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Numerical Results of the Field Experiments 1968

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68/DE/3 Effects of Stem Canker (*Rhizoctonia Solani*) - Potatoes

Rothamsted Research

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68/De/3.1

POTATOES

(RP 3/1)

Effects of stem-canker (*Rhizoctonia solani*) - Long Hoos I and II, 1968.

Design: 6 blocks of 2 plots split into 4.

Area of each plot: 0.0033. Area harvested: 0.0033.

Treatments: All combinations of:-

- Whole plots: 1. Varieties: King Edward (KE), Majestic (M).
Sub-plots: 2. Levels of seed infection (*Rhizoctonia solani*):
Clean (A), moderately infected (B), severely infected (C), unselected stock (D). B and C were assessed from sclerotia on skin.

Basal applications: 10 cwt (13:13:20) Weedkiller: Paraquat at 0.38 lb ion plus linuron at 0.75 lb in 36 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals on 3 occasions: Insecticide: Demeton-s-methyl at 3.5 oz applied with mancozeb on one occasion.

Cultivations, etc.: Deep-tine cultivated twice: 2 Oct, 1967.
Ploughed: 4 - 23 Jan, 1968. Basal NPK applied: 14 Mar.
Plots rotary cultivated, potatoes machine planted: 11 Apr.
Weedkiller applied: 4 May. Grubbed and rotary ridged: 17 Jun. Mancozeb applied: 4 July. Mancozeb and demeton-s-methyl applied: 19 July. Mancozeb applied: 5 Aug. Sprayed with undiluted BOV at 15 gals: 31 Aug. Lifted: 14 Oct.
Previous crops: Lucerne and cocksfoot 1966, fallow 1967.

NOTE: Emergence counts were made on 20 May and 13 June. A count of the number of plants infected with *Corticium solani* (the perfect stage of *Rhizoctonia solani*) was made on 22 July. After burning off and prior to lifting, counts were made of stem and plant number.

Standard errors per plot. Total tubers:

- Whole plot: 0.617 or 3.3% (5 d.f.)
Sub plot: 1.247 or 6.7% (30 d.f.)

68/De/3.2

SUMMARY OF RESULTS

	A	B	C	D	Mean
	TOTAL TUBERS				
	(1) and (2)				(± 0.252)
KE	21.32	19.19	19.92	21.09	20.38
M	16.70	17.00	16.48	16.73	16.73
Mean (± 0.360)	19.01	18.10	18.20	18.91	18.55

(1) ± 0.508 for use in vertical and diagonal comparisons(2) ± 0.509 for use in horizontal and interaction comparisons

	% WARE				
KE	95.8	96.1	96.0	95.6	95.9
M	98.0	97.5	97.4	98.3	97.8
Mean	96.9	96.8	96.7	97.0	96.8