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73/R/P/2 - Blight Aphid Reference Plots - Potatoes

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73/R/P/2

POTATOES

BLIGHT AND APHID REFERENCE PLOTS

Object: To study the separate and combined effect of sprays to control blight and aphids on potatoes - Little Hoos.

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

Design: 4 randomised blocks of 7 plots split into 3.

Whole plot dimensions: 8.53 x 9.52. Sub plot area harvested: 0.00271.

Treatments: All combinations of:-

Whole plots:	1. Blight fungicide:	FUNGICIDE
	None	None
	Mancozeb applied on 3 occasions at 1.3 kg in 370 l	Mancozeb
	2. Aphicide:	APHICIDE
	None	None
	Demeton-s-methyl applied on 4 occasions, starting early, on 14 June, at 0.25 kg in 370 l	Demeton1
	Demeton-s-methyl applied on 3 occasions, starting with first blight spray on 3 July, at 0.25 kg in 370 l	Demeton2
Sub plots:	3. Varieties:	VARIETY
	King Edward	Edward
	Majestic	Majestic
	Pentland Crown	Crown

together with one extra treatment, sprayed mancozeb only and split for varieties as above, plot used for sampling (no yields recorded).

Basal applications: Manures: (13:13:20) at 1500 kg. Weedkillers: Linuron at 1.2 kg with paraquat at 0.4 kg ion in 450 l.

TB/R/P/2

Cultivations, etc.:— Deep-tine cultivated: 7 Aug, 1972, twice 22 Aug, once 11 Sept. NPK applied: 23 Mar, 1973. Rotary cultivated: 13 Apr. Seed planted: 16 Apr. Weedkiller applied: 15 May. Grubbed: 8 June. Insecticide applied to Donatoni plots: 14 June. Rotaridged: 15 June. Insecticide with fungicide applied: 3 and 24 July, 11 Aug. Sprayed with undiluted BOV at 220 l: 18 Sept. Lifted: 12 Oct. Previous crops: Barley 1971, grass 1972.

- NOTES: (1) Aphids were counted fortnightly during June and July.
(2) Samples were taken for bulking and size distribution of tubers on 18 June, 2, 16, 30 July, 13, 28 Aug, and 10 Sept.
(3) Estimates were made of the percentage of haulm destroyed by blight and of tubers blighted.

Standard errors per plot. Total tubers, tonnes/hectare:

Whole plot: 1.95 or 4.4% (15 d.f.)
Sub plot: 4.13 or 9.2% (36 d.f.)

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TABLES OF MEANS

TOTAL TREES: TONNES/HECTARE

FUNGICIDE	APHICIDE			VARIETY			Mean
	None	Daneton1	Daneton2	Edward	Majestic	Crown	
None	43.5	43.3	45.1	43.6	44.2	44.2	44.0
Mancozeb	46.4	44.4	45.7	45.3	45.0	46.2	45.5
	APHICIDE						
			None	44.0	45.6	44.2	44.9
			Daneton1	44.2	41.5	45.7	43.8
			Daneton2	44.2	46.6	45.5	45.4
Mean				44.4	44.6	45.2	44.7

FUNGICIDE	APHICIDE			VARIETY			FUNGICIDE		
	None	Daneton1		Daneton2			Edward	Majestic	Crown
VARIETY	Edward	Majestic	Crown	Edward	Majestic	Crown	Edward	Majestic	Crown
None	42.8	45.5	42.2	44.2	41.1	44.5	43.7	45.9	45.8
Mancozeb	47.0	45.8	46.3	44.2	42.0	47.0	44.7	47.3	45.2

STANDARD ERRORS OF DIFFERENCES

FUNGICIDE	APHICIDE	VARIETY	FUNGICIDE APHICIDE	FUNGICIDE VARIETY	APHICIDE VARIETY	FUNGICIDE APHICIDE VARIETY
0.80	0.98	1.19	1.38	1.59	1.95	2.75
Except when comparing means with same levels of						
				1.68		
					2.06	
						2.92

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PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

FUNGICIDE	APHICIDE			VARIETY			Mean
	None	Demeton1	Demeton2	Edward	Majestic	Crown	
None	97.6	97.5	97.9	97.4	97.8	97.7	97.6
Mancozeb	97.5	97.3	97.6	97.4	97.4	97.7	97.5
		APHICIDE					
		None		97.2	97.6	97.8	97.5
		Demeton1		97.4	96.9	97.9	97.4
		Demeton2		97.6	98.3	97.4	97.8
Mean				97.4	97.6	97.7	97.6

FUNGICIDE	APHICIDE			VARIETY			VARIETY			
	None	Demeton1		Demeton2			Edward	Majestic	Crown	
		Edward	Majestic	Crown	Edward	Majestic	Crown	Edward	Majestic	Crown
None	96.6	98.1	98.0	97.8	96.9	97.7	97.6	98.5	97.5	
Mancozeb	97.7	97.1	97.6	96.9	97.0	98.0	97.5	98.2	97.3	