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71/R/P/11 Blight and Aphid Reference Plots - Potatoes

Rothamsted Research

Rothamsted Research (1972) *71/R/P/11 Blight and Aphid Reference Plots - Potatoes* ; Yields Of The Field Experiments 1971, pp 328 - 330 - DOI: <https://doi.org/10.23637/ERADOC-1-97>

71/R/P/11

POTATOES

BLIGHT AND APHID REFERENCE PLOTS

Object: To study the separate and combined effects of sprays to control blight and aphids on potatoes - Whittlocks.

Design: 4 randomised blocks of 5 plots, split into 3.

Whole plot dimensions: 8.53 x 9.53. Sub plot area harvested: 0.00271

Treatments:

Whole plots: Sprayed with blight fungicide, as treatment (F), plot used for sampling (no yields recorded) and all combinations of:-

1. Fungicide: None (O), sprayed on 2 occasions with mancozeb at 1.35 kg in 449 l (F).
2. Aphicide: None (O), sprayed with demeton-s-methyl at 245 g in 449 l (A).

Sub plots:

3. Varieties: King Edward (KE), Majestic (M), Pentland Crown (PC).

Basal applications: 1510 kg (13:13:20). Weedkiller: Linuron at 0.84 kg in 438 l.

Cultivations, etc.: Ploughed: 1 Oct, 1970. Basal NPK applied: 6 Apr, 1971. Plots rotary cultivated, potatoes machine planted: 19 Apr. Weedkiller applied: 11 May. Grubbed: 4 June. Rotary ridged: 7 June. Mancozeb treatment applied: 24 June. Demeton-s-methyl treatment applied: 25 June. Mancozeb treatment applied: 16 Aug. Haulm destroyed mechanically: 21 Sept. Lifted: 1 Oct. Previous crops: Spring wheat 1969, fallow 1970.

NOTE: Aphid counts were made and estimates made of the percentage of tubers blighted and of haulm destroyed by blight (*Phytophthora infestans*).

Standard errors per plot.

Total tubers, tonnes/hectare: Whole plot: 2.02 or 3.7% (9 d.f.)
Sub plot: 2.60 or 4.8% (24 d.f.)

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SUMMARY OF RESULTS

TOTAL TUBERS: TONNES/HECTARE

	O	A	KE	M	PC	Mean
	(± 1.01)		(1) and (2)			(± 0.71)
O	55.5	53.4	50.7	57.9	54.8	54.4
F	53.0	55.0	51.2	55.9	54.9	54.0
			(1) and (2)			(± 0.71)
		O	50.9	57.4	54.5	54.2
		A	51.0	56.4	55.2	54.2
Mean (± 0.65)			50.9	56.9	54.8	54.2

(1) (± 1.03) For use in vertical and diagonal comparisons only

(2) (± 0.92) For use in horizontal and interaction comparisons only

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% WARE: 3.81 CM (1.5 INCH) RIDDLE

	O	A	KE	M	PC	Mean
O	93.5	94.2	91.4	94.4	95.7	93.9
F	94.1	94.9	92.4	95.7	95.5	94.5
		O	91.8	94.5	95.2	93.8
		A	92.0	95.6	96.0	94.6
Mean			91.9	95.0	95.6	94.2