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Yields of the Field Experiments 1973

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73/R/P/8 - Aphids & Top-roll - Potatoes

Rothamsted Research

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73/R/P/8

POTATOES

APHIDS AND TOP-ROLL

Object: To study the relationship between aphids and the appearance of top-roll in three potato varieties and to measure their effects on yields and quality of produce - Little Hoos.

Sponsor: R.W. Gibson.

Design: 4 randomised blocks of 9 plots.

Whole plot dimensions: 3.56 x 6.10. Area harvested: 0.00130.

Treatments: All combinations of:-

1. Aphid infestation	APHID
None, aphids controlled by insecticide - phorate at 1.7 kg applied as granules at planting	None
Natural colonisation (2 plots/block)	Natural
2. Varieties	VARIETY
King Edward	Edward
Majestic	Majestic
Pentland Crown	Crown

Basal applications: Manures: (13:13:20) at 1500 kg. Weedkillers: Linuron at 1.8 kg with paraquat at 0.8 kg ion in 430 l. Fungicide: Mancozeb at 1.3 kg in 430 l.

Cultivations, etc.:- Deep-tine cultivated: 7 Aug, 1972, twice 22 Aug, once 11 Sept. NPK applied: 23 Mar, 1973. Rotary cultivated: 16 Apr. Ridged and hand planted: 17 Apr. Rotoridged: 27 Apr. Weedkiller applied: 15 May. Fungicide applied 10, 25 July. Haulm mechanically destroyed: 17 Sept. Sprayed with undiluted BOV at 220 l: 18 Sept. Lifted: 12 Oct. Previous crops: Barley 1971, grass 1972.

NOTE: Aphid counts and assessments of top-roll were made at weekly intervals during June and July.

Standard error per plot.

Total tubers, tonnes/hectare: 2.56 or 5.1% (27 d.f.)

73/R/P/8

TABLES OF MEANS

TOTAL TUBERS: TONNES/HECTARE

	VARIETY			Mean
	Edward	Majestic	Crown	
APHID				
None	50.0	52.4	46.5	49.6
Natural	47.9	51.8	49.4	49.7
Mean	48.6	52.0	48.4	49.7

STANDARD ERRORS OF DIFFERENCES

	APHID	VARIETY	APHID VARIETY
APHID	0.90	1.04	
None			1.81
Natural			1.28
None v Natural			1.56

PERCENTAGE WARE 4.44 CM (1.75 INCH) RIDDLE

	VARIETY			Mean
	Edward	Majestic	Crown	
APHID				
None	83.6	82.8	94.9	87.1
Natural	81.0	82.0	93.1	85.4
Mean	81.9	82.3	93.7	85.9