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

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99/R/PG/5

1ST CUT (6/7/99) DRY MATTER TONNES/HECTARE

***** Tables of means *****

	LIME MANURE	A	B	C	D	MEAN
N1	1	3.69	3.48	2.43	1.38	2.74
K	2/1	3.45	4.04	1.86	2.06	2.85
O(D)	2/2	3.13	3.47	1.60	1.57	2.44
O	3	3.00	3.16	1.75	1.94	2.46
P	4/1	3.22	3.74	3.11	3.12	3.30
N2P	4/2	2.33	2.82	2.83	2.52	2.62
N1MN	6	6.09	5.97			6.03
MN	7	5.93	5.59	6.37	4.26	5.54
PNAMG	8	2.87	3.60	2.94	3.25	3.16
MN(N2)	9/1	4.94	5.78	4.96	3.27	4.74
N2MN	9/2	6.14	5.39	6.42	5.41	5.84
N2PNAMG	10	3.57	3.75	4.36	3.85	3.88
N3MN	11/1	5.62	6.00	5.37	5.01	5.50
N3MNSI	11/2	5.63	5.61	4.56	5.67	5.37
O	12	2.70	2.44	2.50	2.39	2.51
(D/F)	13/1	3.05	4.30	4.24	4.58	4.04
D/F	13/2	4.46	5.29	5.09	5.07	4.98
MN(N2*)	14/1	4.96	4.64	5.04	4.84	4.87
N2*MN	14/2	5.56	4.56	4.03	3.63	4.44
MN(N2*)	15	5.84	5.52	5.19	3.29	4.96
N1*MN	16	5.97	5.13	4.85	4.30	5.06
N1*	17	3.71	3.78	2.92	3.18	3.40
N2KNAMG0	18/1			5.44	1.33	3.39
N2KNAMG2	18/2					4.50
N2KNAMG1	18/3	3.33	4.36			3.84
D0	19/1					5.44
D2	19/2					5.29
D1	19/3					5.04
D/N*PK0	20/1					5.39
D/N*PK2	20/2					5.59
D/N*PK1	20/3					5.68

1ST CUT MEAN DM% 29.6

99/R/BN/7

BARNFIELD

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

Sections 1 and 2, 5th year of clover. Sections 3-6, 5th year of grass/clover.

For previous years see 'Details' 1967 and 1973 and 74-98/R/BN/7.

Plot dimensions: 10.7 x 55.9.

Treatments:

Treatments to grass/clover, Sections 3-6: All combinations of:-

Whole plots

1. **MANURE** Fertilizers and organic manures:

(D)	(D)
(D)PK	(D) P K
PKMG	P K (Na) Mg
P	P
PK	P K
PMG	P (Na) Mg
0	0

P: 35 kg P as triple superphosphate in 1974 and since 1987, single superphosphate in other years

K: 225 kg K as sulphate of potash

(Na): 90 kg Na as sodium chloride until 1973, none since

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

(D): Farmyard manure at 35 t until 1975, none since

Sub-plots

2. **N PERCUT** Nitrogen fertilizer in 1998 (kg N per cut) as 34.5% N, cumulative to previous dressings 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

No nitrogen fertilizer applied in 1995. Castor meal last applied 1971, nitrate of soda and sulphate of ammonia until 1959.

Plus one plot **MANURE** KMG 100

99/R/BN/7

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

MANURE Fertilizers and organic manures as for grass/clover above, excluding KMG.

- 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.

Experimental diary:

- 18-Mar-99 : T : P applied.
 22-Mar-99 : T : K applied.
 24-Mar-99 : T : N applied.
 11-May-99 : T : Topped sections 1 and 2.
 08-Jun-99 : B : Cut, herbage removed.
 12-Jul-99 : T : N applied.
 29-Jul-99 : B : Garlon 2 at 6.0 l in 200 l, spot treated docks.
 : T : Topped sections 1 and 2.
 20-Oct-99 : B : Cut, herbage removed.

GRASS

1ST CUT (8/6/99) DRY MATTER TONNES/HECTARE

***** Tables of means *****

N PERCUT MANURE	75	100	125	150	Mean
(D)	4.75	5.08	4.65	4.66	4.79
(D)PK	6.96	6.47	5.30	5.97	6.17
PKMG	6.32	5.86	5.86	6.13	6.04
P	4.85	2.89	1.21	4.92	3.47
PK	6.27	6.50	5.86	6.54	6.29
PMG	4.90	3.45	2.62	4.08	3.76
0	4.19	3.49	3.18	3.37	3.56
Mean	5.46	4.82	4.10	5.09	4.87

MANURE KMG 100 5.47

Grand mean 4.89

1ST CUT MEAN DM% 25.4

99/R/BN/7

GRASS

2ND CUT (20/10/99) DRY MATTER TONNES/HECTARE

***** Tables of means *****

N PERCUT MANURE	75	100	125	150	Mean
(D)	1.68	1.98	2.56	3.07	2.32
(D) PK	2.64	3.87	3.44	3.52	3.37
PKMG	2.71	2.50	3.12	2.92	2.82
P	0.77	1.96	1.99	1.38	1.52
PK	2.46	2.84	3.92	4.03	3.31
PMG	0.82	2.05	1.96	1.37	1.55
0	0.86	1.85	2.04	1.17	1.48
Mean	1.71	2.44	2.72	2.49	2.34

MANURE KMG 100 2.76

Grand mean 2.35

2ND CUT MEAN DM% 31.3

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

***** Tables of means *****

N PERCUT MANURE	75	100	125	150	Mean
(D)	6.44	7.06	7.21	7.72	7.11
(D) PK	9.60	10.35	8.74	9.48	9.54
PKMG	9.03	8.36	8.99	9.05	8.86
P	5.62	4.85	3.20	6.30	4.99
PK	8.74	9.34	9.79	10.57	9.61
PMG	5.72	5.51	4.58	5.45	5.31
0	5.05	5.34	5.22	4.54	5.04
Mean	7.17	7.26	6.82	7.59	7.21

MANURE KMG 100 8.23

Grand mean 7.24

TOTAL OF 2 CUTS MEAN DM% 28.3