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64/R/RP/B/7 Residual Phosphate Rotation

Rothamsted Research

Rothamsted Research (1965) *64/R/RP/B/7 Residual Phosphate Rotation ; Yields Of The Field Experiments 1964*, pp 119 - 122 - DOI: <https://doi.org/10.23637/ERADOC-1-160>

64/B/7.1

RESIDUAL PHOSPHATE ROTATION

(RP)

The long term and residual effects of a number of phosphate fertilisers compared with superphosphate - Great Field IV and Sawyers I 1964, the fifth year.

For treatments and rotation, etc. see 'Results', 63/B/8 and for previous years' results see 60/B/9, 61/B/8, 62/B/8 and 63/B/8.

Area of each plot:

Great Field IV: 0.0193. Area harvested: Potatoes and barley
- 0.0129, swedes - 0.0096.
Sawyers I: 0.0212. Area harvested: Potatoes and barley
- 0.0141, swedes - 0.0106.

Cultivations, etc. (both fields, except as indicated): Ploughed:

Great Field IV - Dec 9, 1963. Sawyers I - Jan 3, 1964.

Potatoes: Ground chalk applied to Great Field IV at 23 cwt: Dec 9, 1963.

Fertilisers applied, potatoes planted: May 4, 1964. Sprayed with diquat/paraquat (Preeglone Extra at 2 pints in 40 gals): May 19.

Earthed up: June 22. Sprayed twice with mancozeb at 1.2 lb in 35 gals: July 1 and Aug 6. Sprayed with diquat (Reglone at 3 pints in 40 gals): Sept 17. Lifted: Sept 23.

Barley: Ground chalk applied at 23 cwt: Dec 9, 1963. Fertilisers applied, seed drilled at 2 bushels: Feb 13, 1964. Sprayed with mecoprop/2,4-D (Methoxone Extra at 6 pints in 40 gals): May 15. Combine harvested: Aug 20.

Swedes: Ground chalk applied at 23 cwt: Dec 9, 1963. Fertilisers applied: May 19, 1964. Seed drilled at 2 lb: May 21. Singled: July 2. Lifted: Oct 13.

Standard errors per plot.

Sawyers I.

Potatoes, Total tubers: 0.465 or 5.4% (11 d.f.)

Barley, Grain: 1.97 or 4.4% (11 d.f.)

Swedes, Roots: 1.356 or 15.1% (11 d.f.)

64/B/7.2

SUMMARY OF RESULTS

Treatment	POTATOES							
	TOTAL TUBERS:				PERCENTAGE WARE			
	Great Field IV Mean	Field IV Increase	Sawyers I Mean	Sawyers I Increase	Great Field IV Mean	Field IV Increase	Sawyers I Mean	Sawyers I Increase
			(±0.329)(±0.465)					
1	8.46		8.66		96.7		97.0	
2	9.54	+1.08	9.05	+0.39	94.7	-2.0	95.0	-2.0
3	10.44	+1.98	9.53	+0.87	95.6	-1.1	95.1	-1.9
4	9.34	+0.88	8.41	-0.25	97.1	+0.4	96.9	-0.1
5	7.93	-0.53	8.60	-0.06	93.8	-2.9	94.9	-2.1
6	8.84	+0.38	8.91	+0.25	95.5	-1.2	95.7	-1.3
7	9.75	+1.29	8.57	-0.09	96.9	+0.2	95.8	-1.2
8	8.51	+0.05	8.35	-0.31	95.3	-1.4	95.6	-1.4
9	9.02	+0.56	7.68	-0.98	95.8	-0.9	95.5	-1.5
10	8.25	-0.21	8.45	-0.21	96.5	-0.2	95.0	-2.0
11	8.70	+0.24	8.72	+0.06	97.7	+1.0	95.7	-1.3
12	9.74	+1.28	8.58	-0.08	96.4	-0.3	95.0	-2.0
Mean	9.04		8.63		96.0		95.6	
BARLEY								
	GRAIN				STRAW			
			(±1.39)(±1.97)					
1	40.4		41.7		24.3		26.3	
2	37.2	-3.2	46.2	+4.5	27.0	+2.7	25.6	-0.7
3	36.6	-3.8	42.9	+1.2	24.4	+0.1	24.3	-2.0
4	37.7	-2.7	43.8	+2.1	27.3	+3.0	25.5	-0.8
5	33.2	-7.2	43.9	+2.2	25.1	+0.8	24.9	-1.4
6	37.8	-2.6	46.3	+4.6	25.5	+1.2	26.6	+0.3
7	38.6	-1.8	44.2	+2.5	28.1	+3.8	26.2	-0.1
8	37.6	-2.8	46.5	+4.8	25.8	+1.5	26.4	+0.1
9	40.9	+0.5	45.3	+3.6	25.9	+1.6	25.5	-0.8
10	40.1	-0.3	44.0	+2.3	27.3	+3.0	23.4	-2.9
11	38.0	-2.4	45.9	+4.2	25.3	+1.0	27.1	+0.8
12	35.0	-5.4	46.6	+4.9	29.8	+5.5	27.5	+1.2
Mean	37.8		44.8		26.3		25.8	
Mean D.M.%:	82.2		81.4		87.8		89.3	

64/B/7.3

SWEDES, ROOTS

Treatment	Great Field IV		Sawyers I	
	Mean	Increase	Mean	Increase
			(± 0.959) (± 1.356)	
1	7.82		4.65	
2	12.36	+4.54	8.80	+4.15
3	15.70	+7.88	10.29	+5.64
4	11.90	+4.08	7.53	+2.88
5	12.87	+5.05	8.33	+3.68
6	14.77	+6.95	9.89	+5.24
7	13.24	+5.42	11.26	+6.61
8	13.10	+5.28	10.06	+5.41
9	13.43	+5.61	9.53	+4.88
10	12.36	+4.54	8.80	+4.15
11	13.98	+6.16	9.15	+4.50
12	13.24	+5.42	9.74	+5.09
Mean	12.90		9.00	

0.7/7.3

SWISS, ROOTS

Plot	Mean Increase	Great Field IV	Mean Increase
1	7.82	12.36	4.24
2	12.36	12.70	4.88
3	12.70	11.90	4.08
4	11.90	12.57	4.02
5	12.57	12.77	4.92
6	12.77	11.52	4.42
7	11.52	12.10	4.38
8	12.10	12.43	4.81
9	12.43	12.36	4.24
10	12.36	12.90	4.16
11	12.90	12.24	4.12
12	12.24	12.12	4.04
Mean	12.30	12.30	4.00