

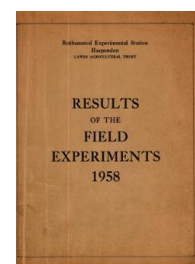
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Yields of the Field Experiments 1958

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58/R/BA/1 Three-course Rotation

Rothamsted Research

Rothamsted Research (1959) *58/R/BA/1 Three-course Rotation* ; Yields Of The Field Experiments 1958, pp 19 - 25 - DOI: <https://doi.org/10.23637/ERADOC-1-181>

58/Ba/1.1

THREE COURSE ROTATION EXPERIMENT

7th 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), 0.0093; barley, 0.0200; sugar beet, 0.0204.

Cultivations, etc.:

Potatoes.

Straw applied, all plots ploughed: Dec 11 - 31, 1957. Fertilizers applied: Apr 15, 1958. Potatoes machine planted: Apr 17. Earthed up: July 7. Sprayed four times with copper fungicide; at 5 lb in 40 gallons per acre: July 12; at 3 lb and 1 pint of spreader in 40 gallons per acre: Aug 1, 6 and 16. Sprayed with sulphuric acid, 20% BOV at 100 gallons per acre: Sept 9. Lifted: Sept 23. Variety: Majestic.

Barley.

Ground chalk applied at 23 cwt per acre: Nov 23, 1957. Straw applied, all plots ploughed: Dec 11 - 31. Fertilizers applied: Mar 21, 1958. Seed drilled at $2\frac{3}{4}$ bushels per acre: Mar 22. Sprayed with MCPA at 4 pints in 40 gallons per acre: June 4. Harvested: Aug 26. Variety: Plumage Archer.

Sugar beet.

Straw applied, all plots ploughed: Dec 11 - 31, 1957. Fertilizers applied, seed drilled at 19 lb per acre: Apr 14, 1958. Singled: June 5. Sprayed with demeton methyl at 12 oz in 40 gallons per acre: July 7. Lifted: Nov 24. Variety: Klein E.

58/Ba/1.2

Summary of Results

Potatoes

Treat- ments applied:	1953, 1955 and 1957 1958	Total tubers: tons per acre									
		0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N	0	0.4N	St + 0.2N	St + 0.6N
1950	1952	-	-	-	-	-	-	-	-	-	-
	1954	-	-	-	-	-	-	-	-	-	-
	1956 & 1958	-	-	-	-	-	-	-	-	-	-
	1958	-	-	-	-	-	-	-	-	-	-
Ar	Ar	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	Ar	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	Ar	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	Ar	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
St1 St2	St1 St2	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	St1 St2	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	St1 St2	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	St1 St2	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
Ad	Ad	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	Ad	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	Ad	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N
	Ad	0	0.4N	0	0.4N	0	0.4N	0	0.4N	0	0.4N

58/Ba/1.3

		Potatoes									
Treat- ments applied:	1953, 1955 and 1957 1958	Percentage ware ($1\frac{1}{2}$ " riddle)									
		O	K	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N	K	K	K
1950	1952 1954 1956 & 1958	-	-	-	-	-	-	-	-	-	-
Ar	Ar	88.2	90.9	82.8	87.0						
	0										
	0.4N										
	0	85.2	86.8	83.9	87.6						
	0.4N										
St1 St2	0	84.0	85.4	82.5	83.2	87.1	88.4	88.3	87.6	85.8	
	0.4N					87.2	87.3				
St1 St2	0	92.1	91.1	86.4	88.1						
	0.4N										
	St+ 0.2N			81.1	86.4						
	St+ 0.6N	90.7	91.0	88.4	89.4						
	K										
	K + 0.4N	87.7	90.5	84.2	87.5	88.2	86.8	85.4	87.4		
	K _s 0										
Ad	Ad	89.4	92.9								
	0.4N										
	St+ 0.6N	88.6	90.1								
	K _s + 0.4N	87.3	88.4								

58/Ba/1.4

			Barley					
Treat- ments applied:	1953, 1955 and 1957	1952 1954 1956 & 1958	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1951		Grain (at 85% dry matter): cwt per acre					
	Ar	0		20.0				
		0.4N	27.1					
	Ar	0		21.2				
		0.4N	25.8					
	St1 St2	0		23.7		21.7		19.5
		0.4N	22.8		28.2		26.7	
St1 St2		0		22.3				
		0.4N	22.4					
		St+ 0.2N		23.5				
		St+ 0.6N	26.8					
		K _s		22.6				
		K _s + 0.4N	29.4					
	Ad	0		21.5		21.0		20.9
		0.4N	30.0					
Ad		St+ 0.6N	30.0					
		K _s + 0.4N	24.8					
			Straw (at 85% dry matter): cwt per acre					
	Ar	0		19.0				
		0.4N	26.1					
	Ar	0		19.1				
		0.4N	25.2					
	St1 St2	0		20.7		24.4		16.5
		0.4N	29.3		32.2		30.7	
St1 St2		0		19.5				
		0.4N	25.2					
		St+ 0.2N		21.1				
		St+ 0.6N	25.3					
		K _s		21.0				
		K _s + 0.4N	27.3					
	Ad	0		19.5		17.8		19.1
		0.4N	29.5					
Ad		St+ 0.6N	32.6					
		K _s + 0.4N	25.2					

Mean dry matter % as harvested Grain: 81.2
Straw: 79.3

			58/Ba/1.5					
			Sugar beet					
Treat- ments applied:	1953, 1955 and 1957	1952 1954 1956 & 1958	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1951		Roots (washed): tons per acre					
	Ar	0		14.20				
		0.4N	15.47					
Ar		0		13.46				
		0.4N	15.51					
	St1 St2	0		12.57		15.25		13.95
		0.4N	16.80		17.53		15.84	
St1 St2		0		13.57				
		0.4N	15.20					
		St+ 0.2N		12.12				
		St+ 0.6N	16.29					
		K _s		13.56				
		K _s + 0.4N	17.08					
	Ad	0		13.99		13.70		14.78
Ad		0.4N	15.11					
		St+ 0.6N	14.06					
		K _s + 0.4N	16.72					
			Sugar percentage					
	Ar	0		17.4				
		0.4N	17.2					
Ar		0		17.7				
		0.4N	17.4					
	St1 St2	0		17.4		17.3		18.0
		0.4N	17.4		17.3		17.6	
St1 St2		0		17.6				
		0.4N	17.4					
		St+ 0.2N		17.6				
		St+ 0.6N	17.1					
		K _s		17.8				
		K _s + 0.4N	17.3					
	Ad	0		17.4		17.4		16.6
Ad		0.4N	17.7					
		St+ 0.6N	17.8					
		K _s + 0.4N	17.0					

			Sugar beet				58/Ba/1.6	
Treat- ments applied:	1953, 1955 and 1957		0	0.4N	St + 0.2N	St + 0.6N	K _s	K + 0.4N
1950	1951	1952 1954 1956 & 1958						
Total sugar: cwt per acre								
Ar	Ar	0	49.6					
		0.4N	53.3					
Ar		0	47.8					
		0.4N	54.1					
St1 St2	St1 St2	0	43.7	60.7	52.8	55.7	50.3	
		0.4N	58.6					
St1 St2		0	47.8					
		0.4N	52.9					
		St+ 0.2N	42.7					
		St+ 0.6N	55.8					
		K _s	48.2					
		K _s + 0.4N	59.0					
Ad	Ad	0	48.6	47.7	49.1			
		0.4N	53.5					
		St+ 0.6N	50.0					
		K _s + 0.4N	56.7					
Tops: tons per acre								
Ar	Ar	0	10.18					
		0.4N	9.44					
Ar		0	8.28					
		0.4N	10.64					
St1 St2	St1 St2	0	7.93	10.58	11.80	10.93	9.16	
		0.4N	11.41					
St1 St2		0	9.68					
		0.4N	10.10					
		St+ 0.2N	7.74					
		St+ 0.6N	10.21					
		K _s	9.29					
		K _s + 0.4N	11.67					
Ad	Ad	0	9.94	9.33	9.53			
		0.4N	11.06					
		St+ 0.6N	9.40					
		K _s + 0.4N	13.33					

58/Ba/1.7

			Sugar beet					
Treat- ments applied:	1953, 1955 and 1957	1952 1954 1956 & 1958	0	0.4N	St + 0.2N	St + 0.6N	K _s	K _s + 0.4N
1950	1951	Plant number: thousands per acre						
	Ar	0		32.4				
		0.4N	32.2					
Ar		0		32.1				
		0.4N	32.0					
	St1 St2	0		31.5		32.5		34.2
		0.4N	32.6		31.3		33.1	
St1 St2		0		32.1				
		0.4N	31.0					
		St+ 0.2N		31.7				
		St+ 0.6N	31.2					
		K _s		31.6				
		K _s + 0.4N	32.9					
	Ad	0		33.2		32.4		31.1
Ad		0.4N	32.4					
		St+ 0.6N	33.1					
		K _s + 0.4N	33.0					