

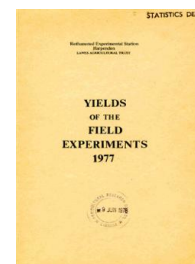
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1977

[Full Table of Content](#)



77/W/CS/181 Green Manure - Barley, Potatoes

Rothamsted Research

Rothamsted Research (1978) *77/W/CS/181 Green Manure - Barley, Potatoes* ; Yields Of The Field Experiments 1977, pp 229 - 232 - DOI: <https://doi.org/10.23637/ERADOC-1-29>

77/W/CS/181

GREEN MANURE

Object: To study the effects of a green manure sown at different dates and interactions with fertiliser nitrogen on the following crop - Woburn Great Hill III, Lansome III.

Sponsors: G.V. Dyke, G.E.G. Mattingly.

The second year, barley, potatoes.

For previous year see 76/W/CS/181.

Design: 4 series, each a single replicate of 24 plots.

Whole plot dimensions: 4.26 x 6.10.

Treatments:

Series I (barley), Series II (potatoes): All combinations of:-

- TREFOIL(76) Trefoil to barley in 1976:
NONE None
MAY Undersown in May
MAY/AUG Undersown in May, sown into stubble after harvest in August
JULY/AUG Oversown in July before harvest, sown into stubble after harvest in August

- N 77 Amounts of nitrogen fertiliser in 1977 (kg N):

Barley	Potatoes	Barley	Potatoes
0	0	0	0
50	100	50 to seedbed	100 to seedbed
100	200	100 to seedbed	200 to seedbed
150	300	150 to seedbed	300 to seedbed
50+50	100+100	50 to seedbed + 50 in May	100 to seedbed + 100 in June
100+50	200+100	100 to seedbed + 50 in May	200 to seedbed + 100 in June

Series III (barley): All combinations of:-

- TREFOIL(76) Trefoil to barley in 1976:
NONE None (duplicated)
AUG Sown into stubble after harvest in August (duplicated)
- N 77 Amounts of nitrogen fertiliser in 1977 (kg N):
0 0
50 50 to seedbed
100 100 to seedbed
150 150 to seedbed
50+50 50 to seedbed + 50 in May
100+50 100 to seedbed + 50 in May

77/W/CS/181

Series IV (barley): All combinations of:-

1. TREFOIL(767) Trefoil to barley in 1976 and 1977:

0	None
(MAY)APR	Undersown May 1976, April 1977
(J/AU)A	Oversown in July 1976, sown into stubble in August 1976, oversown in August 1977
(AU)AU	Sown into stubble in August 1976 and 1977

2. N 77 Amounts of nitrogen fertiliser (kg N):

	1977	1976
0	0	(0)
50	50 to seedbed	(30)
100	100 to seedbed	(60)
150	150 to seedbed	(90)
50+50	50 to seedbed + 50 in May	(120)
100+50	100 to seedbed + 50 in May	(150)

NOTE: N to Series IV in 1976 was all applied to the seedbed.

Standard applications:

Barley, Great Hill III, Series I & III: Manures: (0:20:20) at 300 kg combine drilled. Weedkiller: Ioxynil at 0.53 kg plus mecoprop at 1.6 kg in 220 l.
 Lansome III, Series IV: Manures: (0:20:20) at 300 kg combine drilled.
 Potatoes, Great Hill III, Series II: Manures: (0:14:28) at 1260 kg. Weedkiller: Linuron at 1.3 kg plus paraquat at 0.28 kg ion in 420 l. Fungicide: Mancozeb at 1.3 kg on four occasions, the last three with insecticide in 420 l, 390 l and twice in 370 l successively. Insecticide: Pirimicarb at 0.14 kg on three occasions with fungicide.

Seed: Julia, dressed with ethirimol, sown at 160 kg.
 Potatoes: Maris Piper.
 English trefoil 3498, inoculated with Rhizobium, sown at 27 kg.

Cultivations, etc.:-

Barley, Great Hill III, Series I & III: Ploughed: 28 Feb, 1977. Spring-tine cultivated: 8 Mar. Power harrowed: 9 Mar. Seed sown: 10 Mar. Spring N applied: 11 Mar. Weedkiller applied: 11 May. Late N applied: 23 May. Combine harvested: 30 Aug.
 Barley, Lansome III, Series IV: Ploughed: 28 Feb, 1977. Spring-tine cultivated: 8 Mar. Seed sown: 10 Mar. Spring N applied, trefoil undersown and raked in: 18 Mar. Late N applied: 23 May. Trefoil oversown: 5 Aug. Combine harvested: 15 Aug.
 Potatoes, Great Hill III, Series II: Ploughed: 28 Feb, 1977. Spring-tine cultivated: 8 Mar. PK applied: 6 Apr. Spring N applied, rotary cultivated, potatoes planted: 14 Apr. Grubbed and earthed up: 25 May. Weedkiller applied: 26 May. Late N applied: 20 June. Fungicide applied: 24 June. Fungicide with insecticide applied: 8 July, 21 July, 11 Aug. Haulm mechanically destroyed: 20 Sept. Lifted: 4 Oct.

NOTE: Samples of trefoil and weeds were dug just before ploughing for the determination of dry matter and N.

77/W/CS/181

BARLEY SERIES I

GRAIN TONNES/HECTARE

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

N 77	0	50	100	150	50+50	100+50	MEAN
TREFOIL(76)							
NONE	1.41	3.06	3.14	3.07	3.28	3.28	2.87
MAY	0.89	3.34	3.35	4.43	3.34	3.60	3.16
MAY/AUG	1.47	2.04	2.77	3.74	2.26	3.87	2.69
JULY/AUG	0.38	3.23	2.96	3.58	3.02	3.28	2.74
MEAN	1.04	2.92	3.05	3.71	2.97	3.51	2.87

GRAIN MEAN DM% 83.2

STRAW TONNES/HECTARE

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

N 77	0	50	100	150	50+50	100+50	MEAN
TREFOIL(76)							
NONE	0.60	1.66	1.90	1.80	1.33	1.70	1.50
MAY	0.56	1.54	1.82	2.21	1.37	1.59	1.51
MAY/AUG	0.53	1.01	1.53	2.13	1.18	1.78	1.36
JULY/AUG	0.27	1.24	1.50	2.08	1.53	1.81	1.41
MEAN	0.49	1.36	1.69	2.05	1.35	1.72	1.44

STRAW MEAN DM% 66.6

PLOT AREA HARVESTED 0.00173

BARLEY SERIES III

GRAIN TONNES/HECTARE

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

N 77	0	50	100	150	50+50	100+50	MEAN
TREFOIL(76)							
NONE	0.50	2.04	4.25	3.20	3.14	3.22	2.72
AUG	0.59	2.57	2.96	4.43	3.08	4.44	3.01
MEAN	0.55	2.30	3.60	3.81	3.11	3.83	2.87

GRAIN MEAN DM% 75.2

STRAW TONNES/HECTARE

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

N 77	0	50	100	150	50+50	100+50	MEAN
TREFOIL(76)							
NONE	0.48	1.24	2.26	1.65	1.18	1.47	1.38
AUG	0.27	1.21	1.33	2.38	1.47	2.09	1.46
MEAN	0.38	1.23	1.80	2.02	1.32	1.78	1.42

STRAW MEAN DM% 62.5

PLOT AREA HARVESTED 0.00173

77/W/CS/181

BARLEY SERIES IV

GRAIN TONNES/HECTARE

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

N 77	0	50	100	150	50+50	100+50	MEAN
TREFOIL(767)							
NONE	0.96	3.47	3.86	4.63	3.64	3.86	3.40
(MAY)APR	0.71	3.22	5.13	3.79	3.97	4.97	3.63
(J/AU)A	1.39	3.61	4.33	4.36	4.34	4.05	3.68
(AU)AU	1.09	4.25	4.04	4.31	3.61	4.53	3.64
MEAN	1.04	3.64	4.34	4.27	3.89	4.35	3.59

GRAIN MEAN DM% 79.7

STRAW TONNES/HECTARE

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

N 77	0	50	100	150	50+50	100+50	MEAN
TREFOIL(767)							
NONE	0.38	1.90	2.40	2.39	2.32	2.52	1.98
(MAY)APR	0.68	1.59	2.67	2.26	2.30	2.55	2.01
(J/AU)A	0.53	1.26	2.28	2.30	2.26	2.48	1.85
(AU)AU	0.50	2.24	2.02	2.63	2.50	2.86	2.13
MEAN	0.52	1.75	2.34	2.40	2.35	2.60	1.99

STRAW MEAN DM% 74.4 PLOT AREA HARVESTED 0.00173

POTATOES SERIES II

TOTAL TUBERS TONNES/HECTARE

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

N 77	0	100	200	300	100+100	200+100	MEAN
TREFOIL(76)							
NONE	19.4	37.7	31.6	36.9	28.6	28.9	30.5
MAY	22.0	39.8	30.1	34.8	32.7	36.7	32.7
MAY/AUG	19.7	28.4	37.3	33.9	36.1	35.0	31.7
JULY/AUG	15.3	30.9	35.2	33.9	32.4	32.4	30.0
MEAN	19.1	34.2	33.6	34.9	32.5	33.3	31.2

PERCENTAGE WARE 3.81CM (1.5 INCH) MIDDLE

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

N 77	0	100	200	300	100+100	200+100	MEAN
TREFOIL(76)							
NONE	83.8	93.1	92.1	92.2	93.2	89.6	90.7
MAY	85.1	93.7	94.3	94.0	91.2	91.5	91.6
MAY/AUG	84.8	88.9	96.1	94.6	92.8	91.0	91.4
JULY/AUG	83.8	91.9	94.1	93.1	91.9	94.4	91.5
MEAN	84.4	91.9	94.2	93.5	92.3	91.6	91.3

PLOT AREA HARVESTED 0.00087