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## Details of the Classical and Long-term Experiments 1968-73

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### R/CS/14 N P K to Old Grass - Grass

#### Rothamsted Research

Rothamsted Research (1977) *R/CS/14 N P K to Old Grass - Grass* ; Details Of The Classical And Long-Term Experiments 1968-73, pp 74 - 75 - DOI: <https://doi.org/10.23637/ERADOC-1-193>

## NPK TO OLD GRASS ROTHAMSTED PARK GRASS

(R/CS/14)

This experiment, started in 1965, studies the effects of a range of P and K levels on yields of permanent pasture and is located on Park Grass plots 5/1 and 5/2 which provide sites with little and much P and K respectively.

### Design

On each site a single replicate of 2 x 4 x 4 in 2 blocks of 16 plots each, with 2 x 2 additional plots in each block.

### Treatments

- (1) The sites differ in previous history:
- |            |           |  |
|------------|-----------|--|
| Plot 5/1:  | 1856-97   | 96 kg N annually   |
|            | 1898-1964 | Unmanured  |
| Plots 5/2: | 1856-97   | 96 kg N annually   |
|            | 1898-1964 | Superphosphate and sulphate of potash to supply 34 kg P and 224 kg K annually. |
- (2) On each site all combinations of:
- (a) Nitrogen fertiliser (kg N for each cut)
- |         |      |      |
|---------|------|------|
|         | N1   | N2   |
| 1965    | 37.5 | 75   |
| 1966    | 56.0 | 112  |
| 1967-73 | 33.6 | 67.2 |
- (b) Phosphate (Kg P) annually as superphosphate
- |    |      |
|----|------|
| P0 | None |
| P1 | 16.8 |
| P2 | 33.6 |
| P4 | 67.2 |
- (c) Potassium (kg K) annually as potassium chloride
- |    |      |
|----|------|
| K0 | None |
| K2 | 112  |
| K4 | 224  |
| K8 | 448  |
- (3) Together with extra treatments on each site:  
all combinations of:
- (a) nitrogen fertiliser as 2(a)
- (b) residues of PK fertiliser applied 1965 only
- |                       |
|-----------------------|
| 33.6 kg P + 56.1 kg K |
| 33.6 kg P + 336 kg K  |
- Number of nitrogen applications have been:
- |             |                  |
|-------------|------------------|
| 1965        | 4                |
| 1966        | 3                |
| 1967        | 5/1 - 3; 5/2 - 4 |
| 1968 & 1969 | 3                |

1970 & 1971	2
1972	3
1973	3

**Liming**

Ground chalk applied (t/ha)

1965:	Plot 5/1 – 12.8	plot 5/2 – 11.5
1968:	Plot 5/1 – 6.2	plot 5/2 – 5.5
1970:	Both plots – 8.8	

**Area harvested**      0.00085 – 0.00090

**Soil series**              Batcombe series