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Yields of the Field Experiments 1971

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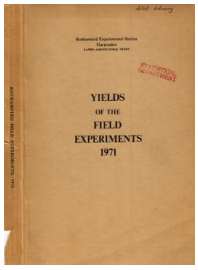

71/R/RN/7 Residual Phosphate - Potatoes, Barley, Swedes

Rothamsted Research

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71/R/RN/7

RESIDUAL PHOSPHATE

Object: To study direct and residual effects of phosphate fertiliser on yields of three crops grown in rotation - Sawyers I and Great Field IV.

The 12th year, potatoes, barley, swedes.

For previous years see 'Details' 1967 and 68/B/5(t), 69/R/RN/7 and 70/R/RN/7(t).

Whole plot dimensions:-
Sawyers I: 4.27 x 20.1. Area harvested: Potatoes and barley - 0.00572, Swedes - 0.00429.
Great Field IV: 4.27 x 19.3. Area harvested: Potatoes and barley - 0.00520, Swedes - 0.00390.

Standard applications:
Potatoes: Weedkillers: Linuron at 0.84 kg plus paraquat at 0.42 kg ion in 427 l. Fungicide: Mancozeb at 1.34 kg in 438 l on 2 occasions. Insecticide: Demeton-s-methyl at 245 g applied with the fungicide on the first occasion.
Barley: Ground chalk at 3140 kg. Weedkiller: Ioxynil octanoate, bromoxynil octanoate and the iso-octyl ester of dichlorprop ('Oxytril P' at 1.4 l in 225 l).

Cultivations, etc. (both fields):- Ploughed: 27 Oct, 1970.
Potatoes: Fertilisers applied: 6 Apr, 1971. Plots rotary cultivated, potatoes machine planted: 7 Apr. Weedkiller applied: 10 May. Grubbed: 5 June. Rotary ridged: 7 June. Fungicide plus insecticide applied: 24 June. Fungicide applied: 13 Aug. Sprayed with undiluted BOV at 168 l: 15 Sept. Lifted: 24 Sept. Variety: Majestic.
Barley: Chalk applied: 12 Oct, 1970. Treatment P fertilisers applied: 3 Mar, 1971. Seed combine drilled at 157 kg: 10 Mar. Weedkiller applied: 4 May. Combine harvested: 17 Aug. Variety: Julia.
Swedes: Treatment P and basal K applied: 21 Apr, 1970. N applied: 14 May. Seed drilled at 1.7 kg: 18 May. Singled: 28 June. Lifted: 20 Oct. Variety: Wilhelmsburger.

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Standard errors per plot.

Sawyers I:

Potatoes, total tubers, tonnes/hectare:	2.11 or 6.7% (11 d.f.)
Barley, grain, tonnes/hectare:	0.224 or 4.0% (11 d.f.)
Swedes, roots, tonnes/hectare:	2.30 or 10.4% (11 d.f.)

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SUMMARY OF RESULTS

POTATOES

Treat-ment	TOTAL TUBERS: TONNES/HECTARE Great Field IV	Sawyers I	% WARE: 3.81 CM (1.5 INCH) Great Field IV	Sawyers I
		(±1.49)		
0	27.9	23.6	96.6	97.3
A1	32.1	31.8	94.8	95.0
A2	34.3	36.9	94.3	93.1
A3	40.2	42.6	94.6	93.2
A4	46.3	42.3	93.4	93.6
T1	28.1	26.3	96.1	95.5
T2	31.7	28.0	93.8	93.6
R2	34.5	29.4	95.6	95.2
R3	29.5	31.0	93.0	93.6
R4	39.8	38.8	93.7	93.1
G1	28.9	23.8	94.8	95.5
S1	27.8	22.6	95.7	96.2
Mean	33.4	31.4	94.7	94.6

BARLEY

	GRAIN: TONNES/HECTARE		STRAW: TONNES/HECTARE	
		(±0.158)		
0	3.58	4.90	2.98	3.12
A1	4.72	5.70	4.54	3.71
A2	4.60	5.78	3.82	3.79
A3	4.56	5.95	4.01	4.08
A4	5.06	6.28	4.17	4.21
T1	3.94	5.62	3.98	3.69
T2	4.02	5.64	2.86	3.79
R2	4.47	5.41	3.48	3.26
R3	4.60	5.77	4.02	3.94
R4	4.40	5.87	3.67	4.18
G1	4.55	5.35	3.59	3.76
S1	3.09	5.19	3.54	3.56
Mean	4.30	5.62	3.72	3.76
Mean D.M.%:	82.4	83.8	83.8	87.2

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SWEDES, ROOTS: TONNES/HECTARE

Treat-ment	Great Field IV	Sawyers I
		(±1.63)
0	10.7	9.3
A1	22.0	23.5
A2	28.5	28.0
A3	30.6	27.4
A4	25.5	29.3
T1	19.1	19.0
T2	23.9	21.5
R2	23.8	21.5
R3	26.4	28.9
R4	30.7	28.7
G1	16.0	13.7
S1	13.4	15.5
Mean	22.5	22.2

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