

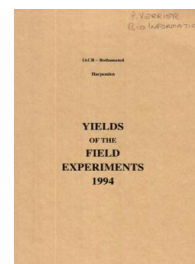
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Yields of the Field Experiments 1994

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94/R/BN/7 Barnfield - Ley

Rothamsted Research

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94/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 the 11th year of grass/clover. The 20th year of grass on the rest of the experiment.

For previous years see 'Details' 1967 and 1973 and 74-93/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)
(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

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 1994 (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

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

Plus one plot **MANURE** KMG 100

94/R/BN/7

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

MANURE Fertilizers and organic manures as for grass 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.
(3) Only one cut was taken for yield as there was insufficient growth to justify a second cut.

Experimental diary:

19-Nov-93 : T : P applied.
23-Nov-93 : T : K applied.
25-Nov-93 : T : Mg applied.
18-Mar-94 : T : N applied to sections 3, 4, 5 and 6.
30-Mar-94 : B : Flat rolled.
10-Jun-94 : B : Cut.
11-Jun-94 : B : Herbage cut on remainder of plot. Herbage removed.
14-Jun-94 : T : N applied to sections 3, 4, 5 and 6.
19-Oct-94 : B : Topped. No yields taken.

NOTE: Herbage samples were taken for chemical analysis.

94/R/BN/7

GRASS

1ST CUT (10/6/94) DRY MATTER TONNES/HECTARE

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

N PERCUT MANURE	75	100	125	150	Mean
(D)	7.35	8.72	6.59	7.06	7.43
(D)PK	7.04	6.63	7.32	7.29	7.07
PKMG	6.66	7.64	7.61	7.68	7.40
P	3.85	3.84	3.95	5.27	4.23
PK	6.44	7.51	7.61	5.71	6.81
PMG	3.61	3.66	4.01	2.61	3.47
0	3.22	3.40	2.70	2.07	2.85
Mean	5.45	5.91	5.68	5.38	5.61

MANURE KMG 100 6.66

Grand mean 5.64

1ST CUT MEAN DM% 23.3

PLOT AREA HARVESTED 0.00568

GRASS/CLOVER

1ST CUT (10/6/94) DRY MATTER TONNES/HECTARE

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

MANURE	(D)	(D)PK	PKMG	P	PK	PMG	0	Mean
	5.70	5.79	4.21	3.83	4.11	5.11	4.21	4.71

1ST CUT MEAN DM% 20.0

PLOT AREA HARVESTED 0.00155