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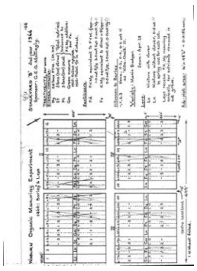
Collection of Plans for the Woburn Organic Manuring Experiment



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W/RN/12 - Woburn Organic Manuring 1980 - 1984

Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 1980 - 1984 ;* Collection Of Plans For The Woburn Organic Manuring Experiment, pp 15 - 19

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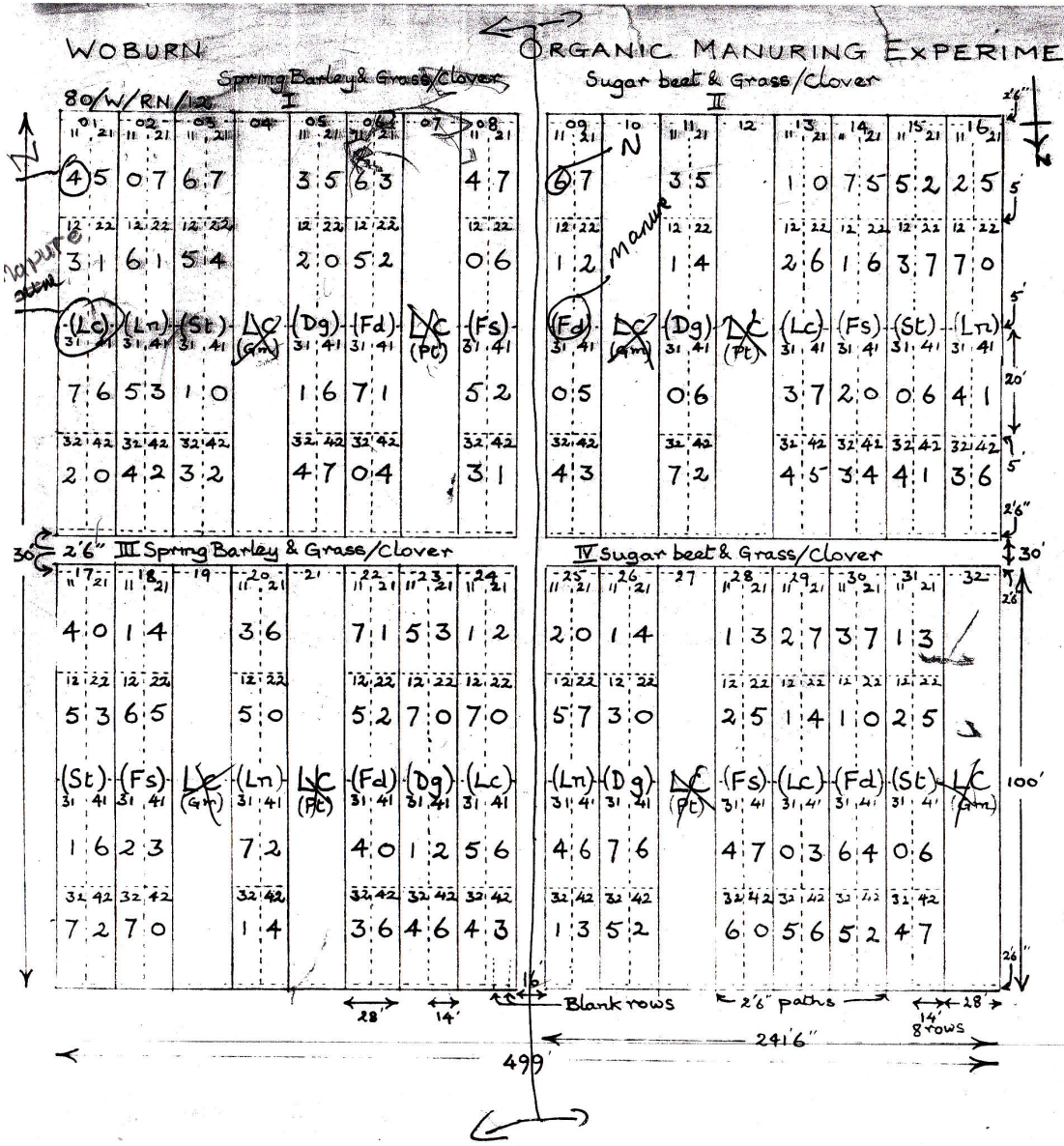
WOBURN ORGANIC MANURING EXPERIMENT 16th year

STACKYARD B 1980

Sponsor: G.E.G. Mattingly



TREATMENTS per acre (hectare)

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

(Dg) 4 tons (10 tonnes) (D.M.) FYM, (16 tons [40 tonnes] FYM)
(St) 3 tons (7.5 tonnes) (D.M.) Straw
(Pt) 3 tons (7.5 tonnes) (D.M.) Peat
(Gm) Green Manure
(Lc) Grass-clover ley } ploughed up 1971 Blocks I & III
(Ln) Grass ley with N } 1972 Blocks II & IV

Residues of Fertilisers (applied annually 1965-71)

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

Blocks I & III 1980

LC (Pt & Gm) Grass/clover (sown June 1979)
Remaining plots S. Barley - Variety - Georgie, dressed ethirimol
Nitrogen to S. Barley — Sown: 4 Mar @ 140 lb (157 kg)
0 - None, 1 - 0.24, 2 - 0.48, 3 - 0.72, 4 - 0.96, 5 - 1.20, 6 - 1.44, 7 - 1.68 cwt N
0 30 60 90 120 150 180 210 kg N

Blocks II & IV 1980

LC (Pt & Gm) Grass/clover (To be sown on whole plots - spring 1980)
Remaining plots Sugar beet - Variety Bush Morio G. Sown: 11 Apr
Nitrogen to Sugar beet
0 - None, 1 - 0.32, 2 - 0.64, 3 - 0.96, 4 - 1.27, 5 - 1.59, 6 - 1.91, 7 - 2.23 cwt N
0 40 80 120 160 200 240 280 kg N

BASAL MANURING per acre (hectare)

Spring Barley - 0.9 cwt (114 kg) P_2O_5 as superphosphate
0.48 cwt (60 kg) K_2O as Muriate of potash

Sugar beet & 1st year Grass/clover ley. - 1080 lb (1210 kg) compound fertiliser (0:20:20) in autumn. 540 lb (605 kg) compound fertiliser (0:20:20) in the seedbed plus 357 lb (400 kg) Kieserite. 7.3 lb (8.2 kg) B_2O_3 as Solubor in June for Sugar beet only. 45 lb (50 kg) N as Nitro-chalk in the seedbed for 1st year leys only.

Blocks II & IV - 2 tons (5 tonnes) 'Ground Chalk'.

2nd year Grass/Clover ley - None Autumn/Winter. 0.9 cwt (114 kg) P_2O_5 as superphosphate
0.48 cwt (60 kg) K_2O as muriate of potash in Spring
No N fertiliser.

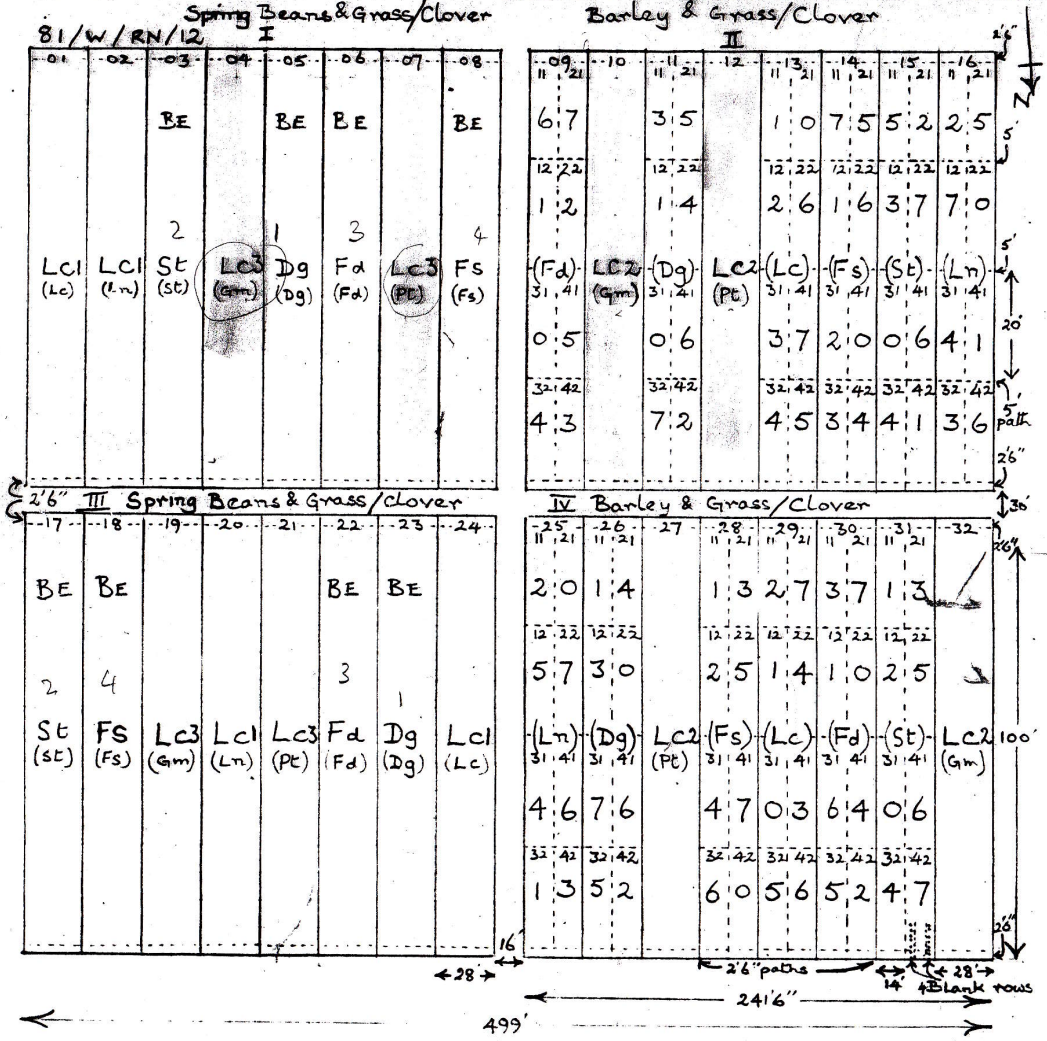
SUB-PLOT AREA 14' x 20' = 0.0064 acre (0.0026 ha)

12.2.81. NOTE CHANGE TO SPRING BEANS

WOBURN ORGANIC MANURING EXPERIMENT 17th year · STACKYARD 'B' 1981

Sponsor: G.E.G. Mattingly

81/W/RN/12



TREATMENTS per hectare (acre)

Organic Manures 1981 Blocks I & III

Dg 50 tonnes (20 tons) FYM (No P, K, Mg as fertiliser)

St 7.5 tonnes (3 tons) Straw

Lc (Pt & Gm) Grass/Clover ley (sown June 1979)

Lc (Lc & Ln) Grass/clover ley (To be sown Spring 1981)

Fertilisers

Fd* 2000 kg (1784 lb) of (0:14:28), 400 kg (357 lb) Kieserite. approximately equivalent to PKMg in Dg.

St 700 kg (624 lb) of (0:20:20), 200 kg (178 lb) Kieserite.

Fs 1000 kg (892 lb) of (0:14:28), 200 kg (178 lb) Kieserite, ½ rate of Fd plots

* One half before ploughing & one half after ploughing

Plots not in Ley Spring Beans BE Variety: Minden Sown at 195 lb (219 kg)

Date: 6 April

Blocks II & IV

Lc (Pt & Gm) Grass/clover ley (sown spring 1980)

Remaining plots S. Barley - Variety: Georgie sown at 140 lb (157 kg)

Date: 27 Feb

Nitrogen to S. Barley

0 - None, 1 - 0.24, 2 - 0.48, 3 - 0.72, 4 - 0.96, 5 - 1.20, 6 - 1.44, 7 - 1.68 cwt N/acre

0 30 60 90 120 150 180 210 kg N/ha

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

(Dg) 40 tonnes (16 tons) FYM, (St) 7.5 tonnes (3 tons) (D.M.) Straw

(Pt) 7.5 tonnes (3 tons) (DM) Peat, (Gm) Green Manure

(Lc) Grass/clover ley { Ploughed up 1971 Blocks I & III

(Ln) Grass ley with N { 1972 Blocks II & IV.

Residues of Fertilisers (applied annually 1965-71)

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

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

STANDARD MANURING per hectare (acre)

All blocks

Lc 1000 kg (892 lb) of (0:14:28), 200 kg (178 lb) Kieserite to be applied in autumn/winter.

50 kg (45 lb) N as 'Nitro-Chalk' in the seedbed for 1st year Leys ONLY

Spring Barley Block II & IV

114 kg (102 lb) P_2O_5 as Superphosphate, 60 kg (54 lb) as Muriate of potash applied in autumn.

PLOT AREA 28' x 100' = 0.0643 acre (0.0260 ha)

Sub-plot area 14' x 20' = 0.0064 acre (0.0026 ha)

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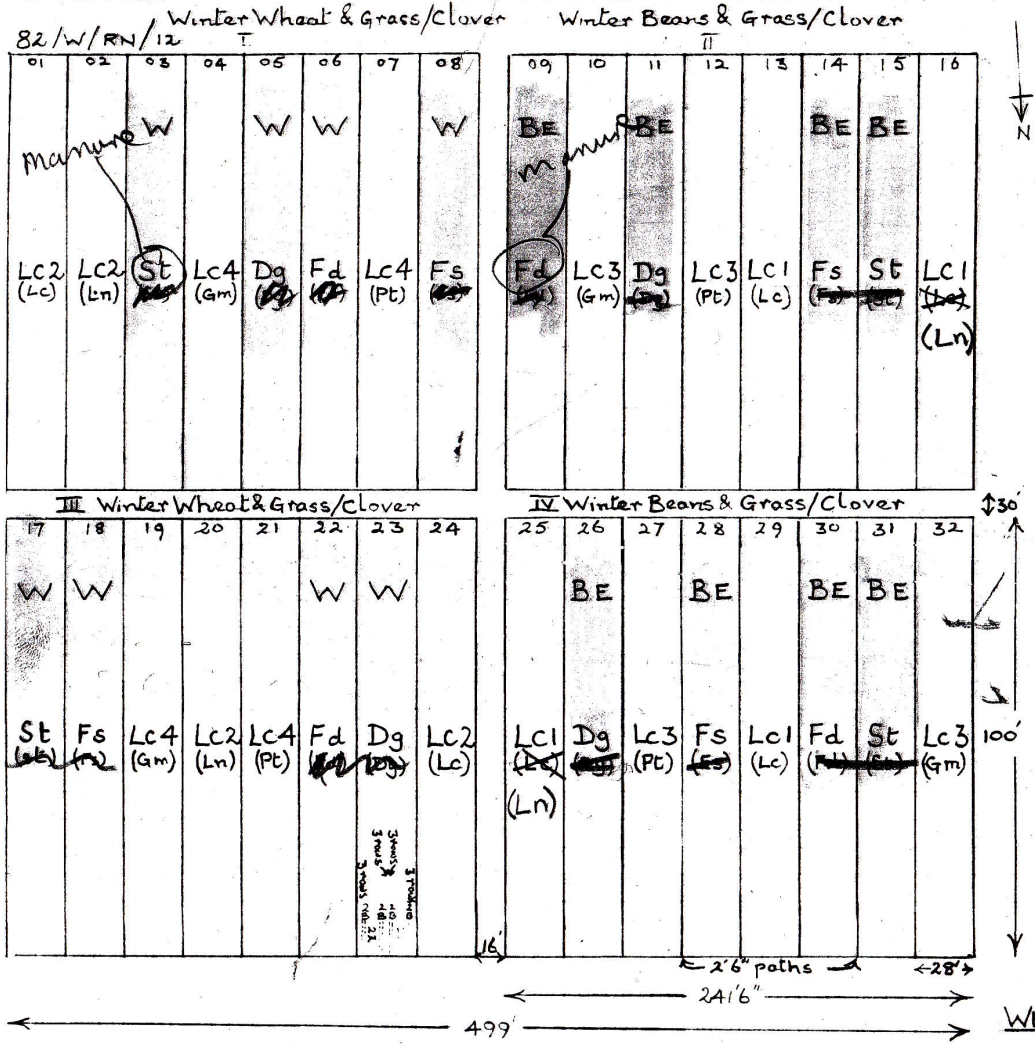
WOBURN ORGANIC MANURING EXPERIMENT 18th year STACKYARD B 1982 204

82/W/RN/12 Sponsor: ~~G.E.G. Mattingly~~ A.E. JOHNS



TREATMENTS per hectare (acre)

Organic Manures

Dg 50 tonnes (20 tons) FYM (No P, K, or Mg as fertiliser)

St 7·5 tonnes (3 tons) Straw

Lc4, Lc3 (Pt & Gm) Grass/Clover Ley { Blocks I & III sown June 1979; Blocks II & IV sown April 1980

Lc2, Lc1 (Lc & Ln) Grass/clover ley { Blocks I & III sown Spring 1981; Blocks II & IV To be sown Spring 1982

Fertilisers

Fd* 2000 kg (1784 lb) of (0:14:28), 400 kg (357 lb) Kieserite approximately equivalent to P K Mg in Dg

St 700 kg (624 lb) of (0:20:20), 200 kg (178 lb) Kieserite

Fs 1000 kg (892 lb) of (0:14:28), 200 kg (178 lb) Kieserite, ½ rate of FD plots

* One half before ploughing & one half after ploughing.

Blocks I & III (Plots not in ley)

W Winter wheat · Variety: Avalon sown at 170 lb (190 kg) Date 10 Nov

Blocks II & IV (Plots not in ley)

BE Winter beans · Variety: Throws MS sown at 220 lb (247 kg) Date 10 Nov

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

(Dg) 40 tonnes (16 tons) FYM (St) 7·5 tonnes (3 tons) (DM) Straw

(Pt) 7·5 tonnes (3 tons) (DM) Peat (Gm) Green Manure

(Lc) Grass/clover ley { Ploughed up 1971 Blocks I & III,

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

Residues of Fertilisers (applied annually 1965-71)

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

(Fs) K, Mg equivalent to straw with P (Low P, K, Mg)

STANDARD MANURING per hectare (acre)

All blocks LC 1000 kg (892 lb) of (0:14:28), 200 kg (178 lb) Kieserite to be applied in autumn / winter

1st year leys only - 50 kg (45 lb) N as 'Nitro-chalk' in the seedbed

W. Wheat · Blocks I & III 150 kg (134 lb) N as 'Nitro-chalk' in spring

PLOT AREA

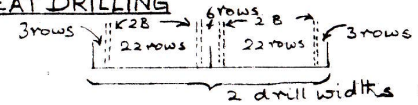
28' × 100' = 0·0643 acre (0·0260 ha)

Harvested W. Wheat - Eastern strip of each plot 1982

2·75 m × 100' = 0·0207 acre (0·0084 ha)

W. Beans combine width × 100'

WHEAT DRILLING



64 rows @ 12·5 cm = 8m

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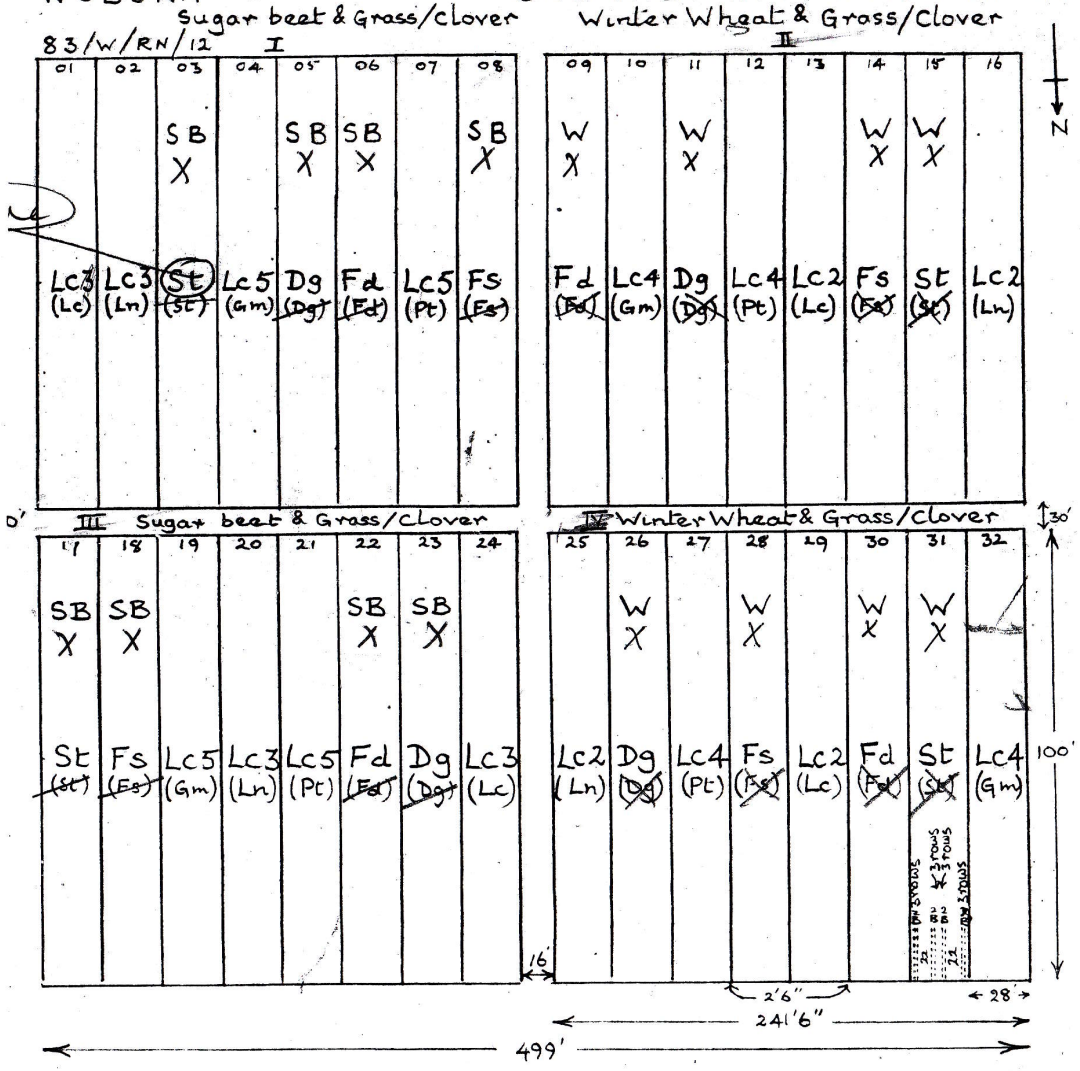
WOBURN ORGANIC MANURING EXPERIMENT 19th year STACKYARD 'B' 1983

Sponsor: A. E. Johnston

83/W/RN/12



TREATMENTS per hectare (acre)

Organic Manures

Dg 50 tonnes (20 tons) FYM (No P, K, or Mg as ferti

St 7·5 tonnes (3 tons) Straw

Lc5, Lc4 (Pt & Gm) Grass/Clover ley { Blocks I & III sown Jun 1979; Blocks II & IV sown Apr 1980

Lc3, Lc2 (Lc & Ln) Grass/Clover ley { Blocks I & III sown Spr 1981; Blocks II & IV sown Spr 1982

Fertiliser

Fd* 1556 kg (1388 lb) of (0:18:36), 400 kg (357 lb) Kieserite approximately equivalent to P K Mg in Dg

St 700 kg (624 lb) of (0:20:20), 200 kg (178 lb) Kieserite

Fs 778 kg (694 lb) of (0:18:36), 200 kg (178 lb Kieserite, ½ rat

* One half before ploughing & one half after ploughing

Blocks I & III (plots not in ley)

SB Sugar beet Variety: sown at Da

Blocks II & IV (plots not in ley)

W Winter wheat: Variety: Avalon sown at 170 lb (190 kg) Da

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

(Dg) 40 tonnes (16 tons) FYM. (St) 7·5 tonnes (3 tons) (DM) Strau

(Pt) 7·5 tonnes (3 tons) (DM) Peat. (Gm) Green Manure

(Lc) Grass/clover ley { Ploughed up 1971 Blocks I & III,

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

Residues of Fertilisers (applied annually 1965-71)

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

(Fs) K, Mg equivalent to straw with P (Low P, K, Mg)

STANDARD MANURING per hectare (acre)

All blocks Lc 778 kg (694 lb) of (0:18:36), 200 kg (178 lb) to be applied in autumn/winter

W. Wheat - Blocks II & IV 150 kg (134 lb) N as 'Nitro-Chalk' in spr

Sugar beet - Blocks I & III 150 kg (134 lb) N as 'Nitro-Chalk'

PLOT AREA

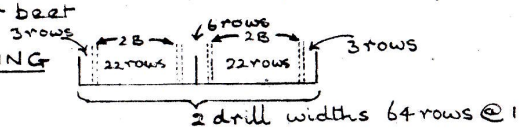
28' x 100' = 0·0643 acre (0·0260 ha)

Harvested W. Wheat - Eastern strip of each plot 1983

2·75 m x 100' = 0·0207 acre (0·0084 ha)

Sugar beet

WHEAT DRILLING



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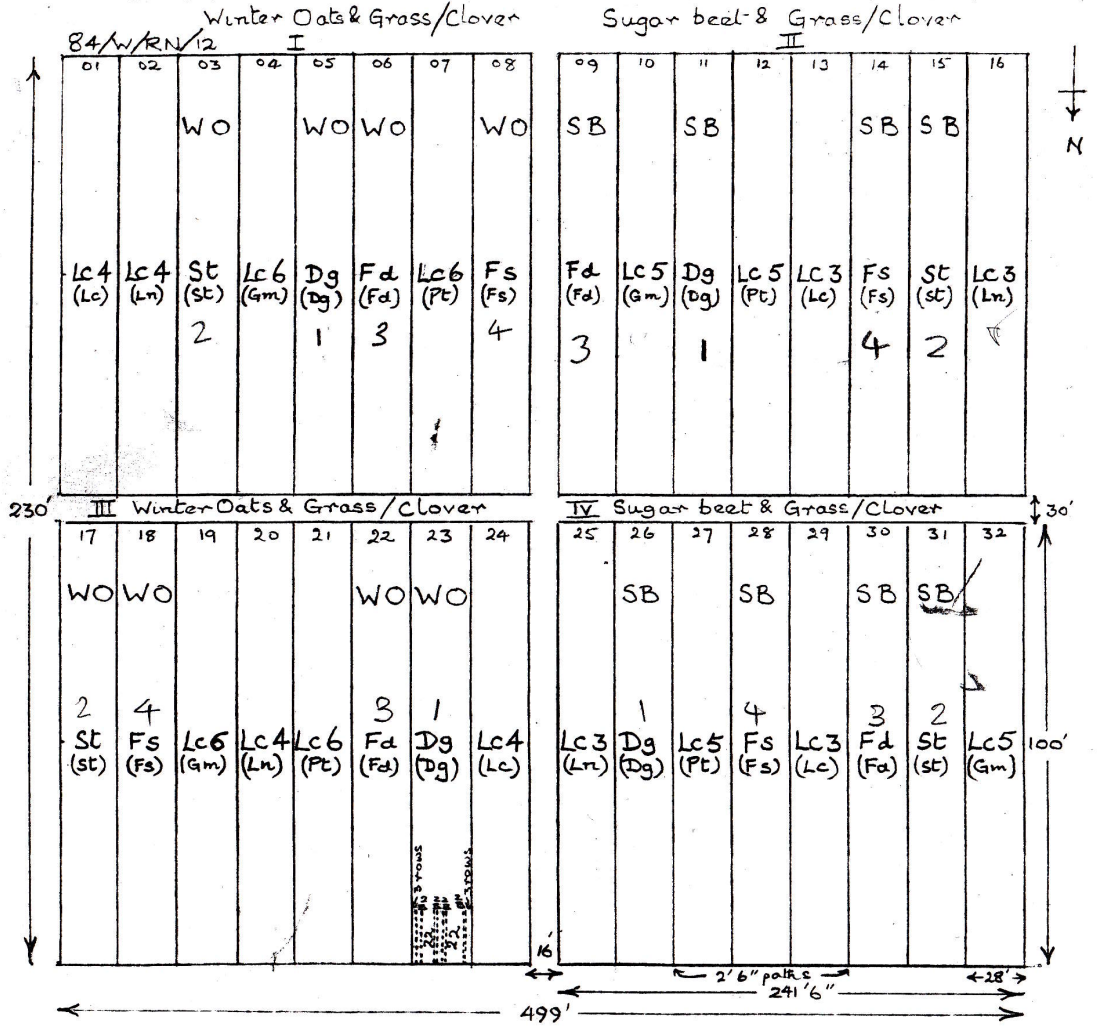
WOBURN — ORGANIC MANURING EXPERIMENT — 20th year — STACKYARD 'B' 1984

84/W/RN/12

Sponsor: A E Johnston



TREATMENTS per hectare (acre)

Organic Manures

Dg 50 tonnes (20 tons) FYM (No P, K, or Mg as fertilizer)

St 7·5 tonnes (3 tons) Straw

Lc6, Lc5 (Pt & Gm) Grass/Clover ley { Blocks I & III sown June 1979; Blocks II & IV sown April 1980

Lc4, Lc3 (Lc & Ln) Grass/Clover { Blocks I & III sown Spring 1981; Blocks II & IV sown spring 1982

Fertilizer

Fd* 1556 kg (1388 lb) of (0:18:36), 400 kg (357 lb) Kieserite approximately equivalent to PK Mg in Dg

St 700 kg (624 lb) of (0:20:20), 200 kg (178 lb) Kieserite

Fs 778 kg (694 lb) of (0:18:36), 200 kg (178 lb) Kieserite, ½ rate of Fd Plots

* One half before ploughing & one half after ploughing

Blocks I & III (plots not in ley)

WO Winter Oats. Variety: Panema. Sown at: 180 lb (201 kg) Date 20 Oct (precision drilled)

Blocks II & IV (plots not in ley)

SB Sugar beet. Variety: Monoire. Sown at: Date

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

(Dg) 40 tonnes (16 tons) FYM. (St) 7·5 tonnes (3 tons) (DM) Straw

(Pt) 7·5 tonnes (3 tons) (DM) Peat. (Gm) Green Manure.

(Lc) Grass/Clover ley { Ploughed up 1971 Blocks I & III

(Ln) Grass ley with N { 1972 Blocks II & IV

Residues of Fertilizers (applied annually 1965-71)

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

(Fs) K, Mg equivalent to straw with P (Low P, K, Mg)

STANDARD MANURING per hectare (acre)

All blocks Lc 778 kg (694 lb) of (0:18:36), 200 kg (178 lb) Kieserite to be applied in autumn/winter

W. Oats - Blocks I & III 50 kg N as 'Nitro-Chalk' in Spring

Sugar beet - Blocks II & IV 150 kg (134 lb) N as 'Nitro-Chalk'

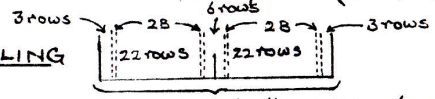
PLOT AREA

28' × 100' = 0.0643 acre (0.0260 ha)

Harvested W. Oats - Eastern strip of each plot (1984)

2·75 m × 100' = 0.0207 acre (0.0084 ha)

W. OAT DRILLING



2 drill widths 64 rows @ 12·5 cm = 8 m

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