

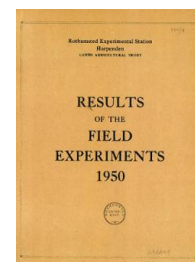
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## Yields of the Field Experiments 1950

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### 50/BA/4 Six-course Rotation - Rothamsted and Woburn

#### Rothamsted Research

Rothamsted Research (1951) *50/BA/4 Six-course Rotation - Rothamsted and Woburn* ; Yields Of The Field Experiments 1950, pp 21 - 24 - DOI: <https://doi.org/10.23637/ERADOC-1-185>

50/Ba/4.1

SIX COURSE ROTATION EXPERIMENT

The 21st year

Seasonal effects of fertilizers - Rothamsted Long Hoos IV and Woburn Stackyard, 1950.

For details of rotation and treatments etc. see Appendix Z.

Area of each plot: Rothamsted - 0.0250 acre. Woburn - 0.0268 acre.

Cultivations, etc.:

Rothamsted

Sugar beet.

Ploughed: Aug 29 and again Jan 10-12. Cultivated: Mar 24.  
Harrowed, fertilizers applied: Mar 27. Ring rolled: Mar 28.  
Seed drilled and harrowed in: Mar 29. Rolled: Mar 30.  
Hoed: May 17. Singled: May 31-June 1. Hoed: June 5 and  
29, July 12 and 13. Lifted: Oct 31. Variety: Klein E.  
Previous crop: Rye.

Barley.

Ploughed: Dec 7-8. Ground chalk applied: Jan 16. Springtined:  
Mar 8 and again Mar 10. Fertilizers applied and harrowed in,  
seed drilled and harrowed in: Mar 14. Rolled: Mar 15. Clover  
seed undersown and harrowed in: Mar 21. Ring rolled: Mar 22.  
Harvested: Aug 4. Variety: Plumage Archer. Previous crop:  
Sugar beet.

Clover.

Seed undersown in barley and harrowed in: Apr 13. Autumn  
fertilizers applied: Dec 6. Rolled: Mar 15. Sulphate of  
ammonia applied: Apr 17. Cut: July 20. Variety: Late  
flowering Montgomery Red. Previous crop: Barley.

Wheat.

Ploughed: July 2-4. Springtined, autumn fertilizers applied:  
Oct 14. Harrowed, seed drilled and harrowed in: Oct 28.  
Harrowed: Mar 16. Rolled: Apr 8. Sulphate of ammonia  
applied: Apr 17. Ring rolled: Apr 20. Harvested: Aug 3.  
Variety: Yeoman. Previous crop: Clover.

Potatoes.

Ploughed: Aug 30 and again Jan 7-9. Cultivated: Mar 31.  
Harrowed: Mar 27 and again Mar 28. Ring rolled: Mar 29.  
Ridged: Mar 31. Fertilizers applied, potatoes planted and  
covered in: Apr 1. Rolled down ridges: Apr 3. Chain  
harrowed: May 5. Grubbed: May 23. Hoed weeds: June 21.  
Earthed up: June 26. Sprayed with Perenox: July 25. Sprayed  
with Copposon: Aug 18. Sprayed with 15% B.O.V. to kill off  
haulm: Sept 22. Lifted: Oct 11. Variety: Majestic. Previous  
crop: Wheat.



50/Ba/4.2

Rye.

Ploughed: Sept 22. Springtined, autumn fertilizers applied: Oct 14. Ground chalk applied: Oct 27. Harrowed, seed drilled and harrowed in: Oct 28. Harrowed: Mar 16. Rolled: Apr 8. Sulphate of ammonia applied: Apr 14. Ring rolled: Apr 20. Harvested: Aug 3. Variety: King II. Previous crop: Potatoes.

Woburn

Sugar beet.

Ploughed: Aug 31. Springtined: Nov 2. Ploughed: Nov 15 and again Jan 23. Springtined: Mar 2. Harrowed and rolled: Mar 27. Fertilizers applied: Mar 29. Harrowed, rolled, seed drilled, harrowed and rolled in: Mar 30. Hoed: May 11. Singled: June 1-2. Hoed: June 8, 15, 29, 30, July 1 and 26. Weeded: Sept 11. Lifted: Sept 29. Variety: Klein E. Previous crop: Rye.

Barley.

Ploughed: Oct 5 and again Jan 24. Ground chalk applied: Feb 27. Springtined: Mar 7. Fertilizers applied: Mar 15. Seed drilled and harrowed in: Mar 16. Rolled: Mar 17. Clover undersown, harrowed and rolled: Mar 22. Harvested: Aug 4. Variety: Plumage Archer. Previous crop: Sugar beet.

Clover.

Seed undersown in barley: Mar 18. Rolled: Mar 28. Fertilizers applied: Apr 12. Cut: June 20. Variety: Late flowering Montgomery Red. Previous crop: Barley.

Wheat.

Ploughed: July 20. Harrowed: Aug 24. Ploughed: Aug 25 and again Oct 5. Springtined: Oct 31. Harrowed, seed drilled, autumn fertilizers applied, harrowed in: Nov 1. Tractor weeded: Mar 21. Sulphate of ammonia applied: Apr 12. Sprayed with D.N.O.C.: June 5. Harvested: Aug 8. Variety: Squarehead's Master 13/4. Previous crop: Clover.

Potatoes.

Ploughed: Aug 31, Nov 2-3 and Jan 23. Springtined: Mar 21. Harrowed: Mar 27. Rolled: Mar 30. Ridged, fertilizers applied: Apr 3. Potatoes planted and covered in: Apr 4. Rolled: Apr 12. Tractor weeded: May 11. Chain harrowed ridges: May 15. Reridged: May 16. Chain harrowed: May 24. Grubbed: June 7. Ridged: June 29. Hand weeded: July 14. Sprayed with Peronox: July 22 and again Aug 4. Sprayed with 15% B.O.V. to kill off haulm: Sept 18. Lifted: Oct 4. Variety: Majestic. Previous crop: Wheat.

P.T.O

50/Ba/4.4

Summary of Results

Mean yields per acre and increments in yield per cwt of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O

	Rothamsted Response	Woburn Response	Rothamsted Response	Woburn Response
Sugar Beet, roots (washed): tons per acre		Clover, hay: dry matter cwt per acre		
Yield	15.34	10.72	44.2	38.4
N	6.39	10.23	-16.4	9.8
P	-2.25	1.41	4.8	1.5
K	-1.66	-1.36	-10.0	-13.8
Sugar Beet, tops: tons per acre		Wheat, grain: cwt per acre		
Yield	11.05	4.80	27.8	11.5
N	6.93	4.34	8.5	12.0
P	-3.55	0.02	-3.6	-1.6
K	-1.63	-0.56	-1.7	-0.5
Sugar Beet, Sugar percentage		Wheat, straw: cwt per acre		
Yield	18.52	19.25	45.4	20.9
N	-1.29	0.48	24.3	28.7
P	0.87	0.22	-3.9	2.7
K	0.25	-0.98	-6.8	-6.2
Sugar Beet, total sugar: cwt per acre		Potatoes, total tubers: tons per acre		
Yield	56.8	41.3	12.59	8.21
N	19.9	40.8	5.63	8.78
P	-5.7	6.1	-0.32	-0.15
K	-5.5	-7.5	0.97	-1.61
Sugar Beet, plant number: thousands per acre		Potatoes, percentage ware		
Yield	22.4		90.0	92.3
N	-3.0		0.1	2.1
P	-1.9		-12.5	-0.1
K	-0.1		4.2	-1.7

		50/Ba/4.5.			
		Rothamsted Response	Woburn Response	Rothamsted Response	Woburn Response
		Barley, grain: cwt per acre		Rye, grain: cwt per acre	
Yield		28.3	20.7	34.9	26.0
N		10.7	28.0	14.3	22.1
P		2.1	3.1	1.3	3.6
K		-0.4	-3.1	-0.7	1.6
		Barley, straw: cwt per acre		Rye, straw: cwt per acre	
Yield		37.3	25.9	44.5	33.1
N		4.2	14.7	23.4	26.9
P		-5.1	1.7	-4.2	3.1
K		1.9	2.4	-1.4	-0.3