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72/R/P/3 Potatoes Blight and Aphid Reference Plots

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72/R/P/3

POTATOES

BLIGHT AND APHID REFERENCE PLOTS

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

Sponsors: J.M. Hirst, O.J. Stedman, R.W. Gibson.

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 (0), sprayed on 3 occasions with mancozeb at 1.3 kg in 440 l (3).
2. Aphicide (A): None (0), sprayed on 3 occasions with demeton-s-methyl at 0.25 kg in 440 l (3).

Sub plots:

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

Basal applications: 1510 kg (13:13:20). Weedkiller: Linuron at 0.8 kg and paraquat at 0.4 kg ion in 440 l.

Cultivations, etc.: Ploughed: 15 Oct, 1971. Basal NPK applied: 20 Apr, 1972. Rotary cultivated, machine planted: 24 Apr. Weedkiller applied: 17 May. Grubbed: 15 June. Ridged: 16 June. Mancozeb and demeton-s-methyl applied: 11 July, 24 July, 10 Aug. Sprayed with undiluted BOV at 200 l: 20 Sept. Lifted: 2 Oct. Previous crops: Barley 1970, fallow 1971.

NOTE: Aphid counts were made and estimates were 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: 1.53 or 3.7% (9 d.f.)
Sub plot: 4.26 or 10.3% (24 d.f.)

72/R/P/3

TABLES OF MEANS

TOTAL TUBERS: TONNES/HECTARE

FUNGICIDE	APHICIDE		VARIETY			Mean
	0	3	KE	M	PC	
0	40.6	40.7	43.0	41.2	37.8	40.7
3	42.1	42.4	41.9	45.8	39.0	42.2
		0	42.3	44.0	37.7	41.3
		3	42.5	43.0	39.1	41.6
Mean			42.4	43.5	38.4	41.5

STANDARD ERRORS OF DIFFERENCES

FUNGICIDE	APHICIDE	VARIETY	FUNGICIDE APHICIDE	FUNGICIDE VARIETY	APHICIDE VARIETY
0.77	0.77	1.51	1.08	1.90	1.90
Unless same levels of				2.13	
FUNGICIDE					2.13
APHICIDE					

72/R/P/3

PERCENTAGE WARE: 3.81 CM (1.5 INCH) RIDDLE

FUNGICIDE	APHICIDE		VARIETY			Mean
	0	3	KE	M	PC	
0	95.4	94.7	92.5	95.5	97.2	95.1
3	95.5	94.9	92.4	96.1	97.2	95.2
		0	93.0	96.0	97.4	95.4
		3	91.9	95.6	97.0	94.8
Mean			92.4	95.8	97.2	95.1