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Yields of the Field Experiments 1972

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72/R/P/5 Potatoes Seed Sources

Rothamsted Research

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72/R/P/5

POTATOES

SEED SOURCES

Object: To compare stocks of seed freed from tuber-borne diseases by the use of stem cuttings, with local once-grown and bought-in certified stocks - Delafield.

Sponsors: J.M. Hirst, G.A. Hide, F. Bell.

Design: 2 randomised blocks of 2 plots, split into 24.

Whole plot dimensions: 5.69 x 73.2. Sub plot area harvested: 0.00135.

Treatments: All combinations of:-

Whole plots: 1. Varieties: King Edward (KE), Pentland Crown (PC).

Sub plots: 2. Seed sources:

Virus tested seed from Scotland

(duplicated plots) (1)

Seed once grown at Rothamsted from virus

tested seed from Scotland (duplicated plots) (2)

Certified seed from Scottish or Irish stocks (3-12)

Once grown (English) stocks (13-22)

Basal applications: 1500 kg (13:13:20). Weedkillers: Linuron at 0.84 kg plus paraquat at 0.42 kg ion in 440 l. Fungicide: Mancozeb at 1.3 kg in 440 l on 3 occasions. Insecticide: Demeton-s-methyl at 0.25 kg with the mancozeb on the second occasion.

Cultivations, etc.: Ploughed: 12 Oct, 1971. NPK applied: 20 Apr, 1972.

Rotary cultivated, potatoes machine planted: 21 Apr. Grubbed:

15 June. Earthed up: 16 June. Fungicide applied: 11 July,

24 July, 10 Aug. Insecticide applied: 24 July. Lifted: 2 Oct.

Previous crops: Barley 1970, fallow 1971.

NOTE: Emergence counts were made on May 22. Tubers were graded into 6 sizes and assessments made of Oospora, Rhizoctonia, Helminthosporium and Phoma infection.

Standard error per plot.

Total tubers, tonnes/hectare: Sub plot: 3.54 or 8.6% (50 d.f.)

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TABLES OF MEANS

TOTAL TUBERS: TONNES/HECTARE

VARIETY

SEED	KE	PC	Mean
1	44.8	42.2	43.5
2	46.7	39.7	43.2
3	42.6	38.4	40.5
4	42.1	40.4	41.2
5	39.0	41.7	40.3
6	42.6	35.5	39.1
7	43.8	34.6	39.2
8	41.7	39.4	40.5
9	43.7	36.5	40.1
10	45.3	41.4	43.4
11	41.5	38.8	40.2
12	42.2	45.2	43.7
13	37.8	40.7	39.3
14	40.6	34.2	37.4
15	41.5	39.3	40.4
16	42.1	38.3	40.2
17	42.1	44.0	43.1
18	43.2	37.3	40.2
19	41.8	42.5	42.1
20	36.8	44.4	40.6
21	46.8	41.3	44.1
22	41.0	41.7	41.3
Mean	42.5	40.0	41.3

STANDARD ERRORS OF DIFFERENCES

SEED

Between 3-22	2.50
1 or 2 v 3-22	2.17
1 v 2	1.77

VARIETY

SEED

Within the same	Between 3-22	3.54
VARIETY	1 or 2 v 3-22	3.07
	1 v 2	2.50

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PERCENTAGE WARE 4.44 CM (1.75 inch) RIDDLE

SEED	VARIETY		Mean
	KE	PC	
1	61.8	85.4	73.6
2	72.0	85.9	78.9
3	73.9	86.9	80.4
4	58.5	83.9	71.2
5	68.9	86.0	77.5
6	63.0	84.8	73.9
7	72.8	85.7	79.2
8	70.8	86.5	78.6
9	65.9	89.5	77.7
10	74.6	85.8	80.2
11	71.2	84.8	78.0
12	70.8	91.6	81.2
13	65.0	85.5	75.3
14	65.1	91.1	78.1
15	60.5	83.1	71.8
16	64.4	89.1	76.7
17	66.5	85.4	76.0
18	72.0	85.8	78.9
19	74.8	87.0	80.9
20	61.6	88.0	74.8
21	67.1	84.9	76.0
22	66.4	83.7	75.0
Mean	67.6	86.3	76.9