

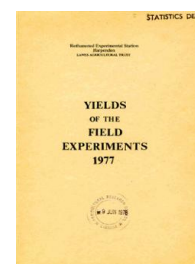
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1977

[Full Table of Content](#)



77/W/CS/35 Nematicides Dosage - Potatoes

Rothamsted Research

Rothamsted Research (1978) *77/W/CS/35 Nematicides Dosage - Potatoes* ; Yields Of The Field Experiments 1977, pp 149 - 153 - DOI: <https://doi.org/10.23637/ERADOC-1-29>

77/W/CS/35

NEMATICIDES DOSAGE

Object: To study the effects of rates and methods of applying nematicides on *Globodera rostochiensis* and yield of potatoes, residual effects are also studied - Woburn Stackyard AII.

Sponsor: A.G. Whitehead.

The sixth year, potatoes.

For previous years see 72/W/CS/35(t) and 73-76/W/CS/35.

Design: 3 series of 4 replicates of 2 x 9.

Whole plot dimensions: 4.27 x 6.10.

Treatments:-

The experiment has three series with the following cropping:-

	1968-71	1972	1973	1974	1975	1976	1977
Series I	P	P*	SB	B	P*	P	P
Series II	P	P	P*	SB	B	P*	P
Series III	P	P	P	P*	SB	B	P*

P = Potatoes, SB = Sugar beet, B = Barley

*Treatments applied to potatoes, following two crops test residual effects.

Treatments: All combinations of:-

1. Varieties and residual effects of varieties:

VARIETY	Series I	
	1972	1975-77
(PC)PC3	Pentland Crown	Pentland Crown
(MP)PC3	Maris Piper	Pentland Crown
VARIETY	Series II	
	1973	1976-77
(PC)PC2	Pentland Crown	Pentland Crown
(MP)PC2	Maris Piper	Pentland Crown
VARIETY	Series III	
	1974	1977
(PC)PC	Pentland Crown	Pentland Crown
(MP)PC	Maris Piper	Pentland Crown

77/W/CS/35

2. Nematicides (kg) and nematicide residues (applied to Series I 1975, Series II 1976, Series III 1977):

NEM RES(75) Series I
NEM RES(76) Series II
NEMACIDE(77) Series III

NONE	None
	Dazomet (half before, half after autumn ploughing)
DAZ2	220
DAZ3	330
DAZ4	440
DAZ6	660
DAZ2+TE2	Dazomet, 220, 'Telone', 220, all after autumn ploughing
TE4	'Telone' 450 all after autumn ploughing
OX	Oxamyl 5.6 in spring
TE2+OX	'Telone' 220, after autumn ploughing, oxamyl 5.6 in spring

NOTE: Because of the wet autumn all nematicides were applied in the spring for Series III 1977.

Standard applications: Manures: Magnesian limestone at a total of 5 tonnes, in two equal applications, to Series II only. All series: (13:13:20) at 1860 kg
Weedkiller: Linuron at 1.3 kg plus paraquat at 0.42 kg ion in 420 l.
Fungicide: Mancozeb at 1.3 kg on four occasions, the last three with insecticide, in 420 l, 390 l and twice in 370 l successively. Insecticide: Pirimicarb at 0.14 kg on three occasions with fungicide.

Seed: Pentland Crown.

Cultivations, etc.:-

All Series: NPK applied: 6 Apr, 1977. Heavy-tine cultivated: 14 Apr.
Weedkiller applied: 25 May. Fungicide applied: 23 June. Fungicide with insecticide applied: 8 July, 21 July, 12 Aug.
Series I: Heavy-tine cultivated three times: 22 Nov, 1976 and twice: 8 Mar, 1977. Rotary cultivated: 18 Apr. Potatoes planted: 19 Apr. Grubbed and earthed up: 25 May. Haulm mechanically destroyed: 26 Sept. Lifted: 5 Oct.
Series II: Heavy-tine cultivated: 22 Nov, 1976. Magnesian limestone applied: 26 Nov, 17 Jan, 1977. Heavy-tine cultivated twice: 8 Mar. Rotary cultivated: 18 Apr. Potatoes planted: 19 Apr. Grubbed and earthed up: 25 May. Haulm mechanically destroyed: 26 Sept. Lifted: 5 Oct.
Series III, Test Crop: Subsoiled, tines 140 cm apart and 50 cm deep: 7 Sept, 1976. Ploughed: 9 Nov. Spring-tine cultivated: 7 Mar, 1977. Dazomet applied and these plots only rotary cultivated, 'Telone' injected and all plots spring-tine cultivated: 14 Mar. Oxamyl applied and these plots only rotary cultivated, potatoes planted: 2 May. Haulm mechanically destroyed: 21 Oct. Lifted: 24 Oct.

NOTE: Soil samples were taken before treatments were applied and after harvest for cyst and egg counts of *Globodera rostochiensis*.

77/W/CS/35

POTATOES SERIES I

TOTAL TUBERS TONNES/HECTARE

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

VARIETY NEM RES(75)	(PC)PC3	(MP)PC3	MEAN
NONE	11.7	6.4	9.0
DAZ2	6.7	13.8	10.3
DAZ3	13.4	15.6	14.5
DAZ4	15.7	18.2	17.0
DAZ6	13.7	14.9	14.3
DAZ2+TE2	13.0	11.7	12.4
TE4	9.0	10.6	9.8
OX	10.1	16.4	13.2
TE2+OX	18.1	14.3	16.2
MEAN	12.4	13.5	13.0

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

TABLE	VARIETY NEM RES(75)	VARIETY NEM RES(75)
SED	0.95	2.07
		2.92

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

STRATUM	DF	SE	CV%
BLOCK.WP	47	4.05	31.2

PERCENTAGE WARE 3.81CM (1.5 INCH) RIDDLE

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

VARIETY NEM RES(75)	(PC)PC3	(MP)PC3	MEAN
NONE	70.4	61.4	65.9
DAZ2	56.0	69.4	62.7
DAZ3	76.0	75.1	75.6
DAZ4	78.4	76.7	77.6
DAZ6	74.4	73.5	73.9
DAZ2+TE2	77.7	71.1	74.4
TE4	66.9	66.9	66.9
OX	64.0	73.3	68.7
TE2+OX	76.2	72.9	74.5
MEAN	71.1	71.2	71.1

PLOT AREA HARVESTED 0.00087

77/W/CS/35

POTATOES SERIES II

TOTAL TUBERS TONNES/HECTARE

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

VARIETY NEM RES(76)	(PC)PC2	(MP)PC2	MEAN
NONE	12.6	12.3	12.5
DAZ2	23.3	24.9	24.1
DAZ3	25.8	30.5	28.1
DAZ4	26.4	27.7	27.1
DAZ6	29.1	30.0	29.6
DAZ2+TE2	28.2	26.5	27.4
TE4	15.5	23.8	19.6
OX	24.1	26.9	25.5
TE2+OX	28.4	32.7	30.5
MEAN	23.7	26.1	24.9

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

TABLE	VARIETY NEM RES(76)	VARIETY NEM RES(76)
SED	0.98	2.19
		3.09

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

STRATUM	DF	SE	CV%
BLOCK.WP	47	4.18	16.8

PERCENTAGE WARE 3.81CM (1.5 INCH) RIDDLE

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

VARIETY NEM RES(76)	(PC)PC2	(MP)PC2	MEAN
NONE	65.0	66.7	65.8
DAZ2	84.5	86.6	85.6
DAZ3	86.9	84.8	85.8
DAZ4	88.4	86.1	87.2
DAZ6	87.0	87.9	87.4
DAZ2+TE2	87.0	86.4	86.7
TE4	74.9	83.5	79.2
OX	80.5	83.9	82.2
TE2+OX	88.1	88.5	88.3
MEAN	82.5	83.8	83.2

PLOT AREA HARVESTED 0.00087

77/W/CS/35

POTATOES SERIES III

TOTAL TUBERS TONNES/HECTARE

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

VARIETY NEMACIDE(77)	(PC)PC	(MP)PC	MEAN
NONE	30.2	34.9	32.5
DAZ2	46.6	47.7	47.2
DAZ3	50.7	51.8	51.3
DAZ4	49.9	55.9	52.9
DAZ6	53.0	56.5	54.8
DAZ2+TE2	53.5	55.5	54.5
TE4	41.4	47.0	44.2
OX	47.2	45.6	46.4
TE2+OX	50.4	50.9	50.7
MEAN	47.0	49.5	48.3

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

TABLE	VARIETY NEMACIDE(77)	VARIETY NEMACIDE(77)
SED	0.86	1.92
		2.70

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

STRATUM	DF	SE	CV%
BLOCK.WP	46	3.63	7.5

PERCENTAGE WARE 3.81CM (1.5 INCH) RIDDLE

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

VARIETY NEMACIDE(77)	(PC)PC	(MP)PC	MEAN
NONE	84.7	88.0	86.3
DAZ2	92.6	89.8	91.2
DAZ3	89.7	91.7	90.7
DAZ4	92.5	91.0	91.7
DAZ6	90.6	90.3	90.4
DAZ2+TE2	90.9	92.3	91.6
TE4	90.2	89.9	90.1
OX	91.0	88.8	89.9
TE2+OX	93.4	92.0	92.7
MEAN	90.6	90.4	90.5

PLOT AREA HARVESTED 0.00087