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Yields of the Field Experiments 1981

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81/W/RN/14 Long Term Phosphate - Clover/GRASS Ley

Rothamsted Research

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81/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 14th 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 73-80/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. P205 81 Superphosphate in 1980 & 1981 in addition to residues, applied in three equal dressings 1970-72, (kg P205):

| | |
|----------|--|
| (0)0 | None |
| (376)114 | 376 total applied 1970-72, 57 in 1980, 57 in 1981. |

Basal applications: Manures: MgO at 30 kg as kieserite and K₂O at 240 kg as muriate of potash in winter. (25:0:16) at 390 kg in spring and 360 kg after the first cut.

Cultivations, etc.: - Mg applied: 3 Dec, 1980. K applied: 4 Dec. P treatments and NK applied: 19 Mar, 1981. Cut: 17 June, 26 Aug. NK applied: 25 June.

81/W/RN/14

1ST CUT(17/6/81) DRY MATTER TONNES/HECTARE

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

| P205RES(73) | 0 | 360 | 720 | 1440 | 2160 | MEAN |
|-------------|------|------|------|------|------|------|
| P205 81 | | | | | | |
| 0(0) | 7.94 | 8.57 | 7.68 | 7.01 | 7.00 | 7.69 |
| (376)114 | 7.95 | 8.44 | 7.83 | 7.03 | 7.72 | 7.82 |
| MEAN | 7.95 | 8.50 | 7.75 | 7.02 | 7.36 | 7.75 |

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

| TABLE | P205RES(73) | P205 81 | P205RES(73) P205 81 | |
|--|-------------|---------|------------------------|---------|
| SED | 0.471 | | 0.601 | MIN REP |
| | 0.408 | 0.216 | 0.520 | MAX-MIN |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: | | | | |
| P205RES(73) | | | 0.528 | MIN REP |
| | | | 0.374 | MAX REP |

P205RES(73)
 MAX REP 0
 MAX-MIN 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 | 26 | 0.815 | 10.5 |
| BLOCK.WP.SP | 31 | 0.915 | 11.8 |

1ST CUT MEAN DM% 23.5

81/W/RN/14
2ND CUT (26/8/81) DRY MATTER TONNES/HECTARE

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

| P205RES(73) | 0 | 360 | 720 | 1440 | 2160 | MEAN |
|-------------|------|------|------|------|------|------|
| P205 81 | | | | | | |
| 0(0) | 3.11 | 3.16 | 3.31 | 3.49 | 3.28 | 3.24 |
| (376)114 | 3.30 | 3.43 | 3.49 | 3.43 | 3.37 | 3.39 |
| MEAN | 3.21 | 3.30 | 3.40 | 3.46 | 3.33 | 3.32 |

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

| TABLE | P205RES(73) | P205 81 | P205RES(73) P205 81 | |
|--|-------------|---------|------------------------|---------|
| SED | 0.126 | | 0.177 | MIN REP |
| | 0.109 | 0.071 | 0.153 | MAX-MIN |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: | | | | |
| P205RES(73) | | | 0.175 | MIN REP |
| | | | 0.123 | MAX REP |

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

| STRATUM | DF | SE | CV% |
|-------------|----|-------|-----|
| BLOCK.WP | 26 | 0.218 | 6.6 |
| BLOCK.WP.SP | 31 | 0.302 | 9.1 |

2ND CUT MEAN DM% 22.4

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

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

| P205RES(73) | 0 | 360 | 720 | 1440 | 2160 | MEAN |
|-------------|-------|-------|-------|-------|-------|-------|
| P205 81 | | | | | | |
| 0(0) | 11.05 | 11.73 | 10.98 | 10.49 | 10.28 | 10.93 |
| (376)114 | 11.25 | 11.87 | 11.31 | 10.46 | 11.09 | 11.21 |
| MEAN | 11.15 | 11.80 | 11.15 | 10.48 | 10.69 | 11.07 |

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

| TABLE | P205RES(73) | P205 81 | P205RES(73) P205 81 | |
|--|-------------|---------|------------------------|---------|
| SED | 0.431 | | 0.589 | MIN REP |
| | 0.374 | 0.231 | 0.510 | MAX-MIN |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: | | | | |
| P205RES(73) | | | 0.567 | MIN REP |
| | | | 0.401 | MAX REP |

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

| STRATUM | DF | SE | CV% |
|-------------|----|-------|-----|
| BLOCK.WP | 26 | 0.747 | 6.7 |
| BLOCK.WP.SP | 31 | 0.982 | 8.9 |

TOTAL OF 2 CUTS MEAN DM% 22.9 PLOT AREA HARVESTED 0.00145