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# Numerical Results of the Field Experiments 1970

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## 70/R/CS/23 Simulated Grazing - Old Grass

### Rothamsted Research

Rothamsted Research (1971) *70/R/CS/23 Simulated Grazing - Old Grass* ; Numerical Results Of The Field Experiments 1970, pp 162 - 165 - DOI: <https://doi.org/10.23637/ERADOC-1-59>

SIMULATED GRAZING

(70/R/CS/23)

Old grass, plot 6 Park Grass 1970 the fourth year. For treatments, etc., and for previous years' results see 'Results' 67/C/38, 68/C/29 and 69/R/CS/23.

Treatments G+H and HG+ were replaced by treatments G+ (cuttings returned after each cut) and G- (cuttings removed). The new treatments were allocated at random for each N level in each block.

Cultivations, etc.: Basal P, K, Na and Mg applied: 4 Dec, 1969.

The following treatments were cut on the dates shown:-

|               |    |    |     |     |   |
|---------------|----|----|-----|-----|---|
| 24 Apr, 1970: | G+ | G- | G-H |     |   |
| 11 May:       |    |    |     | HG- | H |
| 12 May:       | G+ | G- | G-H |     |   |
| 1 June:       | G+ | G- |     | HG- |   |
| 18 June:      | G+ | G- |     | HG- |   |
| 30 June:      | G+ | G- | G-H | HG- | H |
| 21 July:      | G+ | G- | G-H |     |   |
| 4 Aug:        | G+ | G- | G-H |     |   |
| 2 Sept:       | G+ | G- | G-H | HG- | H |
| 16 Sept:      | G+ | G- |     | HG- |   |
| 5 Oct:        | G+ | G- |     | HG- |   |
| 26 Oct:       | G+ | G- | G-H | HG- | H |

Calcium nitrate applied on 16 Mar, 12 May, 30 June, 2 Sept.

NOTES: (1) On the G+ plots some grass returned at previous cutting was recovered by the rotary mower. Therefore these yields were overestimated.

(2) The percentages of N, P and K in the dry grass were measured.

Standard errors per plot. Dry matter, cwt:

|                                     |                         |
|-------------------------------------|-------------------------|
| 1st Period (cuts 1-2):              | 3.53 or 22.7% (28 d.f.) |
| 2nd Period (cuts 3-5):              | 3.18 or 19.6% (28 d.f.) |
| 3rd Period (cuts 6-8):              | 2.76 or 15.8% (28 d.f.) |
| 4th Period (cuts 9-11):             | 1.26 or 14.8% (28 d.f.) |
| Total of all 4 Periods (cuts 1-11): | 4.65 or 8.0% (28 d.f.)  |

70/R/GS/23

SUMMARY OF RESULTS

DRY MATTER: CWT

1ST PERIOD

| Treatment    | H    | H(G-) | G-(H)   | G+   | G-   | Mean    |
|--------------|------|-------|---------|------|------|---------|
| Cut with     | M    | M     | R       | R    | R    |         |
|              |      |       | (±2.04) |      |      | (±0.91) |
| NO           | 3.3  | 2.3   | 5.4     | 6.0  | 6.7  | 4.7     |
| N1           | 20.7 | 18.7  | 13.8    | 15.7 | 16.8 | 17.1    |
| N2           | 29.8 | 29.6  | 20.6    | 23.3 | 20.4 | 24.7    |
| Mean (±1.18) | 18.0 | 16.9  | 13.3    | 15.0 | 14.6 | 15.5    |

R plots cut twice.

2ND PERIOD

| Treatment    | H    | (H)G- | (G-)H   | G+   | G-   | Mean    |
|--------------|------|-------|---------|------|------|---------|
| Cut with     | M    | R     | M       | R    | R    |         |
|              |      |       | (±1.84) |      |      | (±0.82) |
| NO           | 14.4 | 9.6   | 16.6    | 17.7 | 10.2 | 13.7    |
| N1           | 17.5 | 11.6  | 18.5    | 28.8 | 11.7 | 17.6    |
| N2           | 15.7 | 10.3  | 22.3    | 25.1 | 12.8 | 17.2    |
| Mean (±1.06) | 15.9 | 10.5  | 19.1    | 23.9 | 11.6 | 16.2    |

R plots cut three times.

M = Motor scythe

R = Rotary mower

( ) = Not applied in this period

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DRY MATTER: CWT

3RD PERIOD

| Treatment    | H    | H(G-) | G-(H)   | G+   | G-   | Mean    |
|--------------|------|-------|---------|------|------|---------|
| Cut with     | M    | M     | R       | R    | R    |         |
|              |      |       | (±1.60) |      |      | (±0.71) |
| NO           | 11.9 | 12.3  | 11.8    | 7.9  | 7.4  | 10.3    |
| N1           | 18.4 | 22.2  | 14.2    | 20.3 | 13.0 | 17.6    |
| N2           | 26.4 | 31.9  | 20.6    | 22.7 | 21.5 | 24.6    |
| Mean (±0.92) | 18.9 | 22.1  | 15.5    | 17.0 | 14.0 | 17.5    |

R plots cut three times

4TH PERIOD

| Treatment    | H    | (H)G- | (G-)H   | G+   | G-  | Mean    |
|--------------|------|-------|---------|------|-----|---------|
| Cut with     | M    | R     | M       | R    | R   |         |
|              |      |       | (±0.73) |      |     | (±0.32) |
| NO           | 4.9  | 6.4   | 5.4     | 6.6  | 4.9 | 5.7     |
| N1           | 10.4 | 7.1   | 9.3     | 15.0 | 7.7 | 9.9     |
| N2           | 9.3  | 6.7   | 12.4    | 13.4 | 7.7 | 9.9     |
| Mean (±0.42) | 8.2  | 6.7   | 9.0     | 11.7 | 6.8 | 8.5     |

R plots cut three times

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DRY MATTER: CWT

TOTAL OVER ALL PERIODS

| Treatment<br>Cut<br>with | H    | HG-  | G-H     | G+   | G-   | Mean    | Under same<br>management |       |
|--------------------------|------|------|---------|------|------|---------|--------------------------|-------|
|                          | M    | M&R  | M&R     | R    | R    |         | H(G-)                    | G-(H) |
|                          |      |      | (±2.68) |      |      | (±1.20) |                          |       |
| NC                       | 34.6 | 30.6 | 39.2    | 38.2 | 29.2 | 34.4    | 36.6                     | 33.2  |
| N1                       | 67.0 | 59.6 | 55.8    | 79.8 | 49.3 | 62.3    | 68.7                     | 46.7  |
| N2                       | 81.2 | 78.6 | 75.9    | 84.5 | 62.4 | 76.5    | 96.2                     | 58.2  |
| Mean<br>(±1.55)          | 60.9 | 56.2 | 57.0    | 67.5 | 47.0 | 57.7    | 67.1                     | 46.0  |