ROTHAMSTED RESEARCH

Yields of the Field Experiments 1984

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

Rothamsted Research

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84/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 20th year, old grass.

For previous years see 'Details' 1973 and 74-83/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 2, 4-D ester to control legumes, duplicated)
0	0 (duplicated)
56	
112	
168	
225	
281	
338	

NOTES: (1) 2, 4-D ester was applied at 1.0 kg in 220 l on 25 Apr, 1984.
(2) Rates of fertilizer nitrogen per cut were unchanged but as in 1983 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, 1983. Test NK applied: 16 Mar, 1984, 7 June, 27 July. Cut: 6 June, 26 July, 15 Nov.

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84/R/CS/13

1ST CUT (6/6/84) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.31	1.94	1.88	2.19	3.51	4.82	5.05	5.72	2.77

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

TABLE	TOTAL N	
SED	0.246	MIN REP
	0.213	MAX-MIN
	0.174	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	0.348	12.6

1ST CUT MEAN DM% 22.9

2ND CUT (26/7/84) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.46	2.31	1.92	2.16	2.57	2.48	2.97	2.95	2.06

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

TABLE	TOTAL N	
SED	0.255	MIN REP
	0.221	MAX-MIN
	0.180	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.361	17.5

2ND CUT MEAN DM% 27.2

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84/R/CS/13

3RD CUT (15/11/84) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.23	0.64	0.82	1.07	1.30	1.78	1.90	2.08	1.07

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

TABLE	TOTAL N	
SED	0.132	MIN REP
	0.115	MAX-MIN
	0.094	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.187	17.5

3RD CUT MEAN DM% 15.8

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.99	4.89	4.62	5.43	7.39	9.08	9.92	10.75	5.89

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

TABLE	TOTAL N	
SED	0.528	MIN REP
	0.457	MAX-MIN
	0.373	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.746	12.7

TOTAL OF 3 CUTS MEAN DM% 22.0

PLOT AREA HARVESTED 0.00086

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