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Yields of the Field Experiments 1982

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82/R/BN/7 Barnfield - Italian Ryegrass

Rothamsted Research

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82/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 fallow. The eighth year of Italian ryegrass on the rest of the experiment.

For previous years see 'Details' 1967 and 1973 and 74-81/R/BN/7.

Plot dimensions: Ryegrass: 10.7 x 55.9.

Treatments to ryegrass: All combinations of:-

Whole plots

1. MANURE Fertilizers and organic manures:

DN	D N
DNPK	D N P K
NPKMG	N P K (Na) Mg
NP	N P
NPK	N P K
NPMG	N P (Na) Mg
N	N

N: 100 kg N before first cut, 75 kg N after first cut (not applied 1982). All as 'Nitro-Chalk'.
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. NFORMRES Residues of forms of N (each supplying 96 kg N):

NS	Nitrate of soda
SA	Sulphate of ammonia
SA/CM	Sulphate of ammonia + castor meal
CM	Castor meal

Castor meal last applied 1961, others until 1959.

Plus one plot MANURE NKMG

NOTES: (1) P K and D treatments were applied to Sections 1 and 2 (fallow) until 1980 but not since.
(2) Grass was destroyed after the first cut preparatory to resowing.

82/R/BN/7

Cultivations, etc.:-

Ryegrass: P applied: 13 Nov, 1981. K applied: 2 Feb, 1982. Mg applied: 3 Feb. N applied: 22 Mar. Cut: 2 June.

Fallow: Ploughed: 12 Nov, 1981. Spring-tine cultivated: 14 Apr, 1982. Rotary cultivated: 25 May. Spring-tine cultivated: 21 June.

1ST AND ONLY CUT (2/6/82) DRY MATTER TONNES/HECTARE

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

NFORMRES MANURE	NS	SA	SA/CM	CM	MEAN
DN	5.45	5.45	4.99	4.92	5.20
DNPK	5.91	5.49	5.04	5.30	5.43
NPKMG	4.66	4.02	4.10	4.36	4.28
NP	3.19	2.84	2.89	3.31	3.06
NPK	4.54	3.92	4.47	4.51	4.36
NPMG	3.34	2.66	3.06	3.61	3.17
N	2.65	2.02	2.65	2.79	2.53
MEAN	4.25	3.77	3.89	4.11	4.00

MANURE NKMG 3.67

GRAND MEAN 3.99

MEAN DM% 23.6

SUB PLOT AREA HARVESTED 0.00568