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81/R/P/3 Seed Treatment and Tuber Size - Potatoes

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81/R/P/3

POTATOES

SEED TREATMENT AND TUBER SIZE

Object: To study the effects of seed treatment with thiabendazole and times of boxing on stem numbers, tuber numbers and size and on the yield of potatoes - Highfield VI.

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

Design: 4 randomised blocks of 11 plots.

Whole plot dimensions: 3 x 9.53.

Treatments: All combinations of:-

- | | |
|--------------|--|
| 1. FUNGICIDE | Fungicide: |
| NONE | None |
| THIABEND | Thiabendazole at lifting on 16 October, 1980 |
| 2. BOX TIME | Times of boxing seed: |
| NONE | Not boxed |
| OCTOBER | At lifting on 16 October |
| DECEMBER | 11 December |
| FEBRUARY | 10 February, 1981 |

plus three extra treatments:

EXTRA

- | | |
|-------|---|
| TD BD | Seed treated thiabendazole at boxing in December |
| TF BF | Seed treated thiabendazole at boxing in February |
| TA O | Seed treated thiabendazole on 21 April. Not boxed |

- NOTES: (1) Fungicide was applied by immersing tubers for five minutes in a solution containing 0.1% thiabendazole.
(2) Winter beans were sown on the site in Sept, 1980 but had failed by April 1981 and were replaced by potatoes.

Basal applications: Manures: Chalk at 7.5 t. Muriate of potash at 830 kg, 'Nitro-Chalk' at 750 kg, (0:20:20) at 1460 kg, magnesium sulphate at 900 kg. Weedkillers: Trietazine at 1.2 kg with simazine at 0.17 kg in 250 l. Linuron at 1.1 kg with paraquat at 0.4 kg ion in 250 l. Fungicide: Mancozeb at 1.4 kg in 250 l applied six times, with the insecticide on the first five occasions. Insecticide: Pirimicarb at 0.14 kg. Desiccant: BOV at 170 l.

Seed: King Edward.

Cultivations, etc.: Chalk applied: 19 Sept, 1980. K applied: 22 Sept. Ploughed: 24 Sept. Disc harrowed, heavy spring-tine cultivated: 27 Sept. Rotary harrowed, beans sown: 29 Sept. Trietazine and simazine applied: 30 Sept. Heavy spring-tine cultivated twice: 15 Apr, 1981. N, PK, and Mg applied: 23 Apr. Chisel ploughed: 24 Apr. Rotary harrowed, ridged, hand planted, split back: 7 May. Linuron and paraquat applied:

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21 May. Fungicide applied, with insecticide on the first five occasions: 22 June, 1 July, 13 July, 27 July, 11 Aug, 24 Aug. Desiccant applied: 25 Sept. Remaining haulm mechanically destroyed: 7 Oct. Lifted: 12 Oct. Previous crops: W. wheat 1979, s. wheat 1980.

NOTE: Stem and plant counts were made before harvest.

TOTAL TUBERS TONNES/HECTARE

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

BOX TIME FUNGICIDE	NONE	OCTOBER	DECEMBER	FEBRUARY	MEAN
NONE	43.5	58.5	60.5	60.0	55.6
THIABEND	48.7	59.3	59.0	60.5	56.9
MEAN	46.1	58.9	59.8	60.3	56.3
EXTRA	TD BD 58.6	TF BF 59.7	TA 0 50.7	MEAN 56.3	

GRAND MEAN 56.3

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

TABLE	EXTRA	FUNGICIDE	BOX TIME	FUNGICIDE BOX TIME & EXTRA
SED	3.12	1.56	2.21	3.12

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

STRATUM	DF	SE	CV%
BLOCK.WP	30	4.41	7.8

PERCENTAGE WARE 4.44 CM (1.75 INCH) RIDDLE

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

BOX TIME FUNGICIDE	NONE	OCTOBER	DECEMBER	FEBRUARY	MEAN
NONE	75.5	76.2	74.7	78.5	76.2
THIABEND	73.2	74.0	74.8	73.2	73.8
MEAN	74.4	75.1	74.7	75.8	75.0
EXTRA	TD BD 67.8	TF BF 70.9	TA 0 73.4	MEAN 70.7	

GRAND MEAN 73.8

PLOT AREA HARVESTED 0.00143