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65/R/C/28 Rate of Action of P Fertilisers - Early Potatoes and Radishes

Rothamsted Research

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65/c/28.1

EARLY POTATOES FOLLOWED BY RADISHES

The rate of action of P fertilisers, Sawyers II 1965, the first year.

Design: 4 replicates of 7 x 2 x 2 plus 2 plots per block without P, 8 blocks of 16 plots.

Area of each plot.	Area harvested.
Potatoes: 0.0018	0.0009
Radishes: 0.0006	0.0003

Treatments: No P (0) (2 plots per block) and all combinations of:-

1. Phosphatic fertilisers:

Triple superphosphate	(S)
Potassium metaphosphate	(K)
Triple superphosphate plus potassium metaphosphate*	(SK)
Magnesium ammonium phosphate	(M)
Triple superphosphate plus magnesium ammonium phosphate*	(SM)
Potassium metaphosphate plus magnesium ammonium phosphate*	(KM)
Triple superphosphate plus potassium metaphosphate plus magnesium ammonium phosphate*	(SKM)

* Each material supplying half the P (one third in treatment SKM).

2. Levels of P: 24 lb (L1), 48 lb (L2) P.

3. Type of fertiliser: Powder, less than 1 mm. (P), granular 2-5 mm. (G).

All applied to potatoes with 'Nitro-Chalk', muriate of potash and kieserite in amounts adjusted to give a total of 100 lb N, 200 lb K and 50 lb Mg.

Basal applications: Ground chalk at 15 cwt. To radishes: 60 lb N and 50 lb K as (16:0:16).

Cultivations, etc.: Ploughed: Jan 11, 1964. Limed: Mar 3, 1965.

Potatoes: Fertilisers applied: Apr 5, 1965. Fertilisers rotary cultivated in, potatoes planted on the flat: Apr 6. Harvested: July 13. Variety: Arran Pilot.

Radishes: Basal NK applied and rotary cultivated in, seed drilled at 15 lb: July 19, 1965. Harvested: Sept 10. Variety: French Breakfast.

Previous crops: Spring wheat 1963 and 1964.

NOTE: The soil was sampled in December 1964 for P determination.

65/C/28.2

Standard errors per plot.

Potatoes, Total tubers: 1.134 or 12.2% (90 d.f.)

Radishes, Fresh weight: 1.511 or 13.2% (90 d.f.)

SUMMARY OF RESULTS

	O	S	K	SK	M	SM	KM	SKM	Mean
POTATOES: TOTAL TUBERS									
									(± 0.152)
Mean	6.02	11.26	9.44	10.93	8.09	9.65	8.87	9.91	9.27*
L1		10.07	8.50	9.80	7.51	8.38	8.12	9.06	8.78
L2		12.46	10.37	12.06	8.67	10.92	9.61	10.77	10.69
P		10.38	10.62	11.38	9.97	9.96	9.78	10.38	10.35
G		12.15	8.26	10.48	6.21	9.35	7.95	9.45	9.12

RADISHES: FRESH WT: TONS PER ACRE

									(± 0.202)
Mean	5.43	12.05	12.28	12.07	12.46	11.93	12.75	12.62	11.45*
L1		10.65	11.44	10.69	11.20	10.75	11.35	12.18	11.18
L2		13.46	13.11	13.45	13.73	13.10	14.15	13.07	13.44
P		11.80	11.27	11.37	12.46	11.41	11.64	12.87	11.83
G		12.30	13.28	12.77	12.47	12.44	13.85	12.38	12.78

* General mean