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Yields of the Field Experiments 1982

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82/W/CS/35 Nematicides Dosage - S. Barley

Rothamsted Research

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82/W/CS/35

NEMATOCIDES 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 eleventh year, s. barley.

For previous years see 72/W/CS/35(t) and 73-81/W/CS/35.

Design: 2 series each of 4 randomised blocks of 18 plots.

Whole plot dimensions: 4.27 x 6.10.

Treatments:-

The experiment has two series with the following cropping:-

	1968-71	72	73	74	75	76	77	78	79	80	81	82
Series II	P	P	P*	SB	B	P*	P	P	P*	W	B	B
Series III	P	P	P	P*	SB	B	P*	P	P	P*	W	B

Series I was damaged by soil erosion and has been excluded from the experiment since 1980.

P = Potatoes, SB = Sugar beet, B = S. barley, W = W. wheat

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

Treatments:

Series II, s. barley 1982, tests the residual effects of new sets of treatments applied for potatoes in 1979, ignoring those applied in earlier years. All combinations of:-

1. A NEM(79) Residual effects of nematicide applied autumn 1978:

NONE None
TELONE 'Telone' at 224 kg

2. S NEM(79) Residual effects of nematicide applied spring 1979:

ALDICARB
OXAMYL

3. SNEMRATE Rates of spring nematicides (kg):

2.5
5.0
7.5
10.0

plus two untreated plots per block

RATE

NONE

82/W/CS/35

Series III, s. barley 1982, tests the residual effects of new sets of treatments applied for potatoes in 1980, ignoring those applied in earlier years. All combinations (duplicated) of:-

1. S NEM(80) Spring nematicides:

ALDICARB
OXAMYL

2. SNEMRATE Rates of spring nematicides (kg):

2.5
5.0
7.5
10.0

plus two untreated plots per block

RATE

NONE

Basal applications:

S. barley (Series II & III): Manures: (20:10:10) at 500 kg.
Weedkillers: Dicamba with mecoprop and MCPA (as 'Poly-Farmon' at 4.9 l) in 280 l.

Seed: Triumph, dressed with ethirimol, sown at 160 kg.

Cultivations, etc.:-

Ploughed: 15 Sept, 1981, 4 Feb, 1982. NPK applied, heavy spring-tine cultivated: 25 Mar. Spring-tine cultivated with crumbler attached, seed sown: 29 Mar. Weedkillers applied: 17 May. Combine harvested: 10 Aug.

SERIES II SPRING BARLEY

GRAIN TONNES/HECTARE

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

S NEM(79)	ALDICARB	OXAMYL	MEAN		
A NEM(79)					
NONE	5.87	6.15	6.01		
TELONE	5.96	5.92	5.94		
MEAN	5.92	6.04	5.98		
SNEMRATE	2.5	5.0	7.5	10.0	MEAN
A NEM(79)					
NONE	6.07	6.07	5.90	6.02	6.01
TELONE	5.65	5.81	6.16	6.14	5.94
MEAN	5.86	5.94	6.03	6.08	5.98

82/W/CS/35

SERIES II SPRING BARLEY

GRAIN TONNES/HECTARE

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

	SNEMRATE	2.5	5.0	7.5	10.0	MEAN
S NEM(79)						
ALDICARB		5.81	6.00	5.85	6.00	5.92
OXAMYL		5.91	5.88	6.21	6.16	6.04
MEAN		5.86	5.94	6.03	6.08	5.98
A NEM(79)	SNEMRATE	2.5	5.0	7.5	10.0	
NONE	S NEM(79)					
	ALDICARB	5.79	6.20	5.65	5.86	5.86
	OXAMYL	6.36	5.93	6.14	6.18	6.18
TELONE	ALDICARB	5.84	5.80	6.05	6.14	6.14
	OXAMYL	5.46	5.82	6.27	6.14	6.14

RATE NONE 5.89

GRAND MEAN 5.97

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

TABLE	A NEM(79)	S NEM(79)	SNEMRATE	A NEM(79) S NEM(79)

SED	0.097	0.097	0.137	0.137
TABLE	A NEM(79)	S NEM(79)	A NEM(79)	
	SNEMRATE	SNEMRATE	S NEM(79)	
			SNEMRATE	

SED	0.194	0.194	0.275	

SED FOR RATE NONE V ANY MEAN IN
A NEM(79).S NEM(79).SNEMRATE TABLE IS 0.238

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

STRATUM	DF	SE	CV%
BLOCK.WP	52	0.388	6.5
GRAIN MEAN DM%	87.5		
PLOT AREA HARVESTED	0.00168		

82/W/CS/35

SERIES III SPRING BARLEY

GRAIN TONNES/HECTARE

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

	2.5	5.0	7.5	10.0	MEAN
SNEMRATE					
S NEM(80)					
ALDICARB	5.71	5.62	6.08	5.71	5.78
OXAMYL	5.68	5.41	5.57	5.33	5.50
MEAN	5.70	5.52	5.82	5.52	5.64

RATE NONE 5.60

GRAND MEAN 5.64

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

TABLE	S NEM(80)	SNEMRATE	S NEM(80) SNEMRATE & RATE NONE

SED	0.118	0.168	0.237

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

STRATUM	DF	SE	CV%
BLOCK.WP	60	0.474	8.4

GRAIN MEAN DM% 87.9

PLOT AREA HARVESTED 0.00126