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Yields of the Field Experiments 1982

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

Rothamsted Research

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82/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 18th year, old grass.

For previous years see 'Details' 1973 and 74-81/R/CS/13.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 1.83 x 10.1.

Treatments

TOTAL N Fertilizer nitrogen (kg N-total per annum applied in two equal dressings as (25:0:16)):

0(S)	0 (sprayed with ioxynil plus mecoprop and bromoxynil to control legumes, duplicated)
0	0 (duplicated)
38	
75	
112	
150	
188	
225	

NOTES: (1) Ioxynil, mecoprop and bromoxynil (as 'Brittox' at 3.5 l) in 220 l applied on 27 Apr, 1982.
(2) Rates of fertilizer nitrogen per cut were as hitherto but only two cuts were taken instead of the usual four; accordingly total rates of nitrogen were halved.

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

Cultivations, etc.: - Basal P and Mg applied: 2 Dec, 1981. Test NK applied: 19 Mar, 1982 and 22 July. Cut: 20 July and 24 Sept.

82/R/CS/13

1ST CUT (20/7/82) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	38	75	112	150	188	225	MEAN
	2.65	5.99	5.65	5.73	6.62	6.25	6.78	5.82	5.41

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

TABLE	TOTAL N	
SED	0.384	MIN REP
	0.332	MAX-MIN
	0.271	MAX REP

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

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.542	10.0

1ST CUT MEAN DM% 29.8

2ND CUT(24/9/82) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	38	75	112	150	188	225	MEAN
	0.87	1.90	1.92	2.03	2.10	2.45	2.40	2.64	1.91

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

TABLE	TOTAL N	
SED	0.174	MIN REP
	0.151	MAX-MIN
	0.123	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.246	12.9

2ND CUT MEAN DM% 17.7

82/R/CS/13

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	38	75	112	150	188	225	MEAN
	3.52	7.89	7.57	7.77	8.72	8.71	9.19	8.45	7.32

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

TABLE	TOTAL N
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SED	0.467 MIN REP
	0.404 MAX-MIN
	0.330 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.660	9.0

TOTAL OF 2 CUTS MEAN DM% 23.7

PLOT AREA HARVESTED 0.00086