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Yields of the Field Experiments 1986

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86/R/BN/7 Barnfield - Grass/CLOVER

Rothamsted Research

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86/R/BN/7

BARNFIELD

Object: The experiment was designed to study the effects of organic and inorganic manures on continuous root crops. It has been progressively modified to study effects on other crops.

Sections 1 and 2 the third year of grass/clover. The 12th year of grass on the rest of the experiment.

For previous years see 'Details' 1967 and 1973 and 74-85/R/BN/7.

Plot dimensions: 10.7 x 55.9.

Treatments to grass: All combinations of:-

Whole plots

1. MANURE Fertilizers and organic manures:

D	D
DPK	D P K
PKMG	P K (Na) Mg
P	P
PK	P K
PMG	P (Na) Mg
O	O

P: 35 kg P as single superphosphate (triple superphosphate in 1974)

K: 225 kg K as sulphate of potash

(Na): 90 kg Na as sodium chloride until 1973

Mg: 90 kg Mg as kieserite every fourth year since 1974 (sulphate of magnesia until 1973)

D: Farmyard manure at 35 tonnes (until 1975).

Quarter plots

2. N PERCUT Nitrogen fertilizer in 1986 (kg N per cut) as 'Nitram' and residues of forms of N previously each supplying 96 kg N per annum:

75	75, previously nitrate of soda, section 3
100	100, previously sulphate of ammonia, section 4
125	125, previously sulphate of ammonia + castor meal, section 5
150	150, previously castor meal, section 6

Castor meal last applied 1961, nitrate of soda and sulphate of ammonia until 1959.

plus one plot MANURE KMG 100

Treatments to grass/clover, sections 1 and 2 (not given nitrogen fertilizer):

MANURE	Fertilizers and organic manures as for grass above, excluding KMG.
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86/R/BN/7

NOTES: (1) P K and D treatments were applied to Sections 1 and 2 until 1980. None were applied subsequently until the resumption of P and K treatments, only, from 1985.
(2) Yields were not taken from section 2.

Cultivations, etc.:-

All sections: P and K applied: 12 Nov, 1985. Mg applied: 13 Nov.

Cut: 2 June, 1986, 3 Nov.

Grass (Sections 3, 4, 5 and 6) only: N applied: 21 Mar, 5 June.

GRASS/CLOVER

1ST CUT (2/6/86) DRY MATTER TONNES/HECTARE

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

MANURE	D	DPK	PKMG	P	PK	PMG	O	MEAN
	2.69	3.10	1.75	1.69	1.42	1.36	1.03	1.86

1ST CUT MEAN DM% 20.6

2ND CUT (3/11/86) DRY MATTER TONNES/HECTARE

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

MANURE	D	DPK	PKMG	P	PK	PMG	O	MEAN
	2.21	2.62	2.14	1.51	2.29	2.11	1.58	2.07

2ND CUT MEAN DM% 21.6

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

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

MANURE	D	DPK	PKMG	P	PK	PMG	O	MEAN
	4.90	5.72	3.89	3.20	3.71	3.47	2.62	3.93

TOTAL OF 2 CUTS MEAN DM% 21.1

86/R/BN/7

GRASS

1ST CUT (2/6/86) DRY MATTER TONNES/HECTARE

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

N PERCUT MANURE	75	100	125	150	MEAN
D	3.46	4.70	4.63	4.32	4.28
DPK	3.83	4.47	5.03	4.50	4.46
PKMG	3.72	4.48	4.87	4.77	4.46
P	2.67	2.71	3.37	2.65	2.85
PK	3.59	4.28	5.03	5.17	4.52
PMG	2.48	2.47	3.09	2.62	2.67
O	2.08	2.32	2.27	2.19	2.22
MEAN	3.12	3.63	4.04	3.75	3.63

MANURE KMG 100 3.86

GRAND MEAN 3.64

1ST CUT MEAN DM% 17.4

2ND CUT (3/11/86) DRY MATTER TONNES/HECTARE

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

N PERCUT MANURE	75	100	125	150	MEAN
D	2.88	3.91	4.22	4.30	3.83
DPK	2.91	3.36	3.93	5.17	3.84
PKMG	1.99	2.99	3.59	4.36	3.23
P	2.02	2.15	2.36	2.38	2.23
PK	2.37	3.68	3.73	4.07	3.46
PMG	2.43	2.46	2.47	2.75	2.53
O	1.98	1.81	1.73	1.80	1.83
MEAN	2.37	2.91	3.15	3.55	2.99

MANURE KMG 100 3.07

GRAND MEAN 3.00

2ND CUT MEAN DM% 25.6

86/R/BN/7

GRASS

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

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

N PERCUT MANURE	75	100	125	150	MEAN
D	6.34	8.62	8.85	8.62	8.11
DPK	6.74	7.83	8.96	9.66	8.30
PKMG	5.71	7.47	8.46	9.13	7.69
P	4.68	4.86	5.74	5.03	5.08
PK	5.96	7.96	8.75	9.25	7.98
PMG	4.91	4.93	5.56	5.37	5.19
O	4.06	4.13	4.00	4.00	4.05
MEAN	5.49	6.54	7.19	7.29	6.63

MANURE KMG 100 6.94

GRAND MEAN 6.64

TOTAL OF 2 CUTS MEAN DM% 21.5

SUB PLOT AREA HARVESTED 0.00568