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81/W/P/1 Varieties and Potato Cyst-nematode - Potatoes

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81/W/P/1

POTATOES

VARIETIES AND POTATO CYST-NEMATODE

Object: To study the effects of oxamyl on control of potato cyst-nematode and on growth and yield of ten potato varieties having a range of resistance to the nematode - Woburn, Horsepool.

Sponsors: A.G. Whitehead, K. Evans.

Design: 3 randomised blocks of 20 plots.

Whole plot dimensions: 2.84 x 6.10.

Treatments: All combinations of:-

- | | |
|------------|----------------|
| 1. VARIETY | Varieties: |
| ANCHOR | Maris Anchor |
| BANNER | Arran Banner |
| CARA | Cara |
| CROFT | Croft |
| CROWN | Pentland Crown |
| DELL | Pentland Dell |
| DESIREE | Desiree |
| PEER | Maris Peer |
| PIPER | Maris Piper |
| RECORD | Record |
| 2. OXAMYL | Oxamyl (kg): |
| | 0.0 |
| | 5.6 |

Basal applications: Manures: Magnesian limestone at 7.5 t, FYM at 25 t, (10:10:15 + 4.5 Mg) at 2510 kg. Weedkillers: Linuron at 1.1 l with paraquat at 0.28 kg ion in 280 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.

Cultivations, etc.:- Magnesian limestone applied: 3 Nov, 1980. FYM applied: 5 Dec. Ploughed: 11 Dec. NPK applied: 22 Apr, 1981. Oxamyl applied, rotary cultivated: 30 Apr. Potatoes planted: 1 May. Weedkillers applied: 22 May. Grubbed: 15 June. Rotary ridged: 16 June. Fungicide applied, with insecticide on the first five occasions: 22 June, 2 July, 14 July, 28 July, 11 Aug, 27 Aug. Haulm mechanically destroyed: 22 Sept. Lifted: 12 Oct. Previous crops: Potatoes 1979 and 1980.

NOTE: Soil samples were taken before applying treatments and after harvest for counts of cysts, eggs and larvae of *Globodera rostochiensis*.

81/W/P/1

TOTAL TUBERS TONNES/HECTARE

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

OXAMYL VARIETY	0.0	5.6	MEAN
ANCHOR	5.1	30.4	17.7
BANNER	9.9	47.7	28.8
CARA	42.3	60.2	51.2
CROFT	8.7	46.4	27.6
CROWN	20.4	60.5	40.5
DELL	7.0	46.8	26.9
DESIREE	12.2	56.8	34.5
PEER	7.3	36.0	21.7
PIPER	41.7	56.1	48.9
RECORD	9.5	49.3	29.4
MEAN	16.4	49.0	32.7

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

TABLE	VARIETY	OXAMYL	VARIETY OXAMYL
SED	3.38	1.51	4.78

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

STRATUM	DF	SE	CV%
BLOCK.WP	38	5.86	17.9

PERCENTAGE WARE 3.81 CM (1.5 INCH) MIDDLE

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

OXAMYL VARIETY	0.0	5.6	MEAN
ANCHOR	91.4	93.9	92.7
BANNER	75.4	94.7	85.0
CARA	97.7	97.1	97.4
CROFT	80.9	94.4	87.6
CROWN	94.0	97.8	95.9
DELL	55.6	94.4	75.0
DESIREE	85.1	97.6	91.3
PEER	68.5	94.2	81.4
PIPER	96.9	94.1	95.5
RECORD	68.3	95.2	81.8
MEAN	81.4	95.3	88.4

PLOT AREA HARVESTED 0.00087