

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

Collection of Plans for the Woburn Organic Manuring Experiment

[Full Table of Content](#)



W/RN/12 - Woburn Organic Manuring 1970 - 1974

Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 1970 - 1974* ; Collection Of Plans For The Woburn Organic Manuring Experiment, pp 5 - 9

201
 STACKYARD 'B' 6th year 1970
 Sponsor: G.E.G. Mattingly
 Keys cut 496.

TREATMENTS per acre
Organic Manures 1970
 Dg 20 tons F.Y.M. (3 tons DM/annum on average;
 St 3 tons (DM) Straw } Total nutrients
 Pt 3 tons (DM) Peat } balanced by
 Gm Green manure } PK Mg additions
 1968: clover (late flowering red).

Fertilisers
 Fd PKMg equivalent to FYM (High PKMg).
 Fs K₂Mg equivalent to straw with P (Low PKMg).

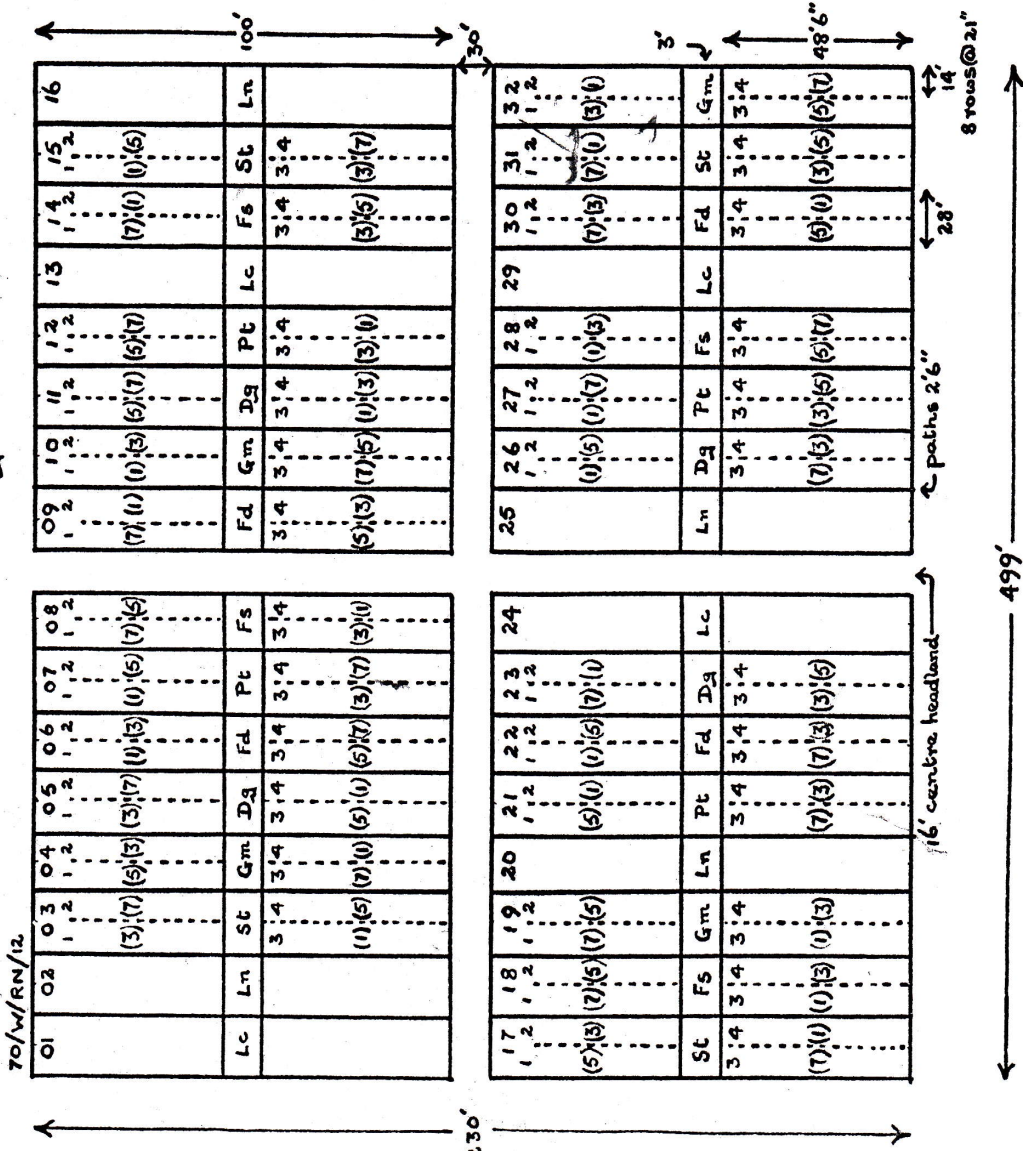
N.B. In 1970 all plots receive 0.5 cut P₂O₅, 1.0 cut K;
 as (0:14:28)

Supplementary fertilisers
 Fd 0.3 cut K₂O. Lc 0.4 cut K₂O } as mural
 St 0.3 cut K₂O. Ln 0.8 cut K₂O } of Potash
Nitrogen to Sugar Beet 1969 (after wheat 1968)
 (1),(3),(5),(7) 0.2, 0.6, 1.0, 1.4 cut N as Nitro-chalk '21.
Variety: Maris Bead. Sown at 200 lb/acre: 20 Mar

Leys: Sown: Apr 23, 1965
 Lc: Mixture with clover
 Ln: Mixture without clover, 1.0 cut N in Spring;
 for each cut. Leys receive PKMg manuring
 annually for nutrients removed in cut grass.

Sub plot area 14' x 48'6" = 0.0156 acre

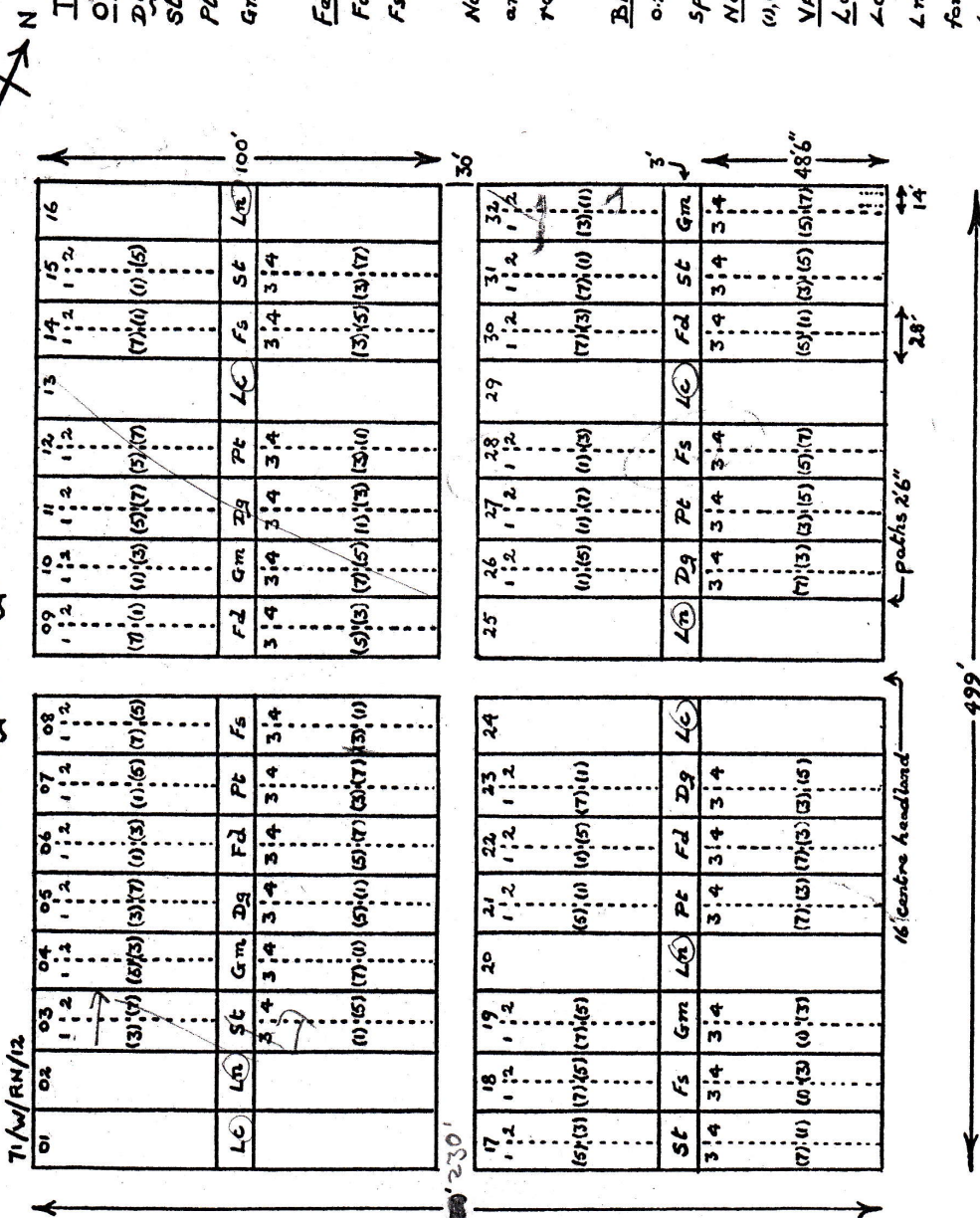
WOBURN ORGANIC MANURING EXPERIMENT
 1970 S.Beans & Leys



WOBURN
 STACKYARD 'B' 7th year 1971 20'
 Sponsor G.E.G. Mattingly

ORGANIC MANURING EXPERIMENT

1971 Rye & Leys



TREATMENTS per acre (hectare)

- Organic Manures 1971
 Dg 10 tons (25 tonnes) FYM (3 tons DM/annum on average
 St 3 tons (7.5 tonnes) (DM) Straw } Total nutrients
 Pt 3 tons (7.5 tonnes) (DM) Peat } balanced by PKMg
 Gm Green manure } additions to equal Fs
 1970: clover (late flowering red).

Fertilisers

- Fd P, K, Mg equivalent to Dg (High PKMg).
 Fs K, Mg equivalent to straw with P (Low PKMg)

Note: Additional P and Mg are applied in autumn and spring to balance nutrients differentially removed by previous crops.

BASAL NITROGEN TO RYE

0.25 cwt (31 kg) N as 'Nitro-chalk' 21 top dressed in spring.
 Nitrogen to sugar beet 1969 (after v. wheat 1968)

(1), (3), (5), (7) 0.2, 0.6, 1.0, 1.4 cwt (23, 75, 125, 175 kg) as Nitro-chalk 21
 VARIETY: King II: 17 Oct. (No nitrogen to beans 1970)

Leys: Sown: Apr 23, 1965

Lc: Mixture with clover

Ln: Mixture without clover, 10 cwt (125 kg) N in Spring & for each cut. Leys receive PKMg manuring annually for nutrients removed in cut grass.

Sub plot area: 14 x 486" = 0.0156 acre (0.0063 ha)

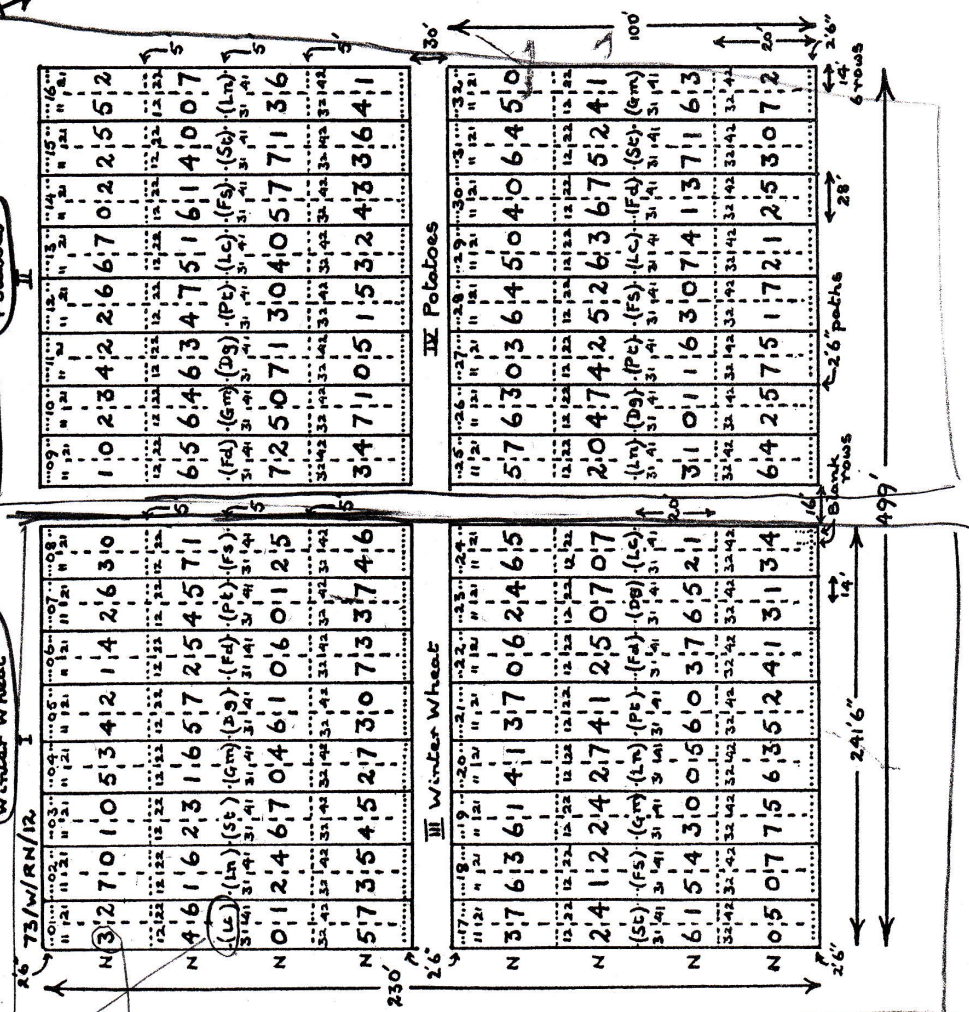
204

STACKYARD 'B' 1973

Sponsor: G.E. & Mattingly

9th year

573776
573775
WOBURN ORGANIC MANURING EXPERIMENT
Potatoes
Winter Wheat



TREATMENTS per acre (hectare)

Residues of Organic Manures applied annually 1965-71 and Ley (saw) 1965

- (Dg) 4 tons (10 tonnes) (DM) FYM, (16 tons [40 tonnes] FYM)
- (St) 3 tons (7.5 tonnes) (DM) Straw
- (Pt) 3 tons (7.5 tonnes) (DM) peat
- (Gm) Green Manure 1972 Blocks II & IV Essex Broad Red Clover
- (Lc) Grass-clover ley ploughed up 1971 Blocks I & III
- (Ln) Grass ley with N 1972 Blocks II & IV

Fertilisers

- (Fd) P, K, Mg equivalent to Dg (High PKMg)
- (Fs) K, Mg equivalent to straw with P (Low PKMg)

Note: P, K, Mg are applied in autumn and spring in addition to balance nutrients differentially removed by previous crops

Nitrogen to Winter Wheat 1973

- N0 - None, N1-0-4, N2-0-8, N3-0-6, N4-0-8, N5-1-0, N6-1-0, N7-1-39 cut N as Nitro-chalk 25
- (0 25 50 75 100 125 150 175 kg N)

Nitrogen to Potatoes 1973

- N0 - None, N1-0-4, N2-0-8, N3-1-19, N4-1-59, N5-1-99, N6-2-39, N7-2-79 cut N as Nitro-chalk 25
- (0 50 100 150 200 250 300 350 kg N)

BASAL MANURING per acre (hectare)

Blocks II & IV Potatoes - Pentland Crown Planted: 6-7 Apr
183 cut (230 kg) P₂O₅ as superphosphate, 192 cut (240 kg) K₂O as muriate of potash ploughed in in autumn, and rotary cultivated in at the same amount in spring with 0.79 cut (100 kg) MgO as Epsom salt + balancing P & Mg differentially removed by rye in 1972

Blocks I & III Winter Wheat - Cappelle @ 175 lb (196 kg) Date: 24 Nov

Sub-plot area

14' x 20' = 0.0064 acre (0.0026 ha.)

STACKYARD B' 1974

Sponsor: G.E. & Mattingly

10th year

WOBURN ORGANIC MANURING EXPERIMENT

Sugar beet

Winter Wheat

7A W/RN/12 I

08-11	09-11	10-11	11-11	12-11	13-11	14-11	15-11	16-11
11 21	11 21	11 21	11 21	11 21	11 21	11 21	11 21	11 21
3.2	7.0	1.0	5.3	4.2	1.4	2.6	3.0	
12 22	12 22	12 22	12 22	12 22	12 22	12 22	12 22	
4.6	1.6	2.3	1.6	5.7	2.5	4.5	7.1	
(Lc)	(Ln)	(St)	(Gm)	(Dg)	(Fd)	(Pt)	(Fs)	
31 41	31 41	31 41	31 41	31 41	31 41	31 41	31 41	
0.1	2.4	6.7	0.4	6.1	0.6	0.1	2.5	
32 42	32 42	32 42	32 42	32 42	32 42	32 42	32 42	
5.7	3.5	4.5	2.7	3.0	7.3	3.7	4.6	

III Sugar beet

17-11	18-11	19-11	20-11	21-11	22-11	23-11	24-11
11 21	11 21	11 21	11 21	11 21	11 21	11 21	11 21
3.7	6.3	6.1	4.1	3.7	0.6	2.4	6.5
12 22	12 22	12 22	12 22	12 22	12 22	12 22	12 22
2.4	1.2	2.4	2.7	4.1	2.5	0.7	0.7
(St)	(Fs)	(Gm)	(Ln)	(Pt)	(Fd)	(Dg)	(Lc)
31 41	31 41	31 41	31 41	31 41	31 41	31 41	31 41
6.1	5.4	3.0	0.5	6.0	3.7	6.5	2.1
32 42	32 42	32 42	32 42	32 42	32 42	32 42	32 42
0.5	0.7	7.5	6.3	5.2	4.1	3.1	3.4

II Winter Wheat

09-11	10-11	11-11	12-11	13-11	14-11	15-11	16-11
11 21	11 21	11 21	11 21	11 21	11 21	11 21	11 21
1.0	2.3	4.2	2.6	6.7	0.2	2.5	5.2
12 22	12 22	12 22	12 22	12 22	12 22	12 22	12 22
6.5	6.4	6.3	4.7	5.1	6.1	4.0	0.7
(Fd)	(Gm)	(Dg)	(Pt)	(Lc)	(Fs)	(St)	(Ln)
31 41	31 41	31 41	31 41	31 41	31 41	31 41	31 41
7.2	5.0	7.1	3.0	4.0	5.7	7.1	3.6
32 42	32 42	32 42	32 42	32 42	32 42	32 42	32 42
3.4	7.1	0.5	1.5	3.2	4.3	3.6	4.1

IV Winter Wheat

25-11	26-11	27-11	28-11	29-11	30-11	31-11	32-11
11 21	11 21	11 21	11 21	11 21	11 21	11 21	11 21
5.7	6.3	0.3	6.4	5.0	4.0	6.4	5.0
12 22	12 22	12 22	12 22	12 22	12 22	12 22	12 22
2.0	4.7	4.2	5.2	6.3	6.7	5.2	4.1
(Ln)	(Dg)	(Pt)	(Fs)	(Lc)	(Fd)	(St)	(Gm)
31 41	31 41	31 41	31 41	31 41	31 41	31 41	31 41
3.1	0.1	1.6	3.0	7.4	1.3	7.1	6.3
32 42	32 42	32 42	32 42	32 42	32 42	32 42	32 42
6.4	2.5	7.5	1.7	2.1	2.5	3.0	7.2

TREATMENTS per acre (hectare)
 Residues of Organic Manures (applied annually 1965-71) and Ley (Sown 1965)
 (Dg) 4 tons (40 tonnes) (DM) FYM, (16 tons [40 tonnes] FYM)
 (St) 3 tons (7.5 tonnes) (DM) Straw.
 (Pt) 3 tons (7.5 tonnes) (DM) Peat.
 (Gm) Green Manure
 (Lc) Grass-clover ley (ploughed up 1971 Blocks I & III)
 (Ln) Grass ley with N (1972 Blocks II & IV)
 Fertilisers
 (Fd) P, K, Mg equivalent to Dg (High P, K, Mg)
 (Fs) K, Mg equivalent to Straw with P (Low P, K, Mg)
 Nitrogen to Winter Wheat 1974 Series II and IV
 N0-None, N1-0.2, N2-0.4, N3-0.6, N4-0.8, N5-1.0, N6-1.19, N7-1.39 cat N as
 (0 25 50 75 100 125 150 175 kg N/ha)
 Nitrogen to Sugar beet 1974 Series I and III
 N0-None, N1-0.3, N2-0.6, N3-0.9, N4-1.3, N5-1.6, N6-1.9, N7-2.2 cat N as
 (0 40 80 120 160 200 240 280 kg N/ha)
 BASAL MANURING per acre (hectare) sown at:
 Blocks II and IV W. Wheat - Cappelle 170 lb (190 kg) 22 Oct
 0.9 cat (114 kg) B₂O₅ as Superphosphate, 0.48 cat (60 kg) K₂O as Muriate of Potash
 Blocks I and III Sugar beet - Kleira E sown at: 7 lb (7.8 kg) Data: 5 Apr
 1020 lb (1143 kg) compound fertiliser (0:20:20) ploughed in in
 autumn. 510 lb (572 kg) compound fertiliser (0:20:20), 89 lb (100 kg)
 MgO as Epsom salts in the seedbed, 73 lb (82 kg) B₂O₃ as Solubar in
 Sub-plot area.
 14' x 20' = 0.0064 acre (0.0026 ha)