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Yields of the Field Experiments 2001

[Full Table of Content](#)

Yields of the
Classical
and other
Long-term Experiments
2001

FAO - Rothamsted

01/R/BN/7 - Barnfield

Rothamsted Research

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01/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.

The 159th year, grass and grass with clover

For previous years see 'Details' 1967 and 1973 and 74-00/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 (applied at 77 kg in 1990, 1994 and 1998) (sulphate of magnesia until 1973)
(D): Farmyard manure at 35 t until 1975, none since

Sub-plots

2. **N PERCUT** Nitrogen fertilizer, last applied in 2000 (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

01/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) From 2001 it has been decided to put this experiment into 'mothballs'. No fertilisers are to be applied, and no yields taken of the cuts. The grass sward to be maintained and cut at appropriate times.

Experimental diary:

13-Jul-00 : B : : Ploughed, /w, started.
14-Jul-00 : B : : Ploughed, /w, completed.
05-Aug-00 : B : : Rolled.
16-Aug-00 : B : : Rolled.
16-Aug-00 : B : : Springtined.
16-Aug-00 : B : : Combination drilled, grass/clover ley, at 31 kg with the Accord drill
29-Aug-00 : B : : Dursban 4 at 1.5 l in 200 l.
29-Aug-00 : B : : Judge at 5.0 kg.
19-Jan-01 : B : : Broadcast grass/clover seed at 31 kg.
21-Apr-01 : B : : Slit seeded, Dalgety field mixture, at approximately 13.0 kg, by contractor.
21-Apr-01 : B : : Rolled.
20-Jul-01 : B : : Mowed for hay.
21-Jul-01 : B : : Spread hay to disperse grass seed.
27-Jul-01 : B : : Baled hay.
27-Jul-01 : B : : Rowed up hay.
27-Jul-01 : B : : Carted bales.
07-Aug-01 : B : : Flat rolled.
29-Aug-01 : B : : Topped.

Extra Note - grass/clover mixture was made up of the following: -
16 Aug 2000 and 19 Jan 2001: Fennema 4.0 kg; Gilford 5.0 kg; Aberexcel 3.0 kg; Twystar 5.0 kg; Condesa 2.0 kg; Napoleon 4.0 kg perennial ryegrasses, Erecta Timothy 1.0 kg, Ensign White clover 2.0 kg in 26.0 kg mix.

21 Apr 2001: Aberlinnet 11.5; Premium 7.7; Fennema Inter 7.7; Aubisque 15.4; Gilford 19.2; Twyster 19.2; Tivoli 7.7 perennial ryegrasses, Erecta Timothy 3.9; Ensign clover 7.7 proportional weights in mixture.