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Yields of the Field Experiments 1980

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Her Majesty's Stationery Office
LONDON
Printed in Great Britain
1981

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80/R/P/7 Potatoes Varieties and Times of Applying Fungicides

Rothamsted Research

Rothamsted Research (1981) *80/R/P/7 Potatoes Varieties and Times of Applying Fungicides ; Yields Of The Field Experiments 1980*, pp 333 - 334 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/R/P/7

POTATOES

VARIETIES AND TIMES OF APPLYING FUNGICIDES

Object: To study the effects of two times of applying two fungicides to seed tubers of three varieties on the yield and infection of progeny tubers and on disease incidence on the stored produce - Sawyers II.

Sponsors: G.A. Hide, G.R. Cayley.

Design: 4 randomised blocks of 15 plots.

Whole plot dimensions: 1.42 x 9.53.

Treatments: All combinations of:-

- | | |
|--------------|--|
| 1. FUNGICIDE | Fungicides and times of application: |
| NONE | None |
| IMAZ L | Imazalil at lifting in 1979 |
| IMAZ L+B | Imazalil at lifting in 1979 and at boxing |
| THIA L | Thiabendazole at lifting in 1979 |
| THIA L+B | Thiabendazole at lifting in 1979 and at boxing |
| 2. VARIETY | Varieties: |
| CROWN | Pentland Crown |
| DESIREE | Desiree |
| EDWARD | King Edward |

- NOTES: (1) Lifting treatments were applied on the following dates: Pentland Crown 22 Oct, 1979, Desiree 12 Sept, King Edward 13 Sept. Boxing treatments were all done on 13 Feb 1980.
- (2) Fungicides were applied at 18 g per tonne of seed by dipping tubers in a 0.2% solution for five minutes.

Basal applications: Manures: Chalk at 7.5 t. (0:20:20) at 1260 kg. FYM at 25 t. Epsom salts at 145 kg mixed with kieserite at 145 kg. (13:13:20) at 1510 kg. Weedkillers: Linuron at 1.1 kg in 250 l. Fungicide: Mancozeb at 1.3 kg in 250 l applied six times, with insecticide on the third and fourth occasions. Insecticide: Pirimicarb at 0.14 kg. Desiccant: BOV at 170 l.

Cultivations, etc.: - Heavy spring-tine cultivated: 17 Sept, 1979. Chalk applied: 9 Oct. Subsoiled with tines 160 cm apart and 40 cm deep: 1 Nov. PK applied: 13 Nov. FYM applied 21 Dec. Epsom salts and kieserite applied: 31 Dec. Ploughed: 8 Jan, 1980. Heavy spring-tine cultivated: 14 Apr. NPK applied, spike rotary cultivated, ridged: 15 Apr. Hand planted, ridges split back: 16 Apr. Grubbed: 24 Apr. Rotary ridged: 28 Apr. Weedkillers applied: 18 May. Fungicide applied: 18 June, 30 June, 11 July, 24 July, 5 Aug, 18 Aug. Insecticide applied: 11 July, 24 July. Desiccant applied: 19 Sept. Lifted: 3 Oct. Previous crops: W. oats 1978, w. wheat 1979.

NOTE: Emergence counts were made in late May, and plant and stem counts before harvest. Disease assessments were made on harvested produce.

80/R/P/7

TOTAL TUBERS TONNES/HECTARE

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

| VARIETY FUNGCIDE | CROWN | DESIREE | EDWARD | MEAN |
|---------------------|-------|---------|--------|------|
| NONE | 70.8 | 62.8 | 59.3 | 64.3 |
| IMAZ L | 69.4 | 59.4 | 60.2 | 63.0 |
| IMAZ L+B | 60.0 | 61.9 | 54.4 | 58.8 |
| THIA L | 69.3 | 59.6 | 59.7 | 62.9 |
| THIA L+B | 72.2 | 63.0 | 58.6 | 64.6 |
| MEAN | 68.3 | 61.3 | 58.4 | 62.7 |

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

| TABLE | FUNGCIDE | VARIETY | FUNGCIDE VARIETY |
|-------|----------|---------|---------------------|
| ----- | ----- | ----- | ----- |
| SED | 1.62 | 1.25 | 2.80 |

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

| STRATUM | DF | SE | CV% |
|----------|----|------|-----|
| BLOCK.WP | 42 | 3.96 | 6.3 |

PERCENTAGE WARE 4.44CM (1.75 INCH) RIDDLE

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

| VARIETY FUNGCIDE | CROWN | DESIREE | EDWARD | MEAN |
|---------------------|-------|---------|--------|------|
| NONE | 89.0 | 90.3 | 84.4 | 87.9 |
| IMAZ L | 89.7 | 92.3 | 81.1 | 87.7 |
| IMAZ L+B | 89.4 | 90.7 | 82.3 | 87.5 |
| THIA L | 87.0 | 88.6 | 81.0 | 85.5 |
| THIA L+B | 87.7 | 90.7 | 80.8 | 86.4 |
| MEAN | 88.6 | 90.5 | 81.9 | 87.0 |

PLOT AREA HARVESTED 0.00135