ROTHAMSTED RESEARCH

Yields of the Field Experiments 1985

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

Rothamsted Research

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85/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 21st year, old grass.

For previous years see 'Details' 1973 and 74-84/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, not applied in 1985)
0	0 (duplicated)
56	
112	
168	
225	
281	
338	

NOTES: Rates of fertilizer nitrogen per cut were unchanged but as in 1983 and 1984, only three cuts were taken instead of 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, Mg and test NK applied: 23 Apr, 1985. Test NK applied: 23 May, 12 Aug. Cut: 22 May, 1 Aug, 11 Dec.

NOTE: Because of a harvesting error the 3rd cut yield was lost on one plot, with treatment 0(S), estimated values were used in the 3rd cut and total of 3 cuts analyses.

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85/R/CS/13

1ST CUT (22/5/85) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.28	1.48	1.47	1.59	2.16	2.62	3.03	3.10	1.75

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

TABLE	TOTAL N	
SED	0.177	MIN REP
	0.154	MAX-MIN
	0.125	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	0.251	14.3

1ST CUT MEAN DM% 14.3

2ND CUT (1/8/85) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	1.78	4.40	3.96	4.70	4.35	4.09	2.94	3.37	3.58

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

TABLE	TOTAL N	
SED	0.479	MIN REP
	0.414	MAX-MIN
	0.338	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	29	0.677	18.9

2ND CUT MEAN DM% 19.0

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85/R/CS/13

3RD CUT (11/12/85) DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	0.46	1.18	1.64	1.69	1.99	2.03	2.24	1.38	1.42

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

TABLE	TOTAL N	
SED	0.196	MIN REP
	0.170	MAX-MIN
	0.139	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	28	0.277	19.5

3RD CUT MEAN DM% 13.7

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TOTAL N	0(S)	0	56	112	168	225	281	338	MEAN
	2.39	7.07	7.06	7.98	8.51	8.74	8.21	7.84	6.73

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

TABLE	TOTAL N	
SED	0.520	MIN REP
	0.451	MAX-MIN
	0.368	MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	28	0.736	10.9

TOTAL OF 3 CUTS MEAN DM% 15.6

PLOT AREA HARVESTED 0.00086

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