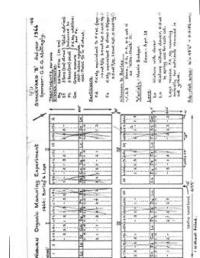


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Collection of Plans for the Woburn Organic Manuring Experiment

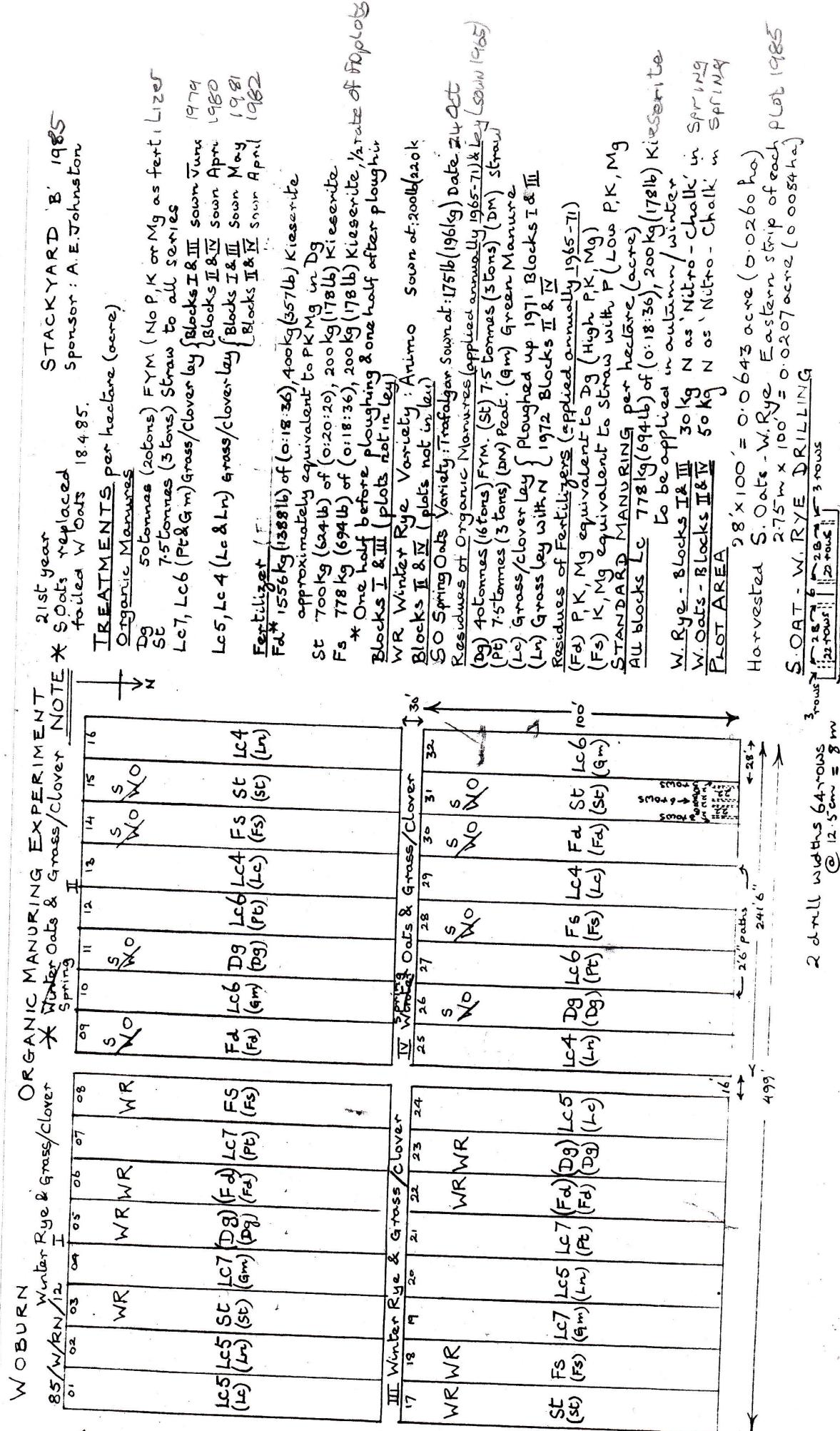
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W/RN/12 - Woburn Organic Manuring 1985 - 1989

Rothamsted Research

Rothamsted Research (1966-1988) *W/RN/12 - Woburn Organic Manuring 1985 - 1989* ; Collection Of Plans For The Woburn Organic Manuring Experiment, pp 20 - 24



WOBURN ORGANIC MANURING EXPERIMENT

22nd year

Winter Rye & Grass/Clover

Spring Oats 1/2

Spring Oats & Grass/Clover

1986

Sponsor: A.E. Johnston

TREATMENTS per hectare (acre)
Organic Manures Dg & St to be applied for W. Rye Series II & III
on 1st April 1986

Dg 50 tonnes (20 tons) FYM
St 7.5 tonnes (3 tons) Straw

Lc 8, Lc 7 (P & Gm) Grass/Clover ley [Blocks I & II Sown June 1979
Blocks II & III Sown April 1980]

Fertilizer to be applied for W. Rye Series II & III only

Fd* (556 kg/1388 lb) at (0.1836) 900kg (357 lb) Kieserite

approximately equivalent to Pkmg (0.24:24) 200kg (79 lb) Kieserite

St 585 kg (522 lb) of (0.24:24) 200kg (79 lb) Kieserite
Fd* 778 kg (694 lb) of (0.1836) 200kg (78 lb) Kieserite, 1/2 rate of Fd

* One half before ploughing & one half after ploughing
Blocks I & II (plots not in ley)

SO Spring Oats Variety: Dula Sown at: 600kg Date: 10 Apr 1979

Blocks II & III (plots not in ley) Sown at: 600kg Date: 13/4/86 (Crown 1986)

Residues of Organic Manures (applied annually 1985-7) & Ley (3 tons/DM) straw

(Dg) 40 tonnes (16 tons) FYM (St) 7.5 tonnes (3 tons) DM straw

(P) 7.5 tonnes (3 tons) Pkmg (56) Green manure
(Lc) Grass/clover ley [Blocks I & II 1971 up Blocks II & III 1972 up]

Residues of Fertilizers (applied annually 1985-7)
(Fd) Pk Mg equivalent to Dg (High Pk Mg)

(Fd) K Mg equivalent to Straw with P (Low Pk Mg)

STANDARD MANUREING per hectare (acre)
All blocks: Lc 778 kg (694 lb) of (0.18:36) 200kg (78 lb) Kieserite

To be applied in autumn/winter
S. Oats Blocks I & III: 90kg Nas Nutram in Spring

W. Rye Blocks II & III: 30kg Nas Nutram in Spring

PLOT AREA 2.8' x 100' = 0.0643 acre (0.0260 ha)

Harvested S. Oats - W. Rye 2.75m x 100' = 0.0207 acre (0.0084 ha)

S. OATS - W. RYE DRILLING
rows 6 rows 2 drill widths 64 rows
@ 12.5 cm = 8 m

WOBURN ORGANIC MANURING EXPERIMENT

Block II

Block III	Winter Wheat	1st Test crop	Block IV Winter Oats & Grass/clover ley
230'			30'

↑ 1.37 m paths
↑ spray
part. canals
part. canals

499' 7 3/6 m
(241' 6")

23rd year STACKYARD B 1987

Sponsor: A.E. Johnson

TREATMENTS per hectare (acre)	BLOCK II & III - 1st Test Crop Winter Wheat
Residues of Organic Manures	(Applied in two parts)
(Dg) FYM (250 c.t.)	{ Applied annually (Dg) } 1979 -
Straw	{ Applied (SC) } 1981 -
Green Manure	{ (Gm) (Lc 8) } Ley (c)
Peat	{ (Pc) (Lc 8) } 1979 -
Residues of Fertilizer	
Fertilizer	P, K, Mg equivalent to Dg rate Applied annually
(Fs)	K, Mg equivalent to straw with P and 1981 -
Ley	(late Period ½ Dg rate)
(Lc)	clover/grass ley { 1965-71 (Lc 6) } Both clover
(Ln)	grass ley with N { (Lc 6) } 1981 -
Sub Plots N treatments in spring kg ha ⁻¹	
- N ₁ , N ₂ , N ₃ , N ₄ , N ₅	= 0, 50, 100, 150, 200, 250
STANDARDS APPLICATIONS Winter Wheat only	
carbofuran at 7.5kg/ha broadcast in the seedbed.	

(standard rate) must be applied 7-14 days before sowing, rep.

<u>VARIETY</u>	Mercia	Sown at:
<u>BASEAL MANURING per hectare</u>		
(0:18:36) at 556 kg.	Manganese, foliar applied	
<u>BLOCKS II & IV</u> - Winter Oats		
<u>Residues of Organic Manures (applied annually)</u>		
Dog FYM (ST) Straw Lc) clover/ grass ley, (Lc) Grass Ley with N pl		
<u>Residues of Fertilizer</u>		
Fd) P,K,Mg equivalent to Dg (Fs) P,K,Mg equivalent to Dg	Applied annually STANDARD MANURING per hectare	and 1982-
Lc 8 (gm), Lc 6 (Lc) Lc 8 (pt), Lc 6 (Lc)	{ 778 kg (0: 18: 36) 200 kg (Kasenite) of W/O Winter Oats? kg N as Nitron in spray	
<u>VARIETY</u> : Penarath	sown at	
<u>PLOT AREA</u>		

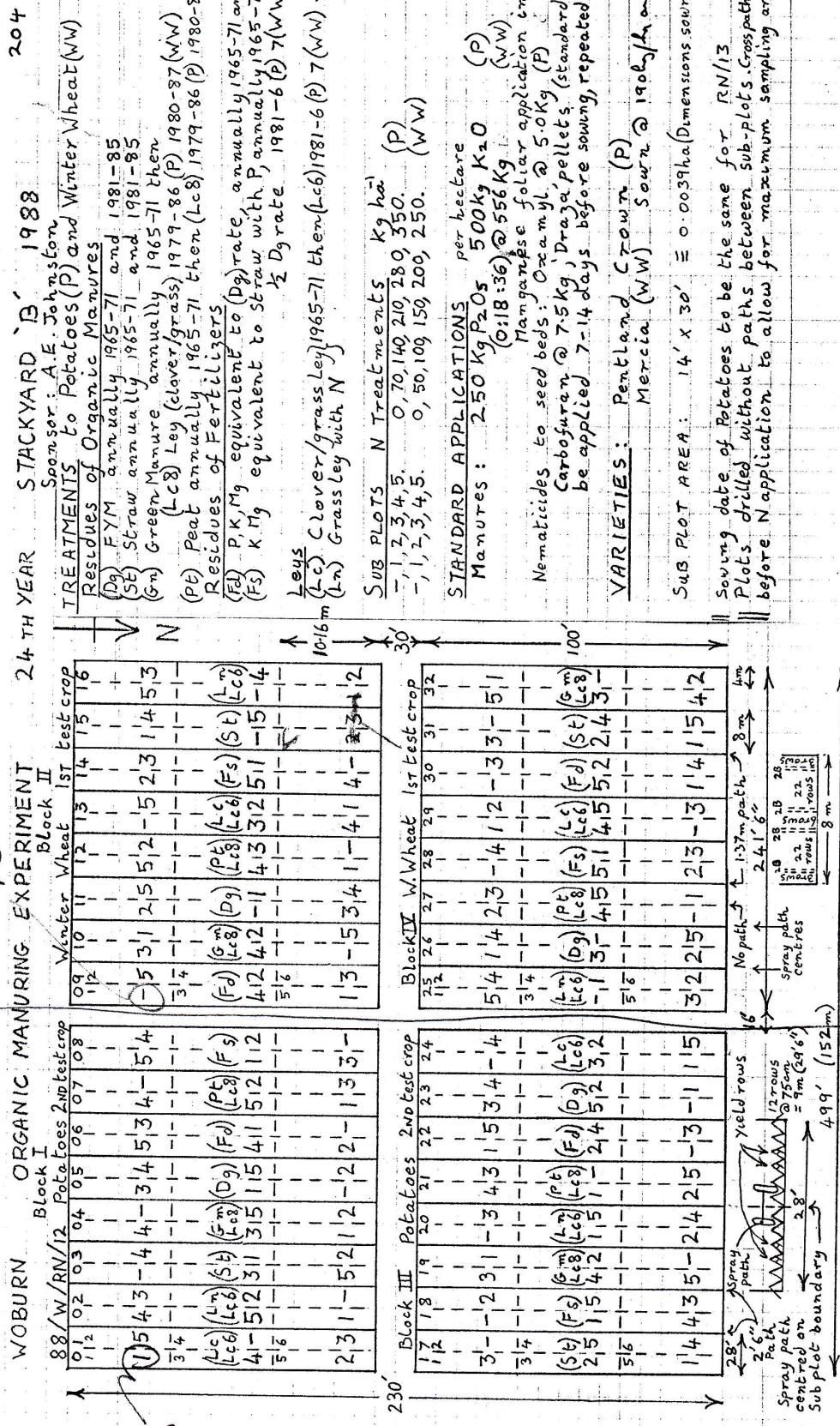
$$\text{Blocks I \& III} = 8m \times 30.48m = 0.0244ha$$

Sowing date of L. will be the same as for KNY's. In new plots & drilled without paths between sub-plots, Palkij must before N application to allow for maximum sampling.

Potatoes

Wheat

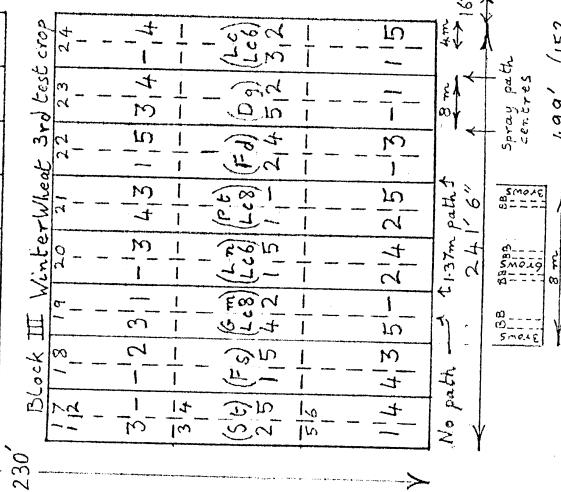
WOBURN		ORGANIC MANURING EXPERIMENT											
		Block I						Block II					
88/W/RN/12		Potatoes	2nd test crop	Winter Wheat	1st test crop	Potatoes	2nd test crop	Winter Wheat	1st test crop	Potatoes	2nd test crop		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4
1/2	-	-	-	-	-	-	-	-	-	-	-	-	-
1/3	4/3	-	4/4	-	3/4	5/3	4/1	5/4	-	-	-	-	-
3/4	-	-	-	-	-	-	-	-	-	-	-	-	-
4/5	(Lc6)	(Lc8)	(S1)	(Lc6)	(D9)	(Pc)	(F2)	(Gm)	(P9)	(Pc)	(Lc6)	(F5)	(Lc8)
5/6	-	-	-	-	-	-	-	-	-	-	-	-	-
2/3	1/1	-	5/2	1/2	2/1	2/2	1/2	1/3	3/1	1/3	1/3	1/4	1/2
1/2	1/3	1/8	1/9	2/0	2/1	2/2	2/3	2/4	2/5	2/6	2/7	2/8	2/9
3/4	-	2/3	1/-	3/-	4/3	1/5	3/4	-4	5/4	1/4	2/3	-4	1/2
2/5	(S1)	(F2)	(Gm)	(Lc8)	(Lc6)	(Pc)	(F2)	(D9)	(Lc6)	(D9)	(Lc6)	(F5)	(S1)
3/6	-	5/4	2/5	1/2	2/4	5/2	3/2	-1	3/1	4/5	5/1	4/5	5/2
1/4	4/3	5/-	3/5	-2/4	2/5	-3	1/1	5	3/2	2/5	-1	2/3	1/4
1/1													



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WOBURN		ORGANIC MANURING		EXPERIMENT		BLOCK II		BLOCK III		BLOCK IV		BLOCK V		
89/W/RN/12		Winter Wheat 3rd test crop		Potatoes		2nd test crop		Potatoes		Winter Wheat 3rd test crop		Potatoes		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5	4.3	-4	4	-3.4	5.3	4	-5.4	-5	3.1	2.5	5.2	-5	2.3	1.4
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	(Lc6)	(Lc7)	(Lc8)	(D9)	(F8)	(P5)	(F6)	(Lc7)	(Lc8)	(D9)	(P5)	(F8)	(S1)	(Lc8)
5.2	3.1	3.5	1.5	4.1	5.2	1.2	4.2	4.2	-1	4.3	3.2	5.1	-5	-14
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4

Block I		Winter Wheat 3rd test crop		Potatoes		2nd test crop		Potatoes		Winter Wheat 3rd test crop		Potatoes		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5	4.3	-4	4	-3.4	5.3	4	-5.4	-5	3.1	2.5	5.2	-5	2.3	1.4
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	(Lc6)	(Lc7)	(Lc8)	(D9)	(F8)	(P5)	(F6)	(Lc7)	(Lc8)	(D9)	(P5)	(F8)	(S1)	(Lc8)
5.2	3.1	3.5	1.5	4.1	5.2	1.2	4.2	4.2	-1	4.3	3.2	5.1	-5	-14
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4



WOBURN		ORGANIC MANURING		EXPERIMENT		BLOCK II		BLOCK III		BLOCK IV		BLOCK V		
89/W/RN/12		Winter Wheat 3rd test crop		Potatoes		2nd test crop		Potatoes		Winter Wheat 3rd test crop		Potatoes		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5	4.3	-4	4	-3.4	5.3	4	-5.4	-5	3.1	2.5	5.2	-5	2.3	1.4
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	(Lc6)	(Lc7)	(Lc8)	(D9)	(F8)	(P5)	(F6)	(Lc7)	(Lc8)	(D9)	(P5)	(F8)	(S1)	(Lc8)
5.2	3.1	3.5	1.5	4.1	5.2	1.2	4.2	4.2	-1	4.3	3.2	5.1	-5	-14
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4

Block I		Winter Wheat 3rd test crop		Potatoes		2nd test crop		Potatoes		Winter Wheat 3rd test crop		Potatoes		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5	4.3	-4	4	-3.4	5.3	4	-5.4	-5	3.1	2.5	5.2	-5	2.3	1.4
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	(Lc6)	(Lc7)	(Lc8)	(D9)	(F8)	(P5)	(F6)	(Lc7)	(Lc8)	(D9)	(P5)	(F8)	(S1)	(Lc8)
5.2	3.1	3.5	1.5	4.1	5.2	1.2	4.2	4.2	-1	4.3	3.2	5.1	-5	-14
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4

Block II		Potatoes		2nd test crop		Potatoes		Potatoes		Potatoes		Potatoes		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5	4.3	-4	4	-3.4	5.3	4	-5.4	-5	3.1	2.5	5.2	-5	2.3	1.4
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	(Lc6)	(Lc7)	(Lc8)	(D9)	(F8)	(P5)	(F6)	(Lc7)	(Lc8)	(D9)	(P5)	(F8)	(S1)	(Lc8)
5.2	3.1	3.5	1.5	4.1	5.2	1.2	4.2	4.2	-1	4.3	3.2	5.1	-5	-14
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4

Block III		Winter Wheat 3rd test crop		Potatoes		2nd test crop		Potatoes		Potatoes		Potatoes		
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.5	4.3	-4	4	-3.4	5.3	4	-5.4	-5	3.1	2.5	5.2	-5	2.3	1.4
3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.1	(Lc6)	(Lc7)	(Lc8)	(D9)	(F8)	(P5)	(F6)	(Lc7)	(Lc8)	(D9)	(P5)	(F8)	(S1)	(Lc8)
5.2	3.1	3.5	1.5	4.1	5.2	1.2	4.2	4.2	-1	4.3	3.2	5.1	-5	-14
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4
2.3	1	-5.2	1.2	-2	2	-1	3	3	-7	1.3	-5	3.4	1	-4

Block IV		Potatoes		2nd test crop	
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