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Yields of the Field Experiments 1964

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64/R/HIA/B/1 and 64/R/FLA/B/1 Ley and Arable Rotations

Rothamsted Research

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64/B/1.1

LEY AND ARABLE ROTATIONS

(HLA and FLA)

Highfield and Fosters Field 1964, the 16th year.

For details of treatments, rotations etc., see 'Details'.

Winter wheat: The rates of N following the arable rotation are now increased as follows:-

Highfield: None, 0.4, 0.8, 1.2 cwt N.

Fosters: None, 0.53, 1.07, 1.60 cwt N.

No weedkiller was applied in 1964.

Barley: Variety is now Maris Badger.

Sugar beet: A test is now made of 1.0 v 1.5 cwt N applied to 1/4 plots as basal 10:10:10 and 'Nitro-Chalk'.

All-grass ley: The seeds mixture is now 5 lb Timothy and 6 lb Meadow Fescue sown at 30 lb, starting with the 1st year ley in 1964.

Lucerne: The second and third year crops are now sprayed with basal paraquat.

Potatoes: In 1964 and future years once grown chitted seed is used.

NOTE: The 3rd year all-grass ley on Fosters failed in spring 1964 and was resown with Italian Ryegrass.

Cultivations, etc.:

HIGHFIELD

1st year Treatment Crops.

All-grass ley. Ploughed twice: Sept 12 and Nov 28, 1963. Basal PK compound applied: Apr 14, 1964. 'Nitro-Chalk' applied: Apr 27. Seeds sown at 30 lb: May 6. Sprayed with 2,4-D butoxyethylester at 0.44 lb a.e. in 40 gals: June 10. Cut twice: July 22 and Oct 22. NK compound applied after first cut.

Clover-grass ley. Ploughed twice: Sept 12 and Nov 28, 1963. Basal PK compound applied: Apr 14, 1964. Seeds sown at 33 lb: May 6. Sprayed with MCPB/MCPA (New Legumex at 2.5 pints in 40 gals): June 10. Cut twice: July 23 and Oct 22. Muriate of potash applied after first cut.

Lucerne. Ploughed twice: Sept 12 and Nov 28, 1963. Basal PK compound applied, seed drilled at 20 lb: Apr 14, 1964. Cut twice: July 21 and Sept 4.

Hay. Seeds undersown in barley: May 6, 1963. Basal NPK compound applied: Feb 26, 1964. Cut twice: May 26 and July 23. NK compound applied after first cut.

2nd year Treatment Crops.

All-grass ley. Basal PK compound applied: Nov 27, 1963. 'Nitro-

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Chalk' applied: Mar 20, 1964. Cut four times: May 21, June 24, July 22, Oct 22. NK compound applied after first 3 cuts.
Clover-grass ley. Basal PK compound applied: Nov 27, 1963. Cut three times: May 21, June 24, July 23, 1964. Muriate of potash applied after each cut. Topped with mower: Oct 27.
Lucerne. Basal PK compound applied: Nov 27, 1963. Sprayed with paraquat at 2 lb ion in 40 gals: Feb 12, 1964. Cut three times: June 11, July 21, Sept 4.
Sugar beet. Ploughed three times: Aug 20, Oct 12 and Nov 27, 1963. Muriate of potash applied: Feb 21, 1964. Basal NPK compound applied: Apr 3. 'Nitro-Chalk' applied: Apr 7. Seed drilled at 5.25 lb: Apr 9. Springtine cultivated up, because of failure of 1st sowing, re-drilled at 5.25 lb: May 7. Sprayed with DDT at 0.6 lb in 30 gals: May 27. Singled: June 10. Sprayed twice with menazon (Saphicol at 0.75 pints in 35 gals): July 2 and 23. Lifted: Nov 9.

3rd year Treatment Crops.

All-grass ley. Basal PK compound applied: Nov 27, 1963. 'Nitro-Chalk' applied: Mar 20, 1964. Cut four times: May 21, June 24, July 22, Sept 7. NK compound applied after first 3 cuts.
Clover-grass ley. Basal PK compound applied: Nov 27, 1963. Cut four times: May 21, June 24, July 23, Sept 7, 1964. Muriate of potash applied after first 3 cuts.
Lucerne. Basal PK compound applied: Nov 27, 1963. Sprayed with paraquat at 2 lb ion in 40 gals: Feb 12, 1964. Cut three times: June 11, July 21, Sept 4.
Oats. Ploughed: Nov 27, 1963. Seed combine drilled at 4 bushels: Mar 6, 1964. Springtine cultivated up, because of failure of 1st sowing: Apr 27. Re-drilled at 4 bushels: Apr 28. Sprayed with dicamba/MCPA (Banlene at 4 pints in 40 gals): May 28. Combine harvested: Sept 1.

1st Test Crop, Wheat.

Ploughed: Sept 21, 1963. Seed combine drilled at 2.75 bushels: Oct 15. 'Nitro-Chalk' applied: Apr 25, 1964. Combine harvested: Aug 26.

2nd Test Crop, Potatoes.

Dung applied, plots ploughed: Oct 2, 1963. Ploughed 2nd time: Nov 27. Fertilisers applied: May 7, 1964. Potatoes machine planted: May 8. Earthed up: June 23. Sprayed twice with mancozeb at 1.2 lb in 35 gals: July 1 and Aug 6. Sprayed with diquat (Reglone at 4 pints in 40 gals): Sept 8. Lifted: Sept 16.

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3rd Test Crop, Barley.

Ground chalk applied: Oct 17, 1963. Additional P and K applied:
Nov 14. Ploughed: Nov 27. Seed combine drilled at 2.5
bushels: Feb 15, 1964. 'Nitro-Chalk' applied: Feb 20.
Combine harvested: Aug 11.

Permanent grasses. 14th, 15th and 16th experimental years permanent
(old) grass, all blocks, 14th, 15th and 16th years reseeded grass,
blocks 1, 4, 6, 7, 9 and 12. Ground chalk applied to blocks 6
and 7: Oct 17, 1963. Basal PK compound applied: Nov 27. 'Nitro-
Chalk' applied to 'all-grass' half plots: Mar 20, 1964. Cut
three times: May 25, June 24 and July 23 ('all-grass'), Aug 4
('clover-grass'). Muriate of potash and NK compound applied to
appropriate half plots after each cut. Topped with mower: Oct 27.

NOTE: One whole plot of permanent (old) grass was ploughed up in error
in Autumn 1963 and sown to winter wheat. The plot received 'Nitro-
Chalk' at 160 lb on April 27, 1964, and was undersown with
grass on May 6.

15th year Reseeded grass, Blocks 5 and 8.

Block 5. Basal PK compound applied: Nov 27, 1963. 'Nitro-Chalk'
applied: Mar 20, 1964. Cut for silage: May 26. 2nd dressing
of 'Nitro-Chalk' applied: May 29. Grazed 4 circuits: June 22 -
Aug 26.

Block 8. Basal PK compound applied: Nov 27, 1963. 'Nitro-Chalk'
applied: Mar 20 and July 15, 1964. Grazed: 7 circuits:
May 5 - Aug 22.

FOSTERS

1st year Treatment Crops.

All-grass ley. Ploughed twice: Sept 12 and Nov 28, 1963. Basal
PK compound applied: Apr 14, 1964. 'Nitro-Chalk' applied:
Apr 15. Seed sown at 30 lb: May 6. Sprayed with 2,4-D
butoxyethylester at 0.44 lb a.e. in 40 gals: June 10. Cut twice:
July 22, Oct 20. NK compound applied after first cut.

Clover-grass ley. Ploughed twice: Sept 12 and Nov 28, 1963.
Basal PK compound applied: Apr 14, 1964. Seed sown at 33 lb:
Apr 6. Sprayed with MCPB/MCPA (New Legumex at 2.5 pints in 40
gals): June 10. Cut once: July 23. Muriate of potash applied:
July 28. Topped with mower: Oct 27.

Lucerne. Ploughed twice: Sept 12 and Nov 28, 1963. Basal PK
compound applied, seed drilled at 20 lb: Apr 14, 1964. Cut
twice: July 21 and Sept 4.

Hay. Seeds undersown in barley: May 6, 1963. Basal NPK compound
applied: Feb 26, 1964. Cut twice: May 27 and July 23. NK
compound applied after first cut.

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2nd year Treatment Crops.

All-grass ley. Basal PK compound applied: Nov 27, 1963. 'Nitro-Chalk' applied: Mar 21, 1964. Cut four times: May 21, June 25, July 22, Oct 20. NK compound applied after first 3 cuts.

Clover-grass ley. Basal PK compound applied: Nov 27, 1963. Cut three times: May 21, June 25, July 24, 1964. Muriate of potash applied after each cut. Topped with mower: Oct 27.

Lucerne. Basal PK compound applied: Nov 27, 1963. Sprayed with paraquat at 2 lb ion in 40 gals: Feb 12, 1964. Cut three times: June 11, July 21, Sept 4.

Sugar beet. Ploughed three times: Aug 20, Oct 12, Nov 28, 1963. Muriate of potash applied: Feb 21, 1964. Basal NPK compound applied: Apr 3. 'Nitro-Chalk' applied: Apr 7. Seed drilled at 5.25 lb: Apr 9. Springtine cultivated up, redrilled at 5.25 lb: May 7. Sprayed with DDT at 0.6 lb in 30 gals: May 27. Singled: June 10. Sprayed twice with menazon (Saphicol at 0.75 pints in 35 gals): July 2 and July 23. Lifted: Nov 9.

3rd year Treatment Crops.

All-grass ley. Basal PK compound applied: Nov 27, 1963. 'Nitro-Chalk' applied: Mar 21, 1964. Crop failed, destroyed with paraquat at 4 lb ion in 40 gals: Apr 10. Rotary cultivated twice: Apr 27 and 28. Seed sown at 38.5 lb: May 6. Sprayed with 2,4-D butoxyethylester at 0.44 lb a.e. in 40 gals: June 10. Cut four times: July 13, Aug 4, Sept 7, Oct 20. NK compound applied after first 2 cuts, (it was intended to plough after the 3rd cut but the land was too hard and by the time ploughing was possible there was enough growth to make a 4th cut).

Clover-grass ley. Basal PK compound applied: Nov 27, 1963. Cut four times: May 21, June 25, July 24, Sept 7, 1964. Muriate of potash applied after first 3 cuts.

Lucerne. Basal PK compound applied: Nov 27, 1963. Sprayed with paraquat at 2 lb ion in 40 gals: Feb 12, 1964. Cut three times: June 11, July 21, Sept 4.

Oats. Ploughed: Nov 26, 1963. Seed combine drilled at 4 bushels: Mar 6, 1964. 'Nitro-Chalk' applied: Mar 9. Sprayed with dicamba/MCPA (Banlene at 4 pints in 40 gals): May 28. Combine harvested: Aug 22.

1st Test Crop, Wheat.

Ploughed: Sept 20, 1963. Seed combine drilled at 2.75 bushels: Oct 15. 'Nitro-Chalk' applied: Apr 14, 1964. Combine harvested: Aug 25.

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2nd Test Crop, Potatoes.

Dung applied, plots ploughed: Sept 26, 1963. Ploughed second time: Nov 28. Fertilisers applied: May 5, 1964. Potatoes machine planted: May 6. Earthed up: June 23. Sprayed twice with mancozeb at 1.2 lb in 35 gals: July 1 and Aug 6. Sprayed with diquat (Reglone at 4 pints in 40 gals): Sept 8. Lifted: Sept 16.

3rd Test Crop, Barley.

Additional P and K applied: Nov 9, 1963. Ploughed: Nov 26. Seed combine drilled at 2.5 bushels: Feb 15, 1964. 'Nitro-Chalk' applied: Feb 20. Combine harvested: Aug 11.

Permanent grasses.

14th, 15th and 16th years reseeded grass, blocks 1, 3, 6, 8, 9 and 11. Basal PK compound applied: Nov 27, 1963. 'Nitro-Chalk' applied to 'all-grass' half plots: Mar 21, 1964. Cut three times: May 21, June 25 and July 23 ('all-grass'), Aug 4 ('clover-grass'). Muriate of potash and NK compound applied to appropriate half plots after each cut. Topped with mower: Oct 27.

15th year reseeded grass, blocks 5 and 7. Basal PK compound applied: Nov 27, 1963.

Block 5. 'Nitro-Chalk' applied twice: Mar 21 and July 15, 1964.

Grazed 7 circuits: May 5 - Aug 20.

Block 7. 'Nitro-Chalk' applied: Mar 21, 1964. Cut for silage: May 27. 2nd dressing of 'Nitro-Chalk' applied: May 28.

Grazed 4 circuits: June 22 - Aug 26.

Standard errors per sub-plot. Test crops.

Wheat, grain Highfield: 4.78 or 9.4% (55 d.f.)

Fosters: 3.68 or 6.8% (55 d.f.)

Barley, grain Highfield: 3.54 or 6.4% (23 d.f.)

Fosters: 2.55 or 4.6% (23 d.f.)

NOTE: For explanation of treatment symbols see page 64/B/1.23.

64/B/1.6

SUMMARY OF RESULTS

WHEAT 1ST TEST CROP

Treatment crops 1961 - 1963

	Lu	Ley	CG	R	AH
GRAIN					
HIGHFIELD					
			(± 2.39)*		
To test crop					
NO	46.3	51.6	38.3	48.1	31.4
N1	61.2	51.3	48.1	49.4	46.6
N2	54.2	53.1	54.0	50.4	54.4
N3	61.7	51.1	55.7	46.9	61.4
Mean	55.8	51.8	49.0	48.7	48.4
FOSTERS					
			(± 1.84)*		
To test crop					
NO	47.3	56.1	44.4	54.5	26.7
N1	55.6	57.0	56.5	57.7	45.0
N2	59.6	56.4	58.2	57.1	56.6
N3	58.0	54.0	56.6	55.5	62.8
Mean	55.2	55.9	53.9	56.2	47.8

* For use only in vertical and interaction comparisons

NOTE: N levels are different on AH from remainder. See 64/B/1.2

64/B/1.7

WHEAT 1ST TEST CROP

Treatment crops 1961 - 1963

	Lu	Ley	CG	R	AH
STRAW					
HIGHFIELD					
To test crop					
NO	42.9	49.7	32.9	53.6	22.5
N1	50.7	52.2	39.9	52.8	35.9
N2	50.6	50.2	43.6	52.7	42.5
N3	55.9	51.8	45.3	53.7	45.4
Mean	50.0	51.0	40.4	53.2	36.6
FOSTERS					
To test crop					
NO	39.0	49.9	33.5	48.8	21.1
N1	50.0	53.0	47.1	55.6	38.2
N2	54.3	55.1	49.5	54.4	47.8
N3	59.4	51.3	54.3	56.8	52.7
Mean	50.7	52.3	46.1	53.9	39.9

NOTE: N levels are different on AH from remainder. See 64/B/1.2

64/B/1.8

POTATOES 2ND TEST CROP. TOTAL TUBERS

Treatment crops 1960 - 1962

	Lu	Ley	CG	AH	RG	Mean
HIGHFIELD						
Mean	14.29	16.10	14.99	14.19	16.62	15.24
N: wheat 1963						
NO	14.54	15.47	15.44	14.62	16.00	15.21
N1	14.81	16.43	14.32	12.96	17.02	15.11
N2	13.77	16.08	14.98	14.90	16.31	15.21
N3	14.05	16.43	15.23	14.30	17.13	15.43
N: 1964						
N1	13.39	16.07	14.70	13.86	16.75	14.95
N2	15.20	16.13	15.28	14.53	16.49	15.53
F	14.71	15.77	14.94	14.03	16.43	15.18
D	13.88	16.43	15.04	14.35	16.81	15.30
P1	14.56	16.27	14.78	13.67	16.51	15.16
P2	14.02	15.93	15.20	14.72	16.72	15.32
K1	14.41	15.70	15.04	14.21	16.27	15.13
K2	14.18	16.50	14.94	14.18	16.96	15.35

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POTATOES 2ND TEST CROP. TOTAL TUBERS

N: 1963

	NO	N1	N2	N3
HIGHFIELD				
N: 1964				
N1	14.97	14.49	15.22	15.13
N2	15.46	15.73	15.20	15.71
F	15.09	15.04	15.04	15.53
D	15.33	15.19	15.37	15.33
P1	15.00	15.09	15.33	15.21
P2	15.43	15.12	15.08	15.64
K1	15.01	15.06	15.40	15.04
K2	15.42	15.17	15.02	15.81

	O	M	P1	P2	K1	K2
N: 1964						
N1	14.86	15.04	14.87	15.04	14.81	15.09
N2	15.49	15.56	15.45	15.60	15.44	15.61
F			15.18	15.18	14.97	15.38
D			15.15	15.46	15.28	15.33
P1					15.09	15.23
P2					15.17	15.47

64/B/1.10

POTATOES 2ND TEST CROP. TOTAL TUBERS

Treatment crops 1960 - 1962

	Lu	Ley	CG	AH	RG	Mean
FOSTERS						
Mean	12.75	12.48	13.25	12.64	14.96	13.22
N: wheat 1963						
NO	12.57	12.24	12.88	13.30	14.61	13.12
N1	12.90	12.55	13.34	12.99	15.31	13.42
N2	13.07	12.68	13.25	12.08	14.88	13.19
N3	12.46	12.42	13.51	12.19	15.03	13.12
N: 1964						
N1	12.65	12.41	13.47	12.56	14.81	13.18
N2	12.84	12.54	13.02	12.72	15.11	13.25
F	12.70	12.59	13.44	12.19	14.88	13.16
D	12.80	12.36	13.05	13.09	15.04	13.27
P1	12.84	12.29	12.95	12.33	14.89	13.06
P2	12.66	12.66	13.54	12.95	15.02	13.37
K1	12.66	12.30	13.22	12.51	14.89	13.12
K2	12.84	12.65	13.27	12.77	15.02	13.31

64/B/1.11

POTATOES 2ND TEST CROP. TOTAL TUBERS

N: 1963

	NO	N1	N2	N3
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FOSTERS

N: 1964

N1	12.76	13.51	13.00	13.45
N2	13.48	13.32	13.39	12.79
F	12.87	13.21	13.25	13.32
D	13.38	13.64	13.14	12.92
P1	13.05	13.19	13.26	12.75
P2	13.19	13.65	13.12	13.49
K1	12.91	13.27	13.12	13.15
K2	13.32	13.56	13.26	13.09

O M P1 P2 K1 K2

N: 1964

N1	13.11	13.25	13.01	13.36	13.26	13.10
N2	13.21	13.28	13.11	13.38	12.97	13.53
F			12.96	13.37	13.17	13.15
D			13.17	13.37	13.06	13.47
P1					13.03	13.09
P2					13.20	13.53

64/B/1.12

POTATOES 2ND TEST CROP. % WARE

Treatment crops 1961 - 1963

	Lu	Ley	CG	AH	RG	Mean
HIGHFIELD						
Mean	94.7	95.4	95.3	94.6	95.9	95.2
N: wheat 1963						
N0	94.9	95.2	95.3	94.0	95.6	95.0
N1	95.2	95.2	95.1	94.6	95.8	95.2
N2	94.5	95.0	95.6	94.8	96.2	95.2
N3	94.2	96.0	95.1	95.2	95.9	95.3
N: 1964						
N1	94.6	95.0	94.7	94.0	95.8	94.8
N2	94.8	95.7	95.9	95.3	95.9	95.5
F	95.3	95.6	95.6	94.5	96.1	95.4
D	94.1	95.1	94.9	94.7	95.7	94.9
P1	94.8	95.6	95.0	94.7	95.9	95.2
P2	94.6	95.1	95.6	94.6	95.8	95.1
K1	94.8	95.4	94.9	94.4	95.6	95.0
K2	94.6	95.3	95.7	94.9	96.2	95.3

64/B/1.13

POTATOES 2ND TEST CROP. % WARE

N: 1963

	NO	N1	N2	N3
HIGHFIELD				
N: 1964				
N1	94.7	94.6	95.1	94.8
N2	95.3	95.7	95.4	95.7
F	95.3	95.4	95.5	95.5
D	94.7	95.0	94.9	95.1
P1	94.9	95.4	95.2	95.2
P2	95.2	94.9	95.3	95.4
K1	94.9	95.1	95.0	95.0
K2	95.0	95.2	95.5	95.6

	O	M	P1	P2	K1	K2
N: 1964						
N1	95.0	94.6	94.8	94.8	94.7	95.0
N2	95.8	95.2	95.6	95.4	95.4	95.7
F			95.5	95.4	95.2	95.6
D			94.9	94.9	94.8	95.0
P1					95.0	95.4
P2					95.0	95.3

64/B/1.14

POTATOES 2ND TEST CROP. % WARE

Treatment crops 1961 - 1963

	Lu	Ley	CG	AH	RG	Mean
	FOSTERS					
Mean	93.3	93.4	93.7	93.0	94.3	93.5
N: wheat 1963						
N0	92.7	93.2	93.5	93.9	94.5	93.6
N1	92.9	93.2	93.4	93.1	94.3	93.4
N2	93.7	93.2	93.6	93.2	93.9	93.5
N3	93.9	93.8	94.4	92.0	94.4	93.7
N: 1964						
N1	93.3	93.1	93.7	92.7	93.9	93.3
N2	93.3	93.6	93.8	93.4	94.7	93.8
F	93.2	93.3	93.9	92.9	94.0	93.5
D	93.4	93.4	93.6	93.2	94.5	93.6
P1	93.4	93.5	93.9	93.5	94.6	93.8
P2	93.2	93.2	93.6	92.6	94.0	93.3
K1	92.9	92.9	93.2	93.2	93.9	93.2
K2	93.7	93.8	94.3	92.9	94.6	93.9

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POTATOES 2ND TEST CROP. % WARE

N: 1963

	NO	N1	N2	N3
FOSTERS				
N: 1964				
N1	92.9	93.5	93.5	93.4
N2	94.2	93.3	93.5	94.0
F	93.2	93.1	93.5	94.1
D	93.9	93.6	93.6	93.3
P1	93.7	93.7	93.8	93.9
P2	93.4	93.0	93.3	93.5
K1	93.2	93.3	93.0	93.4
K2	93.9	93.4	94.1	94.0

	O	M	P1	P2	K1	K2
N: 1964						
N1	93.3	93.4	93.5	93.1	93.0	93.5
N2	93.6	93.8	94.0	93.5	93.4	94.1
F			93.8	93.1	93.0	93.9
D			93.7	93.5	93.5	93.8
P1					93.4	94.1
P2					93.0	93.6

64/B/1.16

BARLEY 3RD TEST CROP

GRAIN

Treatment crops 1959 - 1961

	Lu	Ley	CG	AH	Mean
	HIGHFIELD				
Mean	56.6	57.9	52.9	53.9	55.3
		(± 1.77)*			(± 0.89)
NO	56.7	57.0	48.8	50.7	53.3
N1	56.6	57.9	50.8	54.6	55.0
N2	56.2	59.6	55.7	56.2	56.9
N3	57.0	57.2	56.4	54.0	56.2
Dung 1963					
O	57.8	56.6	50.7	51.8	54.2
D	55.4	59.2	55.2	56.0	56.5

Excluding AH

Dung 1963	NO	N1	N2	N3	Mean
		(± 1.25)			
O	50.9	54.1	56.3	55.7	55.0
D	55.7	55.9	57.6	56.6	56.6

* For use in vertical and interaction comparisons

Mean D.M. %: 80.0

64/B/1.17

BARLEY 3RD TEST CROP

GRAIN

Treatment crops 1959 - 1961

	Lu	Ley	CG	AH	Mean
	FOSTERS				
Mean	58.0	55.7	53.9	54.7	55.5
	(±1.27)*				(±0.74)
N0	56.0	54.0	50.0	46.2	53.3
N1	58.8	55.8	54.3	-	-
N2	58.9	55.5	55.8	56.2	56.7
N3	58.3	57.3	55.3	56.9	57.0
N4	-	-	-	59.3	-
Dung 1963					
O	58.7	54.8	52.6	53.8	55.0
D	57.2	56.6	55.1	55.6	56.1
Dung 1963	NO	Excluding AH			
		N1	N2	N3	Mean
		(±1.04)			(±0.52)
O	51.4	56.3	56.5	57.3	55.4
D	55.3	56.3	56.9	56.6	56.3
Mean (±0.74)	53.4	56.3	56.7	57.0	55.8

* For use in vertical and interaction comparisons

Mean D.M. %: 82.2

64/B/1.18

TREATMENT CROPS ARABLE AND HAY ROTATION

HAY: DRY MATTER

	N: 1963				
	NO	N1	N2	N3	Mean
HIGHFIELD					
Dung 1962					
O	104.2	95.1	108.0	93.9	100.3
D	108.6	104.5	100.4	93.4	101.7
Mean	106.4	99.8	104.2	93.6	101.0
FOSTERS					
O	94.6	92.2	95.6	96.6	94.7
D	93.9	90.4	87.2	86.1	89.4
Mean	94.2	91.3	91.4	91.3	92.1

64/B/1.19

TREATMENT CROPS ARABLE AND HAY ROTATION

HIGHFIELD			FOSTERS		
N1	N2	Mean	N1	N2	Mean
SUGAR BEET					
ROOTS					
14.81	15.69	15.25	12.37	12.91	12.64
SUGAR %					
20.3	20.0	20.1	20.2	19.6	19.9
TOTAL SUGAR					
60.0	62.8	61.4	50.1	50.8	50.4
TOPS					
6.17	6.48	6.32	5.02	5.59	5.30
OATS					
GRAIN					
		22.9			48.4
Oats, grain, mean D.M. %: Highfield 85.9					
Fosters 88.6					

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LUCERNE: DRY MATTER

	HIGHFIELD			FOSTERS		
	Dung 1962		Mean	Dung 1962		Mean
	O	D		O	D	
1st year (2 cuts)	40.9	41.5	41.2	30.8	35.6	33.2
2nd year (3 cuts)			67.6			79.1
3rd year (3 cuts)			48.6			62.5

ALL-GRASS LEY: DRY MATTER

	HIGHFIELD			FOSTERS		
	Dung 1962		Mean	Dung 1962		Mean
	O	D		O	D	
1st year (2 cuts)	22.6	27.0	24.8	8.4	10.0	9.2
2nd year (4 cuts)			63.8			59.3
3rd year (4 cuts)			66.4			36.8

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CLOVER-GRASS LEY: DRY MATTER

	HIGHFIELD			FOSTERS		
	0	Dung 1962 D	Mean	0	Dung 1962 D	Mean
1st year (1 cut Fosters) (2 cuts Highfield)	17.9	20.4	19.1	3.4	5.8	4.6
2nd year (3 cuts)			48.8			55.4
3rd year (4 cuts)			41.8			48.8

PERMANENT GRASS, CUT FOR SILAGE

DRY MATTER

	NO	N1	Mean
HIGHFIELD			
14th exptl year			
Blocks 9 and 12	34.8	65.2	50.0
Blocks 10 and 11	36.2	65.0	50.6
15th exptl year			
Blocks 5 and 8	34.4	64.0	49.2
Blocks 6 and 7	36.3	66.8	51.5
16th exptl year			
Blocks 1 and 4	39.2	62.5	50.8
Block 2	37.2	61.8	49.5

(NO) Clover-grass management

(N1) All-grass management

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RESEEDED GRASS: DRY MATTER

	Highfield			Fosters		
	N: (per cut)		Mean	N: (per cut)		Mean
	NO	N1		NO	N1	
14th exptl year	32.2	67.8	50.0	38.2	62.8	50.5
15th exptl year	39.8	68.0	53.9	50.2	68.2	59.2
16th exptl year	39.2	63.1	51.2	49.7	69.8	59.8

(NO) Clover-grass management
 (N1) All-grass management

	Cut for silage Mean	Grazed estimated from sampling cuts Mean
HIGHFIELD		
15th exptl year		
Block 5	41.1	20.6*
Block 8		40.2
FOSTERS		
15th exptl year		
Block 7	43.3	23.6*
Block 5		28.9

* Aftermath grazing

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Treatment symbols used in this and future reports

TREATMENT CROPS

Lu = Lucerne
 Ley = Grazed ley
 CG = Cut grass
 AH = Arable with hay
 R = Reseeded grass

WHEAT, 1ST TEST CROP

N cwt per acre

	Highfield		Fosters	
	All except AH	AH	All except AH	AH
NO	0.0	0.0	0.0	0.00
N1	0.3	0.4	0.4	0.53
N2	0.6	0.8	0.8	1.07
N3	0.9	1.2	1.2	1.60

POTATOES, 2ND TEST CROP

N cwt per acre (including basal)

	Highfield	Fosters
N1	0.75	1.00
N2	1.25	1.50

P205 cwt per acre

K20 cwt per acre

P1	0.9	K1	0.9
P2	1.8	K2	1.8

F = Fk to sub plots without dung
 D = Dung 12 tons per acre

BARLEY, 3RD TEST CROP

N cwt per acre

	Highfield	Fosters
NO	0.0	0.0
N1	0.1	0.2
N2	0.2	0.4
N3	0.3	0.6
N4		0.8

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SUGAR BEET, TREATMENT CROP

N cwt per acre (including basal)

N1	1.0
N2	1.5

ERRATUM to 'Results' 1963 pages 63/B/1.10, 1.11, 1.14 and 1.15.
Potatoes 2nd test crop Fosters. Levels of N cwt per acre
1963 should read:

1.00	not	0.75
1.50	not	1.25