83.7	87.0	85.4	+3.3	19.8	25.5	22.6	+5.7
	1951		7.68	9.37	8.53	+1.69	87.1	81.5	84.3	-5.6	16.5	24.6	20.6	+8.1
	1950		8.48	10.91	9.70	+2.43	90.9	81.1	86.0	-9.8	17.3	29.6	23.4	+12.3
	1954		10.69	14.25	12.47	+3.56	85.2	84.4	84.8	-0.8	20.3	29.7	25.0	+9.4
	1953		8.40	11.39	9.90	+2.99	82.9	83.3	83.1	+0.4	20.1	30.8	25.4	+10.7
Straw	1952	0.24	9.09	9.90	9.50	+0.81	86.5	85.0	85.8	-1.5	19.5	33.2	26.4	+13.7
	1951		8.59	11.09	9.84	+2.50	83.2	71.9	77.6	-11.3	11.8	30.7	21.2	+18.9
	1950		9.88	11.86	10.87	+1.98	83.6	86.2	84.9	+2.6	17.6	27.9	22.8	+10.3
	1954		7.76	11.25	9.51	+3.49	86.1	82.9	84.5	-33.2	18.4	26.9	22.6	+8.5
	1953		9.32	11.01	10.17	+1.69	83.0	87.6	85.3	+4.6	20.9	26.3	23.6	+5.4
Super-phosphate	1952	0.24	7.96	10.60	9.28	+2.64	84.3	87.8	86.1	+3.5	18.1	27.1	22.6	+9.0
	1951		8.63	10.79	9.71	+2.16	84.3	86.6	85.5	+2.3	12.7	26.0	19.4	+13.3
	1950		6.65	9.44	8.05	+2.79	86.6	85.4	86.0	-1.2	16.5	28.3	22.4	+11.8
	1954		6.39	8.31	7.35	+1.92	83.1	87.1	85.1	+4.0	20.3	24.4	22.4	+4.1
	1953		7.58	9.32	8.45	+1.74	92.7	82.4	87.6	-10.3	14.8	26.0	20.4	+11.2
Rock phosphate	1952	None	5.94	7.78	6.86	+1.84	85.5	85.6	85.6	+0.1	9.1	21.7	15.4	+12.6
	1951		6.32	8.53	7.43	+2.21	87.0	91.0	89.0	+4.0	15.9	26.9	21.4	+11.0
	1950		6.00	5.84	5.92	-0.16	85.1	72.6	78.9	-12.5	14.3	25.0	19.6	+10.7
Mean dry matter % as harvested												73.2		

56/Ba/2.3

Previous Treatment	Year applied	P ₂ O ₅ : cwt per acre	Wheat				Beans
			Grain (at 85% dry matter): cwt per acre		Mean	Diff.	
Manure			N: cwt per acre				
			None	0.4			
Dung	1954	0.24	15.3	20.3	17.8	+ 5.0	23.4
	1953		9.4	15.7	12.6	+ 6.3	23.4
	1952		6.5	13.0	9.8	+ 6.5	22.5
	1951		9.4	15.4	12.4	+ 6.0	22.9
	1950		6.2	13.5	9.8	+ 7.3	25.6
Adco (straw compost)	1954	0.12	8.1	12.2	10.2	+ 4.1	25.4
	1953		13.5	17.8	15.6	+ 4.3	26.3
	1952		13.7	18.3	16.0	+ 4.6	24.8
	1951		8.6	13.7	11.2	+ 5.1	25.7
	1950		14.5	12.6	13.6	- 1.9	24.8
Straw	1954	0.24	12.9	20.7	16.8	+ 7.8	21.8
	1953		11.4	15.6	13.5	+ 4.2	25.0
	1952		16.5	21.6	19.0	+ 5.1	24.4
	1951		9.4	17.3	13.4	+ 7.9	24.6
	1950		9.1	18.1	13.6	+ 9.0	23.9
Super-phosphate	1954	0.24	3.2	7.6	5.4	+ 4.4	22.4
	1953		2.5	12.9	7.7	+10.4	24.8
	1952		7.0	18.1	12.6	+11.1	22.2
	1951		3.5	10.3	6.9	+ 6.8	24.0
	1950		6.2	7.9	7.0	+ 1.7	23.7
Rock phosphate	1954	None	3.2	14.5	8.8	+11.3	20.3
	1953		5.6	18.6	12.1	+13.0	15.2
	1952		7.3	11.0	9.2	+ 3.7	18.7
	1951		3.2	7.9	5.6	+ 4.7	21.0
	1950		8.7	9.4	9.0	+ 0.7	15.2
Mean dry matter % as harvested:					74.1		54.4