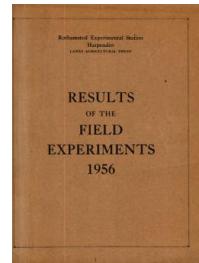


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Yields of the Field Experiments 1956

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56/R/BA/1 Three-course Rotation

Rothamsted Research

Rothamsted Research (1957) *56/R/BA/1 Three-course Rotation ; Yields Of The Field Experiments 1956*, pp 15 - 21 - DOI: <https://doi.org/10.23637/ERADOC-1-176>

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

Treatments applied:	1953 and 1955	O	0.4N	St + 0.2N	St + 0.6N	K _S	K _S + 0.4N	K	K _S + 0.4N
1950	1951	Ar	O 0.4N	11.98 10.72	9.94 9.85				
		Ar	O 0.4N	10.79 10.72	8.63 9.51				
		St1	O 0.4N	9.65 11.40	10.38 12.37	11.54 11.40	13.39 12.17	11.59 12.17	11.88 13.29
		St1	O 0.4N	11.40 10.72	12.37 12.37	11.54 9.65	13.39 11.11	11.59 11.11	11.88 13.29
		St2	O 0.4N	12.90 11.30	13.43 12.08	12.90 8.83	13.43 10.28	12.90 8.83	13.43 10.28
		Ad	O 0.4N	9.75 10.91	8.83 10.72	9.75 10.14	8.83 11.01	9.75 12.90	8.83 13.63
		Ad	O 0.6N K _S + 0.4N	10.09 10.14 12.12	9.12 11.01 11.06				

56/Ba/1.3

		Potatoes							
Treatments applied:		1953 and 1955	-	0	0.4N	St + 0.2N	St + 0.6N	K _S	K _S + 0.4N
		1956	-	K	-	K	-	K	-
1950	1951	1952 1954 & 1956	-	K	-	K	-	K	-
Ar	Ar	0	0.4N	86.4	88.1	85.9	84.2		
		0	0	87.6	87.6	87.8	87.1		
St1	St2	0	0.4N	85.3	82.1	85.8	87.1		
		0	0.4N	86.7	87.0	85.8	88.0		
St1	St2	0	St + 0.2N	85.9	89.1	87.1	85.5		
		0	St + 0.6N	86.9	85.4	85.5	82.0		
Ad	Ad	0	K _S + 0.4N	82.9	88.4	85.9	87.8		
		0	K _S	85.8	88.1	88.8	87.4		
		0.4N	St + 0.6N	86.5	83.6	88.8	87.2		
		0.4N	K _S + 0.4N	89.9	91.7	88.8	88.3		

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56/Ba/1.4

Treatments applied:		Barley						
		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	Ar	0		26.3				
		0.4N		29.5				
St1 St2	St1	0		28.8		29.6		28.5
	St2	0.4N		30.9		30.9		29.8
St1 St2	St1	0		27.5				
	St2	0.4N		30.5		30.2		
St1 St2	St1	St+ 0.2N						
	St2	St+ 0.6N						
St1 St2	St1	K _s		28.3				
	St2	K _s + 0.4N		30.4				
Ad	Ad	0		26.3		30.2		27.7
		0.4N		29.5				
Ad	Ad	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	Ar	0		27.5				
		0.4N		30.1				
St1 St2	St1	0		29.3		31.6		33.6
	St2	0.4N		30.5		31.9		31.7
St1 St2	St1	0		26.6				
	St2	0.4N		34.5		29.9		
St1 St2	St1	St+ 0.2N						
	St2	St+ 0.6N						
St1 St2	St1	K _s		28.9				
	St2	K _s + 0.4N		31.9				
Ad	Ad	0		25.4		32.5		27.0
		0.4N		27.0				
Ad	Ad	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	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		9.58		
		St+ 0.2N					
		St+ 0.6N	12.13				
		K _s		9.60			
		K _s + 0.4N	11.87				
	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	0		18.1			
		0.4N	18.4				
	Ar	0		18.0			
		0.4N	18.1				
	St1 St2	0		18.2	17.8	18.7	
		0.4N	18.6			18.1	
St1 St2		0		18.1			
		0.4N	18.2		18.5		
		St+ 0.2N					
		St+ 0.6N	18.3				
		K _s		18.0			
		K _s + 0.4N	18.6				
	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					
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 + 0.4N	34.6				
	Ad	0	44.3				
		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 + 0.4N	7.44				
	Ad	0	9.41				
		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

Sugar Beet

Treat- ments applied:	1953 and 1955	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1952 1951 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
		0.4N	30.4				
	St+ 0.6N		31.2				
	K _s + 0.4N		30.2				