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Yields of the Field Experiments 1956

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56/R/BA/1 Three-course Rotation

Rothamsted Research

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56/Ba/1.1

THREE COURSE ROTATION EXPERIMENT

5th year of revised scheme

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

Area of each plot (acres): Potatoes (sub plot), 0.0092; barley, 0.0200; sugar beet, 0.0205.

Cultivations, etc.:

Potatoes.

Straw applied, all plots ploughed: Dec 2, 1955. Fertilizers applied: Apr 7, 1956. Potatoes machine planted: Apr 12. Earthed up: June 23. Sprayed with copper fungicide, 3 lb in 80 gallons per acre: July 25. Sprayed with sulphuric acid, 20% BOV at 80 gallons per acre: Sept 13. Lifted: Oct 11. Variety: Majestic.

Barley.

Straw applied, all plots ploughed: Dec 2, 1955. Ground chalk applied at 20 cwt per acre: Dec 7. Fertilizers applied, seed drilled at 3 bushels per acre: Mar 15, 1956. Sprayed with MCPA, 3 pints in 40 gallons per acre: May 15. Harvested: Aug 24. Variety: Plumage Archer.

Sugar beet.

Straw applied, all plots ploughed: Dec 2, 1955. Seed drilled at 18 lb per acre: Mar 29, 1956. Fertilizers applied: Mar 30. Singled: June 1 - 5. Lifted: Dec 6. Variety: Klein E.

Summary of Results

Potatoes

Treat- ments applied:	1953 and 1955 1956	1952 1954 & 1956						Total tubers: tons per acre					
		O	0.4N	St + 0.2N	St + 0.6N	Ks	Ks + 0.4N	11.98 10.72	9.94 9.85	11.40 12.37	9.21 10.62	9.65 11.11	8.83 10.28
1950	Ar	0	0.4N	0	0.4N	0	0.4N	11.98 10.72	9.94 9.85	11.40 12.37	9.21 10.62	9.65 11.11	8.83 10.28
		0	0.4N	0	0.4N	0	0.4N	10.79 10.72	8.63 9.51	10.79 10.72	9.21 10.62	9.65 11.11	8.83 10.28
		0	0.4N	0	0.4N	0	0.4N	11.40 12.37	9.65 10.38	11.40 12.37	9.21 10.62	9.65 11.11	8.83 10.28
		0	0.4N	0	0.4N	0	0.4N	10.72 12.37	9.21 10.62	10.72 12.37	9.21 10.62	9.65 11.11	8.83 10.28
St1 St2	St1 St2	St+ 0.2N	St+ 0.6N	Ks	Ks+ 0.4N	Ad	Ad	11.30 12.08	11.54 13.39	11.59 12.17	11.88 13.29	10.04 10.09	12.12 11.06
		St+ 0.6N	St+ 0.6N	Ks	Ks+ 0.4N	Ad	Ad	11.30 12.08	11.54 13.39	11.59 12.17	11.88 13.29	10.04 10.09	12.12 11.06
		Ks	Ks	Ks	Ks	Ad	Ad	12.90 13.43	9.75 8.83	10.09 9.12	11.88 13.29	10.04 10.09	12.12 11.06
		Ks+ 0.4N	Ks+ 0.4N	Ks	Ks	Ad	Ad	12.90 13.43	9.75 8.83	10.09 9.12	11.88 13.29	10.04 10.09	12.12 11.06
Ad	Ad	0	0.4N	0	0.4N	Ad	Ad	10.91 10.72	9.75 8.83	10.09 9.12	11.88 13.29	10.04 10.09	12.12 11.06
		0.4N	0.4N	0	0.4N	Ad	Ad	10.91 10.72	9.75 8.83	10.09 9.12	11.88 13.29	10.04 10.09	12.12 11.06
		St+ 0.6N	St+ 0.6N	0	0.4N	Ad	Ad	10.14 11.01	9.75 8.83	10.09 9.12	11.88 13.29	10.04 10.09	12.12 11.06
		Ks+ 0.4N	Ks+ 0.4N	0	0.4N	Ad	Ad	12.90 13.63	9.75 8.83	10.09 9.12	11.88 13.29	10.04 10.09	12.12 11.06

56/Ba/1.2

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			56/Ba/1.4					
			Barley					
Treat- ments applied:	1953 and 1955		0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1951	1952 1954 & 1956						
Grain (at 85% dry matter): cwt per acre								
Ar	Ar	0	28.1					
		0.4N	28.9					
Ar		0	26.3					
		0.4N	29.5					
St1 St2	St1 St2	0	28.8		29.6		28.5	
		0.4N	30.9	30.9		29.8		
St1 St2		0	27.5					
		0.4N	30.5					
		St+ 0.2N	30.2					
		St+ 0.6N	30.5					
		K _s	28.3					
		K _s + 0.4N	30.4					
Ad	Ad	0	26.3		30.2		27.7	
		0.4N	29.5					
		St+ 0.6N	29.3					
		K _s + 0.4N	27.5					
Straw (at 85% dry matter): cwt per acre								
Ar	Ar	0	30.5					
		0.4N	28.5					
Ar		0	27.5					
		0.4N	30.1					
St1 St2	St1 St2	0	29.3		31.6		33.6	
		0.4N	30.5	31.9		31.7		
St1 St2		0	26.6					
		0.4N	34.5					
		St+ 0.2N	29.9					
		St+ 0.6N	36.2					
		K _s	28.9					
		K _s + 0.4N	31.9					
Ad	Ad	0	25.4		32.5		27.0	
		0.4N	27.0					
		St+ 0.6N	32.5					
		K _s + 0.4N	26.4					

Mean dry matter % as harvested Grain: 79.0
Straw: 76.7

56/Ba/1.5

			Sugar Beet					
Treat- ments applied:	1953 and 1955	1952 1954 & 1956	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1951	1952 1954 & 1956						
			Roots (washed): tons per acre					
Ar	Ar	0	8.88					
		0.4N	11.85					
		0	9.10					
		0.4N	12.08					
St1 St2	St1 St2	0	10.54		10.48		9.38	
		0.4N	11.57	14.21		11.55		
		0	9.21					
		0.4N	11.81					
Ad	Ad	St+ 0.2N	9.58					
		St+ 0.6N	12.13					
		K _s	9.60					
		K _s + 0.4N	11.87					
Ad	Ad	0	9.80		8.84		9.91	
		0.4N	12.31					
		St+ 0.6N	13.05					
		K _s + 0.4N	11.00					
			Sugar Percentage					
Ar	Ar	0	18.1					
		0.4N	18.4					
		0	18.0					
		0.4N	18.1					
St1 St2	St1 St2	0	18.2		17.8		18.7	
		0.4N	18.6	17.8		18.1		
		0	18.1					
		0.4N	18.2					
Ad	Ad	St+ 0.2N	18.5					
		St+ 0.6N	18.3					
		K _s	18.0					
		K _s + 0.4N	18.6					
Ad	Ad	0	18.1		18.4		18.1	
		0.4N	18.2					
		St+ 0.6N	18.1					
		K _s + 0.4N	17.8					

56/Ba/1.6

Sugar Beet

Treat- ments applied:	1953 and 1955		0	0.4N	St + 0.2N	St + 0.6N	K _S	K _S + 0.4N
1950	1951	1952 1954 & 1956						
Total sugar: cwt per acre								
Ar	Ar	0	32.2					
		0.4N	43.6					
	Ar	0	32.7					
		0.4N	43.8					
St1 St2	St1 St2	0	38.4	37.2	35.1			
		0.4N	43.0	50.6	41.9			
	St1 St2	0	33.3					
		0.4N	42.9					
		St+ 0.2N	35.5					
		St+ 0.6N	44.4					
		K _S	34.6					
		K _S + 0.4N	44.3					
Ad	Ad	0	35.5	32.5	35.9			
		0.4N	44.8					
	Ad	St+ 0.6N	47.1					
		K _S + 0.4N	39.1					
Tops: tons per acre								
Ar	Ar	0	7.08					
		0.4N	9.47					
	Ar	0	6.48					
		0.4N	9.22					
St1 St2	St1 St2	0	7.75	7.97	5.81			
		0.4N	8.34	9.71	10.96			
	St1 St2	0	7.20					
		0.4N	9.76					
		St+ 0.2N	7.79					
		St+ 0.6N	10.00					
		K _S	7.44					
		K _S + 0.4N	9.41					
Ad	Ad	0	7.31	6.09	7.73			
		0.4N	9.95					
	Ad	St+ 0.6N	11.70					
		K _S + 0.4N	10.19					

56/Ba/1.7

			Sugar Beet					
Treat- ments applied:	1953 and 1955		0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1951	1952 1954 & 1956						
Plant number: thousands per acre								
Ar	Ar	0		31.0				
		0.4N	29.6					
		0		30.1				
		0.4N	30.4					
St1 St2	St1 St2	0		31.1		30.0		30.9
		0.4N	31.3		30.3		29.8	
		0		31.1				
		0.4N	30.3					
St1 St2		St+ 0.2N		30.1				
		St+ 0.6N	30.3					
		K _s		31.4				
		K _s + 0.4N	30.7					
Ad	Ad	0		30.4		30.8		30.6
		0.4N	30.4					
		St+ 0.6N	31.2					
		K _s + 0.4N	30.2					