ROTHAMSTED RESEARCH

Yields of the Field Experiments 1973

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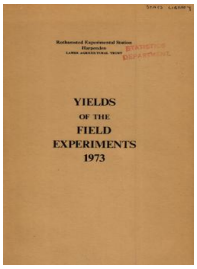

73/R/CS/13 - N Levels to Old Grass - Old Grass

Rothamsted Research

Rothamsted Research (1974) *73/R/CS/13 - N Levels to Old Grass - Old Grass ;* Yields Of The Field Experiments 1973, pp 155 - 158 **- DOI: https://doi.org/10.23637/ERADOC-1-98**

73/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. 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.

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

The ninth 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), 71/R/CS/13, 72/R/CS/13(t).

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 1.83 x 10.1. Area harvested: 0.00090.

Treatments: Fertiliser nitrogen (kg N-total per annum applied in four equal dressings as 'Nitro-Chalk'):

	TOTAL N
None (sprayed with mecoprop to control legumes, two plots per block)	0(S)
None (two plots per block)	0
75	75
150	150
225	225
300	300
375	375
450	450

NOTE: Mecoprop applied 18 Apl, 16 July as 'Clovotox' at 11.2 l in 340 l.

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: 8 Dec, 1972. Cut: 16 May, 1973, 27 June, 7 Aug, 9 Oct. N applied: 2 Mar and then after each cut except the last.

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

1st cut:	0.221 or 9.4% (29 d.f.)
2nd cut:	0.265 or 9.9% (29 d.f.)
3rd cut:	0.196 or 9.4% (29 d.f.)
4th cut:	0.163 or 12.1% (29 d.f.)
Total of 4 cuts:	0.462 or 5.5% (29 d.f.)

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TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

1ST CUT

TOTAL N

0(S)	0	75	150	225	300	375	450	Mean
0.31	1.39	1.37	2.00	2.82	4.00	4.87	5.13	2.36

STANDARD ERRORS OF DIFFERENCES

TOTAL N

0(S) v 0	0.111
Between any of remainder	0.156
0(S) or 0 v any of remainder	0.135

2ND CUT

0.78	3.02	2.69	2.78	3.26	3.59	3.35	3.41	2.67

STANDARD ERRORS OF DIFFERENCES

TOTAL N

0(S) v 0	0.133
Between any of remainder	0.187
0(S) or 0 v any of remainder	0.162

Mean D.M. % 1st cut 23.8
2nd cut 18.0

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DRY MATTER: TONNES/HECTARE

3RD CUT

TOTAL N

O(S)	0	75	150	225	300	375	450	Mean
0.42	1.87	1.94	2.41	2.49	3.17	3.03	3.33	2.10

STANDARD ERRORS OF DIFFERENCES

TOTAL N

O(S) v O	0.098
Between any of remainder	0.139
O(S) or O v any of remainder	0.120

4TH CUT

0.42	1.30	1.32	1.63	1.61	1.69	1.83	1.92	1.35

STANDARD ERRORS OF DIFFERENCES

TOTAL N

O(S) v O	0.082
Between any of remainder	0.115
O(S) or O v any of remainder	0.100

Mean D.M. % 3rd cut 19.8
4th cut 22.8

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DRY MATTER: TONNES/HECTARE

TOTAL OF 4 CUTS

TOTAL N

O(S)	0	75	150	225	300	375	450	Mean
1.93	7.58	7.32	8.82	10.19	12.46	13.08	13.79	8.47

STANDARD ERRORS OF DIFFERENCES

TOTAL N

O(S) v 0	0.231
Between any of remainder	0.327
O(S) or 0 v any of remainder	0.283

Mean D.M. % 21.1

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