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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

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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