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86/W/P/3 Control of *Globodera Pallida* - Potatoes

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86/W/P/3

POTATOES

CONTROL OF GLOBODERA PALLIDA

Object: To study the effects of varieties and nematicides on numbers of *Globodera pallida* and on the yield of potatoes - Far Field II.

Sponsor: A.G. Whitehead.

Design: 3 randomised blocks of 32 plots.

Whole plot dimensions: 3.0 x 4.57.

Treatments: All combinations of:-

1. VARIETY	Varieties:
12290 AF	12290 AF20
A 25/11	A 25/11
CARA	Cara
CROMWELL	Cromwell
DESIREE	Desiree
DIANA	Diana
HEATHER	Heather
KIRSTY	Kirsty
MARFONA	Marfona
MORAG	Morag
PIPER	Maris Piper
ROMANO	Romano
SANTE	Sante
ZB 35/29	ZB 35/29

2. OXAMYL Oxamyl (kg):

0.0
5.6

plus four extra treatments:

VAR NEM	Varieties and nematicides:
CARA ALD	Cara with slow-release aldicarb at 5.6 kg
CARA CAR	Cara with carbofuran at 5.6 kg
PIPR ALD	Maris Piper with slow-release aldicarb at 5.6 kg
PIPR CAR	Maris Piper with carbofuran at 5.6 kg

Basal applications: Manures: (10:10:15+4.5 Mg) at 2330 kg. Weedkillers: Paraquat at 0.40 kg ion with linuron at 0.80 kg in 250 l. Fungicides: Mancozeb at 1.4 kg on two occasions in 240 l and applied with the insecticide on two occasions in 200 l. Fentin hydroxide at 0.28 kg applied with the insecticide in 200 l. Insecticide: Pirimicarb at 0.14 kg on three occasions. Desiccant: Diquat at 0.42 kg ion in 250 l.

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Cultivations, etc.:— Spring-tine cultivated: 29 Oct, 1985. Deep-tine cultivated: 28 Jan, 1986. NPK Mg applied: 29 Apr. Heavy spring-tine cultivated: 6 May. Nematicides applied: 7 May. Rotary cultivated and planted: 8 May. Rotary ridged, weedkillers applied: 29 May. Mancozeb applied: 1 July, 14 July. Mancozeb applied with the insecticide: 28 July, 13 Aug. Fentin hydroxide applied with the insecticide: 30 Aug. Haulm mechanically destroyed: 29 Sept. Desiccant applied: 9 Oct. Lifted: 22 Oct. Previous crops: W. and S. barley 1984, potatoes 1985.

NOTE: Soil samples were taken before nematicides were applied and after harvest for cyst and egg counts of *G. pallida*.

TOTAL TUBERS TONNES/HECTARE

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

OXAMYL VARIETY	0.0	5.6	MEAN
12290 AF	55.0	71.3	63.2
A 25/11	54.8	57.1	56.0
CARA	53.0	50.5	51.8
CROMWELL	56.0	60.9	58.5
DESIREE	46.1	48.2	47.1
DIANA	59.3	66.9	63.1
HEATHER	60.7	63.1	61.9
KIRSTY	45.6	40.4	43.0
MARFONA	72.6	72.6	72.6
MORAG	59.4	58.2	58.8
PIPER	56.1	55.0	55.6
ROMANO	47.0	51.1	49.0
SANTE	53.3	60.4	56.9
ZB 35/29	50.8	56.7	53.7
MEAN	55.0	58.0	56.5

VAR NEM	CARA ALD	CARA CAR	PIPR ALD	PIPR CAR	MEAN
	43.6	44.2	58.8	58.6	51.3

GRAND MEAN 55.9

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

TABLE	VAR NEM	VARIETY	OXAMYL	VARIETY OXAMYL
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SED	4.14	2.93	1.11	4.14

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

STRATUM	DF	SE	CV%
BLOCK.WP	62	5.07	9.1

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PERCENTAGE WARE 4CM (1.57 INCH) RIDDLE

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

OXAMYL VARIETY	0.0	5.6	MEAN
12290 AF	97.1	96.7	96.9
A 25/11	96.1	94.9	95.5
CARA	97.7	97.2	97.4
CROMWELL	93.9	93.6	93.8
DESIREE	95.9	96.0	95.9
DIANA	97.7	97.9	97.8
HEATHER	97.5	96.3	96.9
KIRSTY	96.2	96.3	96.2
MARFONA	97.5	98.1	97.8
MORAG	95.2	93.9	94.5
PIPER	95.0	94.9	94.9
ROMANO	97.5	97.9	97.7
SANTE	96.5	95.3	95.9
ZB 35/29	98.2	98.0	98.1
MEAN	96.6	96.2	96.4

VAR NEM	CARA ALD	CARA CAR	PIPR ALD	PIPR CAR	MEAN
	97.4	97.5	94.0	93.9	95.7

GRAND MEAN 96.3

PLOT AREA HARVESTED 0.00070