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Yields of the Field Experiments 1979

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79/R/CS/13 N Levels to Old Grass - Old Grass

Rothamsted Research

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79/R/CS/13

N LEVELS TO OLD GRASS

Object: To study the effects of a range of nitrogen rates on yield and botanical composition of very old permanent pasture. N fixed by legumes is estimated and the effect of treatments on nutrients available in the soil is also studied - Park Grass Old Plot 6.

Sponsor: A.E. Johnston.

The 15th year, old grass.

For previous years see 'Details' 1973 and 74-78/R/CS/13.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 1.83 x 10.1.

Treatments

TOTAL N	Fertiliser nitrogen (kg N-total per annum applied in four equal dressings as 25:0:16):
0(S)	0 (sprayed with ioxynil plus mecoprop to control legumes, duplicated)
0	0 (duplicated)
75	
150	
225	
300	
375	
450	

NOTE: Ioxynil at 0.84 kg with mecoprop at 2.5 kg in 280 l applied on 1 June, 1979.

Basal applications: Manures: 34 kg P as superphosphate. 11 kg Mg as magnesium sulphate.

Cultivations, etc.: Basal P and Mg applied: 21 Nov, 1978. NK applied: 23 Mar, 1979, 22 May, and 11 July. Cut: 22 May, 11 July, 4 Oct.

79/R/CS/13

1ST CUT (22/5/79) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.29	1.37	1.24	1.57	2.40	3.30	3.54	3.63	1.90

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

TABLE	TOTAL N
SED	0.161 MIN REP
	0.139 MAX-MIN
	0.114 MAX REP

TOTAL N
MAX REP 0(S) V 0
MAX-MIN 0(S) OR 0 V ANY OF REMAINDER
MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.227	12.0

1ST CUT MEAN DM% 18.3

1ST CUT PLOT AREA HARVESTED 0.00086

2ND CUT (11/7/79) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.58	3.47	2.68	3.00	3.29	3.83	3.81	3.64	2.83

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

TABLE	TOTAL N
SED	0.194 MIN REP
	0.168 MAX-MIN
	0.137 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.274	9.7

2ND CUT MEAN DM% 23.2

2ND CUT PLOT AREA HARVESTED 0.00092

79/R/CS/13

3RD CUT (4/10/79) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.70	2.81	2.10	2.35	2.91	2.85	2.55	2.74	2.25

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

TABLE	TOTAL N	
-----	-----	-----
SED	0.234	MIN REP
	0.203	MAX-MIN
	0.165	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.331	14.7

3RD CUT MEAN DM% 20.0

3RD CUT PLOT AREA HARVESTED 0.00086

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	1.57	7.65	6.02	6.92	8.59	9.98	9.90	10.01	6.99

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

TABLE	TOTAL N	
-----	-----	-----
SED	0.381	MIN REP
	0.330	MAX-MIN
	0.269	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.538	7.7

TOTAL OF 3 CUTS MEAN DM% 20.5