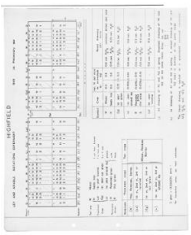
Collection of Plans for the Highfield Ley-arable Experiment



Full Table of Content

Highfield Ley-arable 1980-90

Rothamsted Research

Rothamsted Research (1949-1990) *Highfield Ley-arable 1980-90 ;* Collection Of Plans For The Highfield Ley-Arable Experiment, pp 32 - 43

ROTHAMSTED LEY-ARABLE 32nd YEAR 80/R/RN/1 HIGHFIELD 1980

SPONSORS: Blocks 1–4 A.C. Tomaston, Blocks 5–12 D.Q. Slope

CROPPING

WHEAT (Blocks 1+4, 5+8)

Flanders, Test N

-, 1, 2, 3. None, 50, 100, 150 kgN/ha (-, 45, 88, 134 lbN/ac)

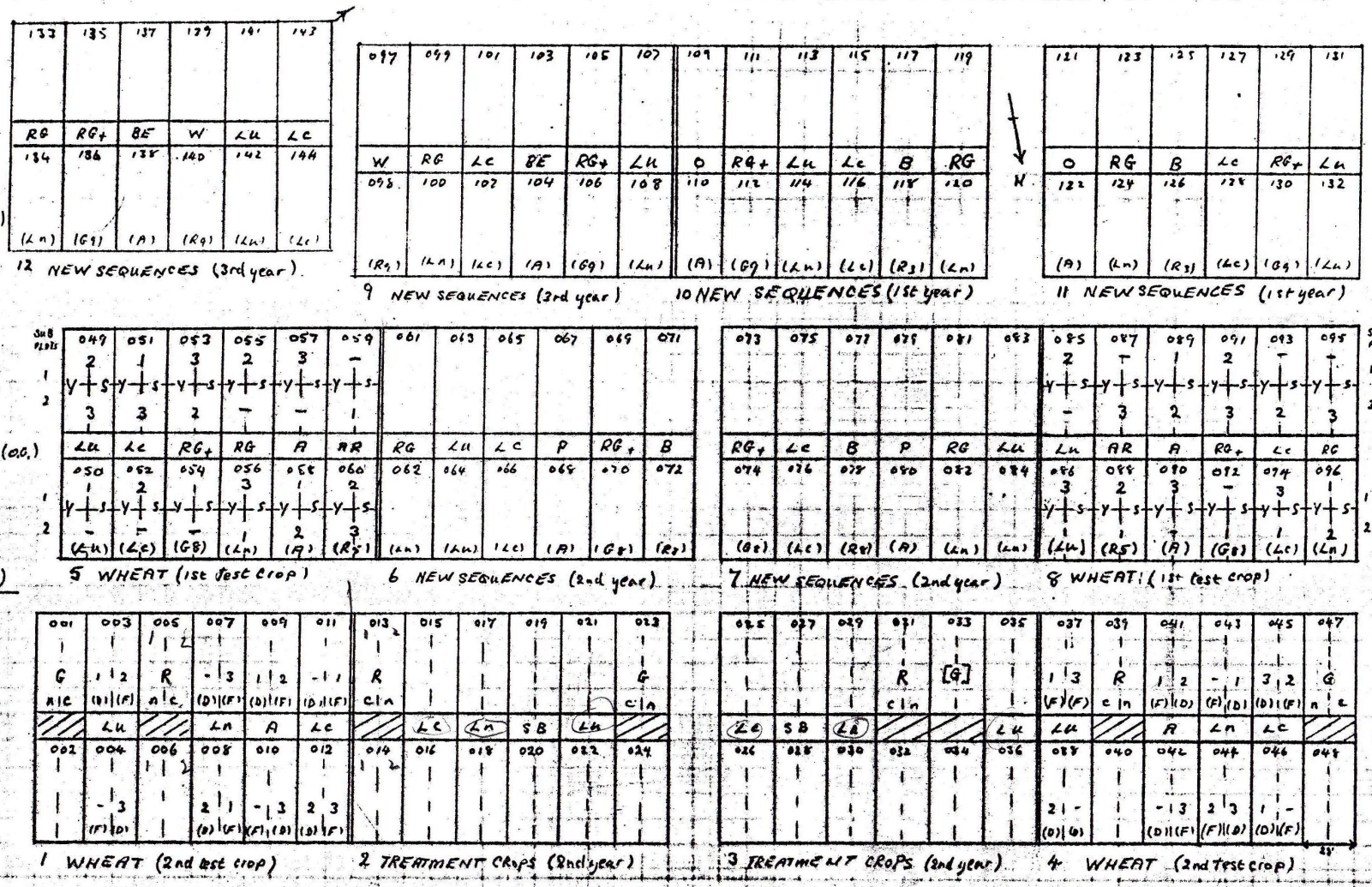
Y, S; Yield; Sample Areas

NEW SEQUENCES (Blocks 6,7,9,10,11,12)

Ln Lucerne, vertus.
Lc Grass/clover
RG Perennial Ryegrass
RG+ as RG but not ploughed after 3 years
BE Beans, mindan
B Barley
O Oats
P Potatoes Pentland Crown (O.C.)
W Wheat Flanders

TREATMENT CROPS (Blocks 2+3)

Lu Lucerne
Ln Grass ley
Lc Grass Clover ley
SB Sugar beet
R Reseeded grass
G Old grass
[G] Arendo - old grass



NOTE: R_3 G_8 etc. refers to year that reseeded (R) and old grass (G), first under arable crop (1963 + 1968 etc.)
(F) (D): None, Dung (residual treatments), C & N, None, N + K top dressed in spring & after each cut except the last.

ROTHAMSTED LEY-ARABLE 33rd. YEAR. 81/R/RN/1 HIGHFIELD 1981

Sponsors: Blocks 1–4 A.E. Johnston, Blocks 5–12 D.

CROPPING

WHEAT (Blocks 1–4, 5, 8, 9, 12)

Flanders, Test N

−, 1, 2, 3, None, 50, 100, 150 kgN/ha (None, 45, 89 134 lbN/ac)

Y, S. yield, Sample areas

Sown: 8 October

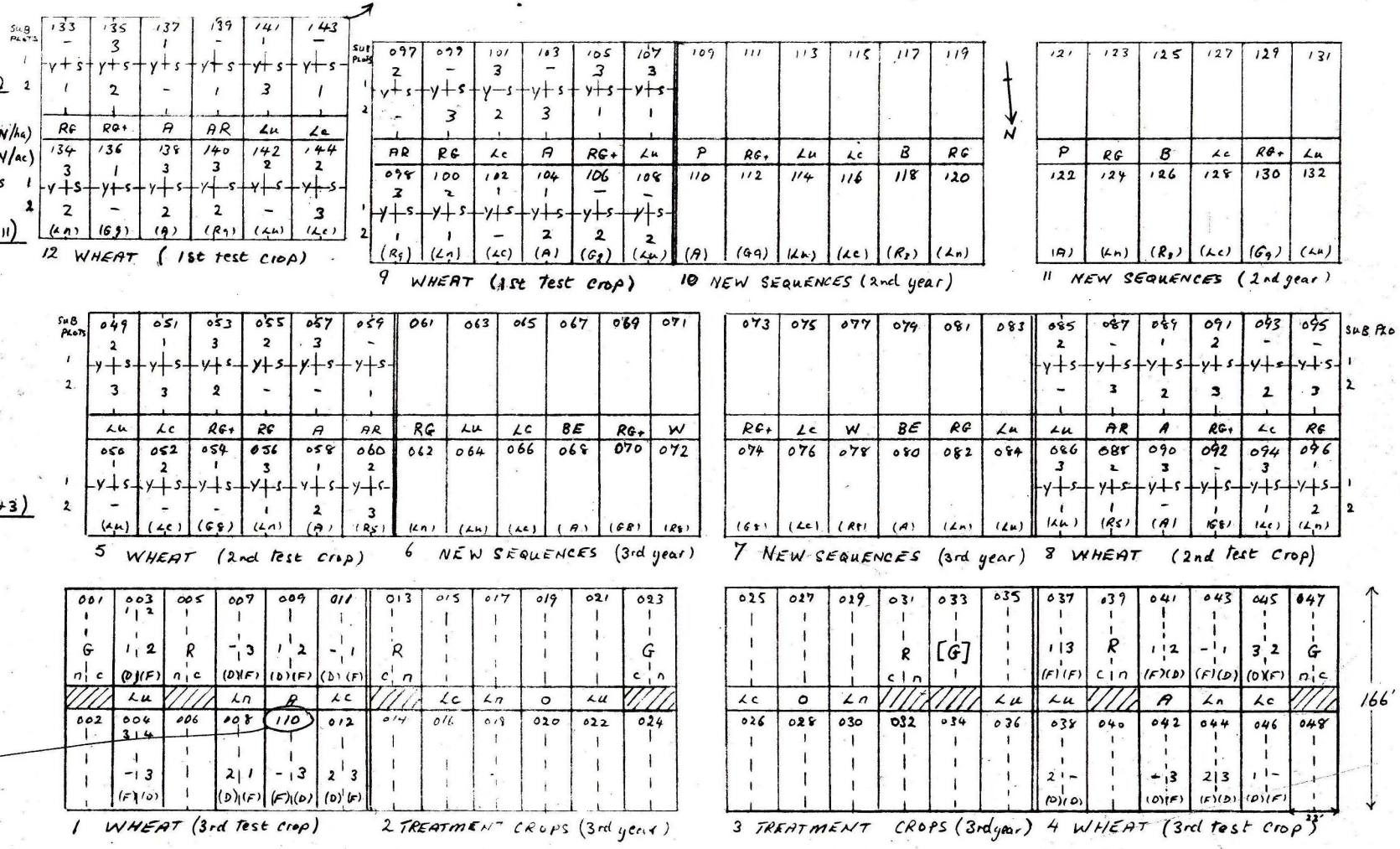
NEW SEQUENCES (Blocks 6, 7, 10, 11)

Lu Lucerne, Veritas
LC Grass/clover
RG Perennial Ryegrass
RG+ As RG but not ploughed after 3 years.
BE Beans
B Barley
P Potatoes
W Wheat Flanders

TREATMENT CROPS (Blocks 2+3)

Ln Lucerne
Ln Grass Ley
LC Grass Clover ley
O Oats

R Reseeded grass
G Old grass
[G] Pseudo old grass



NOTE: R_3 G_8 etc. refers to years reseeded (R) and old grass (G) first under arable crop (1963+1968 etc)
(F)(D) None, FYm (Residual treatments). C, N, None N+K top dressed in Spring, and after each cut except the last.

ROTHAMSTED LEY-ARABLE 34th YEAR 82/R/RN/1 HIGHFIELD 1982

Sponsors: Blocks 1-4 A.E. Johnston, Blocks 5-12 D.B. Slope

CROPPING

WHEAT (Blocks 5,6,7,8,9,12)
Flanders Test N
-, 1, 2, 3. None, 50, 100, 150 kg N/ha
(None, 45, 89, 134 lb N/ac)
Y, S. yield, Sample area
Sown at 176 lb/ac (197 kg/ha) on 17 October

NEW SEQUENCES (Blocks 10+11)
Lu Lucerne, Vertus
Lc Grass/clover
RG Perennial Ryegrass
RG+ As RG, but not ploughed after 3 years
BE Beans
W Wheat - Flanders

TREATMENT CROPS (Blocks 1+4)
Lu ~~Lucerne~~
Ln Grass ley
Lc Grass clover ley
R Reseeded grass
G old grass
[G] Pseudo old grass
H 1 year hay

TEST CROP (Block 2+3)
Potatoes, Pentland Crown
- planted 22 April

12 WHEAT (2nd Test Crop)

9 WHEAT (2nd. test Crop)

10 NEW SEQUENCES (3rd year)

11 NEW SEQUENCES (3rd year)

5 WHEAT (3rd test Crop)

6 WHEAT (1st test Crop)

7 WHEAT (1st test Crop)

8 WHEAT (3rd test Crop)

1 TREATMENT CROPS (1st year)

2 POTATOES (1st test Crop)

3 POTATOES (1st test Crop)

4 TREATMENT CROPS (1st year)

SEQUENCE

N

NOTE: R_3+G_8 etc. refers to years reseeded (R) and old grass (G) first under arable crop (1963 + 1968 etc.)
(F)(D) None; FYM (residual treatments). C, n, none N+K top dressed in spring, and after each cut except the last.

ROTHAMSTED LEY - ARABLE 35th YEAR 83/R/RN/1 HIGHFIELD 1983

Sponsors: Blocks 1-4 A.E. Johnston, Blocks 5-12 D.B. Slope

CROPPING

WHEAT Blocks 5,6,7,8,9,10,11,12
Flanders Test N
–, 1, 2, 3. None, 50, 100, 150 kgN/ha (None, 45, 89, 134 lbN/ac)
Y, S, Yield, Sample area
Sown on 11 November
except direct drilled plots - 17 November

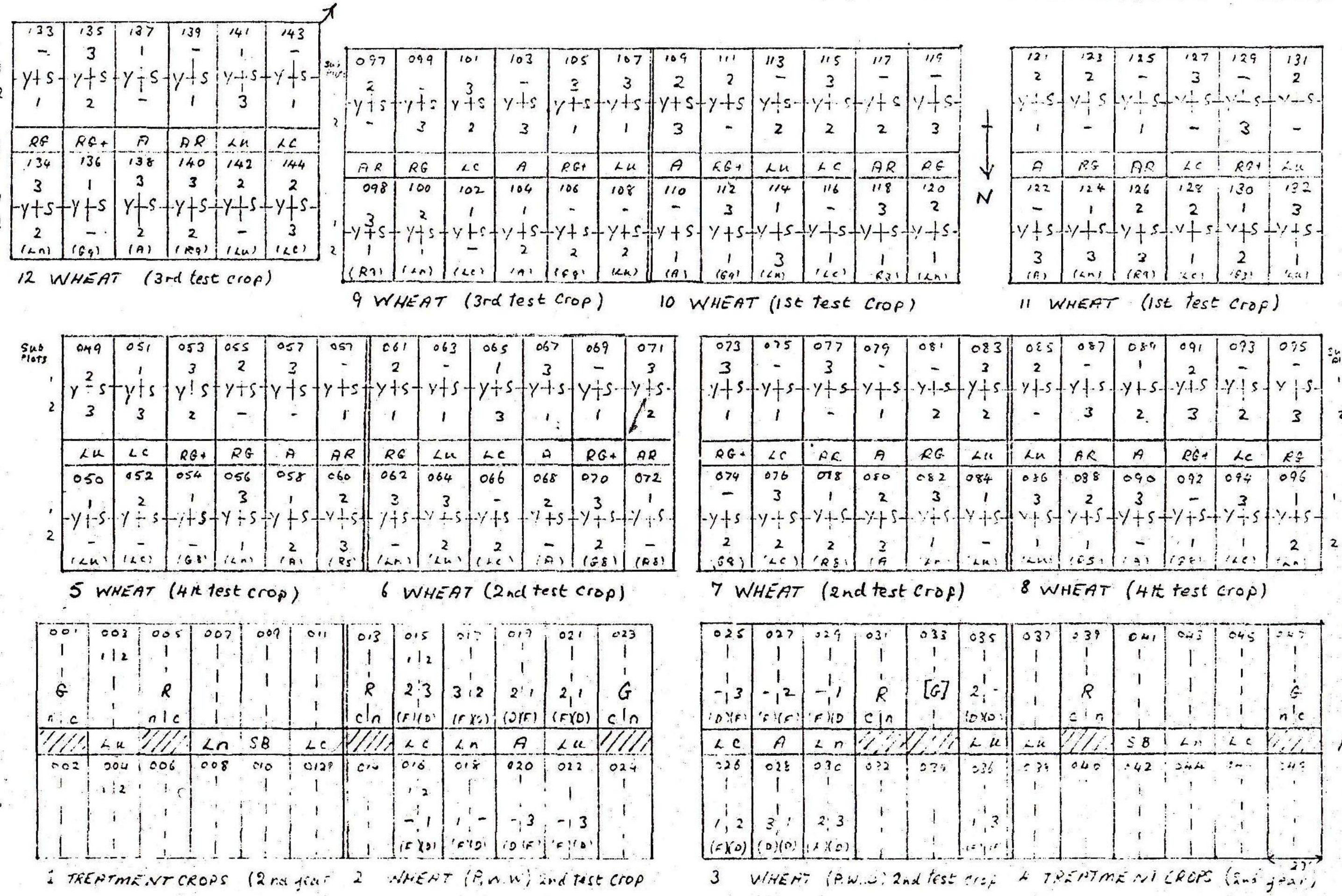
TREATMENT CROPS Blocks 1 + 4

- Lu Lucerne
- Ln Grass ley
- Lc Grass Clover ley
- R Reseeded grass
- G Old grass
- [G] Pseudo old grass
- SB Sugar beet

TEST CROP Blocks 2 + 3

Wheat: Flanders
Sown on 18 November

NOTE: RG+ plots are not ploughed, direct drilled on blocks 6, 7, 10 or 11, but are ploughed and conventionally sown on blocks 5, 8, 9 & 12.



NOTE: $R_1 + G_1$ etc. refers to years reseeded (R) and old grass (G) first under arable crop (1963 + 1968 etc)
(F),(D), None, FYM (residual treatments). c, n, none, N + K top dressed in Spring and after each cut except the last

ROTHAMSTED LEY-ARABLE 36th YEAR 84/R/RN/1 HIGHFIELD 1984

Sponsors: Blocks 1-4 A.E. Johnston, Blocks 6, 7, 9, 12 R.J. Gutteridge

CROPPING

W.WHEAT Blocks 6, 7, 9, 12 sown 18 October

Flanders Test N

- 1, 2, 3. None, 50, 100, 150 kgN/ha (None, 45, 89, 134 lbN/ac)

Y, S, Yield, Sample area

WHEAT Blocks 5, 8, 10, 11

Sown solid uniform N

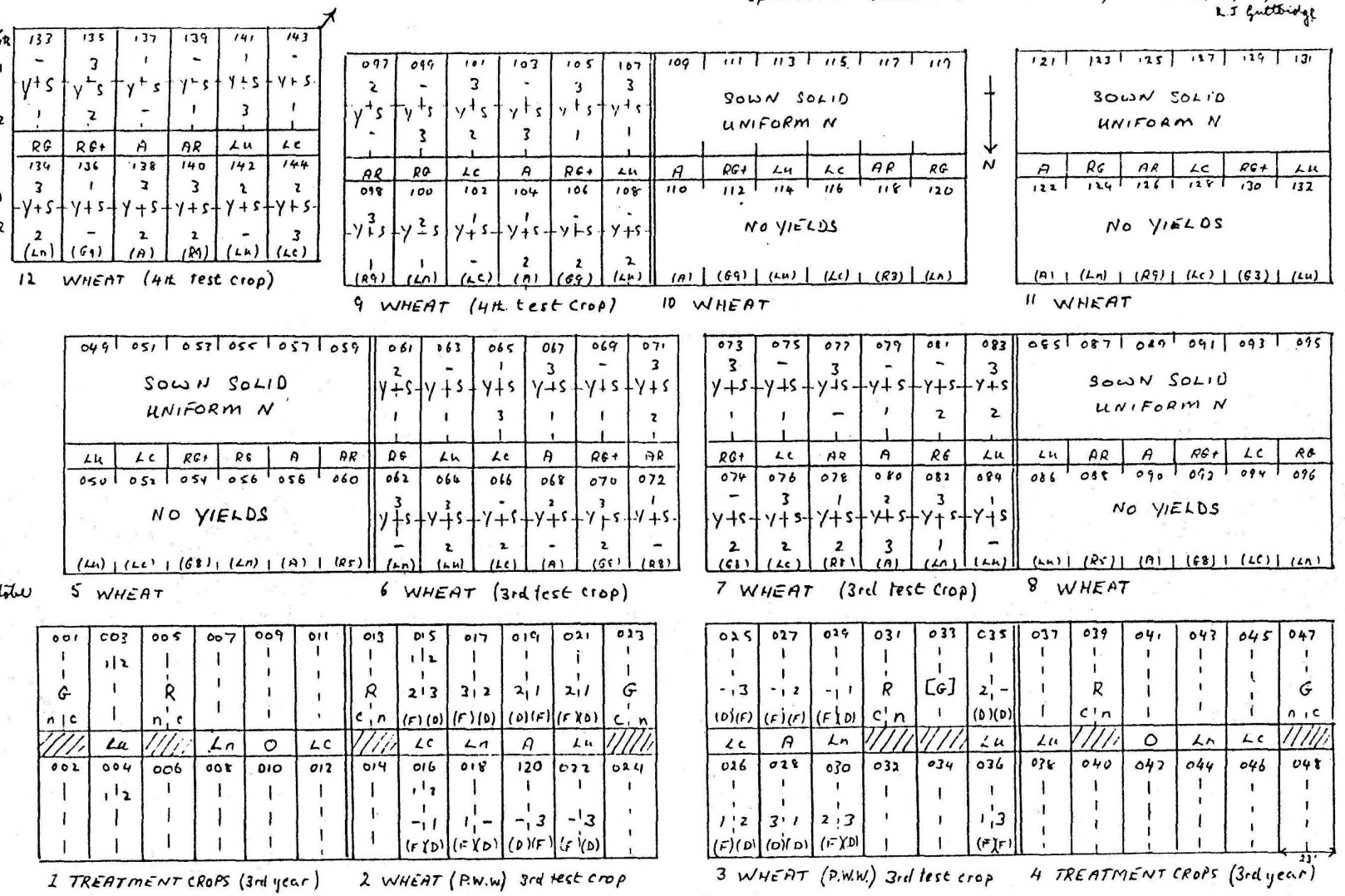
no yields

TREATMENT CROPS Blocks 1 & 4

Lu	Lucerne
Ln	Grass ley
Lc	Grass clover ley
R	Reseeded grass
G	Old grass
[G]	Pseudo old grass
O	Oats

TEST CROP Blocks 2 & 3

Wheat Flanders, sown 18 October



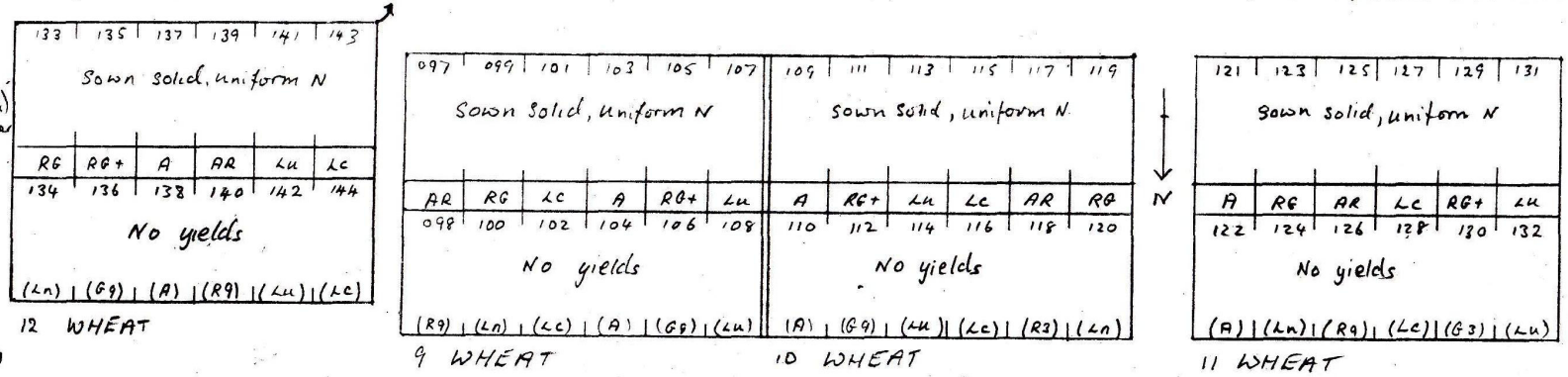
NOTE R_3 + G8 etc. refers to years reseeded (R) and old grass (G) first under arable crop (1963 + 1968 etc.)
(F)(D), None, FYM (residual treatments). C, n, None, N + K top dressed in Spring and after each cut except the last.

85/R/RN/1

Sponsors : Blocks 1-4 A.E. Johnston, Blocks 6 & 7 R.J. Gutteridge

CROPPING

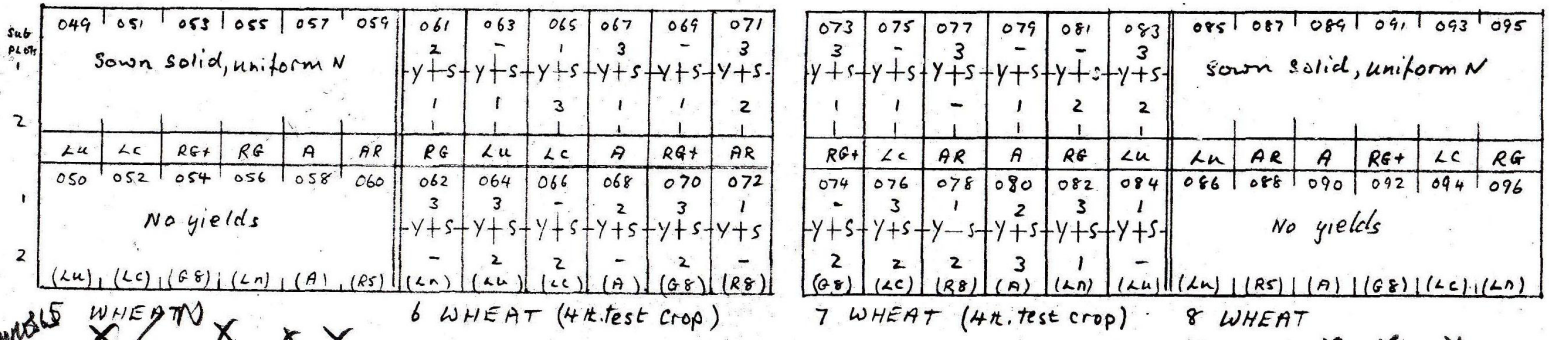
W. Wheat Blocks 6 + 7
Flanders sown at 170 kg/ac (191 kg/ha) on 2 November
Test N
0, 1, 2, 3. None, 50, 100, 150 kg N ha^{-1}
(None, 45, 89, 134 lb N ac^{-1})
Y, S, Yield, Sample area
Wheat blocks 5, 8, 9, 10, 11 + 12
Sown solid, uniform N
No yields. Sown at 170 lb/ac (191 kg/ha) on 2 November



TREATMENT CROPS blocks 2 + 3

Lu Lucerne
Ln grass ley
Lc grass Clover ley
H 1 year hay

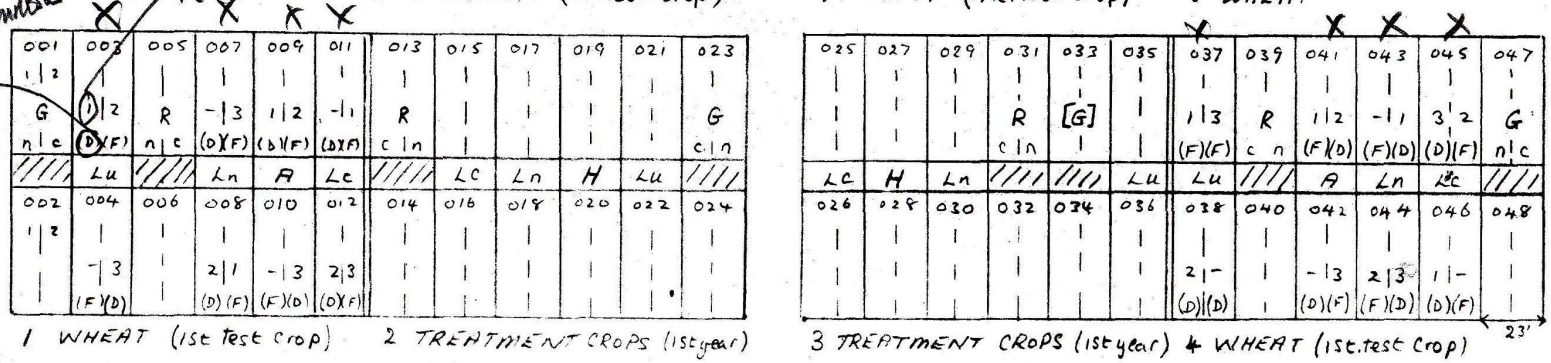
R Reseaded grass
G Old grass
[G] Pseudo - old grass



TEST CROP blocks 1 + 4

W. Wheat
Flanders sown at 170 lb/ac (191 kg/ha) on 2 November

NOTE: Test Crop W. Wheat replaces potatoes



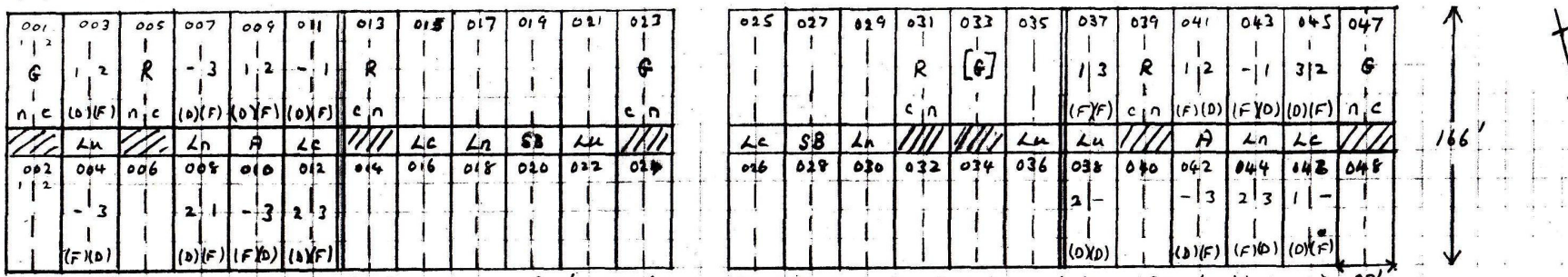
NOTE: Rg + G & etc. refers to years reseaded (R) and old grass (G) first under arable crop (1963 - 1968 etc.)
(F) (D), None FYM (residual treatments. C. n. None, N + K top dressed in spring and after each cut except the last

pp 7

ROTHAMSTED LEY ARABLE (MUSEUM PLOTS) 38th YEAR HIGHFIELD 1986

86/R/RN/1

Sponsor: A.E. Johnston



1 WHEAT (2nd test crop) 2 TREATMENT CROPS (2nd year) 3 TREATMENT CROPS (2nd year) 4 WHEAT (2nd test crop)

CROPPING

TREATMENT CROPS blocks 2 + 3

Lu Lucerne
Ln Grass ley
Lc Grass/clover ley
SB Sugar beet

R Reseeded grass
G Old grass
[G] Pseudo old grass

TEST CROPS blocks 1 + 4

Winter wheat, sown 10 October
Avalon

Notes: (F)(D), None, FYM (residual treatments). c, n, None, N + K top dressed in spring and after each cut except the last.

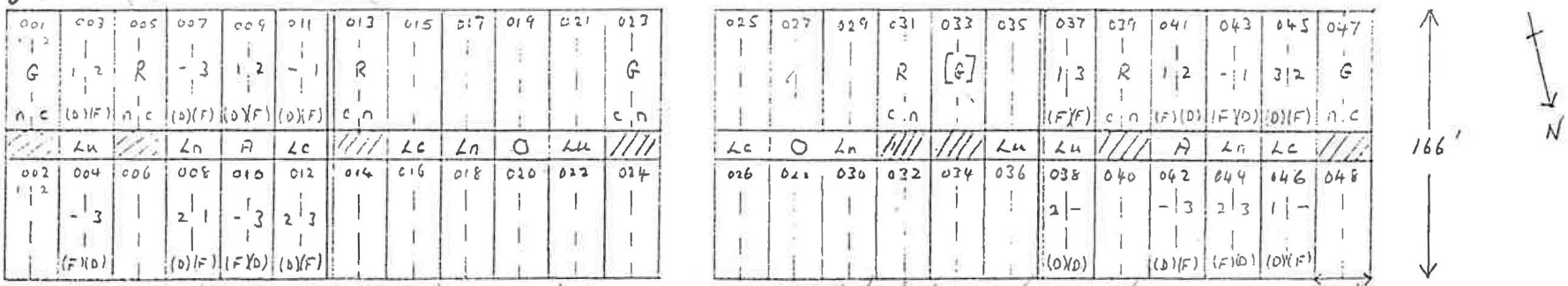
NOTE Crop sequence blocks (old blocks 5–12) all to be sown solid, uniform N, no yields.

Variety Avalon

ROTHAMSTED LEY ARABLE (MUSEUM PLOTS) 39th YEAR HIGHFIELD 1987

87/R/RN 1V

sponsor: A.E. Johnston



1 WHEAT (3rd test crop) 2 TREATMENT CROPS (3rd year)

3 TREATMENT CROPS (3rd year) 4 WHEAT (3rd test crop)

CROPPING

TREATMENT CROPS blocks 2 + 3

Lu Lucerne
Ln Grass ley
Lc Grass/clover ley
O Oats

R Reseeded grass
G Old grass
[G] Pseudo old grass

TEST CROPS blocks 1 + 4

Winter wheat
Avalon, sown 4 October

Notes: (F)(D), None, FYM (residual treatments). c, n, None, N + K top dressed in spring and after each cut except the last.

4 layers 6th test crop

9a

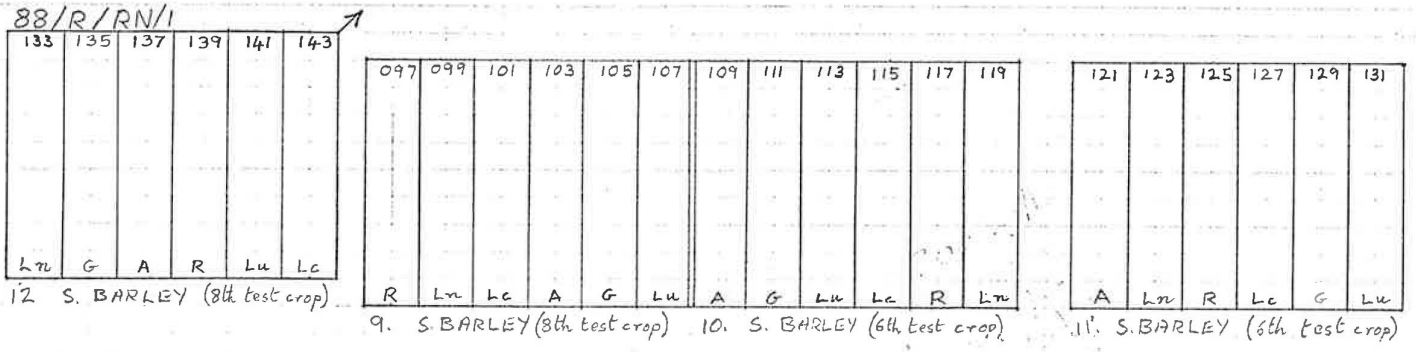
ROTHAMSTED LEY ARABLE S. Barley 40TH YEAR HIGHFIELD 1988

Sponsor : A.E. Johnston

88/R/RN/1

TREATMENT CROPS

A Arable
G Old Grass
Lc Grass clover ley
Ln Grass Ley
Lu Lucerne
R Reseeded grass



CROPPING 1988

BLOCKS 5 – 12

S Barley: Variety: Klaxon, dressed o.m. only, sown at 158kg/ha on 3rd & 4 March, 1988

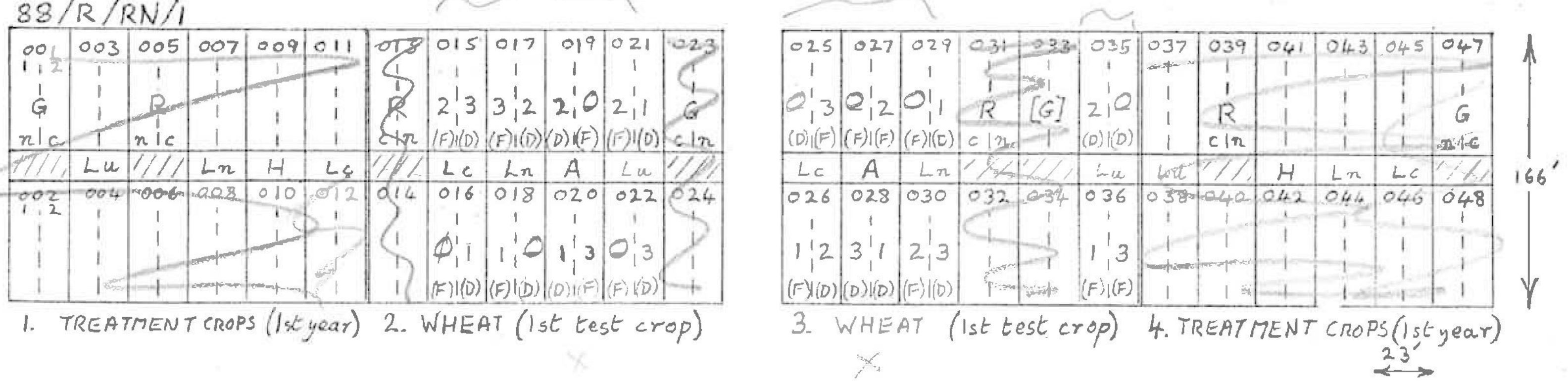
Yields taken from eastern half of each plot only

001 1. TREATMENT CROPS	MUSEUM 2. WHEAT (1st test crop) For details
PLOTS 3. WHEAT (1st test crop) see separate plan.	4. TREATMENT CROPS 048

ROTHAMSTED LEY ARABLE (MUSEUM PLOTS) 40TH YEAR HIGHFIELD 1988

Sponsor: A.E. Johnston

88/R/RN/1



CROPPING

TREATMENT CROPS blocks 1 & 4

Lu Lucerne
Ln Grass Ley
Lc Grass/clover Ley
H 1 year Hay

R Reseeded grass
G Old grass
[G] Pseudo Old Grass

TEST CROPS blocks 2 & 3

Winter Wheat
Avalon, Sown 5 Oct, 87

N test to W Wheat

–	None
1	50 Kg N ha^{-1}
2	100 ..
3	150 ..

Notes: (F), (D): None, FYM (residual treatments)
c, n: None, N & K top dressed in spring and after each cut except the last.

9

RCTHAMSTED LEY ARABLE (MUSEUM PLOTS) 41st YEAR HIGHFIELD 1989

Sponsor: A.E. Johnston, P.R. Poulton

89/R/RN/1

og R LE LE R og R R LE LE og

001 1,2 G n|c	003	005 R n|c	007	009	011	013 R c|n	015 2|3 (F)|(D)	017 3|2 (F)|(D)	019 2|1 (D)|(F)	021 2|1 (F)|(D)	023 G c|n
////	Lu	////	Ln	Sb	Lc	////	Lc	Ln	A	Lu	////
002 1,2	004 ±	006	008	010	012	014	016 –|1 (F)|(D)	018 1|– (F)|(D)	020 –|3 (D)|(F)	022 –|3 (F)|(D)	024

1. TREATMENT CROPS (2nd year) 2. WHEAT (2nd test crop)

Note: Positions of N – & N1 were (in error) in reverse of these in 1988

025 –|3 (D)|(F)	027 –|2 (F)|(F)	029 –|1 (F)|(D)	031 R c|n	033 [G]	035 2|1– (D)|(D)	037	039 R c|n	041	043	045	047 G n|c
Lc	A	Ln	///	///	Lu	Lu	///	SB	Ln	Lc	//
026 1|2 (F)|(D)	028 3|1 (D)|(D)	030 2|3 (F)|(D)	032	034	036 1|3 (F)|(F)	038	040	042	044	046	048

3. WHEAT (2nd test crop) 4. TREATMENT CROPS (2nd year)

166'

23

N

CROPPING

TREATMENT CROPS blocks 1 & 4

Lu Lucerne
Ln Grass Ley
Lc Grass/clover Ley
Sb Sugar beet

R Reseeded grass
G Old grass
[G] Pseudo Old Grass

TEST CROPS blocks 2 & 3

Winter Wheat
Avalon, sown: 27 Oct

N test to W Wheat

– None
1 50 Kg N ha^{-1}
2 100 ..
3 150 ..

Notes: (F), (D): None, FYM (residual treatments)
c, n: None, N & K top dressed in spring and after each cut except the last.

ROTHAMSTED LEY ARABLE (MUSEUM PLOTS) 42nd YEAR HIGHFIELD 1990

Sponsor: P.R Poulton

90/R/RN/1

001 1|2	003	005	007	009	011	013	015	017	019	021	023
G		R				R	2|3	3|2	2|1	2|1	G
n|c		n|c				c|n	(F)|(D)	(F)|(D)	(D)|(F)	(F)|(D)	c|n
////	Lu	////	Ln	O	Lc	////	Lc	Ln	A	Lu	////
002 1|2	004	006	008	010	012	014	016	018	020	022	024
							−|1	1|−	−|3	−|3	
							(F)|(D)	(F)|(D)	(D)|(F)	(F)|(D)	

025	027	029	031	033	035	037	039	041	043	045	047
−|3	−|2	−|1	R	[G]	2|−		R				G
(D)|(F)	(F)|(F)	(F)|(D)	c|n		(D)|(D)		c|n				n|c
Lc	A	Ln	////	////	Lu	Lu	////	O	Ln	Lc	////
026	028	030	032	034	036	038	040	042	044	046	048
1|2	3|1	2|3			1|3						
(F)|(D)	(D)|(D)	(F)|(D)			(F)|(F)						

166'

N

1. TREATMENT CROPS (3rd year) 2. WHEAT (3rd test crop) : 3. WHEAT (3rd test crop) 4. TREATMENT CROPS (3rd year)

2.3'

CROPPING

TREATMENT CROPS blocks 1 & 4

Lu Lucerne
Ln Grass Ley
Lc Grass/clover Ley
O Oats

R Reseeded grass
G Old grass
[G] Pseudo Old Grass

Notes: (F), (D): None, FYM (residual treatments)
c, n: None, N & K top dressed in spring and after each cut except the last.

TEST CROPS blocks 2 & 3

Winter Wheat
Avalon, sown: 4 Oct

N test to W Wheat

−	None
1	50 Kg N ha^{-1}
2	100 "
3	150 "