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RESEARCH

# Collection of Plans for the Woburn Organic Manuring Experiment

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## W/RN/12 - Woburn Organic Manuring 1990 - 1994

### Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 1990 - 1994* ; Collection Of Plans For The Woburn Organic Manuring Experiment, pp 25 - 29

1990

STACKYARD B.

26 TH Year

EXPERIMENT

ORGANIC MANURING

WOBURN

Sponsor: P. R. Poulton

TREATMENTS to Winter Wheat (Ww) and Winter Beans (BE)

Residues of Organic Manures

(Dg) FYM annually 1985-71 and 1981-85

(St) Straw annually 1965-71 and 1981-85

(Gm) Green Manure annually 1965-71 then (Lc8) Ley (clover/grass)

1979-86 (BE) 1980-87 (Ww)

(Pt) Peat annually 1965-71 then (Lc8) 1979-86 (BE) 1980-87 (Ww)

Residues of Fertilizers

(Fd) P, K, Mg equivalent to (Dg) rate annually 1965-71 and 1981-85 (Ww)

(Fs) K, Mg equivalent to straw with P annually 1965-71 then

± Dg rate 1981-86 (Ww) 7 (BE)

Legs: (Lc) (clover/grass/ley) 1965-71 then (Lc6) 1981-86 (BE) 7 (Ww) - clover/grass/ley

(Lc7) Grass ley with N

Sub Plot N Treatments. kg ha<sup>-1</sup>

1, 2, 3, 4, 5 0, 50, 100, 150, 200, 250 (Ww)

(-) 1, 2, 3, 4, 5 0, 50, 100, 150, 200, 250, (BE) applied in 1989.

STANDARD APPLICATIONS per hectare

Manures: (0:17:34) @ 588 kg with seed and

Mn foliar spray @ SFP in spring. (BE) and (Ww)

Wheat only: Cartafuran @ 7.5 kg, Drazo pellet's (standard rate) must be applied

7-14 days before sowing, repeat with seed

VARIETIES: BE Banner sown @ Kgha' Date;

Ww Mercia sown @ Kgha' Date;

SOB PLOT AREA: 14' x 30' = 0.0039 ha.

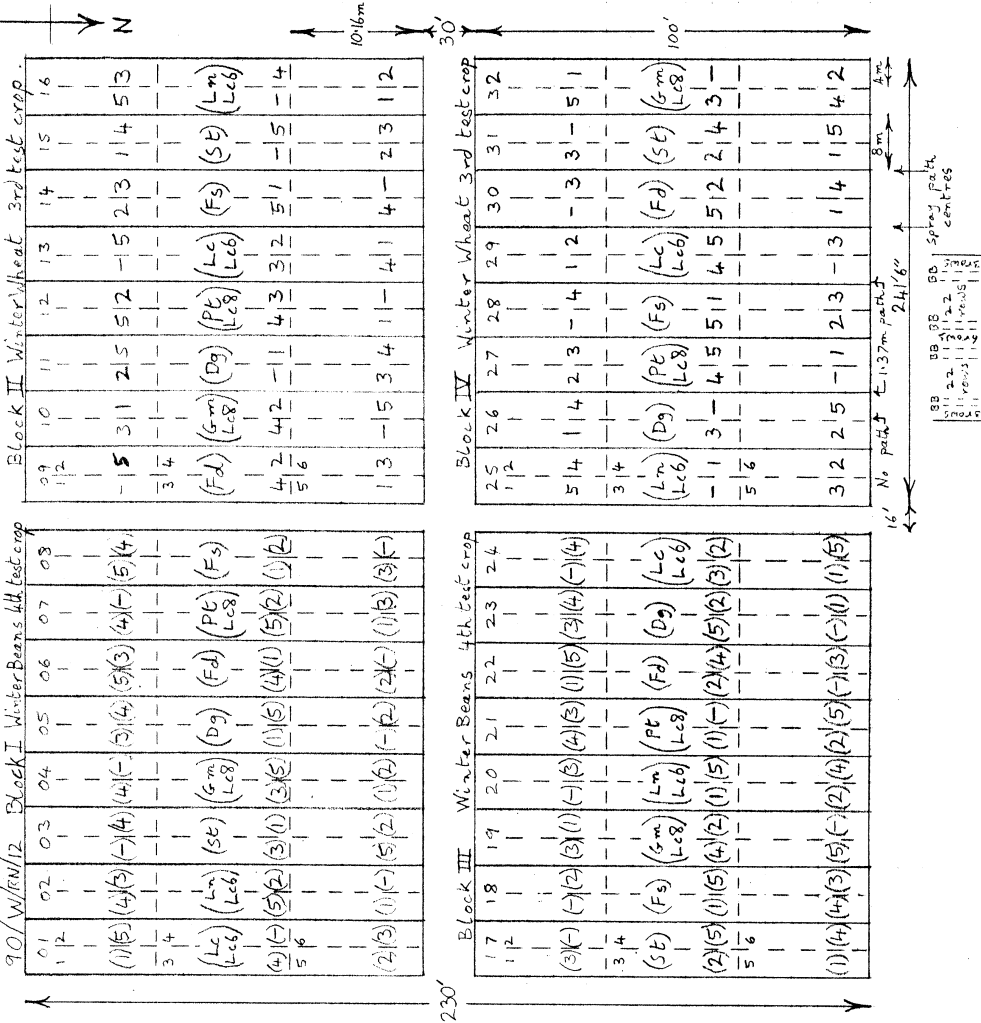
Wheat plots drilled without paths between sub-plots. Cross paths

to be cut just before N application to allow for maximum

sampling area before them.

W.Beans are sown solid, seed ploughed in, and paths

cut later



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27th Year STACKYARD B 1991

Sponsor: PR. Peulston  
TREATMENTS to W. wheat (NW) and W. beans (BE)

Residues of organic manures

- (Dg) FYM annually 1965-71 and 1981-85
- (St) Straw annually 1965-71 and 1981-85
- (Gm) Green manure annually 1965-71 then (Le8) Leg (Clover/Grass) 1979-86 (BE) 1980-87 (NW)
- (Pt) Peat annually 1965-71 then (Le8) 1979-86 (BE) 1980-87 (NW)

Residues of Fertilizers

- (F0) P, K, Mg equivalent to (Dg) rate, annually 1965-71 and 1981-6 (BE) 7 (NW)
- (F5) K, Mg equivalent to straw with P annually 1965-71 then

Legs: (Le8) Clover/Grass by } 1965-71 then (Le6) 1981-6 (BE) 7 (NW) - clover/Grass leg  
(-N) Same leg with N

Sub Plot N Treatments Kg N ha<sup>-1</sup>

- 1, 2, 3, 4, 5, 0, 50, 100, 150, 200, 250. NW
- (-1)(2)(3)(4)(5) 0, 50, 100, 150, 200, 250. BE applied in 1970 & previous Ws

STANDARD APPLICATIONS ha<sup>-1</sup>

- Manures: BE: (0.16:36) @ 556kg
- NW: (0.16:36) @ 556kg

Min. foliar spray @ 5FP in spring

VARIETIES: BE Banner sown @ 2.1 t/ha / m<sup>2</sup> (150 kg/ha) on 23 October 1990  
NW Hereta sown @ 150 kg/ha Date: 27 September 1990

SUBPLOT AREA 14' x 30' = 0.0039 ha.

W. beans are sown solid, seed ploughed in, and paths cut later

WOBURN W. wheat & W. beans ORGANIC MANURING EXPERIMENT

91/W/RN/12 Block I W. wheat

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
(Le6) (Le8)	(Le6) (Le8)	(S0) (Le8)	(Gm) (Le8)	(Dg) (F0)	(F0) (F5)	(Pt) (Le8) (F5)	(F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)	(Gm) (Le8) (F0) (F5)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Block II W. wheat

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
(F5) (Le6) (Le8)	(F5) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Block III W. beans

33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Block IV W. beans

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)	(Gm) (Le6) (Le8)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

WOBURN W. Wheat  
 92 W/RN/12 Block I 2nd wheat  
 28th year STACKYARD B 1992  
 Sponsor: P. R. Poulton

ORGANIC MANURING EXPERIMENT

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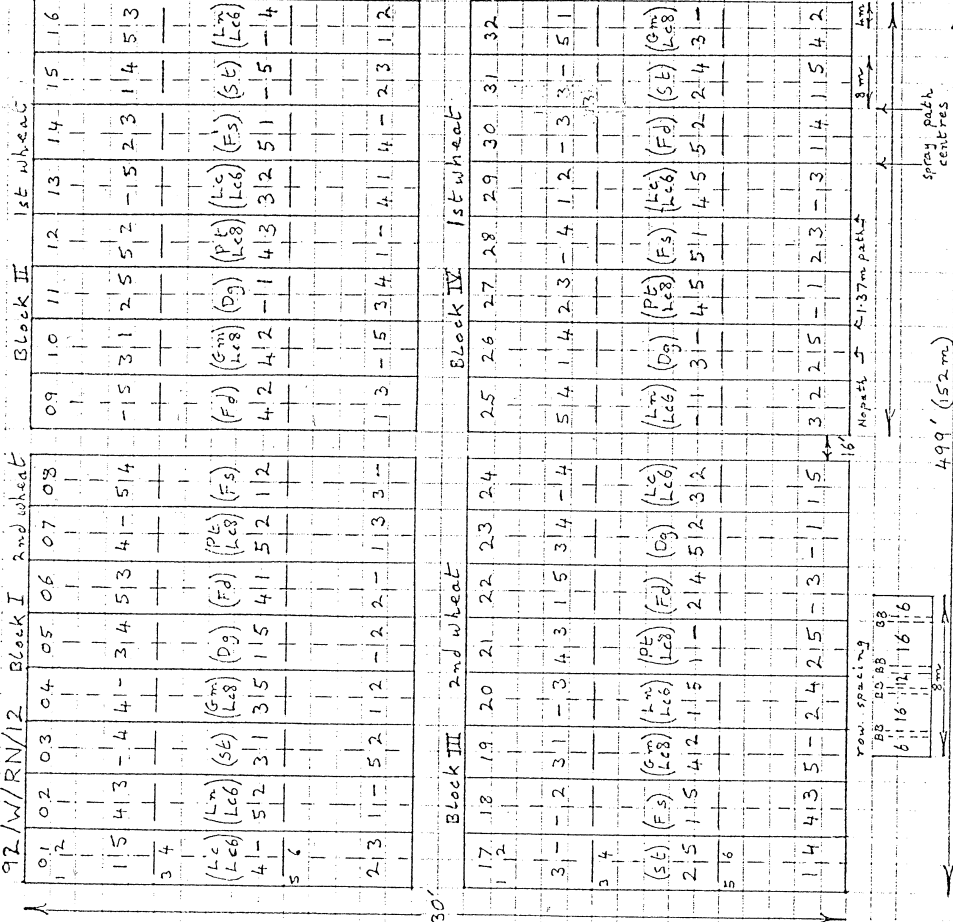
TREATMENTS  
 Residues of organic manures  
 (Dg) FYM annually 1965-71 and 1981-85  
 (St) straw annually 1965-71 and 1981-85  
 (Gm) Green manure annually 1965-71 then (Lc8) 1st  
 (claver/grass) 1979-88 (Bk5 I-III) 1980-87 (Bk5 I-IV) 1980-87 (Bk5 I-IV) > II  
 (Pb) Peat annually 1965-71 then (Lc8) 1979-86 (Bk5 I-III) 1980-87 (Bk5 I-IV) > II  
 Residues of Fertilizers  
 (Fd) P K Mg. Equivalent to (Dg) rate, annually 1965-71 & 1981-86 (Bk5 I-III) 7 (Bk5 I-IV)  
 (Fs) K Mg. Equivalent to straw with P annually 1965-71 then  
 1/2 Dg rate. 1981-86 (Bk5 I-IV) 7 (Bk5 I-III)  
 Lays: (Lc) claver/grass. Lay 1965-71 then (Lc6) 1981-86 (Bk5 I-III) 7 (Bk5 I-IV)  
 (Ln) Grass lay with N  
 - claver/grass. Lay

Subplot N Treatments Kg N/ha  
 1, 2, 3, 4, 5. 0, 50, 100, 150, 200, 250.

BASAL MANURE  
 P & K (0:16:36) @ 560 Kg/ha on 3 Oct 1991  
 Mn foliar spray @ 5FP in spring

VARIETY  
 Maree sown @ 140 Kg/ha on 3 Oct 1991

SUBPLOT AREA  
 14' x 30' = 0.0039 ha.



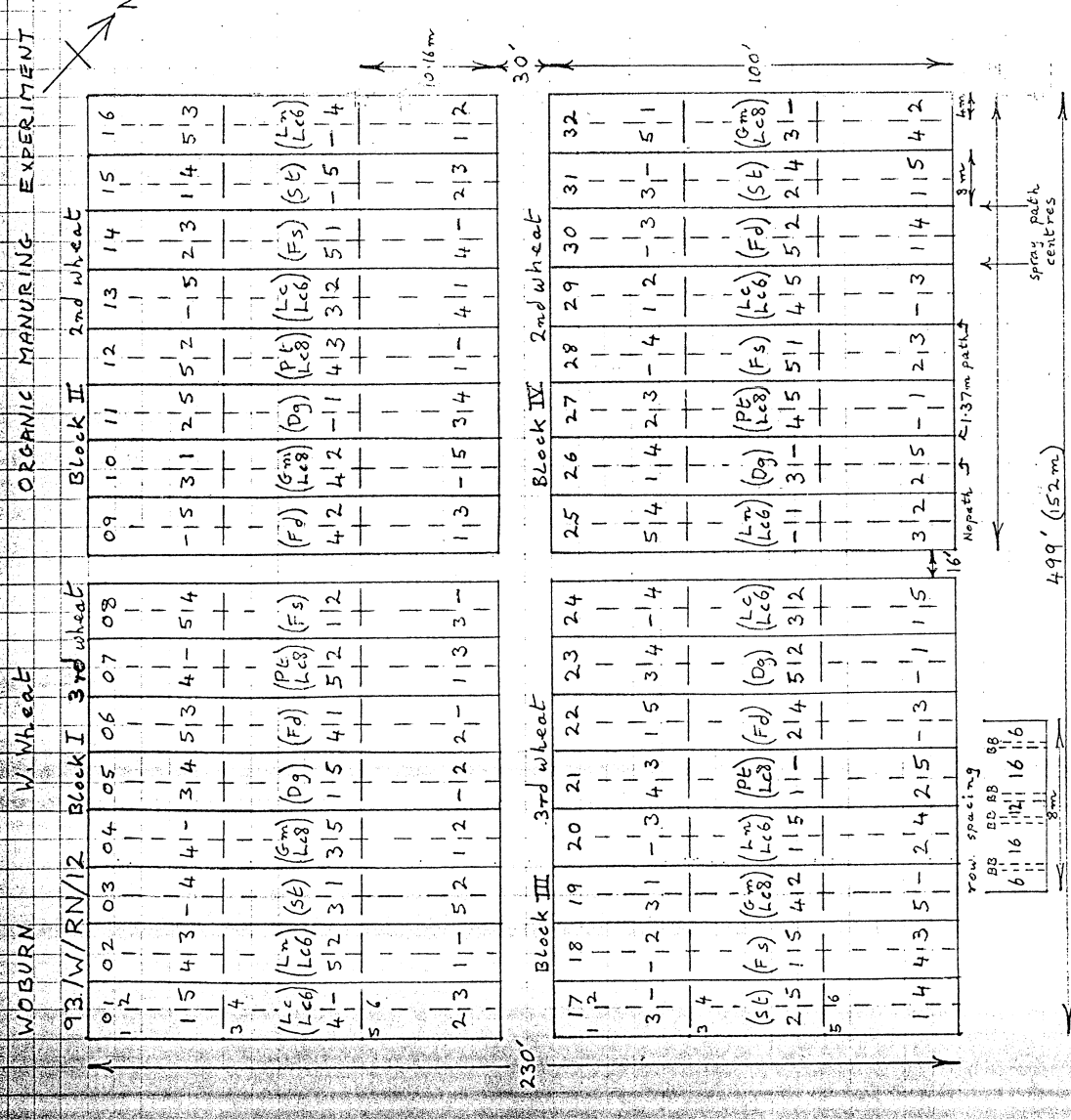
WOBURN 1993 29th year STACKYARD B 1993 204  
 Sponsor: P. R. Poulton

**TREATMENTS**  
 Residues of organic manures  
 (Dg) FYM annually 1965-71 and 1981-85  
 (St) Straw annually 1965-71 and 1981-85  
 (Gm) Green manure annually 1965-71 then (Lc8) Ley  
 (clover/grass) 1979-86 (Blks I & III) 1980-87 (Blks II & IV)  
 (Pt) Peat annually 1965-71 then (Lc8) 1979-86 (Blks I & III) 1980-87 (Blks II & IV)  
 Residues of Fertilisers  
 (Fd) P K Mg Equivalent to (Dg) rate, annually 1965-71 & 1981-86 (Blks I & III) 7 (Blks II & IV)  
 (Fs) K Mg Equivalent to straw with P annually 1965-71 then  
 1/2 Dg rate 1981-6 (Blks II & IV) 7 (Blks I & III)  
 Lays: (Lc) clover/grass ley } 1965-71 then (Lc6) 1981-86 (Blks I & III) 7 (Blks II & IV) -  
 (Lm) Grass ley with N } - clover/grass ley

Subplot N Treatments Kg N/ha<sup>-1</sup>  
 -, 1, 2, 3, 4, 5. 0, 50, 100, 150, 200, 250.

**BASAL MANURE**  
 P & K (0:16:36) @ 556 Kg/ha<sup>1</sup>  
 Mn foliar spray @ SFP in spring

**VARIETY**  
 Mercia sown @ 130 Kg/ha<sup>1</sup> on 7 Oct 1992  
 SUBPLOT AREA 14' x 30' = 0.0039 ha.



row spacing

88	88	88
6	16	16
11	11	11
8	8	8

30th year STACKYARD B 1994  
 Sponsor: P. R. Poulton

ORGANIC MANURING EXPERIMENT

WOUBURN W. Wheat

94 W/RN/12

Block I 4th wheat		Block II 3rd wheat					
01	02	03	04	05	06	07	08
12	1	1	1	1	1	1	1
15	413	4	41	314	513	41	514
34	1	1	1	1	1	1	1
(Lc)	(Lm)	(St)	(Gm)	(Dg)	(Fd)	(Pt)	(Fs)
(Lc6)	(Lc6)	(Lc8)	(Lc8)	(Lc8)	(Lc8)	(Lc8)	(Lc8)
41	52	31	315	115	41	52	112
56	1	1	1	1	1	1	1
213	11	52	12	12	21	113	31

09	10	11	12	13	14	15	16
1	1	1	1	1	1	1	1
15	31	215	52	15	23	14	513
1	1	1	1	1	1	1	1
(Fd)	(Gm)	(Dg)	(Pt)	(Lc)	(Fs)	(St)	(Lc)
(Lc8)	(Lc8)	(Lc8)	(Lc8)	(Lc6)	(Lc6)	(Lc6)	(Lc6)
412	412	11	413	312	511	15	14
1	1	1	1	1	1	1	1
113	15	314	1	411	41	213	112

Block III 4th wheat

17	18	19	20	21	22	23	24
12	1	1	1	1	1	1	1
31	2	31	3	43	15	314	14
34	1	1	1	1	1	1	1
(St)	(Fs)	(Lc8)	(Lm)	(Pt)	(Fd)	(Dg)	(Lc)
(Lc6)	(Lc6)	(Lc8)	(Lc6)	(Lc8)	(Lc6)	(Lc6)	(Lc6)
215	115	412	115	11	214	512	312
516	1	1	1	1	1	1	1
114	413	51	214	215	13	115	115

Block IV 3rd wheat

25	26	27	28	29	30	31	32
1	1	1	1	1	1	1	1
514	14	213	4	12	3	31	51
1	1	1	1	1	1	1	1
(Lm)	(Dg)	(Pt)	(Fs)	(Lc)	(Fd)	(St)	(Gm)
(Lc6)	(Lc6)	(Lc8)	(Lc6)	(Lc6)	(Lc6)	(Lc6)	(Lc8)
11	31	415	511	415	52	24	31
312	215	1	213	13	114	115	42

TREATMENTS

Residues of organic manures  
 (Dg) FYM annually 1965-71 and 1981-85  
 (St) Straw annually 1965-71 and 1981-85  
 (Gm) Green manure annually 1965-71 then (Lc8) ley  
 (Pt) Peat annually 1979-86 (Blks I & III) 1980-87 (Blks II & IV)  
 Residues of Fertilizers  
 (Fd) PK Mg Equivalent to (Dg) rate, annually 1965-71 & 1981-6 (Blks I & III) 7 (Blks II & IV)  
 (Fs) K Mg Equivalent to straw with P annually 1965-71 then  
 1/2 Dg rate 1981-6 (Blks II & IV) 7 (Blks I & III)  
 Lays: (Lc) clover/grass ley 1965-71 then (Lc6) 1981-6 (Blks I & III) 7 (Blks II & IV) -  
 (Lm) Grass ley with N - clover/grass ley

Subplot N Treatments Kg N ha<sup>-1</sup>  
 1, 2, 3, 4, 5, 0, 50, 100, 150, 200, 250.

BASAL MANURE  
 P & K (0.16:36) @ 556 kg/ha for blocks II & IV only  
 Mn foliar spray @ 5FP in spring

VARIETY  
 Mercia dressed Panicle @ 325 seeds/m<sup>2</sup> on 16 Oct 1993

SUB PLOT AREA  
 14' x 30' = 0.37 ha.  
 harvested area = 2m x 9/16 = 0.00183 ha

