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74/R/CS/144 N and Weedkiller - Old Grass

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74/R/CS/144

N AND WEEDKILLER

Object: To study the effects of two rates of solid or liquid nitrogen in combination with three frequencies of applying weedkiller, on weed control and yield of old grass - Bones Close.

Sponsors: A. Penny, F.V. Widdowson, R.C. Flint.

The first year, old grass.

Design: 3 blocks of 20 plots.

Whole plot dimensions: 2.13 x 9.14. Area harvested: 0.00111.

Treatments: All combinations of:-

- | | |
|---|----------|
| 1. Form of nitrogen fertiliser: | NFORM |
| Solid, 'Nitro-Chalk', 25% N | Solid |
| Liquid, urea/ammonium nitrate, 26% N | Liquid |
| 2. Rate of nitrogen fertiliser per cut (kg N): | NPERCUT |
| 50 | 50 |
| 100 | 100 |
| 3. Frequency of applying weedkiller(2,4-DB, Na salt, 3.4 l plus MCPA, K salt, 0.67 l plus benazolin, K salt, 0.45 l): | WEEDKLLR |
| None | None |
| For 1st cut | Cut/1 |
| For 1st and 2nd cuts | Cut/12 |
| For 1st, 2nd and 3rd cuts | Cut/123 |

plus four treatments given no nitrogen fertiliser, NPERCUT(0), and receiving WEEDKLLR as above.

NOTE: Volumes applied were:-

(a) Liquid N-50:	154 l
(b) Liquid N-100:	307 l
(c) Liquid N-50 + weedkiller:	165 l
(d) Liquid N-100 + weedkiller:	318 l
(e) Weedkiller:	318 l

Basal applications: Manures: (0:14:28) at 500 kg.

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Cultivations, etc.:— PK applied: 21 Feb, 1974. N and weedkiller applied:
5 Apr, 18 June, 14 Aug. Cut three times: 30 May, 30 July, 9 Oct.

- NOTES: (1) Visual scores of leaf scorch were made within four days
of application of treatments.
(2) Samples from each cut were taken for the assessment of
weights of grass and weeds, and of N in each.

Standard errors per plot. Dry matter: tonnes/hectare.

1st cut:	0.393 or 7.4% (38 d.f.)
2nd cut:	0.207 or 7.9% (38 d.f.)
3rd cut:	0.160 or 8.6% (38 d.f.)

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TABLES OF MEANS

1ST CUT. DRY MATTER: TONNES/HECTARE

	NPERCUT		None	WEEDKLLR			Mean
	50	100		Cut/1	Cut/12	Cut/123	
NFORM							
Solid	5.37	6.10	5.75	5.79	5.65	5.73	5.73
Liquid	5.11	5.98	5.95	5.20	5.45	5.58	5.55
		NPERCUT					
		50	5.65	5.10	5.07	5.13	5.24
		100	6.06	5.90	6.03	6.17	6.04
Mean			5.85	5.50	5.55	5.65	5.64

WEEDKLLR

	None	Cut/1	Cut/12	Cut/123	Mean
NPERCUT(0)	4.40	3.62	4.01	3.65	3.92

STANDARD ERRORS OF DIFFERENCES

NFORM	NPERCUT	WEEDKLLR	NFORM NPERCUT	NFORM WEEDKLLR	NPERCUT WEEDKLLR	WEEDKLLR NPERCUT(0)
0.113	0.113	0.160	0.160	0.227	0.227	0.321

Grand mean 5.29

Mean D.M. % 23.7

NOTE: Cut/1 = Cut/12 = Cut/123

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2ND CUT. DRY MATTER: TONNES/HECTARE

	NPERCUT		WEEDKLLR			Mean	
	50	100	None	Cut/1	Cut/12		Cut/123
NFORM							
Solid	2.75	3.56	3.22	3.33	3.08	2.97	3.15
Liquid	2.37	3.13	2.89	2.85	2.67	2.60	2.75
	NPERCUT						
		50	2.67	2.68	2.42	2.48	2.56
		100	3.44	3.50	3.33	3.10	3.34
Mean			3.06	3.09	2.88	2.79	2.95

WEEDKLLR

	None	Cut/1	Cut/12	Cut/123	Mean
NPERCUT(0)	1.15	1.27	1.22	1.19	1.21

STANDARD ERRORS OF DIFFERENCES

NFORM	NPERCUT	WEEDKLLR	NFORM NPERCUT	NFORM WEEDKLLR	NPERCUT WEEDKLLR	WEEDKLLR NPERCUT(0)
0.060	0.060	0.084	0.084	0.119	0.119	0.169

Grand mean 2.60

Mean D.M. % 23.1

NOTE: Cut/12 = Cut/123

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3RD CUT. DRY MATTER: TONNES/HECTARE

	NPERCUT		WEEDKLLR				Mean
	50	100	None	Cut/1	Cut/12	Cut/123	
NFORM							
Solid	2.05	2.88	2.59	2.49	2.34	2.44	2.46
Liquid	1.56	2.42	1.86	2.09	2.09	1.91	1.99
		NPERCUT					
		50	1.84	1.83	1.73	1.81	1.80
		100	2.60	2.75	2.71	2.54	2.65
Mean			2.22	2.29	2.22	2.17	2.23

WEEDKLLR

	None	Cut/1	Cut/12	Cut/123	Mean
NPERCUT(0)	0.37	0.35	0.40	0.34	0.37

STANDARD ERRORS OF DIFFERENCES

NFORM	NPERCUT	WEEDKLLR	NFORM NPERCUT	NFORM WEEDKLLR	NPERCUT WEEDKLLR	WEEDKLLR NPERCUT(0)
0.046	0.046	0.065	0.065	0.092	0.092	0.131

Grand mean 1.85

Mean D.M. % 18.3