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84/R/CS/298 Nematicide Sprays and Stem Nematode - Lucerne

Rothamsted Research

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84/R/CS/298

NEMATOCIDE SPRAYS AND STEM NEMATODE

Object: To study the effects of applying a range of chemicals to stubbles after each cut on the incidence of stem nematode (*Ditylenchus dipsaci*) in lucerne given carbofuran to the seed furrow - Long Hoos IV I.

Sponsor: A.G. Whitehead.

The second year, lucerne.

For previous year see 83/R/CS/298.

Design: 2 randomised blocks of 16 plots.

Whole plot dimensions: 1.2 x 3.7.

Treatments:

TREATMNT	Varieties and chemicals (all applied at 1.5 kg):
EV O	Euver, untreated
EV C	Euver, carbofuran to seed furrow
ER O	Europe, untreated (duplicated)
ER C	Europe, carbofuran to seed furrow
	To variety Europe, all given carbofuran to seed furrow
ER C AW	Aldicarb watered on
ER C CE	Carbendazim, applied by electrostatic sprayer
ER C CH	Carbendazim, applied by hydraulic sprayer
ER C DE	Dimethoate, applied by electrostatic sprayer
ER C DH	Dimethoate, applied by hydraulic sprayer
ER C PE	Pirimiphos methyl, applied by electrostatic sprayer
ER C PH	Pirimiphos methyl, applied by hydraulic sprayer
ER C TCE	Thiodicarb, applied by electrostatic sprayer
ER C TCH	Thiodicarb, applied by hydraulic sprayer
ER C TBE	Thiabendazole, applied by electrostatic sprayer
ER C TBH	Thiabendazole, applied by hydraulic sprayer

NOTE: Carbofuran was applied to seed furrow, in 1983 only. The other chemicals were applied after each cut in 1983 and after each cut except the last in 1984. Aldicarb was applied in 7500 l by weeder bar. Hydraulic sprays were applied in 310 l and electrostatic sprays in 5.7 l.

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

Cultivations, etc.: - Weedkiller applied: 18 Jan, 1984. PK applied: 15 Mar. Cut: 14 June. Aldicarb applied: 21 June. Other treatments applied: 28 June. Cut: 6 Aug. All treatments applied: 23 Aug. Cut: 26 Sept.

NOTE: The percentage of stems infected with stem nematode was assessed after the second cut.

84/R/CS/298

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

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

TREATMNT	
EV O	3.97
EV C	5.64
ER O	4.08
ER C	4.71
ER C AW	5.26
ER C CE	5.72
ER C CH	5.92
ER C DE	5.38
ER C DH	5.86
ER C PE	5.33
ER C PH	5.42
ER C TCE	6.80
ER C TCH	6.27
ER C TBE	6.40
ER C TBH	6.15
MEAN	5.44

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

TABLE	TREATMNT
-----	-----
SED	0.647 MIN REP
	0.560 MAX-MIN

	TREATMNT
MAX-MIN	ER O V ANY OF THE REMAINDER
MIN REP	ANY OF THE REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.647	11.9
1ST CUT MEAN DM%	19.0		

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

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

TREATMNT	
EV O	3.84
EV C	5.78
ER O	2.34
ER C	3.43
ER C AW	5.06
ER C CE	4.70
ER C CH	5.22
ER C DE	4.84
ER C DH	6.86
ER C PE	3.60
ER C PH	4.68
ER C TCE	5.76
ER C TCH	5.20
ER C TBE	4.90
ER C TBH	5.65

MEAN 4.64

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

TABLE	TREATMNT	
SED	0.735	MIN REP
	0.637	MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.735	15.8
2ND CUT MEAN DM%	26.4		

84/R/CS/298

3RD CUT (26/9/84) DRY MATTER TONNES/HECTARE

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

TREATMNT	
EV O	1.33
EV C	1.90
ER O	1.02
ER C	0.82
ER C AW	1.21
ER C CE	1.29
ER C CH	2.02
ER C DE	1.26
ER C DH	1.45
ER C PE	0.77
ER C PH	1.06
ER C TCE	1.28
ER C TCH	1.68
ER C TBE	1.26
ER C TBH	1.46
MEAN	1.30

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

TABLE	TREATMNT	
-----	-----	
SED	0.371	MIN REP
	0.322	MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.371	28.5
3RD CUT MEAN DM%	22.8		

84/R/CS/298

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TREATMNT	
EV O	9.14
EV C	13.33
ER O	7.43
ER C	8.95
ER C AW	11.52
ER C CE	11.71
ER C CH	13.16
ER C DE	11.47
ER C DH	14.17
ER C PE	9.70
ER C PH	11.17
ER C TCE	13.84
ER C TCH	13.15
ER C TBE	12.55
ER C TBH	13.26
MEAN	11.37

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

TABLE	TREATMNT	
SED	1.306	MIN REP
	1.131	MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	1.306	11.5
TOTAL OF 3 CUTS MEAN DM%	22.7		
PLOT AREA HARVESTED	0.00045		