ROTHAMSTED RESEARCH

Yields of the Field Experiments 1972

Full Table of Content

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

Rothamsted Research

Rothamsted Research (1973) *72/R/CS/13 N Levels to Old Grass - Old Grass ;* Yields Of The Field Experiments 1972, pp 143 - 146 **- DOI: https://doi.org/10.23637/ERADOC-1-62**

72/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 given a single dressing of P and K annually. Nitrogen fixed by legumes is estimated and the effects of treatments on nutrients available in the soil is also studied - Park Grass old plot 6.

Sponsors: A.E. Johnston, R.C. Flint.

The eighth year, old grass.

For previous years see 65/C/33(t), 66/C/14, 67/C/10(t), 68/C/8(t), 69/R/CS/13(t), 70/R/CS/13(t) and 71/R/CS/13.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 1.83 x 10.1. Area harvested: 0.00086.

Treatments:
Herbicide: Sprayed with mecoprop ('Clovotox' at 11.2 l in 450 l) to control legumes (two plots per block) (OS) - nitrogen fertiliser is not applied to this treatment.
Nitrogen (total applied per year in 4 equal dressings): None (two plots per block) (0), 75 (1), 150 (2), 225 (3), 300 (4), 375 (5), 450 (6) kg N as 'Nitro-Chalk'.
Rates 1 and 2 were previously 1 (145 kg N).
Rates 3 and 4 were previously 2 (290 kg N).
Rates 5 and 6 were previously 3 (435 kg N).

Basal applications: 34 kg P as superphosphate, 224 kg K as potassium sulphate, 11 kg Mg as magnesium sulphate.

Cultivations, etc.: Basal P K Mg applied: 6 Dec, 1971. N applied: 24 Mar, 1972. Herbicide applied to S plots: 27 Apr, 24 July. Plots cut: 15 May, 29 June, 14 Aug, 23 Oct. N applied after each cut except the last.

Standard errors per plot. Dry matter, tonnes/hectare:

1st cut:	0.300	or 10.3% (29 d.f.)
2nd cut:	0.232	or 11.9% (29 d.f.)
3rd cut:	0.137	or 10.6% (29 d.f.)
4th cut:	0.120	or 21.5% (29 d.f.)
Total of 4 cuts:	0.465	or 6.9% (29 d.f.)

https://doi.org/10.23637/ERADOC-1-62

72/R/CS/13

TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

N

OS*	0*	1	2	3	4	5	6	Mean
				1ST CUT				
0.60	1.66	2.17	2.80	4.38	4.77	5.00	5.40	2.90

STANDARD ERRORS OF DIFFERENCES

Between any of N1-N6	0.212
Between NOS and NO	0.150
Between NOS or NO and any of N1-N6	0.184

				2ND CUT				
0.74	1.77	1.85	2.27	2.37	2.98	2.41	2.59	1.95

STANDARD ERRORS OF DIFFERENCES

Between any of N1-N6	0.164
Between NOS and NO	0.116
Between NOS or NO and any of N1-N6	0.142

* Duplicated treatment

Mean D.M.%: 1st cut: 21.4
2nd cut: 24.4

https://doi.org/10.23637/ERADOC-1-62

72/R/CS/13

DRY MATTER: TONNES/HECTARE

N

0S*	0*	1	2	3	4	5	6	Mean
				3RD CUT				
0.23	1.16	0.94	1.27	1.78	1.91	2.11	2.21	1.30

STANDARD ERRORS OF DIFFERENCES

Between any of N1-N6	0.097
Between NOS and NO	0.069
Between NOS or NO and any of N1-N6	0.084

				4TH CUT				
0.15	0.23	0.38	0.71	0.84	1.01	0.91	0.99	0.56

STANDARD ERRORS OF DIFFERENCES

Between any of N1-N6	0.085
Between NOS and NO	0.060
Between NOS or NO and any of N1-N6	0.074

* Duplicated treatment

Mean D.M.%: 3rd cut: 25.4
4th cut: 34.5

https://doi.org/10.23637/ERADOC-1-62

72/R/CS/13

DRY MATTER: TONNES/HECTARE

TOTAL OF 4 CUTS

N

OS*	0*	1	2	3	4	5	6	Mean
1.72	4.82	5.34	7.05	9.36	10.68	10.42	11.19	6.71

STANDARD ERRORS OF DIFFERENCES

Between any of N1-N6	0.329
Between NOS and NO	0.233
Between NOS or NO and any of N1-N6	0.285

* Duplicated treatment

Mean D.M.%: Total of 4 cuts: 26.4

https://doi.org/10.23637/ERADOC-1-62