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78/W/P/4 Oxamyl Sprays Against Pcn - Potatoes

Rothamsted Research

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78/W/P/4

POTATOES

OXAMYL SPRAYS AGAINST PCN

Object: To study the effects of a range of rates and times of applying foliar sprays of oxamyl on the control of potato cyst-nematode (PCN) and on the yield of potatoes - Butt Close I.

Sponsor: A.G. Whitehead.

Design: 2 randomised blocks of 14 plots.

Whole plot dimensions: 2.84 x 9.14.

Treatments: All combinations of:-

1. OX RATE Rates of applying oxamyl on each spraying occasion (kg):

1
2
4

2. OX FREQ Frequency of applying oxamyl

2 Twice (20 June and 5 July)
4 Four times (20 June, 5 July, 19 July and 9 Aug)
6 Six times (duplicated) (20 June, 5 July, 19 July, 9 Aug, 22 Aug and 7 Sept)

EXTRA Plus one extra treatment not given oxamyl

NONE None (duplicated)

NOTES: (1) The first spray on 1 June was applied at a quarter of the intended rate.

(2) The site of this experiment was sown to winter wheat given (10:24:24) at 250 kg, combine drilled. The crop failed and was ploughed up for potatoes.

Basal applications: Manures: (13:13:20) at 1870 kg. Weedkillers: Linuron at 1.3 kg plus paraquat at 0.42 kg ion in 280 l. Fungicide: Fentin acetate with maneb ('Fennite A' at 1.7 kg in 280 l). Haulm desiccant: Undiluted BOV at 170 l.

Seed: Pentland Crown.

Cultivations, etc.: - Ploughed: 4 Nov, 1977. Spring-tine cultivated with crumbler attached, winter wheat sown: 15 Nov. Ploughed: 6 Mar, 1978. NPK applied, deep-tine cultivated: 5 Apr. Rotary cultivated, ridged up, potatoes planted: 21 Apr. Weedkillers applied: 18 May. Grubbed, earthed up: 9 June. Hand hoed: 27 July. Fungicide applied: 23 Aug. Haulm desiccant applied: 23 Sept. Lifted: 2 Oct.

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

78/W/P/4

TOTAL TUBERS TONNES/HECTARE

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

OX FREQ OX RATE	2	4	6	MEAN
1	18.1	24.4	27.9	24.6
2	26.9	29.2	28.0	28.0
4	24.3	19.3	25.1	23.5
MEAN	23.1	24.3	27.0	25.3

EXTRA NONE 24.6

GRAND MEAN 25.2

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

TABLE	OX RATE	OX FREQ	OX RATE OX FREQ & EXTRA NONE	
SED		3.04	5.28	MIN REP
	2.64	2.64	4.58	MAX-MIN
			3.74	MAX REP

OX FREQ
MAX-MIN 6 OR EXTRA NONE V ANY OF REMAINDER
MIN REP ANY OF REMAINDER
MAX REP 6 ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP	17	5.28	20.9

PERCENTAGE WARE 3.81CM (1.5 INCH) RIDDLE

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

OX FREQ OX RATE	2	4	6	MEAN
1	91.9	89.3	89.9	90.2
2	87.8	91.8	87.8	88.8
4	89.4	92.0	91.6	91.1
MEAN	89.7	91.1	89.7	90.1

EXTRA NONE 89.2

GRAND MEAN 89.9

PLOT AREA HARVESTED 0.00130