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Yields of the Field Experiments 1971

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71/R/CS/13 N and Mg Levels to Old Grass - Old Grass

Rothamsted Research

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71/R/CS/13

N AND Mg LEVELS TO OLD GRASS

Object: To study the effects of a range of nitrogen levels on the production of very old permanent pasture. To see whether application of magnesium sulphate will increase the magnesium content of such pasture when large dressings of nitrogen are applied - Park Grass old plot 6.

The seventh year, old grass.

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

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

Cultivations, etc.: Basal PK and test Mg applied: 8 Dec, 1970. N applied: 9 Mar, 1971. S plots sprayed with mecoprop at 3.14 kg a.e. in 449 1: 22 Apr and 12 July. Plots cut: 13 May, 21 June, 2 Aug, 14 Oct. N applied after each cut except the last.

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

| | |
|------------------|--------------------------|
| 1st cut: | 0.358 or 12.3% (14 d.f.) |
| 2nd cut: | 0.205 or 8.6% (14 d.f.) |
| 3rd cut: | 0.219 or 10.7% (14 d.f.) |
| 4th cut: | 0.182 or 6.9% (14 d.f.) |
| Total of 4 cuts: | 0.486 or 4.9% (14 d.f.) |

71/R/CS/13

SUMMARY OF RESULTS

DRY MATTER: TONNES/HECTARE

1971

| | NO | N1 | N2 | N3 | Mean | SNO |
|---------------|----------|------|------|------|----------|------|
| 1ST CUT | | | | | | |
| 1969 | (±0.179) | | | | (±0.089) | |
| C3 | 1.08 | 2.21 | 4.02 | 4.46 | 2.95 | 0.45 |
| C6 | 1.15 | 2.23 | 3.94 | 4.16 | 2.87 | 0.44 |
| 1971 | | | | | | |
| M1 | 1.12 | 2.24 | 3.89 | 4.28 | 2.88 | 0.42 |
| M2 | 1.11 | 2.20 | 4.07 | 4.34 | 2.93 | 0.47 |
| Mean (±0.126) | 1.12 | 2.22 | 3.98 | 4.31 | 2.91 | 0.44 |
| 2ND CUT | | | | | | |
| 1969 | (±0.103) | | | | (±0.051) | |
| C3 | 1.84 | 2.53 | 2.69 | 2.46 | 2.38 | 1.01 |
| C6 | 1.79 | 2.44 | 2.73 | 2.52 | 2.37 | 0.92 |
| 1971 | | | | | | |
| M1 | 1.76 | 2.58 | 2.71 | 2.49 | 2.39 | 1.00 |
| M2 | 1.87 | 2.40 | 2.70 | 2.49 | 2.37 | 0.93 |
| Mean (±0.073) | 1.82 | 2.49 | 2.71 | 2.49 | 2.38 | 0.96 |

| | | |
|----------|---------------|--------------|
| | General mean: | Mean D.M. %: |
| 1st cut: | 2.41 | 21.2 |
| 2nd cut: | 2.09 | 17.8 |

71/R/CS/13

DRY MATTER: TONNES/HECTARE

1971

| | NO | N1 | N2 | N3 | Mean | SNO |
|---------------|----------|------|------|------|----------|------|
| 3RD CUT | | | | | | |
| 1969 | (±0.109) | | | | (±0.055) | |
| C3 | 1.66 | 1.67 | 2.34 | 2.28 | 1.99 | 0.51 |
| C6 | 1.88 | 1.63 | 2.25 | 2.61 | 2.09 | 0.68 |
| 1971 | | | | | | |
| M1 | 1.78 | 1.66 | 2.29 | 2.49 | 2.05 | 0.48 |
| M2 | 1.75 | 1.65 | 2.30 | 2.40 | 2.03 | 0.70 |
| Mean (±0.077) | 1.77 | 1.65 | 2.30 | 2.44 | 2.04 | 0.59 |

| | NO | N1 | N2 | N3 | Mean | SNO |
|---------------|----------|------|------|------|----------|------|
| 4TH CUT | | | | | | |
| 1969 | (±0.091) | | | | (±0.045) | |
| C3 | 1.83 | 2.30 | 2.80 | 3.28 | 2.55 | 0.90 |
| C6 | 1.83 | 2.39 | 3.07 | 3.45 | 2.69 | 0.89 |
| 1971 | | | | | | |
| M1 | 1.81 | 2.42 | 2.90 | 3.32 | 2.61 | 0.90 |
| M2 | 1.85 | 2.28 | 2.96 | 3.42 | 2.63 | 0.90 |
| Mean (±0.064) | 1.83 | 2.35 | 2.93 | 3.37 | 2.62 | 0.90 |

| | | |
|----------|---------------|--------------|
| | General mean: | Mean D.M. %: |
| 3rd cut: | 1.75 | 21.9 |
| 4th cut: | 2.27 | 21.4 |

71/R/CS/13

DRY MATTER: TONNES/HECTARE

1971

| | NO | N1 | N2 | N3 | Mean | SNO |
|---------------|-----------------|------|-------|-------|----------|------|
| | TOTAL OF 4 CUTS | | | | | |
| | (±0.243) | | | | (±0.121) | |
| 1969 | | | | | | |
| C3 | 6.41 | 8.71 | 11.85 | 12.49 | 9.86 | 2.87 |
| C6 | 6.65 | 8.70 | 11.99 | 12.74 | 10.02 | 2.92 |
| 1971 | | | | | | |
| M1 | 6.47 | 8.89 | 11.80 | 12.58 | 9.93 | 2.78 |
| M2 | 6.58 | 8.52 | 12.04 | 12.65 | 9.95 | 3.00 |
| Mean (±0.172) | 6.53 | 8.70 | 11.92 | 12.61 | 9.94 | 2.89 |

General mean: 8.53

Mean D.M. %: 20.6