

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

## Yields of the Field Experiments 1975

[Full Table of Content](#)



---

### 75/ R/P/3 - Seed Sources - Potatoes

#### Rothamsted Research

Rothamsted Research (1976) 75/ R/P/3 - *Seed Sources - Potatoes* ; Yields Of The Field Experiments 1975, pp 361 - 364 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/R/P/3

POTATOES

SEED SOURCES

**Object:** To study yields and tuber-borne diseases of potato stocks freed from these diseases by the use of stem cuttings and to compare these with local once-grown and bought-in certified stocks. The effects of irrigation are also studied - Long Hoos I/II.

**Sponsors:** G.A. Hide, D.H. Lapwood, M.J. Adams.

**Design:** 2 randomised blocks of 2 plots, split into 24 (plus one extra plot for sampling).

**Whole plot dimensions:** 1.42 x 9.53.

**Treatments:** All combinations of:-

|   |               |
|---|---------------|
| Whole plots: 1. Irrigation:   | IRRIGUN       |
| None  | NONE          |
| Watered (total 216 mm)  | WATERED       |
| Sub plots: 2. Sources of King Edward seed tubers:                           | SEEDSRCE      |
| Healthy (ex Scotland VTSC), (2 plots/block)                                 | HEALTHY       |
| Healthier (once-grown at Rothamsted from ex Scotland VTSC), (2 plots/block) | HEALTHY+      |
| Four different commercial stocks (ex VTSC)                                  | COMM/1-COMM/4 |
| Eight different certified stocks (not ex VTSC)                              | CERT/1-CERT/8 |
| Eight different once-grown stocks ex Lincolnshire (not ex VTSC)             | OG/1-OG/8     |

**Basal applications: Manures:** (13:13:20) at 1510 kg. **Weedkillers:** Linuron at 1.1 kg plus paraquat at 0.42 kg ion in 450 l. **Fungicide:** Mancozeb at 1.3 kg with demeton-s-methyl on the second occasion. **Insecticide:** Demeton-s-methyl at 0.25 kg in 450 l on two occasions.

**Cultivations, etc.:-** Ploughed: 7 Jan, 1975. Spring-tine cultivated: 26 Apr. NPK applied: 1 May. Spring-tine cultivated, spiked rotary cultivated, potatoes machine planted: 5 May. Grubbed: 14 May. Rotary ridged: 22 May. Weedkiller applied: 30 May. Grubbed: 26 June. Insecticide applied: 27 June. Rotary ridged: 30 June. Insecticide and fungicide applied: 28 July. Irrigation applied: 76 mm on 18 July, 51 mm on 26 July and 19 Aug, 38 mm on 29 Aug. Haulm mechanically destroyed: 26 Sept. Sprayed with undiluted BOV at 170 l: 29 Sept. Lifted: 13 Oct. Previous crops: Barley 1973, beans 1974.

75/R/P/3

- NOTES: (1) Counts of plant and stem numbers were made before burning off.
- (2) Crop samples were taken on 10, 30 July, 18 August for assessment of rotting of mother tubers and infection of plants and of progeny tubers.
- (3) At harvest tubers were graded into 6 sizes and assessments made of *Cospora*, *Rhizoctonia*, *Helminthosporium* and *Phoma* infections.
- (4) One row of sub plots did not receive full irrigation and the yields have been adjusted by using covariates.

75/R/P/3

TOTAL TUBERS TONNES/HECTARE

\*\*\* TABLES OF MEANS \*\*\*

| IRRIGTN  | NONE | WATERED | MEAN |
|----------|------|---------|------|
| SEEDSRCE |      |         |      |
| HEALTHY  | 21.4 | 36.1    | 28.7 |
| HEALTHY+ | 19.6 | 35.8    | 27.7 |
| COMM/1   | 17.9 | 41.6    | 29.8 |
| COMM/2   | 18.0 | 42.9    | 30.5 |
| COMM/3   | 21.8 | 43.3    | 32.6 |
| COMM/4   | 18.0 | 40.7    | 29.3 |
| CERT/1   | 24.2 | 34.0    | 29.1 |
| CERT/2   | 15.6 | 35.8    | 25.7 |
| CERT/3   | 16.1 | 32.1    | 24.1 |
| CERT/4   | 15.0 | 31.6    | 23.3 |
| CERT/5   | 19.3 | 37.2    | 28.3 |
| CERT/6   | 17.8 | 29.1    | 23.4 |
| CERT/7   | 20.6 | 37.2    | 28.9 |
| CERT/8   | 18.0 | 37.0    | 27.5 |
| OG/1     | 21.2 | 37.4    | 29.3 |
| OG/2     | 16.5 | 32.4    | 24.4 |
| OG/3     | 16.0 | 29.4    | 22.7 |
| OG/4     | 14.5 | 36.2    | 25.4 |
| OG/5     | 17.6 | 34.7    | 26.1 |
| OG/6     | 14.2 | 34.9    | 24.6 |
| OG/7     | 12.6 | 31.4    | 22.0 |
| OG/8     | 13.2 | 30.1    | 21.7 |
| MEAN     | 17.9 | 35.5    | 26.7 |

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SEEDSRCE | SEEDSRCE*<br>IRRIGTN |
|-------|----------|----------------------|
| SED   | 3.36(1)  | 4.80(1)              |
|       | 2.91(2)  | 4.16(2)              |
|       | 2.37(3)  | 3.39(3)              |

(1) ANY OF REMAINDER

(2) THE REMAINDER V HEALTHY OR HEALTHY+

(3) HEALTHY V HEALTHY+

\* EXCEPT WHEN COMPARING MEANS WITH THE SAME LEVEL OF IRRIGTN

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM     | DF | SE   | CV%  |
|-------------|----|------|------|
| BLOCK.WP.SP | 49 | 4.70 | 17.6 |

75/R/P/3

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

\*\*\* TABLES OF MEANS \*\*\*

| IRRIGTN  | NONE | WATERED | MEAN |
|----------|------|---------|------|
| SEEDSRCE |      |         |      |
| HEALTHY  | 26.6 | 53.4    | 40.0 |
| HEALTHY+ | 33.5 | 52.9    | 43.2 |
| COMM/1   | 37.7 | 56.2    | 46.9 |
| COMM/2   | 30.2 | 59.0    | 44.6 |
| COMM/3   | 35.2 | 56.8    | 46.0 |
| COMM/4   | 23.0 | 51.6    | 37.3 |
| CERT/1   | 39.4 | 59.5    | 49.5 |
| CERT/2   | 27.5 | 47.8    | 37.6 |
| CERT/3   | 33.4 | 46.9    | 40.2 |
| CERT/4   | 28.4 | 40.2    | 34.3 |
| CERT/5   | 36.1 | 50.3    | 43.2 |
| CERT/6   | 38.3 | 52.8    | 45.5 |
| CERT/7   | 47.7 | 60.2    | 53.9 |
| CERT/8   | 41.6 | 62.7    | 52.1 |
| OG/1     | 35.7 | 60.2    | 48.0 |
| OG/2     | 27.2 | 53.6    | 40.4 |
| OG/3     | 29.8 | 46.5    | 38.2 |
| OG/4     | 28.1 | 50.9    | 39.5 |
| OG/5     | 41.0 | 56.2    | 48.6 |
| OG/6     | 31.7 | 56.8    | 44.2 |
| OG/7     | 29.9 | 50.4    | 40.2 |
| OG/8     | 31.7 | 46.7    | 39.2 |
| MEAN     | 33.1 | 53.3    | 43.2 |

PLOT AREA HARVESTED 0.00135