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# Yields of the Field Experiments 1984

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## 84/R/CS/279 Nematicides and Stem Nematode - Lucerne

### Rothamsted Research

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84/R/CS/279

NEMATICIDES AND STEM NEMATODE

Object: To study, on sites initially free from or infested by stem nematode (*Ditylenchus dipsaci*), the effects of nematicides on lucerne - Long Hoos V 5 (healthy) and Long Hoos IV 2 (infested).

Sponsor: A.G. Whitehead.

The third year, lucerne.

For previous years see 82-83/R/CS/279.

Design: On each site: 3 randomised blocks of 14 plots.

Whole plot dimensions: 1.2 x 3.7.

Treatments (applied to HEALTHY and INFESTED sites):

TREATMNT Varieties, rates and methods of applying nematicides:

V 0	Vertus, untreated
V A1	Vertus, aldicarb at 1.5 kg in seed furrows in 1982
E 0	Europe, untreated
E A1	Europe, aldicarb at 1.5 kg in seed furrows in 1982
E A2	Europe, aldicarb at 3.0 kg in seed furrows in 1982
E A1 A1	Europe, aldicarb at 1.5 kg in seed furrows in 1982, repeated after each cut in 1982 and in spring and after each cut thereafter
E A1 T1	Europe, aldicarb at 1.5 kg in seed furrows in 1982, thiabendazole at 1.5 kg over the rows in spring 1983 and 1984
E A2 T2	Europe, aldicarb at 3.0 kg in seed furrows in 1982, thiabendazole at 3.0 kg over the rows in spring 1983 and 1984
E C1	Europe, carbofuran at 1.5 kg in seed furrows in 1982
E C2	Europe, carbofuran at 3.0 kg in seed furrows in 1982
E C1 T1	Europe, carbofuran at 1.5 kg in seed furrows in 1982, thiabendazole at 1.5 kg over the rows in spring 1983 and 1984
E C2 T2	Europe, carbofuran at 3.0 kg in seed furrows in 1982, thiabendazole at 3.0 kg over the rows in spring 1983 and 1984
E T1 T1	Europe, thiabendazole at 1.5 kg over the rows at sowing in 1982 and in spring 1983 and 1984
E T2 T2	Europe, thiabendazole at 3.0 kg over the rows at sowing in 1982 and in spring 1983 and 1984

NOTE: Treatments in 1984 were applied in 7500 l by weeder bar.

Basal applications: Manures: (0:24:24) at 730 kg. Weedkiller: Propyzamide at 0.70 kg in 220 l.

Cultivations, etc.:-

Both sites: Weedkiller applied: 18 Jan, 1984. PK applied: 15 Mar.

Healthy site: Cut: 12 June. Aldicarb and thiabendazole treatments applied: 21 June. Cut: 17 July. Aldicarb applied: 23 July. Cut: 3 Sept.

Infested site: Cut: 14 June. Aldicarb applied: 21 June. Thiabendazole applied: 28 June. Cut: 6 Aug. Aldicarb applied: 10 Aug. Cut: 26 Sept.

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NOTE: Assessments of stems infected with stem nematode were made on both sites.

LONG HOOS V 5 (HEALTHY SITE)

1ST CUT (12/6/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	6.45
V A1	6.63
E 0	7.39
E A1	7.40
E A2	7.24
E A1 A1	7.31
E A1 T1	6.73
E A2 T2	6.63
E C1	6.73
E C2	7.30
E C1 T1	6.54
E C2 T2	7.24
E T1 T1	6.61
E T2 T2	6.86
MEAN	6.93

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

TABLE	TREATMNT
-----	-----
SED	0.575

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.705	10.2
1ST MEAN DM%	15.1		

84/R/CS/279 LONG HOOS V 5 (HEALTHY SITE)

2ND CUT (17/7/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	4.27
V A1	4.23
E 0	5.17
E A1	5.05
E A2	5.35
E A1 A1	4.73
E A1 T1	4.95
E A2 T2	4.75
E C1	4.91
E C2	4.84
E C1 T1	5.32
E C2 T2	4.79
E T1 T1	5.05
E T2 T2	4.52
MEAN	4.85

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

TABLE	TREATMNT
-----	-----
SED	0.247

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.303	6.2
2ND MEAN DM%		17.9	

84/R/CS/279 LONG HOOS V 5 (HEALTHY SITE)  
3RD CUT (3/9/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	3.86
V A1	3.72
E 0	4.48
E A1	4.36
E A2	4.34
E A1 A1	4.25
E A1 T1	4.58
E A2 T2	4.36
E C1	4.63
E C2	4.38
E C1 T1	4.92
E C2 T2	4.33
E T1 T1	4.71
E T2 T2	4.35
MEAN	4.38

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

TABLE	TREATMNT
-----	-----
SED	0.264

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.324	7.4
3RD CUT MEAN DM%		22.8	



84/R/CS/279 LONG HOOS V 5 (HEALTHY SITE)

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	14.58
V A1	14.58
E 0	17.04
E A1	16.81
E A2	16.93
E A1 A1	16.29
E A1 T1	16.25
E A2 T2	15.73
E C1	16.27
E C2	16.52
E C1 T1	16.78
E C2 T2	16.35
E T1 T1	16.37
E T2 T2	15.73
MEAN	16.16

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

TABLE	TREATMNT
-----	-----
SED	0.622

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.762	4.7
TOTAL OF 2 CUTS MEAN DM%	18.6		
PLOT AREA HARVESTED	0.00045		

84/R/CS/279 LONG HOOS IV 2 (INFESTED SITE)

1ST CUT (14/6/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	5.30
V A1	5.10
E 0	5.46
E A1	4.13
E A2	4.29
E A1 A1	5.02
E A1 T1	3.55
E A2 T2	4.04
E C1	4.91
E C2	5.51
E C1 T1	4.72
E C2 T2	4.40
E T1 T1	4.88
E T2 T2	4.74
MEAN	4.72

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

TABLE	TREATMNT
-----	-----
SED	0.473

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.580	12.3
1ST MEAN DM%	15.8		

84/R/CS/279 LONG HOOS IV 2 (INFESTED SITE)

2ND CUT (6/8/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	7.39
V A1	5.59
E 0	6.41
E A1	4.64
E A2	5.95
E A1 A1	5.97
E A1 T1	5.50
E A2 T2	5.27
E C1	6.33
E C2	6.29
E C1 T1	5.16
E C2 T2	5.91
E T1 T1	5.64
E T2 T2	5.24
MEAN	5.81

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

TABLE	TREATMNT
-----	-----
SED	0.678

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.830	14.3
2ND MEAN DM%	24.7		



84/R/CS/279 LONG HOOS IV 2 (INFESTED SITE)  
3RD CUT (26/9/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	2.98
V A1	2.01
E 0	2.47
E A1	1.95
E A2	2.30
E A1 A1	2.08
E A1 T1	1.99
E A2 T2	2.00
E C1	2.46
E C2	2.34
E C1 T1	2.48
E C2 T2	1.91
E T1 T1	2.34
E T2 T2	2.03
MEAN	2.24

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

TABLE	TREATMNT
-----	-----
SED	0.326

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.399	17.8

3RD CUT MEAN DM% 22.2

84/R/CS/279 LONG HOOS IV 2 (INFESTED SITE)

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	15.68
V A1	12.69
E 0	14.34
E A1	10.73
E A2	12.54
E A1 A1	13.06
E A1 T1	11.04
E A2 T2	11.31
E C1	13.70
E C2	14.14
E C1 T1	12.36
E C2 T2	12.22
E T1 T1	12.86
E T2 T2	12.01
MEAN	12.76

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

TABLE	TREATMNT
-----	-----
SED	1.294

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	1.585	12.4

TOTAL OF 2 CUTS MEAN DM% 20.9

PLOT AREA HARVESTED 0.00045