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ROTHAMSTED
RESEARCH

Collection of Plans for the Woburn Organic Manuring Experiment

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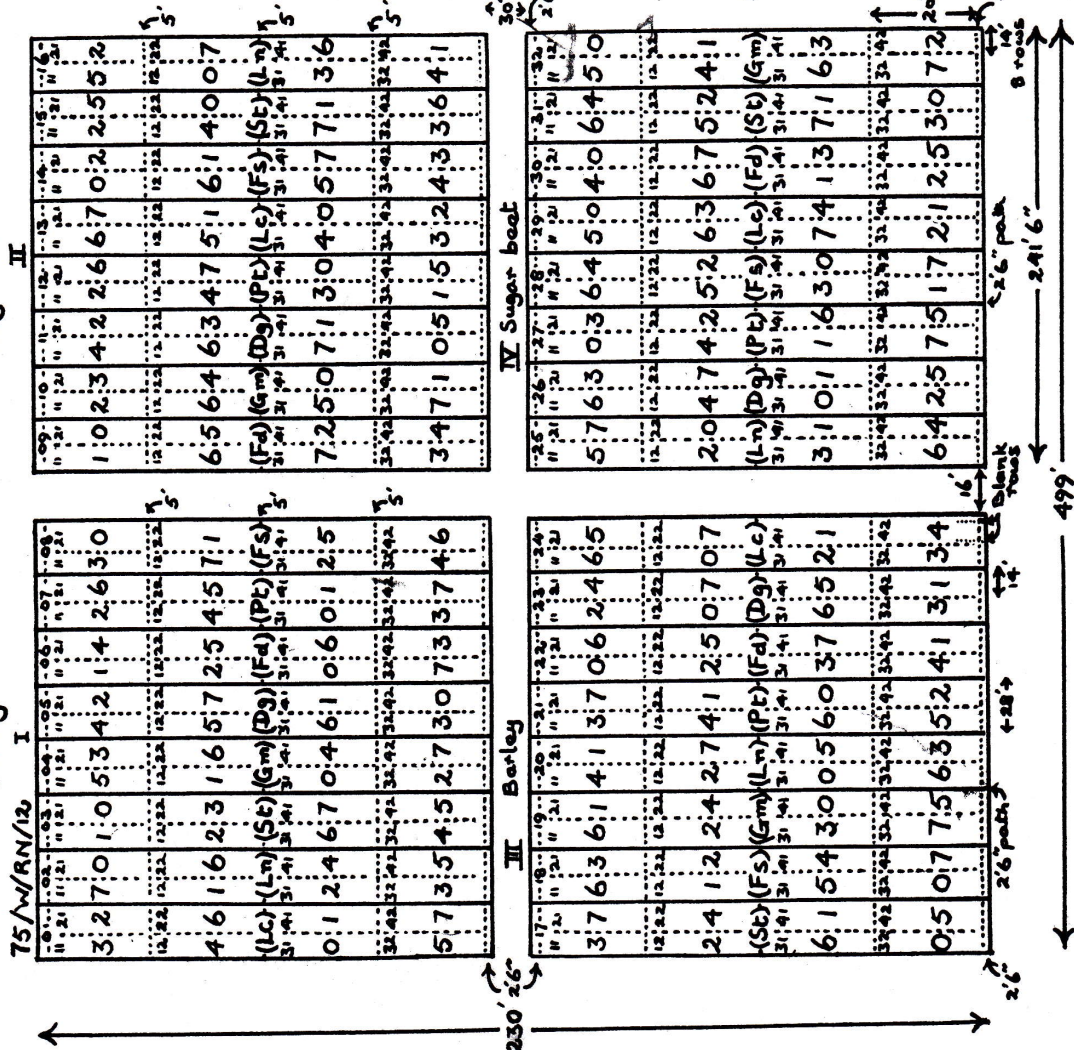
W/RN/12 - Woburn Organic Manuring 1975 - 1979

Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 1975 - 1979* ; Collection Of Plans For The Woburn Organic Manuring Experiment, pp 10 - 14

11th year
 STACKYARD B 1975
 Sponsor: G.E.G. Mattingly

WOBURN ORGANIC MANURING EXPERIMENT Sugar beet



TREATMENTS per acre (hectare)
 Residues of Organic Manures (applied annually 1965-71) and Ley (Sown 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
 (Lc) Grass-clover ley { ploughed up 1971 Blocks I & III
 (Ln) Grass ley with N { 1972 Blocks I & IV

Fertilisers
 (Fd) P, K, Mg equivalent to Dg (High PKMg)
 (Fs) K, Mg equivalent to straw with P (Low PKMg)
 Nitrogen to Barley 1975 Blocks I & III

No - None, N1-0.2, N2-0.4, N3-0.6, N4-0.8, N5-1.0, N6-1.19, N7-1.39 e.L.N.00
 0 25 50 75 100 125 150 175 kg Nitro-Chalk 25
 Nitrogen to Sugar beet 1975 Blocks II & IV
 No - None, N1-0.3, N2-0.6, N3-0.9, N4-1.3, N5-1.6, N6-1.9, N7-2.2 cwt Nitro-Chalk 25

VARIETIES
 Blocks I & III Barley - Julia Sown at: 140 lb (157 kg) Date: 4 Mar
 Blocks II & IV Sugar beet - Klein E sown at: 5 lb (5.6 kg) Date: 29 Apr

BASAL MANURING per acre (hectare)
 Sugar beet - 0.9 cwt (114 kg) P₂O₅ as Superphosphate, 1.4 t (180 kg) K₂O as muriate of potash ploughed in in autumn. 510 lb (572 kg) compound fertiliser (0:20:20), 891 lb (100 kg) MgO as Epsom salts in the seed bed 7.3 lb (8.2 kg) B₂O₃ as 'Solubor' in June. 2 tons (5 tonnes) Chalk in Autumn

Barley - 255 lb (286 kg) compound fertiliser (0:20:20) c.i.b.
 Sub-plot area 14' x 26' = 0.0064 acre (0.0026 ha)

WOBURN ORGANIC MANURING EXPERIMENT 12th year **STACKYARD B 1976** 204
 Sponsor: G.E.G. Mattingly

76/W/RN/12 Winter Oats I

01	02	03	04	05	06	07	08
11	21	31	41	51	61	71	81
(3)(2)(7)(0)	(0)(6)(5)(4)(2)	(0)(4)(3)(6)(3)(0)					
11	21	31	41	51	61	71	81
(4)(5)(0)(6)(2)(3)	(0)(6)(5)(7)(3)(5)(4)(6)(7)(0)						
11	21	31	41	51	61	71	81
(LC)(LM)(ST)(GM)(DG)(FA)(PT)(FS)							
11	21	31	41	51	61	71	81
(0)(1)(2)(4)(0)(7)(0)(4)(0)(2)(5)							
11	21	31	41	51	61	71	81
(5)(7)(9)(5)(0)(5)(3)(7)(3)(7)(6)(6)							

Barley II

09	10	11	12	13	14	15	16
21	31	41	51	61	71	81	91
1:0	2:3	4:2	2:6	6:7	0:2	2:5	5:2
11	21	31	41	51	61	71	81
6:5	6:4	6:3	4:7	5:1	6:1	4:0	0:7
11	21	31	41	51	61	71	81
(Fa)(Gm)(Dg)(Pt)(Lc)(Fs)(St)(Lm)							
11	21	31	41	51	61	71	81
7:2	5:0	7:1	3:0	4:0	5:7	7:1	3:6
11	21	31	41	51	61	71	81
3:4	7:1	0:5	1:5	3:2	4:3	3:6	4:1

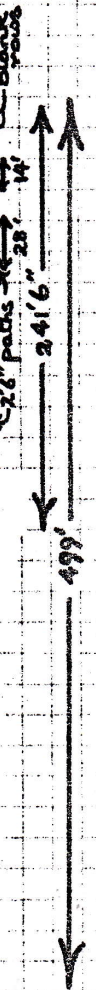
IV Barley

25	26	27	28	29	30	31	32
41	51	61	71	81	91	01	11
5:7	6:3	0:3	6:4	5:0	4:0	6:4	5:0
11	21	31	41	51	61	71	81
2:0	4:7	4:2	5:2	6:3	6:7	5:2	4:1
11	21	31	41	51	61	71	81
(Lm)(Dg)(Pt)(Fs)(Lc)(Fa)(St)(Gm)							
11	21	31	41	51	61	71	81
3:1	0:1	1:6	3:0	7:4	1:3	7:1	6:3
11	21	31	41	51	61	71	81
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 (10 tonnes) DM FYM, (16 tons (50 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 & II
 (Lm) Grass ley with N { 1972 Blocks II & IV
Fertilisers
 (Fa) PK, Mg equivalent to Dg (High PK Mg)
 (Fs) K, Mg equivalent to straw with P (Low PK Mg)
 Nitrogen to Barley 1975 Blocks I & II
 No-N, N₁-0.2, N₂-0.4, N₃-0.6, N₄-0.8, N₅-1.0, N₆-1.19, N₇-1.39 cast N on
 0 25 50 75 100 125 150 175 kg Nitro-chalk 25
Residues of Nitrogen to Barley 1975 Blocks I & II W. S. Oct 1974
 (0) -None (P) -0.2 (2) -0.4 (3) -0.6 (4) -0.8 (5) -1.0 (6) -1.19 (7) -1.39 cast N
 0 25 50 75 100 125 150 175 kg N

VARIETIES (200 kg)
 Blocks I & II Winter Oats - Peniarth Sown at 10 lb Date: 27 Oct
 Blocks III & IV Barley - Julia Sown at 145 lb (16 kg) Date: 8 Mar
BASAL MANURING per acre (hectare)
 Winter Oats - 270 lb (303 kg) compound fertiliser (0:20:20) c.o
 Spring Barley - 260 lb (291 kg) compound fertiliser (0:20:20) c.o

SUB-PLOT AREA
 14' x 20' = 0.0664 acre (0.0266 ha)



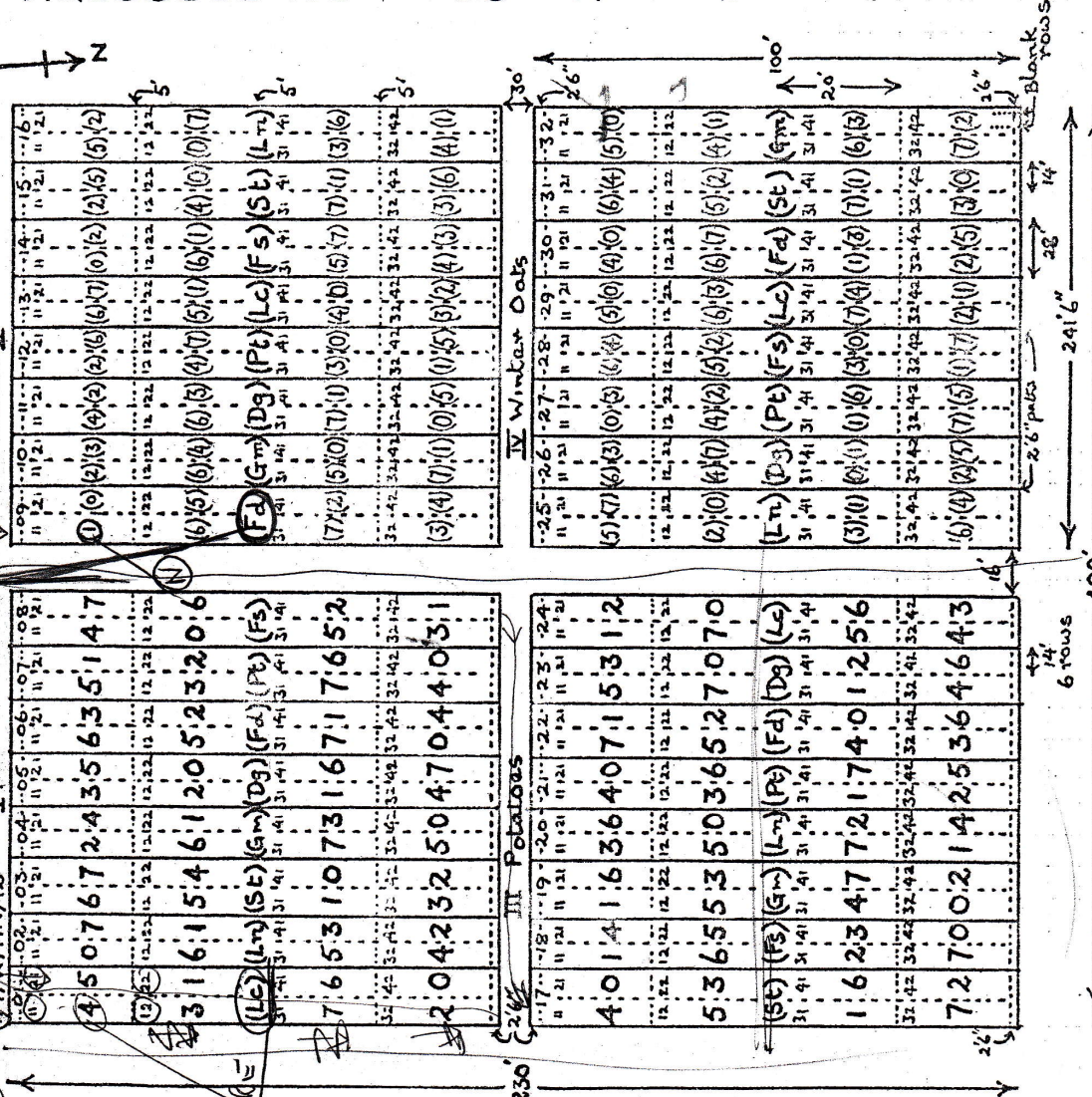
15th year STACKYARD B' 1977 201
 Sponsor: G.E.G. Mattingly

ORGANIC MANURING EXPERIMENT

WOBURN 1977/78/79/80
 Potatoes
 MANURE
 Winter Oats

TREATMENTS per acre (hectare)
 Residues of Organic Manures (applied annually 1965-7) & lay down (1965)
 (Dg) 4 tons (10 tonnes) (D.M.) FYM, (16 tons [40 tonnes] FYM)
 (St) 3 tons (7.5 tonnes) (D.M.) Straw
 (P) 3 tons (7.5 tonnes) (D.M.) Peat
 (Gm) Green Manure
 (Lc) Grass-clover ley { ploughed up 1971 Blocks I & III
 (Lm) 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)
 Nitrogen to Potatoes 1977 Blocks I & III
 0 - None, 1-0.6, 2-1.19, 3-1.79, 4-2.39, 5-2.99, 6-3.58, 7-4.18 cwt N
 0 75 150 225 300 375 450 525 kg N
 Residues of Nitrogen to Barley 1976 Blocks II & IV w. Oct 1977
 (0) - None, (1)-0.2, (2)-0.4, (3)-0.6, (4)-0.8, (5)-1.0, (6)-1.19, (7)-1.39 cwt N
 0 25 50 75 100 125 150 175 kg N

VARIETIES
 Blocks I & III Potatoes - Fentland Crown Planted:
 Blocks II & IV Winter Oats - Peniarth sown @ 180 lb (82) Date: 8 Nov
 BASAL MANURING per acre (hectare)
 Winter Oats - 260 lb (291 kg) compound fertiliser (0:20:20) C/O
 Potatoes - 1020 lb (1123 kg) compound fertiliser (0:20:20) in autumn, 1075 lb (1205 kg) compound fertiliser (0:20:20) in the seedbed plus 336 lb (377 kg) Kieserite
 SUB-PLOT AREA
 14' x 20' = 0.0064 acre (0.0026 ha)



ORGANIC MANURING EXPERIMENT 14th year STACKYARD 'B' 1978 204
 Sponsor: G.E.G. Mattingly

WOBURN
 Winter Wheat

78/W/RN/12	01-02	03	04	05	06	07	08
(Lc)	4.5	0.7	6.7	2.4	3.5	6.3	5.1
(Lc)	3.4	6.1	5.4	6.1	2.0	5.2	3.2
(Lc)	7.6	5.3	1.0	7.3	1.6	7.1	7.6
(Lc)	2.0	4.2	3.2	5.0	4.7	0.4	0.3
(Lc)	5.3	6.5	5.3	5.0	3.6	5.2	7.0
(Lc)	4.0	1.4	1.6	3.6	4.0	7.1	5.3
(Lc)	1.6	2.3	4.7	7.2	1.7	4.0	1.2
(Lc)	7.2	7.0	0.2	1.4	2.5	3.6	4.3

78/W/RN/12	09	10	11	12	13	14	15
(Lc)	6.7	5.4	3.5	5.1	1.0	7.5	5.2
(Lc)	1.2	1.3	1.4	3.0	2.6	1.6	3.7
(Lc)	0.5	2.7	0.6	4.7	3.7	2.0	0.6
(Lc)	4.3	0.6	7.2	6.2	4.5	3.4	4.1
(Lc)	2.5	3.0	3.5	2.5	1.4	1.0	2.5
(Lc)	2.0	1.4	7.4	1.3	2.7	3.7	1.3
(Lc)	4.6	7.6	6.1	4.7	0.3	6.4	0.6
(Lc)	1.3	5.2	0.2	6.0	5.6	5.2	4.7

TREATMENTS per acre (hectare)
 Residues of Organic Manures (applied annually 1965-71) 18 Ley (sown 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
 (Lc) Grass-clover ley { ploughed up 1971 Blocks I & II
 (Lm) 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 1978 Series I & II
 0-None, 1-0.24, 2-0.48, 3-0.72, 4-0.96, 5-1.20, 6-1.44, 7-1.68 cut N
 0 30 60 90 120 150 180 210 kg N
 Nitrogen to Potatoes 1978 Series I & II
 0-None, 1-0.6, 2-1.19, 3-1.79, 4-2.39, 5-2.99, 6-3.58, 7-4.18 cut N
 0 75 150 225 300 375 450 525 kg N

VARIETIES
 Block I & II Winter Wheat - Maris Huntsman sown at: 19.01.68 (213 kg)
 Block II & IV Potatoes - Pentland Crown Planted: 2.4 Apr. [Date: 14 Nov

BASAL MANURING per acre (hectare)
 Winter Wheat - 0.9 cut (14 kg) P₂O₅ as superphosphate
 0.48 cut (60 kg) K₂O as Muriate of potash
 Potatoes - 1080 lb (1210 kg) compound fertiliser (0:20:20)
 in autumn, 1080 lb (1210 kg) compound fertiliser
 (0:20:20) in the seedbed plus 372 lb (417 kg)
 Kieserite

SUB-PLOT AREA 14' x 20' = 0.0064 acre (0.0026 ha)

ORGANIC MANURING EXPERIMENT

WOBURN

79 W/KN/12 Sugar beet & Grass/Clover

03	04	05	06	07	08
11 21	11 21	11 21	11 21	11 21	11 21
4 5	0 7	6 7	6 3	4 7	4 7
12 22	12 22	12 22	12 22	12 22	12 22
3 1	6 1	5 4	2 0	5 2	0 6
(LC)	(LC)	(LC)	(Dg)	(Fc)	(Fg)
(Lm)	(St)	(Lc)	(Dg)	(Fc)	(Fg)
31 41	31 41	31 41	31 41	31 41	31 41
7 6	5 3	1 0	1 6	7 1	5 2
32 42	32 42	32 42	32 42	32 42	32 42
2 0	4 2	3 2	4 7	0 4	3 1

2 1/2' 2 1/2' 2 1/2' 2 1/2' 2 1/2' 2 1/2'

230' S

WINTER WHEAT

10	11	12	13	14	15	16
11 21	11 21	11 21	11 21	11 21	11 21	11 21
6 7	5 4	3 5	5 1	1 0	7 5	5 2
12 22	12 22	12 22	12 22	12 22	12 22	12 22
1 2	1 3	1 4	3 0	2 6	1 6	3 7
(Fd)	(Gm)	(Dg)	(Pt)	(Lc)	(Fs)	(St)
31 41	31 41	31 41	31 41	31 41	31 41	31 41
0 5	2 7	0 6	4 7	3 7	2 0	0 6
32 42	32 42	32 42	32 42	32 42	32 42	32 42
4 3	0 6	7 2	6 2	4 5	3 4	4 1

2 1/2' 2 1/2' 2 1/2' 2 1/2' 2 1/2' 2 1/2'

IV Winter Wheat

20	14	7 4	1 3	2 7	3 7	1 3	2 7
12 22	12 22	12 22	12 22	12 22	12 22	12 22	12 22
5 7	3 0	3 5	2 5	1 4	1 0	2 5	3 6
(Ln)	(Dg)	(Pt)	(Fs)	(Lc)	(Fc)	(St)	(Gm)
31 41	31 41	31 41	31 41	31 41	31 41	31 41	31 41
4 6	7 6	6 1	4 7	0 3	6 4	0 6	1 4
32 42	32 42	32 42	32 42	32 42	32 42	32 42	32 42
1 3	5 2	0 2	6 0	5 6	5 2	4 7	0 5

2 1/2' 2 1/2' 2 1/2' 2 1/2' 2 1/2' 2 1/2'

STACKYARD B 1979

Sponsor: G. E. G. Mattingly

15th year

TREATMENTS per acre (hectare)

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

(Dg) 4 tons (10 tonnes) FYM (16 tons [60 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 & IV

(Fc) (Lc) Grass ley with N { 1972 Block II & IV

Fertilisers

(Fd) P, K, Mg equivalent to Dg (High P, K, Mg)

(Fs) K Mg equivalent to Straw with F (Low P, K, Mg)

Blocks I & III 1979

LC (Pt) Grass/clover } To be sown on whole plots

LC (Gm) Grass/clover } in Spring 1979

Remaining plots sown with Sugar beet - variety *Kestrel*

Nitrogen to Sugar beet Sown at 5 lb (5 kg) Dates: May

0 - None, 1-0.32, 2-0.64, 3-0.96, 4-1.27, 5-1.59, 6-1.91, 7-2.23, 8-2.55, 9-2.87, 10-3.20, 11-3.52, 12-3.85, 13-4.17, 14-4.50, 15-4.82, 16-5.15

Blocks II & IV

Winter wheat - Flinders Sown at: 60 lb (27 wt) date 14.05

Nitrogen to Winter wheat

0 - None, 1-0.24, 2-0.48, 3-0.72, 4-0.96, 5-1.20, 6-1.44, 7-1.68, 8-1.92, 9-2.16, 10-2.40, 11-2.64, 12-2.88, 13-3.12, 14-3.36, 15-3.60, 16-3.84

BASAL MANURING per acre (hectare)

Winter Wheat - 0.9 twt (114 kg) P₂O₅ as superphosphate

0.48 twt (60 kg) K₂O as Muriate of potash

Sugar beet - 1080 lb (1210 kg) compound ferti. LISSER (0.20:20)

& Clover/grass in autumn. 5.40 lb (605 kg) compound fertiliser

Ley (0.20:20) in the seedbed plus 35 lb (40 kg) Kieserite. 7.3 lb (8.2 kg) B₂O₃ as Solubar in June (Sugar beet only)

Blocks I & III - 2 tons (5 tonnes) Ground chalk

Blank rows

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

SUB PLOT AREA

8 rows → 24' 6" ←

28' → 2 1/2' paths → 28' ←

8 rows → 49' ←