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91/R/CS/361 Control of Stem Nematode - Lucerne

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91/R/CS/361

CONTROL OF STEM NEMATODE

Object: To study the effects of rates of carbofuran on the control of stem nematode (*Ditylenchus dipsaci*) and on the yield of two varieties of lucerne of different susceptibility - Long Hoos IV 3.

Sponsors: A.G. Whitehead, A.J.F. Nichols.

The first year, lucerne.

Design: 3 randomised blocks of 8 plots.

Whole plot dimensions: 1.2 x 8.8.

Treatments: All combinations of:-

1. **CARBRATE** Rates of carbofuran (kg), applied to seed furrow at sowing: 21 Aug, 1990.

0.00
0.60
1.20
2.30

2. **VARIETY** Varieties and stem nematode susceptibility:

EUROPE Europe - susceptible
EUVER Euver - partially resistant

Basal applications: Weedkillers: 2,4-DB at 1.3 kg in 220 l. Paraquat at 0.40 kg ion in 220 l. Fluazifop-P-butyl at 0.19 kg in 220 l. Irrigation: 5 mm on seven occasions, total 35 mm.

Cultivations, etc.:- Ploughed and rolled: 20 Aug, 1990. Seed sown, cultivated by rotary grubber: 22 Aug. Irrigated: 28, 30 Aug, 3, 10, 13, 20 and 26 Sept. 2,4-DB applied: 14 Dec. Paraquat applied: 7 Mar, 1991. Fluazifop-P-butyl applied: 10 Apr. Cut: 10 July, 13 Aug and 3 Oct. Previous crops: S. peas 1989, w. wheat 1990.

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1ST CUT (10/7/91) DRY MATTER TONNES/HECTARE

***** Tables of means *****

CARBRATE	0.00	0.60	1.20	2.30	Mean
VARIETY					
EUROPE	1.19	2.88	2.85	3.54	2.61
EUVER	3.47	3.22	4.36	4.28	3.83
Mean	2.33	3.05	3.61	3.91	3.22

*** Standard errors of differences of means ***

VARIETY	CARBRATE	VARIETY CARBRATE
0.267	0.377	0.533

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.653	20.3
1ST CUT MEAN DM%	21.0		

2ND CUT (13/8/91) DRY MATTER TONNES/HECTARE

***** Tables of means *****

CARBRATE	0.00	0.60	1.20	2.30	Mean
VARIETY					
EUROPE	1.44	1.88	2.29	3.04	2.16
EUVER	2.87	3.15	3.28	3.50	3.20
Mean	2.16	2.51	2.79	3.27	2.68

*** Standard errors of differences of means ***

VARIETY	CARBRATE	VARIETY CARBRATE
0.178	0.252	0.356

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.437	16.3
2ND CUT MEAN DM%	17.7		

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3RD CUT (3/10/91) DRY MATTER TONNES/HECTARE

***** Tables of means *****

CARBRATE VARIETY	0.00	0.60	1.20	2.30	Mean
EUROPE	1.23	1.40	1.53	1.69	1.46
EUVER	1.99	1.96	2.06	1.86	1.97
Mean	1.61	1.68	1.80	1.77	1.71

*** Standard errors of differences of means ***

VARIETY	CARBRATE	VARIETY CARBRATE
0.064	0.091	0.129

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.158	9.2

3RD CUT MEAN DM% 20.0

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

***** Tables of means *****

CARBRATE VARIETY	0.00	0.60	1.20	2.30	Mean
EUROPE	3.86	6.15	6.68	8.27	6.24
EUVER	8.33	8.33	9.70	9.64	9.00
Mean	6.09	7.24	8.19	8.95	7.62

*** Standard errors of differences of means ***

VARIETY	CARBRATE	VARIETY CARBRATE
0.472	0.667	0.943

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	1.155	15.2

TOTAL OF 3 CUTS MEAN DM% 19.6

PLOT AREA HARVESTED 0.00045