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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.

56/Ba/1.2

Summary of Results

Potatoes

Treatments applied:	1953 and 1955		1956		0.4N		St + 0.2N		St + 0.6N		Ks		Ks + 0.4N	
	1950	1951	1952	1954 & 1956	0	K	0	K	0	K	0	K	0	K
Ar		Ar			11.98	10.72	9.94	9.85						
Ar					10.79	10.72	8.63	9.51						
St1 St2		St1 St2			11.40	12.37	9.65	10.38	11.59	12.17	11.88	13.29	10.04	10.09
St1 St2					10.72	12.37	9.21	10.62						
					11.30	12.08	9.65	11.11						
					12.90	13.43	8.83	10.28						
Ad		Ad			9.75	8.83	10.09	9.12					12.12	11.06
					10.91	10.72								
					10.14	11.01								
					12.90	13.63								

Total tubers: tons per acre

Treatments applied:	1953 and 1955		Potatoes						
	1956	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N	K	
1950	1952 1954 & 1956								
Ar	Ar	0	86.4	88.1	85.9	84.2			
		0.4N							
Ar		0	87.6	87.6	87.8	87.1			
		0.4N							
St1 St2	St1 St2	0	85.3	82.1	85.8	87.1	88.0	88.6	87.2
		0.4N							
St1 St2		0	86.7	87.0	85.8	88.0	88.9	88.8	87.4
		0.4N							
		St + 0.2N							
		St + 0.6N							
		K _s							
		K _s + 0.4N							
Ad	Ad	0	82.9	88.4	85.9	87.8	88.8	88.8	88.3
		0.4N							
		St + 0.6N							
		K _s + 0.4N							

Percentage Ware (1½" riddle)

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Treatments applied:	1953 and 1955		Barley					
	1951	1952 1954 & 1956	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
56/Ba/1.4								
1950			Grain (at 85% dry matter): cwt per acre					
	Ar	0	28.1					
		0.4N	28.9					
Ar		0	26.3					
		0.4N	29.5					
	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	0	26.3		30.2		27.7	
Ad		0.4N	29.5					
		St+ 0.6N	29.3					
		K _s + 0.4N	27.5					
Straw (at 85% dry matter): cwt per acre								
	Ar	0	30.5					
		0.4N	28.5					
Ar		0	27.5					
		0.4N	30.1					
	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	0	25.4		32.5		27.0	
Ad		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

Treatments applied:		Sugar Beet					
1953 and 1955		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	0	8.88				
		0.4N	11.85				
Ar		0	9.10				
		0.4N	12.08				
	St1 St2	0	10.54	10.48			9.38
		0.4N	11.57	14.21		11.55	
St1 St2		0	9.21				
		0.4N	11.81				
		St+ 0.2N	9.58				
		St+ 0.6N	12.13				
		K _s	9.60				
		K _s + 0.4N	11.87				
	Ad	0	9.80		8.84		9.91
Ad		0.4N	12.31				
		St+ 0.6N	13.05				
		K _s + 0.4N	11.00				
Sugar Percentage							
	Ar	0	18.1				
		0.4N	18.4				
Ar		0	18.0				
		0.4N	18.1				
	St1 St2	0	18.2	17.8	17.8		18.7
		0.4N	18.6			18.1	
St1 St2		0	18.1				
		0.4N	18.2				
		St+ 0.2N	18.5				
		St+ 0.6N	18.3				
		K _s	18.0				
		K _s + 0.4N	18.6				
	Ad	0	18.1		18.4		18.1
Ad		0.4N	18.2				
		St+ 0.6N	18.1				
		K _s + 0.4N	17.8				

56/Ba/1.6

		Sugar Beet						
Treatments applied:	1953 and 1955	1952	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	0		32.2				
		0.4N	43.6					
Ar		0		32.7				
		0.4N	43.8					
	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	0		35.5		32.5		35.9
Ad		0.4N	44.8					
		St+ 0.6N	47.1					
		K _s + 0.4N	39.1					
Tops: tons per acre								
	Ar	0		7.08				
		0.4N	9.47					
Ar		0		6.48				
		0.4N	9.22					
	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	0		7.31		6.09		7.73
Ad		0.4N	9.95					
		St+ 0.6N	11.70					
		K _s + 0.4N	10.19					

56/Ba/1.7

Treatments applied:		Sugar Beet						
		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	0		31.0				
		0.4N	29.6					
Ar		0		30.1				
		0.4N	30.4					
	St1 St2	0		31.1		30.0	30.9	
		0.4N	31.3		30.3		29.8	
St1 St2		0		31.1				
		0.4N	30.3					
		St+ 0.2N		30.1				
		St+ 0.6N	30.3					
		K _s		31.4				
		K _s +0.4N	30.7					
	Ad	0		30.4		30.8	30.6	
Ad		0.4N	30.4					
		St+ 0.6N	31.2					
		K _s + 0.4N	30.2					