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Yields of the Field Experiments 1979

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79/W/RN/14 Long-term Phosphate - Ley

Rothamsted Research

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79/W/RN/14

LONG TERM PHOSPHATE

Object: To study the residual effects of superphosphate on a clover/grass ley - Woburn Stackyard III.

Sponsor: G.E.G. Mattingly.

The 12th year, clover/grass ley.

For previous years see 68/B/8(t), 69/W/RN/14, 70/W/RN/14(t), 71/W/RN/14(t), 72/W/RN/14(t) and 73-78/W/RN/14.

Design: 6 blocks of 6 plots, split into 2.

Whole plot dimensions: 8.53 x 15.8.

Treatments: All combinations of:-

Whole plots

1. P205RES(73) Residues of superphosphate applied autumn 1967 and spring 1973 (kg P205):

| | 1967 | 1973 | Total |
|------|------|------|------------------------|
| 0 | None | None | None (Duplicate plots) |
| 360 | 188 | 172 | 360 |
| 720 | 376 | 344 | 720 |
| 1440 | 753 | 687 | 1440 |
| 2160 | 1130 | 1030 | 2160 |

Sub plots

2. P205RES(72) Residues of superphosphate applied in three equal dressings 1970-72 (kg P205, total):

0
376

Basal applications: Manures: K2O at 240 kg as muriate of potash. MgO at 30 kg as Epsom Salts in winter. K2O at 48 kg as muriate of potash after the first cut.

Cultivations, etc.:- K and Mg applied: 6 Feb, 1979. Cut twice: 21 June, 7 Sept. K applied: 5 July.

79/W/RN/14

1ST CUT (21/6/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| P205RES(73) | 0 | 360 | 720 | 1440 | 2160 | MEAN |
|-------------|------|------|------|------|------|------|
| P205RES(72) | | | | | | |
| 0 | 4.94 | 5.21 | 4.90 | 6.06 | 4.92 | 5.16 |
| 376 | 5.10 | 5.27 | 4.84 | 5.30 | 4.42 | 5.01 |
| MEAN | 5.02 | 5.24 | 4.87 | 5.68 | 4.67 | 5.08 |

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

| TABLE | P205RES(73) | P205RES(72) | P205RES(73) P205RES(72) | |
|--|-------------|-------------|----------------------------|---------|
| SED | 0.328 | | 0.368 | MIN REP |
| | 0.284 | 0.096 | 0.319 | MAX-MIN |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: | | | | |
| P205RES(73) | | | 0.235 | MIN REP |
| | | | 0.167 | MAX REP |

P205RES(73)
 MAX REP 0
 MAX-MIN 0 V ANY OF REMAINDER
 MIN REP ANY OF REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|-------------|----|-------|------|
| BLOCK.WP | 26 | 0.568 | 11.2 |
| BLOCK.WP.SP | 31 | 0.408 | 8.0 |

1ST CUT MEAN DM% 20.3

1ST CUT PLOT AREA HARVESTED 0.00145

79/W/RN/14

2ND CUT (7/9/79) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| P205RES(73) P205RES(72) | 0 | 360 | 720 | 1440 | 2160 | MEAN |
|----------------------------|------|------|------|------|------|------|
| 0 | 0.77 | 0.97 | 0.71 | 0.93 | 0.76 | 0.82 |
| 376 | 0.90 | 0.80 | 0.84 | 0.84 | 0.66 | 0.82 |
| MEAN | 0.83 | 0.89 | 0.77 | 0.88 | 0.71 | 0.82 |

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

| TABLE | P205RES(73) | P205RES(72) | P205RES(73) P205RES(72) | |
|--|-------------|-------------|----------------------------|---------|
| SED | 0.170 | | 0.176 | MIN REP |
| | 0.147 | 0.027 | 0.152 | MAX-MIN |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: | | | | |
| P205RES(73) | | | 0.067 | MIN REP |
| | | | 0.047 | MAX REP |

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|-------------|----|-------|------|
| BLOCK.WP | 26 | 0.294 | 35.8 |
| BLOCK.WP.SP | 31 | 0.116 | 14.1 |

2ND CUT MEAN DM% 24.6 2ND CUT PLOT AREA HARVESTED 0.00129

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| P205RES(73) P205RES(72) | 0 | 360 | 720 | 1440 | 2160 | MEAN |
|----------------------------|------|------|------|------|------|------|
| 0 | 5.71 | 6.18 | 5.61 | 6.99 | 5.68 | 5.98 |
| 376 | 6.00 | 6.07 | 5.67 | 6.14 | 5.09 | 5.83 |
| MEAN | 5.85 | 6.12 | 5.64 | 6.57 | 5.38 | 5.90 |

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

| TABLE | P205RES(73) | P205RES(72) | P205RES(73) P205RES(72) | |
|--|-------------|-------------|----------------------------|---------|
| SED | 0.452 | | 0.485 | MIN REP |
| | 0.392 | 0.101 | 0.420 | MAX-MIN |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: | | | | |
| P205RES(73) | | | 0.248 | MIN REP |
| | | | 0.176 | MAX REP |

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|-------------|----|-------|------|
| BLOCK.WP | 26 | 0.783 | 13.3 |
| BLOCK.WP.SP | 31 | 0.430 | 7.3 |

TOTAL OF 2 CUTS MEAN DM% 22.5