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Yields of the Field Experiments 1967

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67/W/WOM/C/24 Organic Manuring - Potatoes and Grass

Rothamsted Research

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67/C/24.1

ORGANIC MANURING EXPERIMENT

(WOM)

The cumulative effects of organic matter on light land - Woburn Stackyard B 1967, 3rd year.

For previous history, rotation, treatments etc., see 'Results' 66/C/31. All plots except those under leys (LC and LN) carried potatoes.

Area of each sub plot: 0.0153. Area harvested: Potatoes - 0.0102, leys - 0.0129.

Fertilisers applied Autumn 1966 (cwt)

| Treatment | P2O5 | K2O | MgO |
|-----------|------|-----|------|
| DG | - | - | - |
| ST | 0.4 | - | 0.25 |
| PT | 0.5 | 1.0 | - |
| GM | - | 1.0 | 0.15 |
| FD | 2.0 | 3.0 | 0.8 |
| FS | 0.5 | 1.0 | 0.15 |
| LC | 0.5 | 2.0 | 0.15 |
| LN | 0.5 | 2.0 | 0.15 |

Fertilisers applied Spring 1967 (cwt)

| Treatment | P2O5 | K2O | MgO |
|-----------|------|------------|------|
| DG | - | - | - |
| ST | 1.0 | 1.0 | 0.20 |
| PT | 1.0 | 1.0 | - |
| GM | 1.0 | 1.0 | 0.25 |
| FD | 2.5 | 1.2 | 0.4 |
| FS | 1.0 | 1.0 | 0.25 |
| LC | 1.0 | 1.25+1.25* | 0.5 |
| LN | 1.0 | 1.5 +1.5* | 0.5 |

* After first cut.

Because the peat applied in 1965 and 1966 had less dry matter than expected additional peat was applied and worked in with the Spring fertilisers before the potatoes were planted at 6.10 tons fresh material at 35.5% D.M. equivalent to 2 tons 3 cwt 35 lb dry matter.

67/C/24.2

Nitrogen to potatoes:

N1, N2, N3, N4. 0.2, 0.6, 1.0, 1.4 cwt N as 'Nitro-Chalk'.

Cultivations, etc.:

LC and LN plots: P,K and Mg applied: Nov 4, 1966. 'Nitro-Chalk' applied to LN plots: Apr 4, 1967, June 19.

P,K and Mg applied: Apr 7. LC plots cut: June 8, July 13.

LN plots cut: June 8.

Potatoes: P,K and Mg applied: Nov 11, 1966. Peat, straw, dung applied: Nov 28 - 29. Ploughed: Nov 30 - Dec 1.

Additional peat applied: Apr 4, 1967. N,P,K and Mg applied: Apr 4 - 6. Rotary cultivated, potatoes planted: Apr 5 - 7.

Earthed up: May 10. Rotary ridged: June 10. Sprayed with mancozeb at 1.2 lb in 30 gals: July 1, July 28, Aug 8.

Sprayed with undiluted BOV at 15 gals: Aug 21. Lifted: Sept 12 - 13. Variety: Majestic.

Standard errors per plot. Potatoes, total tubers:

Whole plot: 1.340 or 19.2% (15 d.f.)

Sub plot: 0.925 or 13.2% (54 d.f.)

67/C/24.3

SUMMARY OF RESULTS

POTATOES

| | NO | N1 | N2 | N3 | Mean |
|---------------|-------------|------|-------|-------|----------|
| TOTAL TUBERS | | | | | |
| | (1) and (2) | | | | (±0.670) |
| DG | 5.77 | 6.93 | 8.97 | 10.43 | 8.02 |
| ST | 3.95 | 5.70 | 7.90 | 8.91 | 6.62 |
| PT | 3.61 | 6.10 | 5.68 | 7.83 | 5.80 |
| GM | 6.67 | 8.28 | 10.18 | 11.06 | 9.05 |
| FD | 4.45 | 5.85 | 8.25 | 9.62 | 7.04 |
| FS | 3.67 | 5.03 | 6.06 | 6.97 | 5.43 |
| Mean (±0.189) | 4.69 | 6.32 | 7.84 | 9.14 | 6.99 |

(1) (±0.780) For use in vertical and diagonal comparisons
 (2) (±0.462) For use in horizontal and interaction comparisons

% WARE

| | | | | | |
|------|------|------|------|------|------|
| DG | 85.5 | 88.9 | 90.5 | 89.6 | 88.6 |
| ST | 82.2 | 83.9 | 90.3 | 90.4 | 86.7 |
| PT | 80.0 | 83.8 | 87.6 | 88.2 | 84.9 |
| GM | 85.4 | 89.6 | 89.6 | 91.5 | 89.0 |
| FD | 86.5 | 87.7 | 91.4 | 88.8 | 88.6 |
| FS | 84.4 | 83.9 | 87.4 | 85.4 | 85.3 |
| Mean | 84.0 | 86.3 | 89.5 | 89.0 | 87.2 |

67/C/24.4

GRASS: DRY MATTER

| | LC | LN |
|-----------------|------|------|
| 1ST CUT | | |
| | 33.1 | 42.1 |
| 2ND CUT | | |
| | 2.9 | - |
| TOTAL OF 2 CUTS | | |
| | 35.9 | 42.1 |
| Mean D.M. %: | | |
| 1st cut: | 18.0 | 24.7 |
| 2nd cut: | 37.8 | - |