

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1976

[Full Table of Content](#)

## 76/R/PG/5 Park Grass - Old Grass

### Rothamsted Research

Rothamsted Research (1977) *76/R/PG/5 Park Grass - Old Grass* ; Yields Of The Field Experiments 1976, pp 25 - 29 - DOI: <https://doi.org/10.23637/ERADOC-1-15>

76/R/PG/5

PARK GRASS

Object: To study the effects of organic and inorganic manures on old grass (for hay). The effects of liming are also studied.

The 121st year, hay.

For previous years see 'Details' 1967, 68/A/6(t), 69-71/R/PG/5, 72/R/PG/5(t), 73-75/R/PG/5.

Treatments:

Whole plots

MANURE Fertilisers and organic manures:-

|          |           |                            |
|----------|-----------|----------------------------|
| N1       | Plot 1    | N1                         |
| O(D)     | Plot 2    | None (D until 1863)        |
| O/PLOT3  | Plot 3    | None                       |
| P        | Plot 4-1  | P                          |
| N2P      | Plot 4-2  | N2 P                       |
| N1MIN    | Plot 6    | N1 P K Na Mg               |
| MIN      | Plot 7    | P K Na Mg                  |
| PNAMG    | Plot 8    | P Na Mg                    |
| N2MIN    | Plot 9    | N2 P K Na Mg               |
| N2PNAMG  | Plot 10   | N2 P Na Mg                 |
| N3MIN    | Plot 11-1 | N3 P K Na Mg               |
| N3MINSI  | Plot 11-2 | N3 P K Na Mg Si            |
| O/PLOT12 | Plot 12   | None                       |
| D/F      | Plot 13   | D/F                        |
| N2*MIN   | Plot 14   | N2* P K Na Mg              |
| MIN(N2*) | Plot 15   | P K Na Mg (N2* until 1875) |
| N1*MIN   | Plot 16   | N1* P K Na Mg              |
| N1*      | Plot 17   | N1*                        |
| N2KNAMG  | Plot 18   | N2 K Na Mg                 |
| D        | Plot 19   | D                          |
| D/N*PK   | Plot 20   | D/N*P K                    |

|             |  |
|-------------|--|
| N1, N2, N3: | 48, 96, 144 kg N as sulphate of ammonia  |
| N1*, N2*:   | 48, 96 kg N as nitrate of soda (30 kg N to Plot 20 in years with no farmyard manure)                                   |
| P:          | 35 kg P (15 kg P to Plot 20 in years with no farmyard manure) as single superphosphate (triple superphosphate in 1974) |
| :K          | 225 kg K (45 kg K to Plot 20 in years with no farmyard manure) as sulphate of potash                                   |
| Na:         | 15 kg Na as sulphate of soda   |
| Mg:         | 10 kg Mg as sulphate of magnesia   |
| Si:         | Silicate of soda at 450 kg   |
| D:          | Farmyard manure at 35 tonnes every fourth year   |
| F:          | Fish meal every fourth year to supply 63 kg N  |
| MIN:        | P K Na Mg  |

76/R/PG/5

Sub plots

LIME            Liming:-

A            a Ground chalk applied as necessary to achieve pH7  
B            b Ground chalk applied as necessary to achieve pH6  
C            c Ground chalk applied as necessary to achieve pH5  
D            d None

Chalk applied 1976 (tonnes CaCO<sub>3</sub>):

|      |       |      |
|------|-------|------|
| Plot | 1a    | 3.8  |
| Plot | 4/2a  | 12.6 |
| Plot | 6a    | 6.3  |
| Plot | 7a    | 3.8  |
| Plot | 9a    | 13.8 |
| Plot | 10a   | 16.3 |
| plot | 11/1a | 20.7 |
| Plot | 11/2a | 19.5 |
| Plot | 12a   | 18.2 |
| Plot | 12b   | 7.5  |
| Plot | 15a   | 6.9  |
| Plot | 16a   | 1.9  |
| Plot | 18a   | 1.9  |

Plots 7a, 9a, 10a chalk applied: 19 Jan. Remaining plots chalk applied:  
27-29 Jan.

Additional sub plots (Plots 18, 19 and 20 only) (tonnes CaCO<sub>3</sub> applied  
every fourth year 1920-1964):-

|          |      |      |
|----------|------|------|
| N2KNAMG0 | 18-1 | None |
| N2KNAMG2 | 18-2 | 13.5 |
| N2KNAMG1 | 18-3 | 7.9  |
| D0       | 19-1 | None |
| D2       | 19-2 | 6.3  |
| D1       | 19-3 | 1.1  |
| D/N*PK0  | 20-1 | None |
| D/N*PK2  | 20-2 | 5.6  |
| D/N*PK1  | 20-3 | 1.1  |

Since 1965 Plot 18-1 has been split into two for treatments 'c' and 'd' above and Plot 18-3 split into two for treatments 'a' and 'b'. The remaining sub-plots of Plots 18, 19 and 20 are treated as 'a'.

NOTE: For a fuller record of treatments see 'Details' etc.

Cultivations, etc.:- Mineral fertilisers applied: 8 Dec, 1975. N applied:  
1st dressing - 8 Apr, 2nd dressing - 10 May. Cut twice: 9 June, 9 Nov.

76/R/PG/5

1ST CUT (9/6/76) DRY MATTER TONNES/HECTARE

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

| LIME<br>MANURE | A    | B    | C    | D    | MEAN |
|----------------|------|------|------|------|------|
| N1             | 1.70 | 1.85 | 1.32 | 0.25 | 1.28 |
| O(D)           | 1.36 | 1.41 | 1.17 | 1.26 | 1.30 |
| O/PLOT3        | 1.35 | 1.38 | 0.93 | 1.06 | 1.18 |
| P              | 2.03 | 2.53 | 2.05 | 2.05 | 2.16 |
| N2P            | 2.78 | 3.01 | 2.10 | 1.37 | 2.31 |
| N1MIN          | 4.17 | 4.54 |      |      | 4.36 |
| MIN            | 4.87 | 5.29 | 2.71 | 2.20 | 3.77 |
| PNAMG          | 2.01 | 2.07 | 2.36 | 2.43 | 2.22 |
| N2MIN          | 5.83 | 5.56 | 4.49 | 2.37 | 4.56 |
| N2PNAMG        | 3.04 | 3.11 | 2.40 | 1.47 | 2.51 |
| N3MIN          | 5.13 | 4.98 | 5.02 | 3.00 | 4.53 |
| N3MINS1        | 5.07 | 5.45 | 5.29 | 4.45 | 5.07 |
| O/PLOT12       | 1.24 | 1.28 | 1.48 | 1.22 | 1.31 |
| D/F            | 2.87 | 3.10 | 2.72 | 2.53 | 2.81 |
| N2*MIN         | 4.00 | 4.43 | 4.78 | 4.95 | 4.54 |
| MIN(N2*)       | 4.62 | 4.25 | 1.84 | 2.23 | 3.23 |
| N1*MIN         | 4.74 | 4.56 | 3.99 | 4.02 | 4.33 |
| N1*            | 1.89 | 2.22 | 1.82 | 2.40 | 2.08 |
| N2KNAMG0       |      |      | 0.79 | 0.25 | 0.52 |
| N2KNAMG2       | 2.38 |      |      |      | 2.38 |
| N2KNAMG1       | 1.73 | 1.82 |      |      | 1.78 |
| D0             | 2.53 |      |      |      | 2.53 |
| D2             | 3.59 |      |      |      | 3.59 |
| D1             | 2.98 |      |      |      | 2.98 |
| D/N*PK0        | 3.79 |      |      |      | 3.79 |
| D/N*PK2        | 3.91 |      |      |      | 3.91 |
| D/N*PK1        | 4.35 |      |      |      | 4.35 |

1ST CUT MEAN DM% 30.8

76/R/PG/5

2ND CUT (9/11/76) DRY MATTER TONNES/HECTARE

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

| LIME     | A    | B    | C    | D    | MEAN |
|----------|------|------|------|------|------|
| MANURE   |      |      |      |      |      |
| N1       | 0.59 | 0.68 | 0.49 | 0.10 | 0.46 |
| O(D)     | 0.42 | 0.31 | 0.55 | 0.54 | 0.46 |
| O/PLOT3  | 0.23 | 0.18 | 0.32 | 0.40 | 0.28 |
| P        | 0.43 | 0.36 | 0.88 | 0.99 | 0.66 |
| N2P      | 1.56 | 1.63 | 0.86 | 0.72 | 1.19 |
| N1MIN    | 1.22 | 1.31 |      |      | 1.27 |
| MIN      | 0.97 | 1.09 | 1.14 | 1.07 | 1.07 |
| PNAMG    | 0.57 | 0.59 | 0.82 | 0.96 | 0.74 |
| N2MIN    | 1.31 | 1.26 | 1.07 | 0.92 | 1.14 |
| N2PNAMG  | 0.96 | 1.01 | 0.87 | 0.53 | 0.84 |
| N3MIN    | 1.41 | 1.81 | 1.87 | 1.80 | 1.72 |
| N3MINS I | 1.90 | 2.89 | 1.92 | 2.17 | 2.22 |
| O/PLOT12 | 0.88 | 0.92 | 0.94 | 1.04 | 0.95 |
| D/F      | 1.16 | 1.43 | 1.11 | 0.94 | 1.16 |
| N2*MIN   | 0.91 | 1.06 | 1.68 | 1.90 | 1.39 |
| MIN(N2*) | 0.90 | 0.95 | 0.75 | 0.81 | 0.85 |
| N1*MIN   | 0.92 | 0.86 | 1.16 | 0.95 | 0.97 |
| N1*      | 0.56 | 0.69 | 0.91 | 0.92 | 0.77 |
| N2KNAMG0 |      |      | 0.28 | 0.06 | 0.17 |
| N2KNAMG2 | 1.06 |      |      |      | 1.06 |
| N2KNAMG1 | 0.61 | 0.82 |      |      | 0.72 |
| D0       | 1.29 |      |      |      | 1.29 |
| D2       | 1.03 |      |      |      | 1.03 |
| D1       | .03  |      |      |      | 1.03 |
| D/N*PK0  | 1.40 |      |      |      | 1.40 |
| D/N*PK2  | 1.03 |      |      |      | 1.03 |
| D/N*PK1  | 1.38 |      |      |      | 1.38 |

2ND CUT MEAN DM% 18.5

76/R/PG/5

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

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

| LIME<br>MANURE | A    | B    | C    | D    | MEAN |
|----------------|------|------|------|------|------|
| N1             | 2.29 | 2.53 | 1.80 | 0.35 | 1.74 |
| O(D)           | 1.77 | 1.72 | 1.72 | 1.80 | 1.76 |
| O/PLOT3        | 1.58 | 1.56 | 1.25 | 1.46 | 1.46 |
| P              | 2.46 | 2.89 | 2.92 | 3.04 | 2.83 |
| N2P            | 4.35 | 4.64 | 2.96 | 2.09 | 3.51 |
| N1MIN          | 5.39 | 5.86 |      |      | 5.62 |
| MIN            | 5.84 | 6.37 | 3.85 | 3.28 | 4.84 |
| PNAMG          | 2.58 | 2.66 | 3.18 | 3.39 | 2.96 |
| N2MIN          | 7.14 | 6.82 | 5.57 | 3.29 | 5.70 |
| N2PNAMG        | 4.00 | 4.12 | 3.28 | 2.00 | 3.35 |
| N3MIN          | 6.54 | 6.79 | 6.89 | 4.80 | 6.25 |
| N3MINS I       | 6.97 | 8.34 | 7.21 | 6.62 | 7.29 |
| O/PLOT12       | 2.12 | 2.21 | 2.42 | 2.26 | 2.25 |
| D/F            | 4.03 | .54  | 3.83 | 3.48 | 3.97 |
| N2*MIN         | 4.91 | 5.48 | 6.45 | 6.85 | 5.92 |
| MIN(N2*)       | 5.52 | 5.20 | 2.59 | 3.04 | 4.09 |
| N1*MIN         | 5.65 | 5.43 | 5.14 | 4.98 | 5.30 |
| N1*            | 2.45 | 2.90 | 2.72 | 3.32 | 2.86 |
| N2KNAMG0       |      |      | 1.08 | 0.32 | 0.70 |
| N2KNAMG2       | 3.44 |      |      |      | 3.44 |
| N2KNAMG1       | 2.34 | 2.64 |      |      | 2.49 |
| D0             | 3.82 |      |      |      | 3.82 |
| D2             | 4.62 |      |      |      | 4.62 |
| D1             | 4.00 |      |      |      | 4.00 |
| D/N*PK0        | 5.19 |      |      |      | 5.19 |
| D/N*PK2        | 4.93 |      |      |      | 4.93 |
| D/N*PK1        | 5.73 |      |      |      | 5.73 |

TOTAL OF 2 CUTS MEAN DM% 24.6