

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1991

[Full Table of Content](#)



---

## 91/R/BN/7 Barnfield - Leys

### Rothamsted Research

Rothamsted Research (1992) *91/R/BN/7 Barnfield - Leys* ; Yields Of The Field Experiments 1991, pp 27 - 30 - DOI: <https://doi.org/10.23637/ERADOC-1-46>

91/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 eighth year of grass/clover. The 17th year of grass on the rest of the experiment.

For previous years see 'Details' 1967 and 1973 and 74-90/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
0	0

P: 35 kg P as single superphosphate until 1987, triple superphosphate since and 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 1991 (kg N per cut) as 'Nitram', 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

91/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.

**Cultivations, etc.:-**

All sections: P applied: 21 Nov, 1990. K applied: 28 Nov. Cut: 30 May, 1991 and 11 Nov.  
 Grass (Sections 3, 4, 5 and 6) only: N applied: 8 Mar, 1991 and 10 June.

**GRASS**

**1ST CUT (30/5/91) DRY MATTER TONNES/HECTARE**

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

N PERCUT	75	100	125	150	Mean
<b>MANURE</b>					
D	4.90	4.58	4.63	4.72	4.71
DPK	4.63	4.65	5.07	4.98	4.83
PKMG	4.47	4.64	4.50	4.72	4.58
P	2.25	1.81	1.65	1.69	1.85
PK	4.72	4.15	4.57	4.62	4.51
PMG	2.50	1.96	1.75	1.80	2.00
0	2.55	2.36	1.94	2.06	2.22
Mean	3.72	3.45	3.45	3.51	3.53
<b>MANURE KMG 100</b>	3.73				
Grand mean	3.54				
1ST CUT MEAN DM%	21.6				

91/R/BN/7

**GRASS**

**2ND CUT (11/11/91) DRY MATTER TONNES/HECTARE**

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

N PERCUT	75	100	125	150	Mean
<b>MANURE</b>					
D	5.15	5.88	4.78	5.60	5.35
DPK	6.12	5.80	5.66	5.39	5.74
PKMG	5.24	4.04	4.73	4.85	4.72
P	2.94	1.52	1.76	1.81	2.01
PK	4.91	5.12	5.03	5.07	5.03
PMG	2.65	1.53	1.17	1.49	1.71
0	2.56	2.51	2.41	2.48	2.49
Mean	4.22	3.77	3.65	3.81	3.86

**MANURE KMG 100** 4.63

Grand mean 3.89

2ND CUT MEAN DM% 27.2

**TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE**

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

N PERCUT	75	100	125	150	Mean
<b>MANURE</b>					
D	10.05	10.46	9.42	10.33	10.06
DPK	10.75	10.45	10.73	10.37	10.57
PKMG	9.71	8.68	9.23	9.56	9.30
P	5.19	3.32	3.41	3.50	3.86
PK	9.63	9.28	9.60	9.68	9.55
PMG	5.15	3.50	2.93	3.29	3.72
0	5.11	4.86	4.34	4.53	4.71
Mean	7.94	7.22	7.09	7.33	7.39

**MANURE KMG 100** 8.36

Grand mean 7.43

TOTAL OF 2 CUTS MEAN DM% 24.4

PLOT AREA HARVESTED 0.00568

91/R/BN/7

**GRASS/CLOVER**

**1ST CUT (30/5/91) DRY MATTER TONNES/HECTARE**

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

<b>MANURE</b>	<b>D</b>	<b>DPK</b>	<b>PKMG</b>	<b>P</b>	<b>PK</b>	<b>PMG</b>	<b>0</b>	<b>Mean</b>
	1.18	1.21	0.57	0.25	0.34	0.28	0.29	0.59

1ST CUT MEAN DM% 30.3

**2ND CUT (11/11/91) DRY MATTER TONNES/HECTARE**

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

<b>MANURE</b>	<b>D</b>	<b>DPK</b>	<b>PKMG</b>	<b>P</b>	<b>PK</b>	<b>PMG</b>	<b>0</b>	<b>Mean</b>
	1.59	1.62	1.91	1.03	2.21	1.70	1.47	1.65

2ND CUT MEAN DM% 22.7

**TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE**

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

<b>MANURE</b>	<b>D</b>	<b>DPK</b>	<b>PKMG</b>	<b>P</b>	<b>PK</b>	<b>PMG</b>	<b>0</b>	<b>Mean</b>
	2.77	2.83	2.48	1.28	2.55	1.99	1.76	2.24

TOTAL OF 2 CUTS MEAN DM% 26.5

PLOT AREA HARVESTED 0.00568