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ROTHAMSTED
RESEARCH

Collection of Plans for the Fosters Ley-arable Experiment



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Fosters Ley-arable 1949-59

Rothamsted Research

Rothamsted Research (1949-1990) *Fosters Ley-arable 1949-59* ; Collection Of Plans For The Fosters Ley-Arable Experiment, pp 1 - 11

FOSTERS FIELD

LEY AND ARABLE ROTATIONS Experiment

1949 1st Preliminary year

Present crop	W		W		R		W		R		Cg1		R		H		L1		Lul	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	a	b	a	b	a	b	a	b	a	b	N	N	N	N	N	N	N	N	N	N
	1	2	1	2	1	2	1	2	1	2	1	1	1	2	2	2	2	2	2	2
	190 lbs																			
	Relation (L) (A) (Lu) (R) (Cg) (R) (A) (L) (Lu)																			

Plot code letter	W		W		R		W		R		Cg1		L1		R		H			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
	a	b	a	b	a	b	a	b	N	N	N	N	N	N	N	N	N	N	N	
	1	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	
	126 lbs																			
	35 lbs																			
	Relation (Lu) (Cg) (A) (L) (R) (Cg) (Lu) (L) (R) (A)																			

Test crop { W Wheat
H Seeds hay
Lul 1 cut then followed
Cg1 1st year lucerne
L1 1st year cut grass
R 3 or 4 cuts
Permanet grazed with sheep

Rotation	Treatment crops	Test crop
(A)	Hay, Potatoes, Barley	Wheat, Potatoes, Barley
(Lu)	1st yr, 2nd yr, 3rd yr lucerne	
(Cg)	1st yr, 2nd yr, 3rd yr cut grass	
(L)	1st yr, 2nd yr, 3rd yr grazed ley	

1/4 plot = 0.02205 acre

For harvested areas see Field notebooks
17 rows by 7mch spacing by 124.5 links
82-17 feet

Symbol	Crop	cwt. N per acre as nitrochalk N1	cwt. N per acre as nitrochalk N2	Basal dressing per acre
W	Wheat	0.3	0.6	0.2 cwt. P ₂ O ₅ combine drilled with seed
H	Seeds hay	0.3	0.6	0.15 cwt. P ₂ O ₅ , 0.15 cwt. K ₂ O
Cg1	1st year cut grass	0.15 (i)	0.3	0.6 cwt. P ₂ O ₅ , 0.6 cwt. K ₂ O
L1	1st year grazed ley	0.075 (ii)	0.15	0.6 cwt. P ₂ O ₅ , 0.6 cwt. K ₂ O
R	Reseeded grass	0.075 (ii)	0.15	0.3 cwt. P ₂ O ₅ , 0.3 cwt. K ₂ O
Lul	1st year lucerne	-	-	0.6 cwt. P ₂ O ₅ , 0.6 cwt. K ₂ O

The basal dressing is applied as a granulated compound containing 13% P₂O₅ and 13% K₂O.

- (i) 1st dressing of N1 and N2 in spring. Repeated dressings of N1 and N2 at the same rates. After 1st, 2nd and 3rd cut.
- (ii) 1st dressing of N1 and N2 in spring. A second dressing of N1 and N2 later in summer at the same rates.

FOSTERS LEY AND ARABLE ROTATIONS EXPERIMENT

1951 3rd year



Code letter M

111	113	115	117	119	Present crop
a b	a b	a b	a b	a b	
N N	N N	N	N N N	N N	
2 1	1 1	1	1 2 2	1	

112	114	116	118	120	Rotation
a b	a b	a b	a b	a b	
N N	N N	N	N N N	N N	
1 2 2	2 2	2	1 2 2	1	

91	93	95	97	99	101	103	105	107	109	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N N	N N	N N	N N	N	2	2 1	2 1	2 1	N 2	
2 2 2	1 1 2	2 2	2 2	1	1	2 1	2 1	2 1	1	

92	94	96	98	100	102	104	106	108	110	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N N	N N	N N	N N	N	2	2 1	2 1	2 1	N 1	
1 1 2	1 2 1	1 1	1 1	2	1	1 2 2	1 1	1 1	1	

81	83	85	87	89	Rotation
a b	a b	a b	a b	a b	
N N	N N	N N	N N	N N	
2 1	2 1	2 2	2 2	1 2	

82	84	86	88	90	Rotation
a b	a b	a b	a b	a b	
N N	N N	N N	N N	N N	
1 2	1 2	1 2	1 2	1 2	

61	63	65	67	69	71	73	75	77	79	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N 2	2 1	2 1	2 1	2 2	2 2	2 2	2 2	2 2	2 2	
2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	

62	64	66	68	70	72	74	76	78	80	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N	N	N	N	N	N	N	N	N	N	
1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	

51	53	55	57	59	Rotation
a b	a b	a b	a b	a b	
N	N	N	N	N	
1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	

52	54	56	58	60	Rotation
a b	a b	a b	a b	a b	
N	N	N	N	N	
2 2 1	2 2 1	2 2 1	2 2 1	2 2 1	

31	33	35	37	39	41	43	45	47	49	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N N	N N	N	N	N	N	N	N	N	N	
2 1 2	2 1 2	2 1	2 1	2 1	2 1	2 1	2 1	2 1	2 1	

32	34	36	38	40	42	44	46	48	50	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N N	N N	N 2	N 2	N 2	N 2	N 2	N 2	N 2	N 2	
2 1	2 1	2 1	2 1	2 1	2 1	2 1	2 1	2 1	2 1	

21	23	25	27	29	31	33	35	37	39	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N N	N N	N N	N N	N N	N N	N N	N N	N N	N N	
1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	

22	24	26	28	30	32	34	36	38	40	Rotation
a b	a b	a b	a b	a b	a b	a b	a b	a b	a b	
N 2	N 2	N 2	N 2	N 2	N 2	N 2	N 2	N 2	N 2	
1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	1 2 1	

11	13	15	17	19	Rotation
a b	a b	a b	a b	a b	
N N	N N	N N	N N	N N	
2 1	2 1	2 1	2 1	2 1	

12	14	16	18	20	Rotation
a b	a b	a b	a b	a b	
N N	N N	N N	N N	N N	
2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	

16 MAR 1951

n,d on treatment crops
N,D on test crops (W,R,B)
(d)(D) residuals of 1950 dung treatments

grazed this yr

*120 ft
175 ft
35 ft*

FOSTERS LEY AND ARABLE ROTATIONS EXPERIMENT

5 FEB 1952

1952 4th year

code letter M.

91	93	95	97	99	101	103	105	107	109
a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b
N	N	N	N	N	N	N	N	N	N
D	D	D	D	D	D	D	D	D	D
92	94	96	98	100	102	104	106	108	110
a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b
N	N	N	N	N	N	N	N	N	N
D	D	D	D	D	D	D	D	D	D

51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89
a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

AREA MANURED
1/4 plot - 1/45 acre (approx)

1	3	5	7	9	11	13	15	17	19
a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b
N	N	N	N	N	N	N	N	N	N
D	D	D	D	D	D	D	D	D	D
2	4	6	8	10	12	14	16	18	20
a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b	a, b
N	N	N	N	N	N	N	N	N	N
D	D	D	D	D	D	D	D	D	D

6 Year Cropping Cycles:-
 Treatment crops
 Lu = 3 years Lucerne
 L = 3 years Grazed Ley
 Cg = 3 years Cut Grass
 A = Hay, Potatoes, Barley
 R = Reseeded Permanent Grass
 3rd year Hay.

Test crops
 Wheat, Potatoes, Barley
 Grass 2 years grazed

All crops (except Lucerne) have nitrogen at single (no symbol) or at double (N) rates
 N = 2 cwt N/c in spring, 2 cwt N/c after each cut.
 Cg = 1 cwt N/c in 1 cwt N/c later in season.
 Wheat (W) 4 cwt N/c, Barley (B) 2.7 cwt N/c, Hay (H) 4 cwt N/c.
 Potatoes (P) 5 cwt. sulphate of ammonia
 D = Dung at 12 tons per acre to potato crops only
 n = N given in previous 3 year crop sequence
 d = D to previous potato crop

Basal P.K. All rotations and permanent grass :- 13 cwt/a superphosphate . 4 cwt/a muriate of potash spread over 6 years (Equivalent Calcium carbonate applied once in 6 years before test crop barley.
 to 2.4 cwt P₂O₅ & 2.4 cwt K₂O

LEY AND ARABLE ROTATIONS EXPERIMENT — FOSTERS — 1953 5th year

Code letter M.

91 a N	93 a D	95 a D	97 a D	99	101 N	103 a D	105 a b	107 a b	109 N
92 a D	94 a D	96 a D	98 a D	100 N	102 N	104 a D	106 a b	108 a b	110 N

Rotation
Cg Lu L A

51	53	55	57	59
52	54	56	58	60

Present crop

Area manured
1/4 plot - 1/45 acre
(approx.)



111 a N	113 a D	115 a b	117 a b	119 a b
112 a D	114 a D	116 a D	118 a D	120 a D

Rotation
L Lu BLOCK 12

61 a N	63 a b	65 a b	67 a b	69 a b	71 a b	73 a b	75 a b	77 a b	79 a b	81 a b	83 a b	85 a b	87 a b	89 a b
62 a N	64 a b	66 a b	68 a b	70 a b	72 a b	74 a b	76 a b	78 a b	80 a b	82 a b	84 a b	86 a b	88 a b	90 a b

Rotation
L Cg Lu BLOCK 7

2	4	6	8	10	12	14	16	18	20
3	5	7	9	11	13	15	17	19	

Rotation
BLOCK 6

21 a N	23 a b	25 a b	27 a b	29 a b	31 a b	33 a b	35 a b	37 a b	39 a b	41 a b	43 a b	45 a b	47 a b	49 a b
22 a D	24 a b	26 a b	28 a b	30 a b	32 a b	34 a b	36 a b	38 a b	40 a b	42 a b	44 a b	46 a b	48 a b	50 a b

Rotation
BLOCK 8

3	5	7	9	11	13	15	17	19
4	6	8	10	12	14	16	18	20

Rotation
BLOCK 9

6 Year cropping cycles :-
Treatment crops
Lu : 3 years Lucerne
L : 3 years Grazed Ley
Cg : 3 years Cut Grass
A : Hay, Potatoes, Barley
R : Reseeded Permanent Grass 2 years grazed
3rd year hay.

Test crops
Wheat, Potatoes, Barley

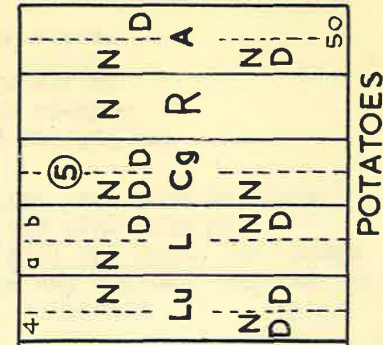
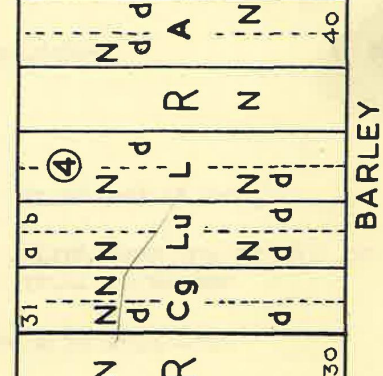
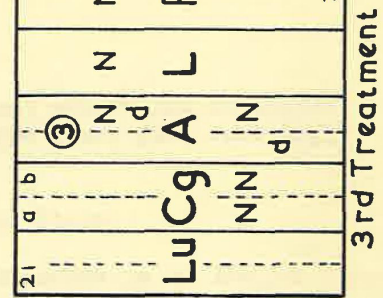
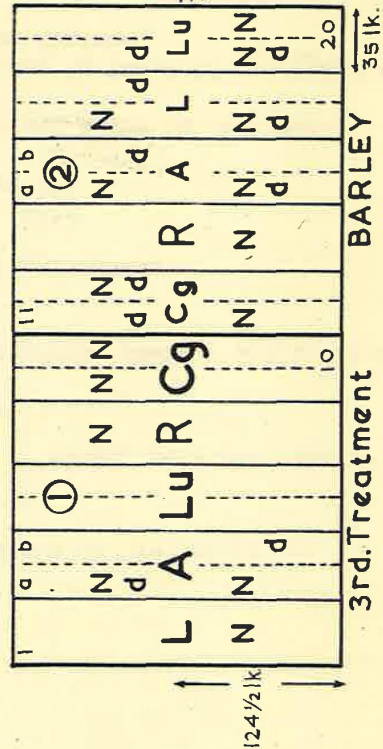
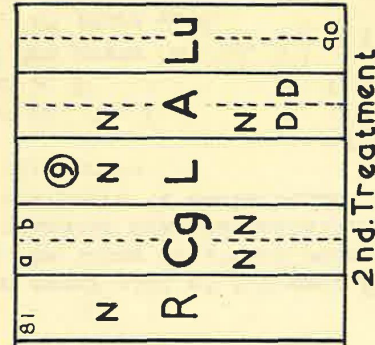
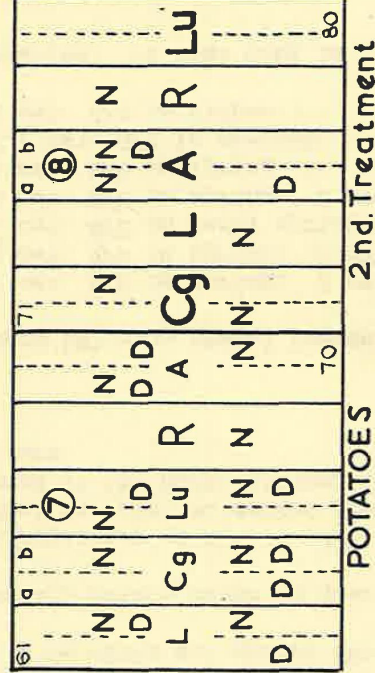
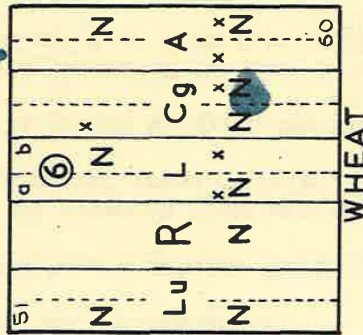
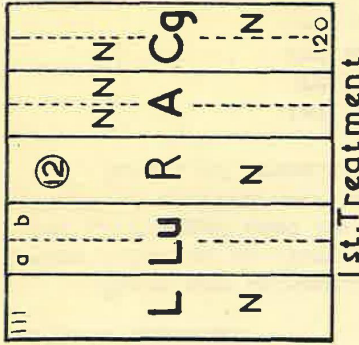
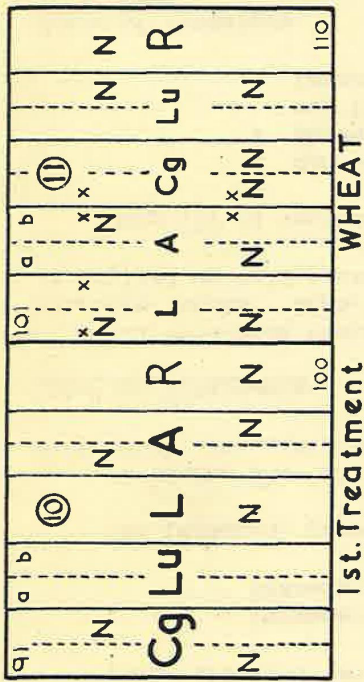
All crops (except Lucerne) have nitrogen at Single (no symbol) & at double (N) rates
Cg :- 2 cwt. N/c in spring, 2 cwt. N/c after each cut.
L :- 1 cwt. N/c in spring, 1 cwt. N/c later in season.
Wheat (W) 4 cwt. N/c. Barley (B) 2.7 cwt. N/c. Hay (H) 4 cwt. N/c.
Potatoes (P) 5 cwt. sulphate of ammonia.
D = Dung at 12 tons per acre to potato crops only.
U = High nitrogen given in previous 3 year crop sequence.
D = Dung to previous potato crop.

Basal P.K. All rotations and permanent grass :- 13 c.p.a. Super. 4 c.p.a. Mur/potash spread over 6 years.

Rothamsted LEY-ARABLE Rotations FOSTERS 6th. year 1954



Code letter M



Area manured
1/4 plot - 1/45 acre
(approx.)

12 1/2 1/2 1/2

3 1/2 cross path

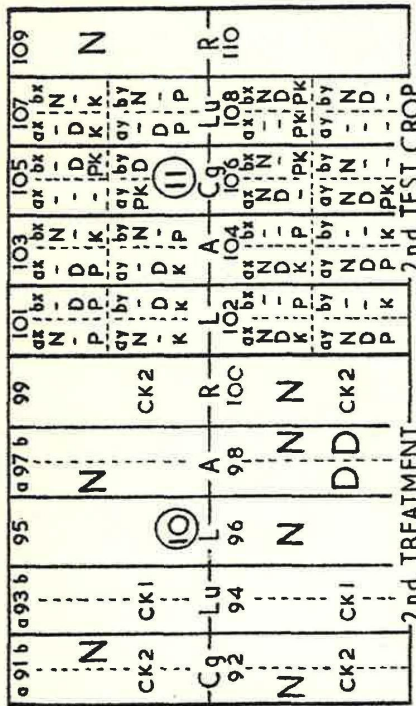
21 June 1954

Treatments overleaf

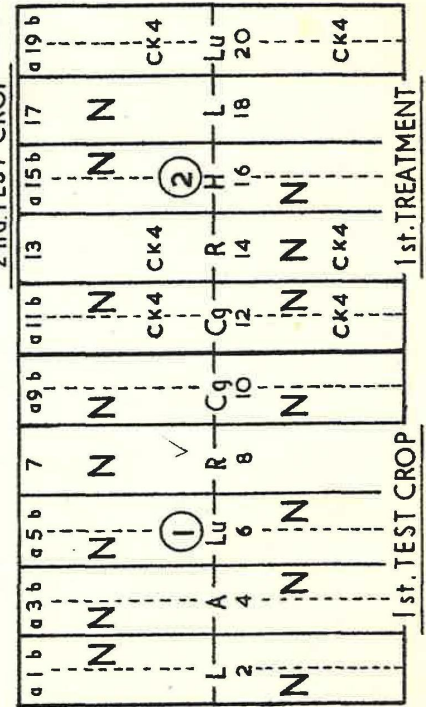
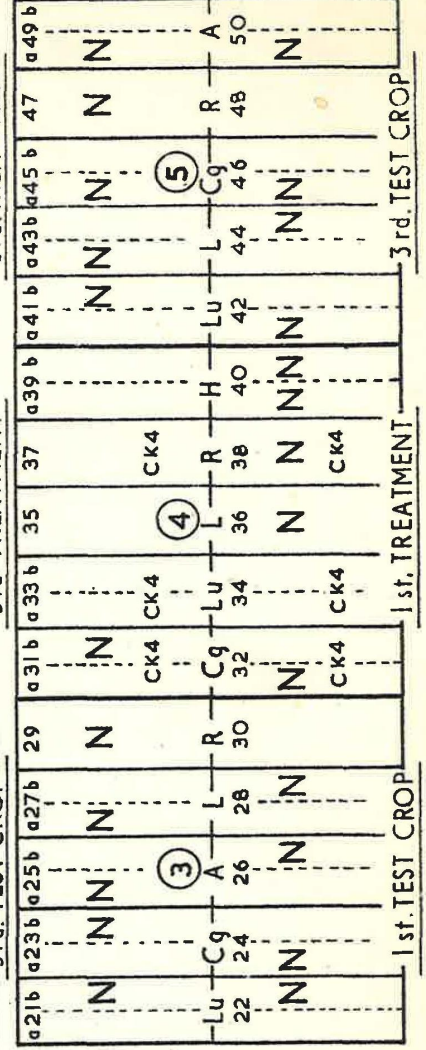
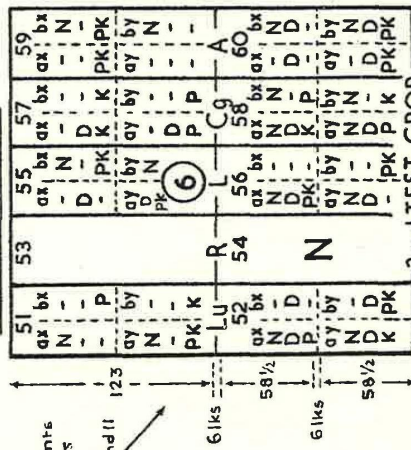
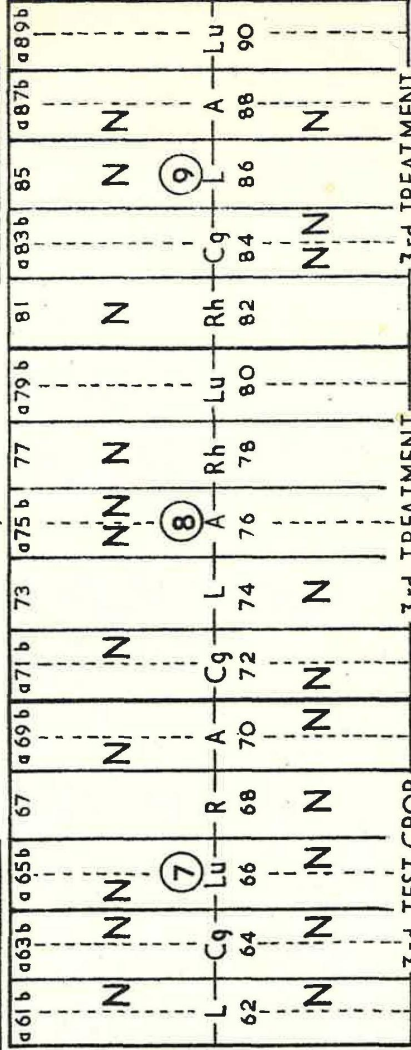
JUN 1955

LEY-ARABLE ROTATIONS FOSTERS

Code Letter M
SEVENTH YEAR
1955



TEST CROPS
1st: Wheat
2nd: Potatoes
3rd: Barley



Wheat 8' of row per plot sampled.

LEY-ARABLE ROTATIONS FOSTERS Code Letter M NINTH YEAR 1957

a91b 3 N	a93b 1 N	a95b 2 N	a97b 4 N	99 - N	101 - N	a103b 1 N	a105b 1 N	107b - N	109 - N
Cg	Lu	L	A	R	L	H	Cg	Lu	Rh
92 3 3	94 1 1	96 2 2	98 4 4	100 - N	102 - -	104 - N	106 - N	108 110 - -	-

a111b 3 N	a113b 1 N	115 - N	117b 4 N	a119b 3 N
L	Lu	R	A	Cg
113 2 2	114 1 1	116 2 2	118 4 4	120 3 3

a51b - N	53 - N	a55b - N	a57b - N	a59b - N
Lu	Rh	L	Cg	H
52 - N	54 - N	56 - N	58 - N	60 - N

61 - N	a63b - N	a65b - N	67 - N	a69b - N
L	Cg	Lu	R	P
62 - -	64 - N	66 - N	68 - N	70 - D

71 - N	73 - N	75 - N	77 - N	79 - N	81 - N	83 - N	85 - N	87 - N	89 - N
Cg	L	R	A	P	Lu	Cg	L	A	Lu
72 - D	74 - D	76 - D	78 - -	80 - N	82 - -	84 - N	86 - N	88 - D	90 - D

a11b - N	a13b - N	a15b - N	a17b - N	a19b - N
Cg	R	O	L	Lu
10 3 3	12 - N	14 - N	16 - N	18 - -

a21b - N	a23b - N	a25b - N	a27b - N	a29b - N	a31b - N	a33b - N	a35b - N	a37b - N	a39b - N	a41b - N	a43b - N	a45b - N	a47b - N	a49b - N
Lu	Cg	A	L	R	Cg	Lu	L	R	O	Lu	L	Cg	R	P
22 - N	24 - N	26 - N	28 - N	30 - -	32 - N	34 - N	36 - N	38 - N	40 - N	42 - N	44 - -	46 - N	48 - -	50 - D

a11b - N	a13b - N	a15b - N	a17b - N	a19b - N
L	Lu	R	A	Cg
113 2 2	114 1 1	116 2 2	118 4 4	120 3 3



23'0" 2'0" Cross path 82'0" 81'0" 4'0" 38'6" 4'0" 38'6"

**FOSTERS
LEY - ARABLE
ROTATIONS
CODE LETTER M
ELEVENTH YEAR**

1959

