

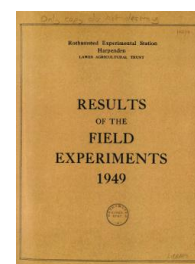
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1949

[Full Table of Content](#)



49/BA/4 Six-course Rotation - Rothamsted and Woburn

49/BA/4 Six-course Rotation - Rothamsted and Woburn, Rothamsted Research (1950) Yields Of The Field Experiments 1949, pp 26 - 30

49/Ba/4.1

SIX COURSE ROTATION EXPERIMENT 1949

Seasonal effects of N, P₂O₅ and K₂O

Rotation and treatments as given in 1932 **Report**, p. 131, with the exceptions that since 1934 the forage crop has been replaced by rye harvested as a mature crop, and that green manure crops are now omitted. Since 1934 lime has been applied at the rate of 10 cwt per acre at two stages in the rotation: immediately after the removal of the potato crop, and before sowing barley.

Cultivations, etc.:

Rothamsted, Long Hoos IV

Sugar beet. Series 2.

Ploughed: Sept 4-8. Reploughed: Jan 18-19. Harrowed: Apr 9. Harrowed, rolled, seed drilled: Apr 11. Artificial fertilizers applied, harrowed and rolled in: Apr 12. Wireworm dust applied by hand (2 cwt per acre): Apr 16. Hoed: May 13 - June 28. Singled: May 30. Lifted: Nov 23. Variety: Klein E. Previous crop: Rye.

Barley. Series 3.

Sugar beet tops remaining from 1948 crop ploughed in: Nov 30 - Dec 1. Ground lime applied (10 cwt per acre): Jan 25. Springtined twice: Feb 22, 25. Artificial fertilizers applied: Mar 2. Seed drilled and harrowed in: Mar 4. Ring rolled: Apr 12. Clover seed undersown: Apr 13. Rolled: Apr 14. Thistles hand pulled: June 13-14. Harvested: July 29. Variety: Plumage Archer. Previous crop: Sugar beet.

Clover. Series 4.

Seed undersown in barley: Apr 15, 1948. Harrowed and ring rolled: Apr 16. Autumn artificial fertilizers applied: Dec 16. Rolled: Mar 23, 1949. Sulphate of ammonia applied: Apr 23. Cut: June 27. Variety: Late flowering Montgomery Red. Previous crop: Barley.

Wheat. Series 1.

Ploughed: July 28-29, 1948. Reploughed: Sept 22-23. Springtined twice: Oct 21, 22. Autumn artificial fertilizers applied: Oct 26. Seed drilled: Oct 28. Harrowed and rolled: Apr 11, 1949. Sulphate of ammonia applied: Apr 23. Harvested: July 28. Variety: Yeoman. Previous crop: Clover.

Potatoes. Series 5.

Ploughed: Sept 2-3. Reploughed: Jan 20. Harrowed

49/Ba/4.2

and ring rolled: Mar 31. Bouted: Apr 1. Artificial
applied: Apr 2. Potatoes planted and covered in:
Apr 4. Ridges rolled down: Apr 9. Chain harrowed:
Apr 27. Re-ridged: May 9. Ridges harrowed: May 16.
Grubbed: June 1, 29. Earthed up: July 9. Sprayed
to kill off haulm: Sept 8. Lifted: Sept 20. Variety:
Majestic. Previous crop: Wheat.

Rye. Series 6.
Ploughed: Sept 30 - Oct 1. Ground lime applied:
Oct 21-22. Harrowed: Oct 22. Autumn artificials
applied: Oct 27. Seed drilled and harrowed in: Oct 28.
Harrowed and rolled: Apr 11, 1949. Sulphate of ammonia
applied: Apr 23. Harvested: July 26-27. Variety:
King II. Previous crop: Potatoes.

Woburn, Stackyard, Series B.

Sugar beet. Series 5.
Ploughed: Sept 2. Re-ploughed: Jan 17-18. Springtined
twice: Mar 22, 30. Harrowed, seed drilled, artificials
applied, harrowed: Apr 5. Rolled: Apr 11. Hoed:
Apr 30 - June 28. Singled: May 30 - 31. Lifted:
Sept 27-28. Variety: Klein E. Previous crop: Rye.

Barley. Series 4.
Sugar beet tops remaining from 1948 crop ploughed in:
Nov 10. Ploughed: Jan 31 - Feb 1. Ground lime
(66%CaO) applied (15 cwt per acre): Feb 6. Springtined:
Feb 19. Artificials applied: Mar 3. Seed drilled,
clover seed undersown, harrowed in: Mar 18. Rolled:
Mar 24. Harvested: July 26. Variety: Plumage Archer.
Previous crop: Sugar beet.

Clover. Series 6.
Seeds undersown in barley: Mar 12, 1948. Harrowed: Mar 13.
Phosphate and potash fertilizer applied: Nov 9. Rolled:
Mar 24, 1949. Sulphate of ammonia applied: Apr 26.
Cut: June 29. Variety: Late flowering Red (New Zealand).
Previous crop: Barley.

Wheat. Series 3.
Ploughed, harrowed twice: July 23, 1948. Ploughed: Sept 3.
Ploughed, harrowed, autumn artificials applied: Nov 8-9.
Seed drilled and harrowed in: Nov 10. Harrowed, rolled:
Apr 14-16, 1949. Sprayed with "D.N.O.C.": Apr 20.
Sulphate of ammonia applied: Apr 26. Harvested: Aug 8.
Variety: Squareheads Master 13/4. Previous crop: Clover.

49/Ba/4.3

Potatoes. Series 1.
Ploughed: Sept 13-16. Re-ploughed: Jan 27-28. Springtined:
Mar 24. Bouted: Apr 8. Artificials applied: Apr 11.
Potatoes planted and covered in: Apr 12. Ridges harrowed,
re-ridged: May 11. Grubbed: May 31. Hood: June 18.
Ridged: June 20-21. Sprayed to kill off haulm: Sept 10.
Lifted: Sept 22-23. Variety: Majestic. Previous crop:
Wheat.

Rye. Series 2.
Ploughed: Oct 6-8. Ground lime (66% CaO) applied (15 cwt
per acre): Oct 19. Harrowed: Oct 23. Autumn artificials
applied: Nov 8. Harrowed twice, seed drilled: Nov 9.
Harrowed in: Nov 10. Harrowed and rolled: Apr 14-16.
Sprayed with "D.N.O.C.": Apr 20. Sulphate of ammonia
applied: Apr 26. Harvested: July 26. Variety: King II.
Previous crop: Potatoes.

A summary of the results from the 6-course rotation for
1930-1948 will be found in the 1948 Station Report, pp. 90-94.

49/Ba/4.4

Mean yields per acre and increments in yield per cwt of N,
P₂O₅ and K₂O

Rothamsted Response S.E.					Woburn Response S.E.					Rothamsted Response S.E.					Woburn Response S.E.				
Sugar Beet, roots (washed): tons per acre										Clover, hay; dry matter cwt per acre									
Yield	8.08		7.96							44.8		37.0							
N	-0.59	0.633	-0.90	1.064						6.4	5.54	-9.0	6.61						
P	-0.99	0.633	-1.15	1.064						5.2	5.54	4.1	6.61						
K	0.62	0.380	2.76	0.638						-8.1	3.33	-1.1	3.97						
Sugar Beet, tops: tons per acre										Wheat, grain: cwt per acre									
Yield	6.29		4.33							28.6		18.0							
N	1.81	1.547	1.06	0.890						3.2	5.71	27.5	8.01						
P	-0.05	1.547	0.69	0.890						-3.1	5.71	-13.3	8.01						
K	0.43	0.928	1.10	0.534						4.5	3.43	-3.8	4.80						
Sugar Beet, sugar percentage										Wheat, straw: cwt per acre									
Yield	15.12		18.04							46.5		27.9							
N	-0.25		-0.05							7.1		46.7							
P	-1.23		1.47							-3.8		-2.9							
K	-0.48		0.35							5.1		-12.2							
Sugar Beet, total sugar: cwt per acre										Potatoes, total tubers: tons per acre									
Yield	24.4		28.7							4.67		8.42							
N	-2.1	2.03	-3.3	4.52						2.01	0.407	3.71	0.796						
P	-4.9	2.03	-2.1	4.52						-0.27	0.407	0.78	0.796						
K	1.2	1.22	10.6	2.71						1.95	0.244	0.26	0.478						
Sugar Beet, plant number: thousands per acre										Potatoes, percentage ware									
Yield	25.3		23.7							78.1		90.5							
N	-1.9	2.24	-3.4	3.73						1.5		1.0							
P	-2.9	2.24	-2.4	3.73						-9.8		-1.5							
K	0.3	1.34	2.1	2.24						9.0		1.4							

49/Ba/4.5

Rothamsted Response S.E.				Woburn Response S.E.		Rothamsted Response S.E.				Woburn Response S.E.	
Barley, grain: cwt per acre						Rye, grain: cwt per acre					
Yield	30.7			24.6		32.3			26.7		
N	4.7	2.46		21.5	6.76	16.5	6.35		9.5		6.50
P	1.1	2.46		-0.5	6.76	-2.5	6.35		-8.3		6.50
K	0.8	1.48		-5.8	4.06	-4.0	3.81		0.5		3.90
Barley, straw: cwt per acre						Rye, straw: cwt per acre					
Yield	37.6			29.4		55.2			41.8		
N	27.7			38.2		21.2			5.5		
P	4.0			-0.9		-0.3			-20.9		
K	-1.3			-4.4		-6.2			7.7		