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Yields of the Field Experiments 1955

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55/R/BA/3 and 55/W/BA/3 Six-course Rotation

Rothamsted Research

Rothamsted Research (1956) *55/R/BA/3 and 55/W/BA/3 Six-course Rotation* ; Yields Of The Field Experiments 1955, pp 28 - 30 - DOI: <https://doi.org/10.23637/ERADOC-1-175>

55/Ba/3.1

SIX COURSE ROTATION EXPERIMENT

The 26th year

Seasonal effects of fertilizers - Rothamsted Long Hoos IV and Woburn Stackyard 1955.

For details of treatments, rotation etc., see "Results of the Field Experiments 1939-47" Vol.I, Section Ba/4.

Area of each plot: Rothamsted, 0.0250 acre. Woburn, 0.0266 acre.

Cultivations, etc.:

Rothamsted

Sugar beet.

Ploughed: Sept 6, 1954 and Nov 5. Fertilizers applied: Apr 15, 1955. Seed drilled at 18 lb per acre: Apr 16. Sprayed with D.D.T. emulsion, 3 pints in 40 gallons: June 13. Singled: June 20. Lifted: Nov 16. Variety: Klein E.

Barley.

Ploughed: Dec 27, 1954. Ground chalk applied at 20 cwt per acre: Mar 19, 1955. Seed drilled at 3 bushels per acre: Mar 22. Fertilizers applied: Mar 29. Harvested: Aug 8. Variety: Plumage Archer. Mean D.M.%: Grain, 81.8; Straw, 74.9.

Clover.

Seed undersown in barley at 40 lb per acre: Apr 20, 1954. Autumn fertilizers applied: Dec 1. Sulphate of ammonia applied: Apr 25, 1955. Cut: July 12. Variety: Late flowering Montgomery Red.

Wheat.

Ploughed: Aug 5, 1954. Seed drilled at $2\frac{3}{4}$ bushels per acre: Oct 22. Autumn fertilizers applied: Oct 25. Sulphate of ammonia applied: May 12, 1955. Harvested: Aug 8. Variety: Yeoman. Mean D.M.%: Grain, 81.6; Straw, 82.0.

Potatoes.

Ploughed: Sept 6, 1954 and Nov 4. Ridged, fertilizers applied: Apr 26, 1955. Potatoes planted: Apr 27. Earthed up: July 4. Sprayed with sulphuric acid, 15% B.O.V: Sept 26. Lifted: Oct 1. Variety: Majestic.

Rye.

Cultivated: Oct 4, 1954. Ground chalk applied at 20 cwt per acre: Oct 9. Seed drilled at 3 bushels per acre: Oct 22. Autumn fertilizers applied: Oct 25. Sulphate of ammonia applied: May 12, 1955. Harvested: Aug 15. Variety: King II. Mean D.M.%: Grain, 85.9; Straw, 87.5.

55/Ba/3.2

Woburn

Sugar beet.

Ploughed: Sept 29, 1954 and Feb 2, 1955. Fertilizers applied: Apr 18.
Seed drilled at 12 lb per acre: Apr 19. Sprayed with parathion, $\frac{1}{2}$
pint per acre in 40 gallons: June 10. Singled: June 28. Lifted:
Oct 27. Variety: Klein E.

Barley.

Ploughed: Nov 5, 1954 and Feb 1, 1955. Ground chalk applied at
20 cwt per acre: Mar 14. Fertilizers applied, seed drilled at $3\frac{1}{3}$
bushels per acre: Mar 17. Harvested: Aug 5. Variety:
Plumage Archer.

Clover.

Seed undersown in barley at 40 lb per acre: Apr 26, 1954. Autumn
fertilizers applied: Dec 2. Sulphate of ammonia applied:
Apr 29, 1955. Cut: July 6. Variety: Late flowering Montgomery
Red. N.B. The crop was severely and irregularly damaged by
Sclerotinia.

Wheat.

Ploughed: July 5, 1954 and Oct 1. Autumn fertilizers applied, seed
drilled at 3 bushels per acre: Oct 28. Sulphate of ammonia applied:
May 6, 1955. Sprayed with M.C.P.A. low volume, at $2\frac{1}{2}$ pints per acre:
May 20. Harvested: Aug 15. Variety: Squareheads Master 13/4.

Potatoes.

Ploughed: Sept 29, 1954 and Feb 1, 1955. Ridged, fertilizers
applied: Apr 21. Potatoes planted: Apr 22. Earthed up: June 28.
Sprayed with copper fungicide, 5 lb in 40 gallons per acre:
Aug 19. Sprayed with arsenious compound, 1 gallon in 40 gallons
per acre: Sept 27. Lifted: Oct 3. Variety: Majestic.

Rye.

Ploughed: Oct 23, 1954. Ground chalk applied at 20 cwt per acre,
autumn fertilizer applied: Oct 28. Seed drilled at 3 bushels per
acre: Oct 29. Sulphate of ammonia applied: May 6, 1955.
Harvested: Aug 15. Variety: King II.

Erratum to "Results of the Field Experiments" 1954!

Page 54/Ba/3.3:- After "clover, hay" read "(at 85% Dry Matter)" not
"dry matter".

Erratum to "Results of the Field Experiments" 1939-47, Vol. I.

Page Ba/4.4:- Woburn. Clover, Hay Dry Matter: cwt per acre.
Response to N in 1945 should read "-12.5" NOT "12.5".

55/Ba/3.3

Summary of Results

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

	Rothamsted	Woburn	Rothamsted	Woburn
	Sugar Beet, roots (washed): tons per acre		Barley, grain: cwt per acre	
Mean	7.58	8.46	34.3	27.2
Response to: N	+5.95	+4.07	+23.3	+20.1
P	+0.11	-1.74	+1.4	+2.2
K	-0.12	-0.58	-5.3	+3.7
	Sugar Beet, sugar percentage		Barley, straw: cwt per acre	
Mean	16.7	18.4	39.0	34.7
Response to: N	+0.7	-0.1	+34.5	+39.9
P	+0.3	+0.1	+2.3	+3.3
K	+0.3	+0.9	-7.3	+2.2
	Sugar Beet, total sugar: cwt per acre		Clover, hay: dry matter cwt per acre	
Mean	25.4	31.1	54.0	46.0
Response to: N	+21.1	+14.6	+13.3	-9.5
P	+0.8	-6.2	+7.9	+2.5
K	+0.1	-0.6	-2.0	+12.8
	Sugar Beet, tops: tons per acre		Wheat, grain: cwt per acre	
Mean	4.63	5.55	38.0	8.8
Response to: N	+4.05	+3.19	+8.1	+10.0
P	-0.16	-1.27	-5.3	+2.1
K	-0.25	+0.36	+0.4	+1.5
	Sugar Beet, plant number: thousands per acre		Wheat, straw: cwt per acre	
Mean	28.3	+	56.1	12.6
Response to: N	+0.9		+14.3	+20.1
P	-0.1		-7.0	+2.5
K	+0.9		+3.5	+0.8
	Potatoes, total tubers: tons per acre		Rye, grain: cwt per acre	
Mean	4.99	5.33	32.7	25.4
Response to: N	+1.24	+0.83	+28.2	+27.7
P	+0.93	+0.67	-6.5	-2.4
K	+0.50	-0.23	-1.1	-0.5
	Potatoes, percentage ware		Rye, straw: cwt per acre	
Mean	83.1 ⁽¹⁾	85.4 ⁽²⁾	37.2	30.9
Response to: N	-2.2	-1.4	+28.0	+33.3
P	-10.9	-4.8	-2.3	+0.5
K	+6.5	+3.1	-3.3	-1.8

* (at 85% dry matter) + not recorded.

Riddle: (1) 1½"; (2) 1⅝"