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Numerical Results of the Field Experiments 1969

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69/R&W/P/1 - Seed Stocks, Diseases & Fungicide - Potatoes

Rothamsted Research

Rothamsted Research (1970) *69/R&W/P/1 - Seed Stocks, Diseases & Fungicide - Potatoes ; Numerical Results Of The Field Experiments 1969*, pp 295 - 300 - DOI:

<https://doi.org/10.23637/ERADOC-1-96>

POTATOES

(69/R/P/1 and 69/W/P/1)

Seed stocks, diseases and fungicide Rothamsted (R), Great Knott III and Woburn (W), Workhouse 1969.

Design: 4 randomised blocks of 12 plots (11 for yield, one for sampling only), plots split into 4.

Area of each sub plot: 0.0036. Area harvested: 0.0036.

Treatments: All combinations of:-

Whole plots: 1. Seed stocks, diseases and fungicide:

F, FC, FCB, H, HC, HCB, HDE, HCOE, HCOL, HCRL, HCORL,

where F = Once grown seed from Rothamsted farm.

H = Healthy seed.

B = Seed treated with fungicide (Benomyl 10% dust and 10 lb per ton of seed).

C = Chitted seed.

O = Seed inoculated with Oospora.

R = Seed inoculated with Rhizoctonia.

E = Early inoculation.

L = Late inoculation.

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

Basal applications:-

Great Knott III (R): 10.5 cwt (13:13:20). Weedkiller: Paraquat at 0.375 lb ion plus linuron at 0.75 lb in 37 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals on 3 occasions. Insecticide: Demeton-s-methyl at 3.5 oz applied with second mancozeb spray.

Workhouse (W): 10 cwt (13:13:20). Weedkiller: Paraquat at 0.375 lb ion plus linuron at 0.5 lb in 25 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals on three occasions. Insecticide: Demeton-s-methyl at 3.5 oz applied with first mancozeb spray.

Cultivations, etc:-

Great Knott III (R): Rotary cultivated: 13 - 23 Sept, 1968, and 21 Oct. Ploughed: 30 Dec - 22 Jan, 1969. Basal NPK applied: 10 Apr. Rotary cultivated: 1 May. Potatoes planted: 2 May. Rotary ridged: 5 May. Weedkiller applied: 20 May. Fungicide applied: 16 July, 4 Aug, 21 Aug. Insecticide applied: 4 Aug. Sprayed with undiluted BOV at 15 gals: 26 Sept. Haulm destroyed mechanically: 2 Oct. Lifted: 7 Oct. Previous crops: Barley 1969, spring beans 1968.

Workhouse (W): Ploughed: 19 Nov, 1968. Basal NPK applied:
9 Apr, 1969. Rotary cultivated, potatoes planted: 30 Apr.
Rotary ridged: 9 May. Weedkiller applied: 15 May. Insecticide
applied: 18 July. Fungicide applied: 18 July, 7 Aug, 27 Aug.
Sprayed with undiluted BOV at 16 gals: 25 Sept. Lifted: 10 Oct.
Previous crops: Barley 1967, spring beans 1968.

NOTE: Samples were taken on 3 occasions for tuber weight and
numbers in different sizes. After harvest, estimates were
made of tuber infection with *Oospora*, *Rhizoctonia*,
Helminthosporium and *Phoma*.

Standard errors per plot. Total tubers, tons:

Great Knott III (R):	Whole plot:	1.008	or	6.2%	(30 d.f.)
	Sub plot:	0.937	or	5.7%	(99 d.f.)
Workhouse (W):	Whole plot:	1.224	or	6.6%	(29 d.f.)
	Sub plot:	1.219	or	6.6%	(95 d.f.)

SUMMARY OF RESULTS

GREAT KNOTT III (R)

TOTAL TUBERS: TONS

	KE	M	PC	PD	Mean
	(1) and (2)				(± 0.504)
F	13.79	15.64	14.08	13.46	14.24
FC	16.87	16.88	16.13	13.31	15.80
FCB	17.31	16.47	16.23	14.89	16.22
H	14.36	14.22	16.29	13.70	14.64
HC	17.34	16.94	18.93	15.43	17.16
HCB	17.20	17.80	17.46	15.84	17.08
HDE	15.78	15.21	16.78	14.56	15.58
HCOE	16.87	18.69	18.99	16.28	17.71
HCOL	17.47	16.47	18.71	14.61	16.82
HCRL	17.03	17.76	19.46	15.30	17.39
HCORL	17.89	16.63	18.71	14.39	16.90
Mean (± 0.141)	16.54	16.61	17.43	14.71	16.32

(1) (± 0.647) For use in vertical and diagonal comparisons only

(2) (± 0.468) For use in horizontal and interaction comparisons only

GREAT KNOTT III (R)

% WARE (1.7 IN. RIDDLE)

	KE	M	PC	PD	Mean
F	76.2	80.8	92.0	66.7	78.9
FC	79.1	88.9	92.1	88.9	87.3
FCB	72.2	85.0	92.2	86.0	83.8
H	77.2	84.6	91.5	81.5	83.7
HC	78.2	89.2	94.4	89.3	87.8
HCB	67.3	87.1	94.6	87.3	84.1
HOE	73.5	80.8	90.8	82.6	81.9
HCOE	77.0	89.5	94.3	87.2	87.0
HCOL	79.9	89.1	95.4	89.5	88.5
HCRL	79.9	89.1	93.9	88.3	87.8
HCORL	81.7	89.1	95.3	91.2	89.3
Mean	76.6	86.7	93.3	85.3	85.5

WORKHOUSE (W)
TOTAL TUBERS: TONS

	KE	M	PC	PD	Mean
	(1) and (2)				(±0.612)
F	15.72	18.68	15.54	15.15	16.27
FC	17.64	19.11	19.44	16.12	18.08
FCB	18.20	19.20	20.85	16.36	18.65
H	16.10	16.19	19.96	15.09	16.83
HC	18.24	19.50	22.55	17.63	19.48
HCB	17.32	19.69	22.05	16.49	18.89
HDE	17.14	17.98	21.96	16.17	18.31
HCOE	18.97	19.60	22.89	18.03	19.87
HCOL	17.73	19.76	22.63	17.14	19.31
HCRL	18.06	19.38	21.91	17.10	19.11
HCORL	17.60	19.33	21.85	17.85	19.16
Mean (±0.184)	17.52	18.95	21.06	16.65	18.84

(1) (±0.808) For use in vertical and diagonal comparisons only

(2) (±0.609) For use in horizontal and interaction comparisons only

WORKHOUSE (W)
% WARE (1.75 IN. RIDDLE)

	KE	M	PC	PD	Mean
F	79.6	85.4	92.5	81.5	84.8
FC	83.7	90.0	94.4	93.2	90.3
FCB	86.2	87.6	95.0	89.5	89.6
H	80.3	85.7	91.9	82.7	85.2
HC	83.2	89.7	94.5	91.7	89.8
HCB	82.5	89.6	94.2	89.2	88.9
HOE	78.0	85.0	90.7	84.4	84.5
HCOE	82.7	86.3	93.5	90.5	88.3
HCOL	83.8	90.0	95.3	92.0	90.3
HCRL	84.7	90.3	94.7	92.0	90.4
HCORL	84.9	90.2	94.8	92.6	90.6
Mean	82.7	88.2	93.8	89.0	88.4