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95/W/P/2 Double Cropping and Nematodes - Potatoes

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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			
-	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		