

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 1995

[Full Table of Content](#)



Potatoes

Rothamsted Research

Rothamsted Research (1996) *Potatoes* ; Yields Of The Field Experiments 1995, pp 163 - 171 - DOI: <https://doi.org/10.23637/ERADOC-1-50>

95/W/P/1

POTATOES

DOUBLE CROPPING AND NEMATODES

Object: To assess the population dynamics of *Globodera pallida* in double cropped potatoes - Woburn, Mill Dam Close III.

Sponsors: K. Evans, P.D. Halford.

Design: 4 randomised blocks of 6 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments:

1. **NEMACIDE[1]** Nematicide applied to first double crop:

- None
OX Oxamyl

2. **NEMACIDE[2]** Nematicide applied to second double crop:

- None
OX Oxamyl

plus 2 extra plots

3. **NEMMAIN** Nematicide applied to main crop:

- None
OX Oxamyl

Experimental diary:

08-Sep-94 : B : PK as (0:20:32) at 781 kg.
21-Sep-94 : B : Ploughed.
20-Mar-95 : T : **NEMACIDE[1]** OX: Vydate at 40 kg.
 : T : Double crop: 34.5% N at 522 kg. PK as (0:24:24) at
 1000 kg. Rotary cultivated.
21-Mar-95 : T : Double crop: Maris Bard, dressed Rizolex, planted.
23-Mar-95 : B : Campbell's Linuron 45% Flowable at 1.9 l with
 Gramoxone 100 at 4.0 l in 400 l.
24-Mar-95 : T : Double crop: Covered with polythene.
01-May-95 : T : **NEMMAIN** OX: Vydate at 40 kg.
 : T : Main crop: 34.5% N at 522 kg. PK as (0:24:24) at
 1000 kg. Rotary cultivated, Estima, dressed
 Rizolex, planted.
16-May-95 : B : Irrigated 3 mm.
19-May-95 : B : Irrigated 3 mm.
26-May-95 : T : Double crop: Polythene removed.
07-Jun-95 : B : Irrigated 5 mm.
20-Jun-95 : T : Double crop: Hand weeded.
05-Jul-95 : B : Ashlade Maneb Flowable at 2.5 l in 300 l.
10-Jul-95 : B : Irrigated 25 mm.
17-Jul-95 : T : Double crop: Potatoes lifted.

95/W/P/1

Experimental diary:

- 18-Jul-95 : **T** : **NEMACIDE[2]** OX: Vydate at 40 kg.
: **T** : Double crop: PK as (0:24:24) at 1000 kg, 27% N at 667 kg, rotary cultivated.
- 19-Jul-95 : **T** : Double crop: Rotary cultivated, Estima, dressed Rizolex, planted.
- 21-Jul-95 : **B** : Irrigated 20 mm.
- 24-Jul-95 : **B** : Ashlade Maneb Flowable at 2.5 l in 400 l.
- 25-Jul-95 : **B** : Irrigated 12.5 mm.
- 11-Aug-95 : **B** : Irrigated 12.5 mm.
- 12-Aug-95 : **B** : Ashlade Maneb Flowable at 2.5 l in 400 l.
- 15-Aug-95 : **B** : Irrigated 12.5 mm.
- 16-Aug-95 : **B** : Irrigated 12.5 mm.
- 22-Aug-95 : **T** : Main crop: Potatoes lifted.
- 23-Aug-95 : **T** : Double crop: Harvest at 4.0 l in 300 l sprayed between rows.
- 01-Sep-95 : **T** : Double crop: Irrigated 12.5 mm.
- 13-Sep-95 : **T** : Double crop: Super-Tin 4L at 560 ml in 300 l.
- 11-Oct-95 : **T** : Double crop: Super-Tin 4L at 560 ml in 300 l.
- 24-Oct-95 : **T** : Double crop: Potatoes lifted.

Previous crops: Potatoes 1993, s. barley 1994.

NOTE: Soil samples were taken at intervals through the growing season for nematode counts. Samples of roots and tops were taken to measure vegetative production and nematode infestation.

95/W/P/1

TOTAL TUBERS TONNES/HECTARE

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

NEMACIDE [2]	-	OX	Mean
NEMACIDE [1]			
-	15.4	23.5	19.5
OX	28.5	29.6	29.0
Mean	22.0	26.5	24.2

NEMMAIN	
-	20.0
OX	28.9
Mean	24.4

GRAND MEAN 24.3

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

NEMACIDE [1]	NEMACIDE [2]	NEMACIDE [1] NEMACIDE [2] & NEMMAIN
1.80	1.80	2.54

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	15	3.59	14.8

PLOT AREA HARVESTED 0.00150

95/W/P/2

POTATOES

DOUBLE CROPPING AND NEMATODES

Object: To assess the population dynamics of *Globodera rostochiensis* in double cropped potatoes - Woburn, Lansome III.

Sponsors: K. Evans, P.D. Halford.

Design: 4 randomised blocks of 6 plots.

Whole plot dimensions: 3.0 x 12.0.

Treatments:

1. **NEMACIDE[1]** Nematicide applied to first double crop:

- None
OX Oxamyl

2. **NEMACIDE[2]** Nematicide applied to second double crop:

- None
OX Oxamyl

plus 2 extra plots

3. **NEMMAIN** Nematicide applied to main crop:

- None
OX Oxamyl

Experimental diary:

08-Sep-94 : B : PK as (0:20:32) at 781 kg
21-Sep-94 : B : Ploughed
21-Mar-95 : **T** : **NEMACIDE[1]** OX: Vydate at 40 kg.
 : **T** : Double crop: 34.5% N at 522 kg. PK as (0:24:24) at
 1000 kg. Rotary cultivated, Maris Bard, dressed
 Rizolex, planted.
23-Mar-95 : B : Campbell's Linuron 45% Flowable at 1.9 l with Gramoxone
 at 4.0 l in 400 l.
24-Mar-95 : **T** : Double crop: Covered with polythene.
01-May-95 : **T** : **NEMMAIN** OX: Vydate at 40 kg.
 : **T** : Main crop: 34.5% N at 522 kg. PK as (0:24:24) at
 1000 kg. Rotary cultivated, Estima, dressed Rizolex,
 planted.
26-May-95 : **T** : Double crop: Polythene removed .
08-Jun-95 : **T** : Double crop: Gramoxone 100 at 4.0 l in 200 l sprayed
 between rows.
20-Jun-95 : **T** : Double crop: Hand weeded.
05-Jul-95 : B : Ashlade Maneb Flowable at 2.5 l in 300 l.
11-Jul-95 : B : Irrigated 12.5 mm.
12-Jul-95 : B : Irrigated 12.5 mm.
17-Jul-95 : **T** : Double crop: Potatoes lifted.

95/W/P/2

Experimental diary:

- 18-Jul-95 : T : NEMACIDE[2] OX: Vydate at 40 kg.
: T : Double crop: PK as (0:24:24) at 1000 kg, 27% N at
667 kg. Rotary cultivated.
- 19-Jul-95 : T : Double crop: Rotary cultivated, Estima, dressed Rizolex,
planted.
- 21-Jul-95 : B : Irrigated 20 mm.
- 24-Jul-95 : B : Ashlade Maneb Flowable at 2.5 l in 400 l.
- 25-Jul-95 : B : Irrigated 12.5 mm.
- 11-Aug-95 : B : Irrigated 12.5 mm.
- 12-Aug-95 : B : Ashlade Maneb Flowable at 2.5 l in 400 l.
- 14-Aug-95 : B : Irrigated 12.5 mm.
- 17-Aug-95 : B : Irrigated 12.5 mm.
- 23-Aug-95 : T : Main crop: Potatoes lifted.
: T : Double crop: Harvest at 4.0 l in 300 l sprayed between
rows.
- 31-Aug-95 : T : Double crop: Irrigated 12.5 mm.
- 13-Sep-95 : T : Double crop: Super-Tin 4L at 560 ml in 300 l.
- 11-Oct-95 : T : Double crop: Super-Tin 4L at 560 ml in 300 l.
- 25-Oct-95 : T : Double crop: Potatoes lifted.

Previous crops: Potatoes 1993, S. barley 1994.

NOTE: Soil samples were taken at intervals through the growing season for nematode counts. Plant samples of roots and tops were taken to measure vegetative production and nematode infestation.

95/W/P/2

TOTAL TUBERS TONNES/HECTARE

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

NEMACIDE [2]	-	OX	Mean
NEMACIDE [1]			
-	14.0	20.1	17.0
OX	21.9	23.8	22.9
Mean	18.0	21.9	20.0

NEMMAIN	-	OX	Mean
-	14.0		
OX	24.1		
Mean	19.1		

GRAND MEAN 19.7

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

NEMACIDE [1]	NEMACIDE [2]	NEMACIDE [1] NEMACIDE [2] & NEMMAIN
1.89	1.89	2.67

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	15	3.78	19.2

PLOT AREA HARVESTED 0.00150

95/R/P/4

POTATOES

PATHOGENIC FUNGI

Object: To study the effects of three potato pathogenic fungi, individually and in combination, on the growth and yield of two cultivars - Great Harpenden II.

Sponsor: P.J. Read.

Design: 3 randomised blocks of 2 x 8 plots.

Whole plot dimensions: 1.5 x 9.5.

Treatments: All combinations of:-

1. CULTIVAR

E	Estima
M	Maris Piper

2. DISEASE Inoculated with fungal cultures of:

H	None (healthy)
CC	<i>Colletotrichum coccodes</i>
VD	<i>Verticillium dahliae</i>
RS	<i>Rhizoctonia solani</i>
C+V	<i>C. coccodes</i> and <i>V. dahliae</i>
C+R	<i>C. coccodes</i> and <i>R. solani</i>
V+R	<i>V. dahliae</i> and <i>R. solani</i>
CVR	<i>C. coccodes</i> , <i>V. dahliae</i> and <i>R. solani</i>

Experimental diary:

07-Nov-94 : B : Ploughed.
29-Mar-95 : B : Heavy spring-tine cultivated.
13-Apr-95 : B : Heavy spring-tine cultivated.
18-Apr-95 : B : NPK as (12:20:20) at 1750 kg.
19-Apr-95 : B : Rotary harrowed.
20-Apr-95 : B : Ridged.
21-Apr-95 : B : Potatoes planted.
04-May-95 : B : Ridged.
23-May-95 : B : Campbell's Linuron 45% Flowable at 5.0 l with Gramoxone 100 at 3.0 l in 300 l.
20-Jun-95 : B : Ashlade Maneb Flowable at 2.75 l in 200 l.
30-Jun-95 : B : Ashlade Maneb Flowable at 2.75 l in 200 l.
19-Jul-95 : B : Ashlade Maneb Flowable at 2.75 l in 300 l.
01-Aug-95 : B : Ashlade Maneb Flowable at 2.75 l in 300 l.
14-Aug-95 : B : Super-Tin 4L at 560 ml with Intracrop BLA at 200 ml in 200 l.
30-Aug-95 : B : Super-Tin 4L at 560 ml with Intracrop BLA at 200 ml in 200 l.
13-Sep-95 : B : Super-Tin 4L at 560 ml with Harvest at 3.0 l in 400 l.
29-Sep-95 : B : Pulverised potato tops.
16-Oct-95 : B : Potatoes lifted.

95/R/P/4

Previous crops: S. wheat 1993, w. barley 1994.

NOTE: In June plant height and the number of stems per plant were recorded. At the beginning of July and August samples were taken and disease assessed on stem-bases, roots and tubers; total yields and size of tubers recorded. Disease was assessed and tubers were graded by size and weighed after harvest.

TOTAL TUBERS TONNES/HECTARE

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

CULTIVAR DISEASE	E	M	Mean
H	29.9	31.4	30.6
CC	27.8	27.6	27.7
VD	23.3	28.9	26.1
RS	21.0	27.5	24.2
C+V	27.2	27.5	27.3
C+R	25.9	25.0	25.5
V+R	22.7	24.7	23.7
CVR	25.1	27.3	26.2
Mean	25.4	27.5	26.4

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

CULTIVAR	DISEASE	CULTIVAR DISEASE
1.06	2.11	2.99

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	30	3.66	13.9

95/R/P/4

PERCENTAGE WARE 5 CM RIDDLE

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

CULTIVAR DISEASE	E	M	Mean
H	59.7	47.9	53.8
CC	59.2	48.9	54.0
VD	53.2	48.3	50.7
RS	63.9	63.4	63.6
C+V	56.9	49.0	53.0
C+R	65.2	56.8	61.0
V+R	62.3	62.2	62.3
CVR	65.0	57.0	61.0
Mean	60.7	54.2	57.4

PLOT AREA HARVESTED 0.00086