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# Yields of the Field Experiments 1983

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## 83/R/CS/279 Nematicides and Stem Nematodes - Lucerne

### Rothamsted Research

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83/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 second year, lucerne.

For previous year see 82/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 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
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
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
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
E T1 T1	Europe, thiabendazole at 1.5 kg over the rows at sowing in 1982 and in spring 1983
E T2 T2	Europe, thiabendazole at 3.0 kg over the rows at sowing in 1982 and in spring 1983

NOTE: Aldicarb and carbofuran were applied as granules, thiabendazole in 7500 l by weeder bar.

Basal applications: Weedkiller: Propyzamide at 0.7 kg in 220 l.

Cultivations, etc.:-

Both sites: Top: 17 Jan, 1983. Weedkiller applied: 18 Jan. Cut: 13 June (healthy site), 14 June (infected site). Treatments applied: 24 June. Cut: 26 July. Treatments applied: 2 Aug. Cut: 26 Sept. Treatments applied: 12 Oct.

NOTE: The percentage of stems infected with stem nematode was assessed on the infected site only, in July.

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

1ST CUT (13/6/83) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	6.00
V A1	5.28
E 0	6.03
E A1	6.83
E A2	6.45
E A1 A1	8.27
E A1 T1	6.80
E A2 T2	6.64
E C1	6.26
E C2	6.67
E C1 T1	7.10
E C2 T2	7.17
E T1 T1	7.85
E T2 T2	7.18
MEAN	6.75

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

TABLE	TREATMNT
-----	-----
SED	0.387

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.474	7.0
1ST MEAN DM%	17.8		

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

2ND CUT (26/7/83) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	5.61
V A1	5.33
E 0	6.18
E A1	6.17
E A2	6.08
E A1 A1	6.31
E A1 T1	6.41
E A2 T2	6.04
E C1	6.11
E C2	6.26
E C1 T1	6.57
E C2 T2	5.96
E T1 T1	5.69
E T2 T2	5.84
MEAN	6.04

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

TABLE	TREATMNT
-----	-----
SED	0.480

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.588	9.7
2ND MEAN DM%	25.6		

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

3RD CUT (26/9/83) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	1.55
V A1	1.76
E 0	2.11
E A1	1.83
E A2	1.91
E A1 A1	2.40
E A1 T1	2.16
E A2 T2	1.40
E C1	2.08
E C2	2.24
E C1 T1	2.33
E C2 T2	1.66
E T1 T1	2.12
E T2 T2	2.01
MEAN	1.97

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

TABLE	TREATMNT
-----	-----
SED	0.211

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.258	13.1
3RD CUT MEAN DM%	24.4		

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

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	13.16
V A1	12.37
E 0	14.32
E A1	14.83
E A2	14.44
E A1 A1	16.98
E A1 T1	15.36
E A2 T2	14.09
E C1	14.45
E C2	15.17
E C1 T1	16.00
E C2 T2	14.79
E T1 T1	15.66
E T2 T2	15.03
MEAN	14.76

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

TABLE	TREATMNT
-----	-----
SED	0.732

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.897	6.1

TOTAL OF 3 CUTS MEAN DM% 22.6

PLOT AREA HARVESTED 0.00045



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

1ST CUT (14/6/83) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	6.41
V A1	5.43
E 0	6.78
E A1	6.14
E A2	5.69
E A1 A1	7.86
E A1 T1	6.53
E A2 T2	8.13
E C1	7.72
E C2	8.42
E C1 T1	7.26
E C2 T2	8.65
E T1 T1	4.58
E T2 T2	7.39
MEAN	6.93

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

TABLE	TREATMNT
-----	-----
SED	0.618

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.757	10.9
1ST MEAN DM%	19.5		

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

2ND CUT (26/7/83) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	4.95
V A1	3.94
E 0	4.16
E A1	3.61
E A2	3.43
E A1 A1	5.91
E A1 T1	4.62
E A2 T2	4.88
E C1	5.47
E C2	5.64
E C1 T1	4.66
E C2 T2	4.86
E T1 T1	3.61
E T2 T2	4.37
MEAN	4.58

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

TABLE	TREATMNT
-----	-----
SED	0.556

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.682	14.9
2ND MEAN DM%			24.8



83/R/CS/279 LONG HOOS IV 2 (INFESTED SITE)  
3RD CUT (26/9/83) DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	1.62
V A1	1.03
E 0	0.90
E A1	0.50
E A2	0.53
E A1 A1	1.53
E A1 T1	0.63
E A2 T2	0.75
E C1	0.95
E C2	1.06
E C1 T1	0.98
E C2 T2	0.49
E T1 T1	1.30
E T2 T2	0.56
MEAN	0.92

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

TABLE	TREATMNT
-----	-----
SED	0.386

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	0.473	51.6
3RD CUT MEAN DM%	28.1		

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

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TREATMNT	
V 0	12.98
V A1	10.40
E 0	11.84
E A1	10.26
E A2	9.65
E A1 A1	15.30
E A1 T1	11.78
E A2 T2	13.75
E C1	14.14
E C2	15.13
E C1 T1	12.91
E C2 T2	13.99
E T1 T1	9.49
E T2 T2	12.33
MEAN	12.43

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

TABLE	TREATMNT
-----	-----
SED	1.106

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

STRATUM	DF	SE	CV%
BLOCK.WP	26	1.354	10.9
TOTAL OF 3 CUTS MEAN DM% 24.1			
PLOT AREA HARVESTED 0.00045			