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

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85/W/CS/35

NEMATOCIDES DOSAGE

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

Sponsor: A.G. Whitehead.

The 18th year, s. barley.

For previous years see 72/W/CS/35(t) and 73-84/W/CS/35.

Design: 2 series each of 4 randomised blocks of 18 plots with S NEM YR on blocks.

Whole plot dimensions: 4.27 x 6.10.

Treatments:-

The experiment has two series with the following cropping:-

	1968-72	73	74	75	76	77	78	79	80	81	82	83	84	85
Series II	P	P*	SB	B	P*	P	P	P*	W	B	B	P*	W	B
Series III	P	P	P*	SB	B	P*	P	P	P*	W	B	B	P*	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, subsequent crops test residual effects.

Treatments:

Series II, s. barley 1985, tests the residual effects of treatments applied for potatoes in 1979 and 1983. All combinations of:-

Blocks

1. S NEM YR	Years of applying spring nematocides:
1979	1979 only
1979+83	1979 repeated cumulatively in 1983

Whole plots

2. A NEM(79)	Residual effects of nematocide applied autumn 1978:
NONE	None
TELONE	'Telone' at 224 kg
3. S NEM	Nematocides applied in spring 1979 and 1983:
ALDICARB	
OXAMYL	

85/W/CS/35

4. SNEMRATE

Rates of spring nematicides (kg):

2.5
5.0
7.5
10.0

plus two untreated plots per block

RATE

0.0

Series III, s. barley 1985, replacing winter wheat which failed, tests the residual effects of sets of treatments applied for potatoes in 1980 and 1984, ignoring those applied in earlier years. All combinations (duplicated) of:-

Blocks

1. S NEM YR

Years of applying spring nematicides:

1980
1980+84

1980 only
1980 repeated cumulatively in 1984

Whole plots

2. S NEM

Nematicides applied in spring 1980 and 1984:

ALDICARB
OXAMYL

3. SNEMRATE

Rates of spring nematicides (kg):

2.5
5.0
7.5
10.0

plus two untreated plots per block

RATE

0.0

Standard applications:

S. barley (Series II): Manures: (20:10:10) at 620 kg. Weedkillers: Mecoprop at 1.2 kg with bromoxynil at 0.26 kg and ioxynil at 0.26 kg in 250 l.

W. wheat/s. barley (Series III): Manures: (5:14:30) at 340 kg, (20:10:10) at 620 kg. Weedkillers: Mecoprop at 1.2 kg with bromoxynil at 0.3 kg and ioxynil at 0.3 kg in 250 l.

Seed: W. wheat: Avalon, sown at 190 kg.

S. barley: Triumph, dressed with flutriafol, thiabendazole and ethirimol, sown at 160 kg.

85/W/CS/35

Cultivations, etc.:-

- S. barley (Series II): Ploughed: 2 Oct, 1984. Spring-tine cultivated with crumbler attached: 18 Mar, 1985. NPK applied, rotary harrowed, seed sown: 21 Mar. Weedkillers applied: 16 May. Combine harvested: 27 Aug.
- W. wheat/s. barley (Series III): (5:14:30) applied: 22 Oct, 1984. Power harrowed, wheat seed sown: 30 Oct. Spring-tine cultivated with crumbler attached: 18 Mar, 1985. (20:10:10) applied, rotary harrowed, barley seed sown: 21 Mar. Weedkillers: 16 May. Combine harvested: 27 Aug.

S. BARLEY SERIES II

GRAIN TONNES/HECTARE

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

A NEM(79)	NONE	TELONE	MEAN		
S NEM YR					
1979	6.35	6.23	6.29		
1979+83	6.55	6.56	6.55		
MEAN	6.45	6.39	6.42		
S NEM	ALDICARB	OXAMYL	MEAN		
S NEM YR					
1979	6.30	6.29	6.29		
1979+83	6.54	6.56	6.55		
MEAN	6.42	6.42	6.42		
S NEM	ALDICARB	OXAMYL	MEAN		
A NEM(79)					
NONE	6.30	6.60	6.45		
TELONE	6.54	6.25	6.39		
MEAN	6.42	6.42	6.42		
SNEMRATE	2.5	5.0	7.5	10.0	MEAN
S NEM YR					
1979	6.24	6.33	6.36	6.24	6.29
1979+83	6.66	6.80	6.48	6.27	6.55
MEAN	6.45	6.56	6.42	6.26	6.42
SNEMRATE	2.5	5.0	7.5	10.0	MEAN
A NEM(79)					
NONE	6.44	6.64	6.55	6.18	6.45
TELONE	6.46	6.49	6.29	6.34	6.39
MEAN	6.45	6.56	6.42	6.26	6.42

85/W/CS/35

S. BARLEY SERIES II

GRAIN TONNES/HECTARE

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

SNEMRATE	2.5	5.0	7.5	10.0	MEAN
S NEM					
ALDICARB	6.46	6.54	6.40	6.29	6.42
OXAMYL	6.44	6.59	6.44	6.22	6.42
MEAN	6.45	6.56	6.42	6.26	6.42

A NEM(79)	NONE	TELONE			
S NEM	ALDICARB	OXAMYL	ALDICARB	OXAMYL	
S NEM YR					
1979	6.05	6.66	6.55	5.92	
1979+83	6.55	6.54	6.54	6.58	

S NEM YRA	SNEMRATE	2.5	5.0	7.5	10.0
1979	NONE	6.19	6.44	6.65	6.14
	TELONE	6.29	6.23	6.06	6.34
1979+83	NONE	6.69	6.84	6.44	6.22
	TELONE	6.63	6.75	6.51	6.33

S NEM YR	SNEMRATE	2.5	5.0	7.5	10.0
1979	S NEM				
	ALDICARB	6.31	6.41	6.36	6.13
	OXAMYL	6.17	6.26	6.36	6.35
1979+83	ALDICARB	6.61	6.67	6.44	6.45
	OXAMYL	6.71	6.92	6.51	6.09

A NEM(79)	SNEMRATE	2.5	5.0	7.5	10.0
NONE	S NEM				
	ALDICARB	6.12	6.58	6.42	6.09
	OXAMYL	6.75	6.70	6.68	6.27
TELONE	ALDICARB	6.80	6.50	6.39	6.49
	OXAMYL	6.13	6.48	6.19	6.18

S NEM YRA	SNEMRATE	2.5	5.0	7.5	10.0
1979	NONE	5.59	6.32	6.43	5.86
	ALDICARB	6.78	6.55	6.88	6.42
	OXAMYL	7.02	6.49	6.28	6.40
	TELONE	5.56	5.96	5.85	6.29
1979+83	NONE	6.65	6.84	6.40	6.31
	ALDICARB	6.73	6.84	6.49	6.12
	OXAMYL	6.57	6.50	6.49	6.58
	TELONE	6.69	7.00	6.53	6.07

RATE 0.0 6.47

GRAND MEAN 6.43

85/W/CS/35

S. BARLEY SERIES II

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

TABLE	A NEM(79)	S NEM	SNEMRATE	
SED	0.100	0.100	0.142	
TABLE	S NEM YR* A NEM(79)	S NEM YR* S NEM	A NEM(79) S NEM	S NEM YR* SNEMRATE
SED	0.142	0.142	0.142	0.201
TABLE	A NEM(79) SNEMRATE	S NEM SNEMRATE	S NEM YR* A NEM(79) S NEM	S NEM YR* A NEM(79) SNEMRATE
SED	0.201	0.201	0.201	0.284
TABLE	S NEM YR* S NEM SNEMRATE	A NEM(79) S NEM SNEMRATE	S NEM YR* A NEM(79) S NEM SNEMRATE	
SED	0.284	0.284	0.402	

* WITHIN THE SAME LEVELS OF S NEM YR ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP	35	0.402	6.3

GRAIN MEAN DM% 84.2

PLOT AREA HARVESTED 0.00168

S. BARLEY SERIES III

GRAIN TONNES/HECTARE

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

S NEM	ALDICARB	OXAMYL	MEAN		
S NEM YR					
1980	6.18	6.26	6.22		
1980+84	6.10	5.98	6.04		
MEAN	6.14	6.12	6.13		
SNEMRATE	2.5	5.0	7.5	10.0	MEAN
S NEM YR					
1980	6.22	6.29	6.26	6.10	6.22
1980+84	6.00	6.10	6.02	6.04	6.04
MEAN	6.11	6.20	6.14	6.07	6.13

85/W/CS/35

S. BARLEY SERIES III

GRAIN TONNES/HECTARE

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

SNEMRATE	2.5	5.0	7.5	10.0	MEAN
S NEM					
ALDICARB	6.20	6.11	6.16	6.10	6.14
OXAMYL	6.02	6.29	6.12	6.04	6.12
MEAN	6.11	6.20	6.14	6.07	6.13

	SNEMRATE	2.5	5.0	7.5	10.0
S NEM YR	S NEM				
1980	ALDICARB	6.36	6.17	6.12	6.05
	OXAMYL	6.09	6.41	6.39	6.14
1980+84	ALDICARB	6.04	6.04	6.19	6.14
	OXAMYL	5.96	6.17	5.86	5.94

RATE 0.0 5.99

GRAND MEAN 6.11

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

TABLE	S NEM	SNEMRATE	S NEM YR* S NEM
SED	0.069	0.097	0.097

TABLE	S NEM YR* SNEMRATE	S NEM SNEMRATE	S NEM YR* S NEM SNEMRATE
SED	0.137	0.137	0.194

* WITHIN THE SAME LEVEL OF S NEM YR ONLY

SED FOR COMPARING RATE 0.0 WITH ANY ITEM
IN SNEMRATE.S NEM.S NEM YR IS 0.168

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

STRATUM	DF	SE	CV%
BLOCK.WP	52	0.275	4.5

GRAIN MEAN DM% 83.5

PLOT AREA HARVESTED 0.00126