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Yields of the Field Experiments 1980

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80/R/CS/13 N Levels to Old Grass

Rothamsted Research

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80/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 16th year, old grass.

For previous years see 'Details' 1973 and 74-79/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 0.42 kg with mecoprop at 1.3 kg in 280 l applied on 2 May, 1980.

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

Cultivations, etc.: - Basal P and Mg applied: 29 Nov, 1979. NK applied: 10 Mar, 1980, 19 May, 2 July, 12 Aug. Cut: 19 May, 2 July, 12 Aug, 24 Oct.

80/R/CS/13

1ST CUT (19/5/80) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.28	1.59	1.35	1.79	2.90	3.32	3.54	4.08	2.07

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

TABLE	TOTAL N
-----	-----
SED	0.169 MIN REP
	0.146 MAX-MIN
	0.119 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	0.239	11.5

1ST CUT MEAN DM% 27.5

2ND CUT (2/7/80) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.46	1.78	1.60	1.80	1.98	2.18	2.37	2.39	1.68

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

TABLE	TOTAL N
-----	-----
SED	0.117 MIN REP
	0.101 MAX-MIN
	0.083 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.165	9.8

2ND CUT MEAN DM% 20.8

80/R/CS/13

3RD CUT (12/8/80) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.41	1.56	1.70	2.17	2.32	2.71	3.30	3.13	1.93

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

TABLE	TOTAL N
-----	-----
SED	0.103 MIN REP
	0.089 MAX-MIN
	0.072 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.145	7.5

3RD CUT MEAN DM% 16.8

4TH CUT (24/10/80) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	75	150	225	300	375	450	MEAN
	0.31	0.61	0.86	1.35	1.14	1.60	1.16	1.21	0.92

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

TABLE	TOTAL N
-----	-----
SED	0.235 MIN REP
	0.203 MAX-MIN
	0.166 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.332	36.2

4TH CUT MEAN DM% 17.5

80/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
	1.45	5.54	5.51	7.11	8.35	9.80	10.38	10.82	6.60

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

TABLE	TOTAL N	

SED	0.338	MIN REP
	0.293	MAX-MIN
	0.239	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.478	7.3

TOTAL OF 4 CUTS MEAN DM% 20.6

PLOT AREA HARVESTED 0.00086