ROTHAMSTED RESEARCH

Yields of the Field Experiments 1983

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

Rothamsted Research

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83/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 19th year, old grass.

For previous years see 'Details' 1973 and 74-82/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 three equal dressings as (25:0:16)):
0(S)	0 (sprayed with mecoprop to control legumes, duplicated)
0	0 (duplicated)
56	
112	
168	
225	
281	
338	

NOTES: (1) Mecoprop was applied (as 'Farmon CMPP' at 4.2 l) in 220 l on 30 Mar, 1983.
(2) Rates of fertilizer nitrogen per cut were as hitherto but only three cuts were taken instead of the usual four; accordingly total rates of nitrogen were three quarters of standard.

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

Cultivations, etc.:- Basal P and Mg applied: 22 Nov, 1982. Test NK applied: 16 Mar, 1983, 2 June, 5 Aug. Cut: 2 June, 3 Aug and 26 Oct.

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83/R/CS/13

1ST CUT (2/6/83) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	1.11	3.63	3.75	3.86	5.29	7.14	6.35	6.85	4.27

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

TABLE	TOTAL N	
SED	0.444	MIN REP
	0.384	MAX-MIN
	0.314	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	0.627	14.7

1ST CUT MEAN DM% 16.6

2ND CUT (3/8/83) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.56	2.48	2.29	2.33	2.91	2.93	3.30	3.40	2.32

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

TABLE	TOTAL N	
SED	0.204	MIN REP
	0.177	MAX-MIN
	0.144	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.288	12.4

2ND CUT MEAN DM% 29.0

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83/R/CS/13

3RD CUT (26/10/83) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.37	0.55	0.93	1.20	1.65	2.16	2.12	2.04	1.19

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

TABLE	TOTAL N	
SED	0.101	MIN REP
	0.087	MAX-MIN
	0.071	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.142	11.9

3RD CUT MEAN DM% 19.5

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	2.04	6.65	6.97	7.39	9.86	12.23	11.78	12.29	7.79

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

TABLE	TOTAL N	
SED	0.542	MIN REP
	0.470	MAX-MIN
	0.384	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.767	9.8

TOTAL OF 3 CUTS MEAN DM% 21.7

PLOT AREA HARVESTED 0.00086

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