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Yields of the Field Experiments 1981

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

Rothamsted Research

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81/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 17th year, old grass.

For previous years see 'Details' 1973 and 74-80/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)):
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0(S)	0 (sprayed with ioxynil plus mecoprop to control legumes, duplicated)
0	0 (duplicated)
75	
150	
225	
300	
375	
450	

NOTE: Ioxynil at 0.42 kg with mecoprop at 1.3 kg in 280 l applied on 5 May, 1981.

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

Cultivations, etc.: - Test NK applied: 23 Feb, 1981, 14 May, 7 June, and 10 Sept. Basal P and Mg applied: 23 Feb. Cut: 14 May, 6 July, 10 Sept, 2 Nov.

81/R/CS/13

1ST CUT (14/5/81) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.35	1.36	1.46	2.13	2.84	3.61	3.57	4.07	2.11

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

TABLE	TOTAL N
-----	-----
SED	0.126 MIN REP
	0.109 MAX-MIN
	0.089 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	0.179	8.5

1ST CUT MEAN DM% 20.6

2ND CUT (6/7/81) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.84	2.79	2.84	3.23	3.61	4.06	4.00	4.18	2.92

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

TABLE	TOTAL N
-----	-----
SED	0.208 MIN REP
	0.180 MAX-MIN
	0.147 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.294	10.1

2ND CUT MEAN DM% 23.5

81/R/CS/13

3RD CUT(10/9/81) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.78	2.33	2.14	2.31	2.90	3.17	3.20	3.25	2.32

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

TABLE	TOTAL N	
-----	-----	
SED	0.146	MIN REP
	0.126	MAX-MIN
	0.103	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.206	8.9

3RD CUT MEAN DM% 22.8

4TH CUT(2/11/81) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.27	0.24	0.52	0.61	0.66	0.83	0.85	0.86	0.54

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

TABLE	TOTAL N	
-----	-----	
SED	0.110	MIN REP
	0.095	MAX-MIN
	0.078	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.155	29.0

4TH CUT MEAN DM% 19.8

81/R/CS/13

TOTAL OF 4 CUTS DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	2.25	6.71	6.96	8.28	10.01	11.67	11.62	12.35	7.88

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

TABLE	TOTAL N	
-----	-----	
SED	0.294	MIN REP
	0.255	MAX-MIN
	0.208	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.416	5.3

TOTAL OF 4 CUTS MEAN DM% 21.7

PLOT AREA HARVESTED 0.00086