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Yields of the Field Experiments 1960

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60/R/CF/2 and 60/W/CF/2 Potatoes - Forms and Levels of K

Rothamsted Research

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60/Cf/2.1

POTATOES

Forms and levels of K - Rothamsted (R) Sawyers I and Woburn (W)
Lansome Field 1960.

Design (each field): 4 blocks of 8 plots each with certain high order
interactions partially confounded with block differences.

Area of each plot: 0.0141 acres. Area harvested: (R) - 0.0071,
(W) - 0.0141 acres.

Treatments: No potash (2 plots per block) and all combinations of:-

Forms of K: Potassium bi-carbonate, KHCO_3 (C);
Potassium sulphate, K_2SO_4 (S);
Potassium chloride, KCl (M);

Levels of K: 1.25; 2.50 cwt K_2O per acre.

All the above in combination with:-

Levels of N: 0.75; 1.50 cwt N per acre as sulphate of ammonia.

Basal dressing (each field): 0.75 cwt P_2O_5 per acre as triple
superphosphate.

Cultivations, etc.:

Sawyers I (R): Ploughed: Nov 28, 1959. Ridged, fertilisers
applied: Apr 25, 1960. Potatoes hand planted: Apr 26.
Earthed up: June 21. Sprayed with zineb at 2 lb in 40 gallons
per acre: July 14. Sprayed with copper fungicide at 3 lb in
40 gallons per acre: July 25, and at 5 lb in 40 gallons per
acre: Aug 15. Sprayed with undiluted BOV at 15 gallons per
acre: Aug 31. Haulm destroyed mechanically: Sept 22.
Lifted: Oct 7. Variety: King Edward. Previous crop: Fallow.

Lansome Field (W): Ploughed twice: Sept 8, 1959 and Jan 7, 1960.
Ridged: Apr 28. Fertilisers applied, potatoes hand planted:
Apr 29. Earthed up: June 14. Sprayed with copper fungicide
at 5 lb in 40 gallons per acre: July 23 and Aug 8. Sprayed
with undiluted BOV at 15 gallons per acre: Sept 8. Lifted:
Sept 28. Variety: Majestic. Previous crop: Spring wheat.

Standard errors per plot. Total tubers tons per acre:

Sawyers I (R): 1.279 tons per acre or 9.5% (15 d.f.)
Lansome Field (W): 1.547 tons per acre or 10.5% (15 d.f.)

60/Cf/2.2

Summary of Results

Total tubers: tons per acre

	Form of K				Mean
	O	C	S	M	
<u>Sawyers I (R)</u>					
Mean (± 0.452)	10.96	14.09	14.11	14.60	13.44*
K ₂ O: cwt per acre					
1.25 (± 0.640)	-	13.66	13.74	15.22	14.21 (± 0.369)
2.50 (± 0.640)	-	14.52	14.48	13.99	14.33 (± 0.369)
Diff. (± 0.904)	-	+0.86	+0.74	-1.23	+0.12 (± 0.522)
N: cwt per acre					
0.75 (± 0.640)	10.21	13.32	13.29	14.71	12.88
1.50 (± 0.640)	11.70	14.86	14.92	14.50	13.99
Diff. (± 0.904)	+1.49	+1.54	+1.63	-0.21	+1.11 (± 0.452)
<u>Lansome Field (W)</u>					
Mean (± 0.547)	16.00	14.64	14.52	14.04	14.80*
K ₂ O: cwt per acre					
1.25 (± 0.774)	-	15.12	14.84	14.66	14.87 (± 0.447)
2.50 (± 0.774)	-	14.15	14.21	13.42	13.93 (± 0.447)
Diff. (± 1.094)	-	-0.97	-0.63	-1.24	-0.94 (± 0.632)
N: cwt per acre					
0.75 (± 0.774)	15.88	13.66	13.70	13.29	14.13
1.50 (± 0.774)	16.12	15.62	15.35	14.80	15.47
Diff. (± 1.094)	+0.24	+1.96	+1.65	+1.51	+1.34 (± 0.547)

*General mean

Forms of K

- O = No potash
- C = Potassium bi-carbonate, KHCO_3
- S = Potassium sulphate, K_2SO_4
- M = Potassium chloride, KCl

60/Cf/2.3

<u>Percentage ware</u>					
Form of K					
	O	O	S	M	Mean
<u>Sawyers I (R)</u>					
Mean	87.8	93.4	93.6	93.1	93.4
K ₂ O: cwt per acre					
1.25	-	92.5	92.8	93.8	93.0
2.50	-	94.4	94.4	92.4	93.7
Diff.	-	+1.9	+1.6	-1.4	+0.7
N: cwt per acre					
0.75	84.8	92.8	93.7	93.0	91.1
1.50	90.8	94.0	93.5	93.2	92.9
Diff.	+6.0	+1.2	-0.2	+0.2	+1.8
<u>Lansome Field (W)</u>					
Mean	96.2	94.8	95.4	95.6	95.3
K ₂ O: cwt per acre					
1.25	-	95.6	95.3	95.8	95.6
2.50	-	94.0	95.5	95.4	95.0
Diff.	-	-1.6	+0.2	-0.4	-0.6
N: cwt per acre					
0.75	96.0	94.2	94.7	95.1	95.0
1.50	96.4	95.4	96.0	96.1	96.0
Diff.	+0.4	+1.2	+1.3	+1.0	+1.0

Riddle size:

Sawyers I (R): $1\frac{1}{2}$ "

Lansome Field (W): $1\frac{5}{8}$ ".