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# Yields of the Field Experiments 1984

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

### Rothamsted Research

Rothamsted Research (1985) *84/R/CS/13 N Levels to Old Grass - Old Grass* ; Yields Of The Field Experiments 1984, pp 104 - 106 - DOI: <https://doi.org/10.23637/ERADOC-1-32>

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.

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

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