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# Yields of the Field Experiments 1973

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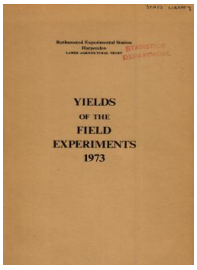


## 73/R/P/2 - Blight Aphid Reference Plots - Potatoes

### Rothamsted Research

Rothamsted Research (1974) *73/R/P/2 - Blight Aphid Reference Plots - Potatoes ;* Yields Of The Field Experiments 1973, pp 374 - 377 **- DOI: https://doi.org/10.23637/ERADOC-1-98**

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73/R/P/2

POTATOES

BLIGHT AND APHID REFERENCE PLOTS

Object: To study the separate and combined effect of sprays to control blight and aphids on potatoes - Little Hoos.

Sponsors: J.M. Hirst, O.J. Stedman, R.W. Gibson.

Design: 4 randomised blocks of 7 plots split into 3.

Whole plot dimensions: 8.53 x 9.52. Sub plot area harvested: 0.00271.

Treatments: All combinations of:-

| | | | |
|---|---|---|---|
| Whole plots: | 1. | Blight fungicide: | FUNGCIDE |
| | | None | None |
| | | Mancozeb applied on 3 occasions at 1.3 kg in 370 l | Mancozeb |
| | 2. | Aphicide: | APHICIDE |
| | | None | None |
| | | Demeton-s-methyl applied on 4 occasions, starting early, on 14 June, at 0.25 kg in 370 l | Demeton1 |
| | | Demeton-s-methyl applied on 3 occasions, starting with first blight spray on 3 July, at 0.25 kg in 370 l | Demeton2 |
| Sub plots: | 3. | Varieties: | VARIETY |
| | | King Edward | Edward |
| | | Majestic | Majestic |
| | | Pentland Crown | Crown |

together with one extra treatment, sprayed mancozeb only and split for varieties as above, plot used for sampling (no yields recorded).

Basal applications: Manures: (13:13:20) at 1500 kg. Weedkillers: Linuron at 1.2 kg with paraquat at 0.4 kg ion in 450 l.



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Cultivations, etc.:- Deep-tine cultivated: 7 Aug, 1972, twice 22 Aug, once 11 Sept. NPK applied: 23 Mar, 1973. Rotary cultivated: 13 Apr. Seed planted: 16 Apr. Weedkiller applied: 15 May. Grubbed: 8 June. Insecticide applied to Demetoul plots: 14 June. Rotoridged: 15 June. Insecticide with fungicide applied: 3 and 24 July, 11 Aug. Sprayed with undiluted EDV at 220 l.: 18 Sept. Lifted: 12 Oct. Previous crops: Barley 1971, grass 1972.

NOTES: (1) Aphids were counted fortnightly during June and July.
(2) Samples were taken for bulking and size distribution of tubers on 18 June, 2, 16, 30 July, 13, 28 Aug, and 10 Sept.
(3) Estimates were made of the percentage of haulm destroyed by blight and of tubers blighted.

Standard errors per plot. Total tubers, tonnes/hectare:
Whole plot: 1.95 or 4.4% (15 d.f.)
Sub plot: 4.13 or 9.2% (36 d.f.)



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TABLES OF MEANS

TOTAL TUBERS: TONNES/HECTARE

| | APHICIDE None | Demeton1 | Demeton2 | VARIETY Edward | Majestic | Crown | Mean |
|---|---|---|---|---|---|---|---|
| FUNGCIDE | | | | | | | |
| None | 43.5 | 43.3 | 45.1 | 43.6 | 44.2 | 44.2 | 44.0 |
| Mancozeb | 46.4 | 44.4 | 45.7 | 45.3 | 45.0 | 46.2 | 45.5 |
| | | | APHICIDE | | | | |
| | | | None | 44.9 | 45.6 | 44.2 | 44.9 |
| | | | Demeton1 | 44.2 | 41.5 | 45.7 | 43.8 |
| | | | Demeton2 | 44.2 | 46.6 | 45.5 | 45.4 |
| Mean | | | | 44.4 | 44.6 | 45.2 | 44.7 |

| APHICIDE | None | | | Demeton1 | | | Demeton2 | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIETY | Edward | Majestic | Crown | Edward | Majestic | Crown | Edward | Majestic | Crown |
| FUNGCIDE | | | | | | | | | |
| None | 42.8 | 45.5 | 42.2 | 44.2 | 41.1 | 44.5 | 43.7 | 45.9 | 45.8 |
| Mancozeb | 47.0 | 45.8 | 46.3 | 44.2 | 42.0 | 47.0 | 44.7 | 47.3 | 45.2 |

STANDARD ERRORS OF DIFFERENCES

| FUNGCIDE | APHICIDE | VARIETY | FUNGCIDE APHICIDE | FUNGCIDE VARIETY | APHICIDE VARIETY | FUNGCIDE APHICIDE VARIETY |
|---|---|---|---|---|---|---|
| 0.80 | 0.98 | 1.19 | 1.38 | 1.59 | 1.95 | 2.75 |
| Except when comparing means with some levels of | | | | | | |
| FUNGCIDE | | | | 1.68 | | |
| APHICIDE | | | | | 2.06 | |
| FUNGCIDE.APHICIDE | | | | | | 2.92 |



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73/R/P/2

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

| | APHICIDE None | Demeton1 | Demeton2 | VARIETY Edward | Majestic | Crown | Mean |
|---|---|---|---|---|---|---|---|
| FUNGCIDE | | | | | | | |
| None | 97.6 | 97.5 | 97.9 | 97.4 | 97.8 | 97.7 | 97.6 |
| Mancozeb | 97.5 | 97.3 | 97.6 | 97.4 | 97.4 | 97.7 | 97.5 |
| | | | APHICIDE | | | | |
| | | | None | 97.2 | 97.6 | 97.8 | 97.5 |
| | | | Demeton1 | 97.4 | 96.9 | 97.9 | 97.4 |
| | | | Demeton2 | 97.6 | 98.3 | 97.4 | 97.8 |
| Mean | | | | 97.4 | 97.6 | 97.7 | 97.6 |

| APHICIDE | None | | | Demeton1 | | | Demeton2 | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIETY | Edward | Majestic | Crown | Edward | Majestic | Crown | Edward | Majestic | Crown |
| FUNGCIDE | | | | | | | | | |
| None | 96.6 | 98.1 | 98.0 | 97.8 | 96.9 | 97.7 | 97.6 | 98.5 | 97.5 |
| Mancozeb | 97.7 | 97.1 | 97.6 | 96.9 | 97.0 | 98.0 | 97.5 | 98.2 | 97.3 |



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