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68/DE/5 Rothamsted and Woburn Commercial, Dipped and Healthy Stocks - Potatoes

Rothamsted Research

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68/De/5.1

POTATOES

(RP 5/1 and WP 3/1)

Commercial, dipped and healthy stocks - Rothamsted (R) Great Harpenden II and Woburn (W) Lansome III, 1968.

Design: 4 randomised blocks of 6 plots, split into 3.

Area of each sub plot: 0.0036. Area harvested: Rothamsted - 0.0036, Woburn - 0.0036.

Treatments: All combinations of:-

Whole plots: 1. Seed: Healthy (free from *Oospora* and *Rhizoctonia*) (O), healthy, reinfected with *Oospora* (CO), healthy, reinfected with *Rhizoctonia* (CR), once-grown, from Rothamsted farm (F), the same, dipped in fungicide (FD), stock seed (S).

Sub plots: 2. Varieties: King Edward (KE), Majestic (M), Pentland Dell (PD).

Basal applications:

Great Harpenden II (R): 3 tons ground chalk, 7 tons FYM, 8 cwt (13:13:20). Weedkiller: Paraquat at 0.5 lb ion plus linuron at 0.75 lb in 40 gals. Fungicide: Mancozeb at 1.2 lb in 40 gals on 3 occasions.

Lansome III (W): 10 cwt (13:13:20). Weedkiller: Paraquat at 0.38 lb ion plus linuron at 0.5 lb in 50 gals. Fungicide: Mancozeb at 1.2 lb in 38 gals on 3 occasions.

Cultivations, etc.:-

Great Harpenden II (R): FYM applied: 8 Dec, 1967. Ground chalk applied, plots ploughed: 20 Dec. Basal NPK compound applied: 20 Mar, 1968. Plots rotary cultivated, potatoes planted, plots rotary ridged: 22 Apr. Weedkiller applied: 6 May. Fungicide applied: 5 July, 22 July, 5 Aug. Sprayed with undiluted BOV at 15 gals: 5 Sept. Lifted: 16 Oct. Previous crops: Grass 1959 - 67.

Lansome III (W): Spring-tine cultivated: 11 Mar, 1968. Basal NPK compound applied: 16 Mar. Plots rotary cultivated, potatoes planted: 17 Apr. Grubbed: 25 Apr. Ridged: 26 Apr. Weedkiller

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applied: 3 May. Fungicide applied: 12 July, 18 July,
30 July. Sprayed with undiluted BOV at 15 gals: 16 Aug.
Lifted: 30 Sept. Previous crops: Spring wheat 1966,
fallow 1967.

NOTE: Emergence counts were made on 29 May on Lansome III (W)
and on 4 June on Great Harpenden II (R).

Standard errors per plot. Total tubers:

Great Harpenden I (R):	Whole plot: 1.107 or 6.0% (15 d.f.)
	Sub plot: 1.867 or 10.2% (36 d.f.)
Lansome III (W):	Whole plot: 1.157 or 8.2% (15 d.f.)
	Sub plot: 1.354 or 9.6% (36 d.f.)

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SUMMARY OF RESULTS

GREAT HARPENDEN II (R)

	O	CO	CR	F	FD	S	Mean
TOTAL TUBERS							
	(1) and (2)						(± 0.381)
KE	19.11	18.68	17.62	18.28	17.86	20.99	18.76
M	19.32	19.35	17.09	17.21	18.61	13.23	17.47
PD	18.85	19.15	18.46	18.72	18.41	20.00	18.93
Mean (± 0.554)	19.10	19.06	17.73	18.07	18.29	18.07	18.39

(1) (± 0.942) For use in horizontal and diagonal comparisons(2) (± 0.934) For use in vertical and interaction comparisons

	% WARE						
KE	96.9	98.3	96.7	97.1	96.1	97.7	97.1
M	98.3	98.9	98.6	98.9	97.9	98.0	98.4
PD	98.5	99.0	98.9	97.9	97.5	99.3	98.5
Mean	97.9	98.7	98.0	98.0	97.2	98.4	98.0

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LANSOME III (W)

	O	CO	CR	F	FD	S	Mean
TOTAL TUBERS							
	(1) and (2)						(±0.276)
KE	13.60	14.51	12.63	12.45	12.82	13.75	13.29
M	17.15	17.49	17.51	16.60	15.56	14.01	16.39
PD	13.07	13.10	13.03	12.87	11.74	12.24	12.68
Mean (±0.579)	14.60	15.03	14.39	13.98	13.38	13.33	14.12

- (1) (±0.800) For use in horizontal and diagonal comparisons
 (2) (±0.677) For use in vertical and interaction comparisons

% WARE

KE	56.5	65.0	55.6	59.6	57.3	73.5	61.2
M	84.1	85.5	86.0	85.9	79.1	87.6	84.7
PD	64.1	70.9	78.5	73.6	57.9	76.8	70.3
Mean	68.3	73.8	73.3	73.0	64.8	79.3	72.1