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Yields of the Field Experiments 1987

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87/W/CS/322 Effects of *Globodera pallida* - Potatoes
Rothamsted Experimental Station
1988
Yields
of the
field
experiments
1987

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87/W/CS/322

EFFECTS OF GLOBODERA PALLIDA

Object: To study the residual effects of a range of potato varieties differing in susceptibility to *Globodera pallida* and of nematicides on the numbers of *Globodera pallida* and on the yield of a susceptible variety grown in the second year - Far Field II.

Sponsor: A.G. Whitehead.

The second year, potatoes.

For first year see 86/W/P/3.

Design: 3 randomised blocks of 32 plots.

Whole plot dimensions: 3.0 x 4.57.

Treatments: All combinations of:-

1. VARIETY[86] Varieties in 1986, all Pentland Crown in 1987:

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[86] Oxamyl (kg) in 1986, none in 1987:

0.0
5.6

plus four extra treatments:

VAR NEM[86] Varieties and nematicides in 1986, Pentland Crown, no nematicide in 1987:

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 2290 kg. Weedkiller: Linuron at 1.6 kg in 200 l. Fungicides: Mancozeb at 1.4 kg in 200 l on four occasions with the pirimicarb on the second occasion. Fentin hydroxide at 0.28 kg in 200 l on two occasions. Insecticide: Pirimicarb at 0.14 kg. Desiccant: Diquat at 0.80 kg ion in 200 l.

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Cultivations, etc.:— Deep-tine cultivated: 30 Jan, 1987 and 16 Feb. NPK Mg applied: 22 Apr. Rotary cultivated and potatoes planted: 28 Apr. Rotary ridged: 15 May. Weedkiller applied: 18 May. Mancozeb applied: 24 June, 26 July, 5 Aug. Mancozeb and pirimicarb applied: 8 July. Fentin hydroxide applied: 18 Aug, 4 Sept. Desiccant applied: 18 Sept. Haulm mechanically destroyed: 1 Oct. Lifted: 7 Oct.

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

TOTAL TUBERS TONNES/HECTARE

***** Tables of means *****

OXAMYL[86]	0.0	5.6	Mean	
VARIETY[86]				
12290 AF	45.7	58.7	52.2	
A 25/11	55.1	59.5	57.3	
CARA	36.9	55.2	46.0	
CROMWELL	46.8	57.7	52.3	
DESIREE	42.3	52.3	47.3	
DIANA	37.5	56.7	47.1	
HEATHER	52.0	62.7	57.3	
KIRSTY	42.9	54.7	48.8	
MARFONA	45.1	55.0	50.1	
MORAG	53.1	58.5	55.8	
PIPER	44.3	54.2	49.2	
ROMANO	46.1	59.1	52.6	
SANTE	46.6	55.1	50.8	
ZB 35/29	54.5	55.1	54.8	
Mean	46.3	56.8	51.5	
VAR NEM[86]	CARA ALD	CARA CAR	PIPR ALD	PIPR CAR
	55.8	42.6	61.1	43.5
Mean				50.8
Grand mean	51.4			

*** Standard errors of differences of means ***

Table	VAR NEM[86]	VARIETY[86]	OXAMYL[86]	VARIETY[86]
				OXAMYL[86]
s.e.d.	3.80	2.69	1.02	3.80

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	62	4.66	9.1

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PERCENTAGE WARE 4.44CM (1.75 INCH) RIDDLE

***** Tables of means *****

OXAMYL[86]	0.0	5.6	Mean		
VARIETY[86]					
12290 AF	95.4	95.0	95.2		
A 25/11	94.9	95.3	95.1		
CARA	93.2	95.7	94.4		
CROMWELL	96.0	95.4	95.7		
DESIREE	94.6	96.0	95.3		
DIANA	92.6	95.9	94.2		
HEATHER	96.0	95.8	95.9		
KIRSTY	94.2	95.0	94.6		
MARFONA	94.5	95.3	94.9		
MORAG	96.0	96.2	96.1		
PIPER	94.0	95.8	94.9		
ROMANO	95.8	96.7	96.2		
SANTE	95.2	95.5	95.3		
ZB 35/29	96.0	96.5	96.2		
Mean	94.9	95.7	95.3		
VAR NEM[86]	CARA ALD	CARA CAR	PIPR ALD	PIPR CAR	Mean
	95.5	94.2	96.2	94.5	95.1
Grand mean	95.3				
PLOT AREA HARVESTED	0.00070				