Report for 1923-1924 With the Supplement to the Guide to the Experimental Plots Containing the Yields per Acre Etc.

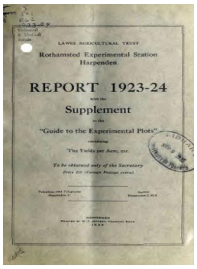

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Table of Results - the Classical Experiments

Rothamsted Research

Rothamsted Research (1925) *Table of Results - the Classical Experiments ;* Report For 1923-1924 With The Supplement To The Guide To The Experimental Plots Containing The Yields Per Acre Etc., pp 99 - 113 **- DOI: https://doi.org/10.23637/ERADOC-1-116**

DATES OF SOWING AND HARVESTING (Harvest 1923).

Field.	Crop.	Variety.	Sowing began.	Sowing finished.	Cutting began.	*Carting began.	*Carting finished.	Yield per Acre.
Great Knott, east ...	Fallow	... ...	... ...	... ...	... ...	... ...	... ...	... ...
,, west ...	Wheat	Red Standard	Oct. 27, '22	Oct. 30, '22	Aug. 10	Aug. 22	Sept. 3	37·5 bush.
Little Knott	Potatoes	Kerr's Pink	May 11, '23	May 17, '23	... ...	Oct. 29	Oct. 29	see p.118
Foster's, east	Mangolds* ...	Prizewinner Yellow Globe ...	May 2, '23	May 10, '23	... ...	frosted		... ...
,, west	Swedes	Hurst's Monarch	May 15, '23	May 23, '23	... ...	Oct. 20	Nov. 8	14·3 tons.
West Barnfield	Oats	Grey Winters ... ... White Winters	Oct. 12, '22	Oct. 13, '22	Aug. 2	Aug. 13	Aug. 14	48·0 bush.
Long Hoos, east ...	Barley	Plumage Archer	Apr. 18, '23	Apr. 18, '23	Aug. 16	Sept. 3	Sept. 6	32·0 bush.
,, west ...	Clover	Red	May 10, '22	May 10, '22	July 2	July 13	July 14	1·4 tons.
New Zealand	Clover	Red	May 2, '22	May 4, '22	June 25	July 3	July 18	
Stackyard	Clover	Red	May 5, '22	May 16, '22	June 29	July 9	July 19	
Great Harpenden ...	Wheat	Red Standard	Nov. 16, '22	Nov. 30, '22	Aug. 13	Aug. 22	Aug. 29	24·0 bush.
Sawpit	Oats	Black Winters ... ... Grey Winters	Oct. 10, '22	Oct. 12, '22	July 27	Aug. 10	Aug. 11	42·5 bush.
Sawyers	Barley	Plumage Archer	Apr. 18, '23	Apr. 19, '23	Aug. 21	Sept. 6	Sept. 7	40·0 bush.
	Potatoes ...	Kerr's Pink	May 4, '23	May 5, '23	... ...	Nov. 1	Nov. 17	see p.121
	Fallow	... ...	... ...	... ...	... ...	... ...	... ...	... ...
Broadbalk	Wheat	Red Standard	Oct. 31, '22	Nov. 1, '22	Aug. 15	Aug. 27	Aug. 28	see p.108
Little Hoos	Clover	Red ... ... 1st Crop	May 8, '22	May 9, '22	June 28	July 6	July 7	,, 112
		2nd Crop	... ...	... ...	Aug. 25	Sept. 5	Sept. 5	,, 112
Hoos	Barley	Plumage Archer	Apr. 20, '23	Apr. 20, '23	Aug. 22	Sept. 3	Sept. 6	,, 110
Barnfield	Mangolds ...	Prizewinner Yellow Globe ...	Apr. 30, '23	Apr. 30, '23	... ...	Nov. 17	Dec. 15	,, 103
Agdell	Wheat	Red Standard	Oct. 30, '22	Oct. 30, '22	Aug. 9	Aug. 17	Aug. 18	,, 102
Great Field	Grass	... ...	... ...	... ...	July 17	July 21	July 23	,, 124
Park	Grass	... 1st Crop	... ...	... ...	June 16	June 22	June 23	,, 104
		2nd Crop	... ...	... ...	Dec. 20	Jan.15'24	Jan.17'24	,, 104

* In the case of roots, the dates given are those on which lifting began and finished.

DATES OF SOWING AND HARVESTING (Harvest 1924).

Field.	Crop.	Variety.	Sowing began.	Sowing finished.	Cutting began.	*Carting began.	*Carting finished.	†Yield per Acre.
Great Knott, east ...	Oats	Black Winter	Oct. 16, '23	Oct. 17, '23	Aug. 5	Aug. 23	Aug. 25	16 bush.
,, west ...	Oats	Grey Winter	Nov. 5, '23	Nov. 7, '23	Aug. 8	Aug. 25	Aug. 27	14 ,,
Little Knott	Barley	Plumage Archer	Mar. 14, '24	Mar. 17, '24	Aug. 20	Sept. 8	Oct. 17	28 ,,
Foster's, east	Swedes	Hurst's Monarch	May 28, '24	May 30, '24	... ...	Nov. 5	Nov. 28	25 tons
,, west	Potatoes ...	Kerr's Pink	May 6, '24	May 10, '24	... ...	Oct. 1	Nov. 4	28 ,,
	Mangolds ...	Prizewinner Yellow Globe ...	May 27, '24	May 28, '24	... ...	Nov. 17	Nov. 21	27 ,,
West Barnfield	Wheat	Red Standard	Nov. 1, '23	Nov. 3, '23	Sept. 4	Sept. 19	Sept. 22	24 bush.
Long Hoos, east ...	Clover	Broad Red	Apr. 18, '23	Apr. 19, '23	June 23	July 2	July 4	2.5 tons
,, west ...	Wheat	Red Standard	Oct. 19, '23	Oct. 20, '23	Aug. 22	Sept. 3	Sept. 5	28 bush.
Great Harpenden ...	Barley	Plumage Archer	Mar. 18, '24	Mar. 21, '24	Aug. 15	Aug. 28	Oct. 15	26 ,,
New Zealand	Wheat	Red Standard	Nov. 19, '23	Nov. 21, '23	Sept. 3	Sept. 18	Oct. 10	25 ,,
Stackyard	Wheat	Red Standard	Nov. 12, '23	Nov. 15, '23	Sept. 2	Sept. 16	Oct. 10	20 ,,
Sawpit	Barley	Plumage Archer	Apr. 4, '24	Apr. 5, '24	Sept. 1	Sept. 19	Oct. 7	26 ,,
Sawyers	Clover	Broad Red	Apr. 24, '23	Apr. 24, '23	June 24	July 5	July 8	1.5 tons
	Barley	Plumage Archer	Mar. 31, '24	Mar. 31, '24	Sept. 1	Sept. 24	Sept. 24	20 bush.
Broadbalk	Wheat	Red Standard	Nov. 9, '23	Nov. 12, '23	Sept. 5	Sept. 25	Oct. 3	see p. 109
Little Hoos	Wheat	Red Standard	Nov. 21, '23	Nov. 22, '23	Sept. 3	Sept. 22	Sept. 24	,, 112
Hoos	Barley	Plumage Archer	Mar. 17, '24	Mar. 18, '24	Aug. 26	Oct. 3	Oct. 10	,, 110
Barnfield	Mangolds ...	Prizewinner Yellow Globe ...	Apr. 25, '24	Apr. 25, '24	... ...	Oct. 27	Nov. 17	,, 103
Agdell	Turnips	Aberdeen Yellow	July 19, '24	July 19, '24	... ...	Nov. 28	Dec. 5	,, 102
Great Field	Hay	... ...	... ...	... ...	June 26	June 30	June 30	,, 124
Park	Grass	1st crop	... ...	... ...	June 24	June 27	June 28	,, 104

* In the case of roots, the dates given are those on which lifting began and finished. † Estimates of standing crops.

METEOROLOGICAL RECORDS, 1923 and 1924.

	Rain.		Drainage through soil.			Bright Sunshine.	Temperature (Mean).				
	Total Fall. $\frac{1}{1000}$ Acre Gauge.	No. of Rainy Days. (0·01 inch or more) $\frac{1}{1000}$ Acre Gauge.	20 ins. deep.	40 ins. deep.	60 ins. deep.		Max.	Min.	1 ft. in ground.	Solar Max.	Grass Min.
1923	Inches.	No.	Inches.	Inches.	Inches.	Hours.	°F.	°F.	°F.	°F.	°F.
Jan. ...	1·500	12	1·269	1·449	1·296	59·8	46·1	34·7	38·4	70·0	29·2
Feb. ...	3·914	23	3·510	3·598	3·346	53·5	46·0	36·8	40·6	77·7	32·4
Mar. ...	2·481	16	1·584	1·754	1·620	75·9	48·4	36·7	41·3	86·9	31·6
April ...	1·480	12	0·371	0·434	0·401	115·3	52·3	38·0	45·1	103·9	32·4
May ...	1·681	14	0·177	0·180	0·179	166·2	56·7	42·0	50·4	115·8	37·8
June ...	0·617	9	0·003	0·045	0·047	116·1	60·7	46·8	53·6	111·3	42·2
July ...	3·871	12	1·380	1·395	1·355	223·8	72·5	55·1	63·1	127·3	50·2
Aug. ...	2·329	11	0·342	0·375	0·295	256·9	68·5	51·1	60·7	124·1	44·8
Sept. ..	2·541	12	1·009	1·023	0·891	189·1	62·9	46·1	54·4	114·1	39·2
Oct. ...	4·974	23	3·691	3·691	3·452	98·3	55·4	43·9	50·0	96·1	39·0
Nov. ...	1·648	14	1·083	1·147	1·068	103·9	42·2	31·0	40·4	77·6	26·3
Dec. ...	2·932	19	2·630	2·592	2·467	42·3	42·6	31·4	37·0	60·5	28·1
Total or Mean	29·968	177	17·049	17·683	16·417	1501·1	54·5	41·1	47·9	97·1	36·1
1924											
Jan. ...	2·898	19	3·024	3·199	3·196	58·1	43·5	34·8	38·1	64·1	31·2
Feb. ...	0·714	12	0·045	0·097	0·087	54·8	40·2	31·5	36·9	67·3	28·4
Mar. ...	1·138	10	0·379	0·390	0·364	174·2	47·1	31·3	37·1	92·4	25·0
April ...	3·182	14	1·358	1·324	1·281	157·5	52·4	37·2	42·6	102·4	31·3
May ...	4·628	21	2·208	2·228	2·201	190·9	61·0	45·3	52·2	117·9	41·9
June ...	1·974	11	0·666	0·823	0·733	199·6	65·2	50·2	59·3	126·1	46·2
July ...	4·533	16	1·763	1·801	1·670	236·1	68·3	51·0	61·1	127·6	45·3
Aug. ...	2·551	22	0·080	0·095	0·056	169·0	64·8	50·5	58·7	121·6	46·6
Sept. ...	3·417	19	1·312	1·265	1·105	118·4	61·4	50·8	56·6	110·9	46·7
Oct. ...	4·279	21	3·549	3·494	3·333	89·9	55·3	45·3	51·3	89·9	40·3
Nov. ...	3·271	12	2·749	2·789	2·651	36·1	48·1	39·6	45·2	70·4	35·9
Dec. ...	3·920	20	3·637	3·742	3·638	42·5	46·4	37·8	42·7	63·3	34·2
Total or Mean	36·505	197	20·770	21·247	20·315	1527·1	54·5	42·1	48·5	96·2	37·8

RAIN AND DRAINAGE.

MONTHLY MEAN FOR 54 HARVEST YEARS, 1870-1—1923-4.

	Rainfall.	Drainage.			Drainage % of Rainfall.			Evaporation.		
		20-in. Gauge	40-in. Gauge	60-in. Gauge	20-in. Gauge	40-in. Gauge	60-in. Gauge	20-in. Gauge	40-in. Gauge	60-in. Gauge
	Ins.	Ins.	Ins.	Ins.				Ins.	Ins.	Ins.
September	2·348	0·762	0·727	0·666	32·5	31·0	28·4	1·586	1·621	1·682
October ...	3·143	1·793	1·749	1·624	57·0	55·6	51·7	1·350	1·394	1·519
November	2·724	2·053	2·086	1·965	75·4	76·6	72·1	0·671	0·638	0·759
December	2·851	2·426	2·511	2·397	85·1	88·1	84·1	0·425	0·340	0·454
January ...	2·374	1·922	2·104	2·024	81·0	88·6	85·3	0·452	0·270	0·350
February	1·995	1·468	1·569	1·496	73·6	78·6	75·0	0·527	0·426	0·499
March ...	2·076	1·125	1·257	1·188	54·2	60·5	57·2	0·951	0·819	0·888
April ...	2·043	0·666	0·736	0·703	32·6	36·0	34·4	1·377	1·307	1·340
May ...	2·048	0·488	0·548	0·515	23·8	26·8	25·2	1·560	1·500	1·533
June ...	2·270	0·564	0·586	0·565	24·8	25·8	24·9	1·706	1·684	1·705
July ...	2·713	0·718	0·743	0·691	26·5	27·4	25·5	1·995	1·970	2·022
August ...	2·683	0·706	0·707	0·664	26·3	26·4	24·7	1·977	1·976	2·019
Year ...	29·268	14·691	15·323	14·498	50·2	52·4	49·5	14·577	13·945	14·770

Area of each gauge $\frac{1}{1000}$th acre.

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CROP YIELDS ON THE EXPERIMENTAL PLOTS.

NOTES.—In each case the year refers to the harvest, *e.g.*, Wheat harvested in 1924.
In the tables, total straw includes straw, cavings and chaff.

CONVERSION TABLE.

1 acre ... ... =	0·404 Hectare	0·963 Feddan.
1 bushel (Imperial) =	0·346 Hectolitre (36·346 litres) ...	0·184 Ardeb.
1 lb. (pound avoirdupois) =	0·453 Kilogramme	1·009 Rotls.
1 cwt. (hundredweight) =	50·8 Kilogrammes	113·0 Rotls. 1·366 Maunds.
1 metric quintal ... =	100·0 Kilogrammes ... ... 220·46 lb.	
1 bushel per acre ... =	0·9 Hectolitre per Hectare ...	0·191 Ardeb per Feddan.
1 lb. per acre ... =	1·12 Kilogramme per Hectare ...	1·049 Rotls per Feddan.
1 cwt. per acre ... =	125·60 Kilogrammes per Hectare or 1·256 metric Quintals per Hectare	117·4 Rotls per Feddan.

In America the Winchester bushel is used = 35·236 litres. 1 English bushel = 1·032 American bushels.

CROPS GROWN IN ROTATION. AGDELL FIELD.

PRODUCE PER ACRE.

Year.	CROP.	O. Unmanured.		M. Mineral Manure.		C. Complete Mineral and Nitrogenous Manure.	
		5. Fallow.	6. Clover or Beans.	3. Fallow.	4. Clover or Beans.	1. Fallow.	2. Clover or Beans.
AVERAGE OF THE FIRST NINETEEN COURSES, 1848–1923.							
	Roots (Swedes) cwt.*	32·7	11·2	175·7	195·9	355·3	302·0
	Barley—						
	Dressed Grain bush.	22·7	20·9	23·8	27·9	32·2	36·8
	Total Straw ... cwt.	13·9	13·7	14·0	16·0	19·5	22·6
	Beans—						
	Dressed Grain bush.	—	13·1	—	18·2	—	22·3
	Total Straw ... cwt.	—	9·2	—	13·2	—	15·3
	Clover Hay ... cwt.	—	28·3	—	54·1	—	55·0
	Wheat—						
	Dressed Grain bush.	24·2	22·8	28·5	31·2	29·5	31·2
	Total Straw ... cwt.	23·7	21·7	29·0	30·3	31·4	30·4
NINETEENTH COURSE, 1920–23.							
1920	Roots (Swedes) ... cwt.	20·5	2·1	163·9	270·0	262·1	56·4‡
1921	Barley—						
	Dressed Grain bush.	13·0	2·4†	12·8	26·3	10·9	25·7
	Offal Grain ... lb.	57·0	42·0	45·0	58·0	39·0	65·0
	Straw ... ... lb.	891·0	601·0	596·0	1124·0	444·0	1444·0
	Total Straw ... cwt.	10·9	7·8	7·9	14·2	6·3	17·7
	Wt. of Dressed Grain per bush. lb.	55·1	51·0	56·5	56·8	56·4	56·7
	Proportion of Total Grain to 100 of Total Straw	63·0	19·0	86·3	97·5	92·2	77·1
1922	Clover Hay ... cwt. (1 crop only)	—	4·4	—	9·7	—	3·5
1923	Wheat—						
	Dressed Grain bush.	18·0	25·2	20·3	28·3	19·7	22·9
	Offal Grain ... lb.	174·0	206·0	190·0	221·0	205·0	220·0
	Straw ... ... lb.	2019·0	2575·0	2590·0	2975·0	2363·0	2390·0
	Total Straw ... cwt.	20·6	26·5	26·9	30·7	24·3	24·5
	Wt. of Dressed Grain per bush lb.	63·6	63·4	63·5	64·3	64·3	64·6
	Proportion of Total Grain to 100 of Total Straw	57·0	60·7	49·0	59·4	54·0	61·9
PRESENT COURSE (20th), 1924.							
1924	Roots (Turnips) ... cwt.	2·9	0·7	42·8	31·5	127·4	104·7

* Plots 1, 3 and 5 based upon 18 years. Plots 2, 4 and 6 based upon 17 years.
† Plot 6 was more badly attacked by Gout Fly than the other plots.
‡ The roots on this plot were badly attacked by finger and toe disease in 1920. In 1920 Rape Cake was omitted from plots 1 and 2.

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MANGOLDS, BARN FIELD, 1923 and 1924.

Roots since 1856. Mangolds since 1876.

Produce per Acre.

Strip.	Strip Manures.	Cross Dressings. O. None.	N. Nitrate of Soda	A. Ammon. Salts.	A.C. Ammon. Salts and Rape Cake.	C. Rape Cake.
	1923†.	Tons.	Tons.	Tons.	Tons.	Tons.
1	Dung only	R. **16·55**	**32·69**	**23·67**	**21·63**	**22·29**
		L. 2·20	3·70	3·78	4·15	4·18
2	Dung, Super., Potash ...	R. **18·92**	**37·38**	**30·40**	**29·64**	**29·96**
		L. 2·16	4·48	4·64	5·23	4·11
4	Complete Minerals ...	R. **4·72**	*a* R. **22·04*** L. 3·69	**19·18**	**25·28**	**20·85**
		L. 0·92	*b* R. **19·18** L. 3·70	2·82	5·12	2·96
5	Superphosphate only ...	R. **5·22**	**19·09**	**8·48**	**6·16**	**6·59**
		L. 1·23	2·92	3·54	3·15	3·21
6	Super. and Potash ...	R. **4·25**	**19·73**	**16·08**	**18·39**	**16·48**
		L. 1·06	2·56	2·65	4·50	2·72
7	Super., Sulphate of Mag., and Sodium Chloride	R. **4·71**	**21·92**	**19·82**	**17·53**	**15·44**
		L. 1·11	2·86	2·78	4·62	2·69
8	None	R. **3·63**	**11·05**	**5·90**	**4·71**	**3·47**
		L. 1·14	2·72	2·80	2·49	1·92
9	Sodium Chloride, Nit. Soda, Sulph. Potash, and Sulph. Mag. ...	R. **24·73**	—	—	—	—
		L. 3·03				
	1924.					
1	Dung only	R. **14·49**	**23·99**	**20·75**	**28·38**	**24·80**
		L. 3·83	6·11	6·43	6·77	5·29
2	Dung, Super., Potash ...	R. **18·61**	**25·08**	**23·28**	**34·17**	**32·15**
		L. 3·86	5·68	5·52	7·20	6·13
4	Complete Minerals ...	R. **3·15**	*a* R. **14·34** L. 4·55	**14·42**	**34·16**	**20·91**
		L. 1·06	*b* R. **11·15** L. 4·19	3·50	5·62	3·66
5	Superphosphate only ...	R. **3·31**	**14·92**	**11·47**	**15·81**	**15·31**
		L. 1·03	3·76	3·61	4·83	3·54
6	Super. and Potash ...	R. **3·16**	**12·58**	**16·40**	**29·40**	**20·55**
		L. 1·12	3·52	2·96	5·73	2·73
7	Super., Sulphate of Mag., and Sodium Chloride	R. **3·42**	**17·28**	**18·34**	**28·91**	**20·18**
		L. 1·11	3·94	3·29	5·24	3·05
8	None	R. **2·14**	**11·70**	**10·18**	**13·35**	**11·55**
		L. 1·87	3·62	3·18	4·32	3·49
9	Sodium Chloride, Nit. Soda, Sulph. Potash and Sulph. Mag. ...	R. **20·46**	—	—	—	—
		L. 3·51				

R. = roots. L. = leaves.

* From 1904 onwards plot 4 N has been divided, 4*a* receiving Sulphate of Potash, Sulphate of Magnesia, Sodium Chloride and Nitrate of Soda; 4*b* receiving Calcium Chloride, Potassium Nitrate and Calcium Nitrate.

† In 1923 plot 4 in series A, N, AC and C were lifted on Nov. 22nd in good condition. The remainder of the plots were lifted Dec. 10th—15th after several severe frosts.

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HAY. THE PARK GRASS PLOTS. 1923, 1924.

Plot	Manuring per acre.		1923. Yield of Hay per acre. 1st Crop.	2nd Crop.	Total.	1923. Dry Matter per acre. 1st Crop.	2nd Crop.	Total.	1924. Yield of Hay per acre.	Dry Matter per acre.	Plot.
			cwt.	cwt.	cwt.	lb.	lb.	lb.	cwt.	lb.	
1	Single dressing Amm. Salts (=43 lb. N.); (with Dung also 8 years 1856-63)	not limed	23·8	16·2	40·0	1917	310	2227	29·0	2667	1
		limed ...	21·1	9·8	30·9	1732	199	1931	28·1	2551	
2	Unmanured; (after Dung 8 years, 1856-63)	not limed	17·4	6·1	23·5	1297	102	1399	18·1	1518	2
		limed ...	18·0	2·6	20·6	1426	48	1474	23·8	1804	
3	Unmanured	not limed	15·0	5·7	20·7	1165	98	1263	15·8	1383	3
		limed ...	14·9	2·9	17·8	1142	66	1208	17·6	1445	
4-1	Superphosphate of Lime	not limed	20·8	4·4	25·2	1435	83	1518	23·0	1944	4-1
		limed ...	18·7	4·1	22·8	1444	83	1527	20·9	1818	
4-2	Superphosphate of Lime and double dressing Amm. Salts (=86 lb. N.)	not limed	45·5	4·8	50·3	3210	77	3287	27·7	2478	4-2
		limed ...	38·9	21·3	60·2	3135	358	3493	46·4	4319	
5-1	(N. half) Unmanured; following double dressing Amm. Salts (= 86 lb. N.) 1856-97	not limed	20·3	9·9	30·2	1405	191	1596	15·2	1390	5-1
5-2	(S. half) Super., Sulphate of Potash; following double dressing Amm. Salts (= 86 lb. N.) 1856-97	not limed	21·3	20·4	41·7	1593	438	2031	27·3	2287	5-2
6	Complete Mineral Manure as plot 7; following double dressing Amm. Salts (= 86 lb. N.) 1856-68	not limed	23·0	27·3	50·3	1838	507	2345	36·0	3166	6
7	Complete Mineral Manure	not limed	23·0	20·8	43·8	1806	402	2208	36·1	3123	7
		limed ...	38·3	21·3	59·6	2838	438	3276	54·0	4851	
8	Mineral Manure without Potash	not limed	21·3	8·7	30·0	1505	151	1656	21·3	1854	8
		limed ...	19·1	8·7	27·8	1513	200	1713	17·4	1539	
9	Complete Mineral Manure and double dressing Amm. Salts (= 86 lb. N.)	not limed	57·5	17·3	74·8	4009	287	4296	32·9	2946	9
		limed ...	59·9	22·7	82·6	4488	443	4931	66·2	5600	
10	Mineral Manure (without Potash) and double dressing Amm. Salts (= 86 lb. N.)	not limed	45·2	8·3	53·5	3210	132	3342	31·5	2970	10
		limed ...	46·7	28·9	75·6	3197	577	3774	49·1	4744	
11-1	Complete Mineral Manure and treble dressing Amm. Salts (=129 lb. N.)	not limed	72·0	55·5	127·5	4559	779	5338	39·9	3267	11-1
		limed ...	75·8	34·0	109·8	5184	586	5770	73·4	6467	
11-2	As plot 11-1 and Silicate of Soda	not limed	77·4	55·0	132·4	5472	831	6303	50·5	4502	11-2
		limed ...	75·7	33·7	109·4	5219	666	5885	70·8	5957	

12	Unmanured	not limed	19·8	6·0	25·8	1415	147	1562	16·7	1403	12
13	Dung in 1905, and every fourth year since (omitted in 1917). Fish Guano in 1907 and every fourth year since	not limed	60·6	29·2	89·8	4015	535	4550	41·2	3668	13
		limed ...	47·5	29·0	76·5	3264	540	3804	38·1	3392	
14	Complete Mineral Manure and double dressing Nitrate of Soda (=86 lb. N.)	not limed	53·2	26·6	79·8	4298	493	4791	63·7	5142	14
		limed	45·9	17·5	63·4	3400	375	3775	57·4	4854	
15	Complete Mineral Manure as plot 7; following double dressing Nitrate of Soda (= 86 lb. N.)	not limed	28·5	10·6	39·1	2443	203	2646	45·4	3615	15
		limed ...	24·4	10·2	34·6	2091	221	2312	42·7	3539	
16	Complete Mineral Manure and single dressing Nitrate of Soda (= 43 lb. N.)	not limed	41·5	8·1	49·6	3150	142	3292	47·2	3820	16
		limed ...	42·5	16·9	59·4	3303	345	3648	52·2	4376	
17	Single dressing Nitrate of Soda (= 43 lb. N.)	not limed	31·6	5·8	37·4	1979	105	2084	33·0	2498	17
		limed ...	30·3	6·4	36·7	2293	119	2412	33·7	2769	
18	Potash, Sulphate of Soda, Magnesia and double dressing Sulphate of Amm. (= 86 lb. N.) 1905 and since; following Minerals and Amm. Salts, supplying the constituents of 1 ton of Hay, 1865-1904	not limed	38·3	26·3	64·6	2550	589	3139	28·0	2600	18
		limed (6788 lb.)	48·1	9·0	57·1	3541	231	3772	29·5	2547	
		limed (3951 lb.)	40·0	11·8	51·8	2953	283	3236	32·5	2688	
19	Farmyard Dung in 1905 and every 4th year since (omitted in 1917); following Nitrate of Soda (= 43 lb. N.) and Minerals, 1872-1904	not limed	25·3	27·4	52·7	1943	525	2468	25·3	2392	19
		limed (3150 lb.)	21·6	31·1	52·7	1842	775	2617	27·4	2717	
		limed (570 lb.)	19·1	27·0	46·1	1621	653	2274	24·2	2411	
20	Farmyard Dung in 1905 and every 4th year since (omitted 1917); each intervening year, plot 20 receives Sulphate of Potash, Superphosphate and Nitrate of Soda (=26 lb. N.); following Nitrate of Potash and Superphosphate, 1872-1904	not limed	35·6	28·3	63·9	2857	625	3482	31·7	2984	20
		limed (2772 lb.)	36·2	26·1	62·3	2814	558	3372	35·8	3347	
		limed (570 lb.)	42·6	19·1	61·7	3192	429	3621	51·0	4790	

Ground lime was applied to the Southern portion (limed) of the plots at the rate of 2,000 lb. to the acre in the Winter of 1903-4, 1907-8, 1915-16, 1923-24, and at the rate of 2,500 lb. to the acre in the Winter of 1920-21, except where otherwise stated.

Up to 1914 the limed and unlimed plot results were not separately given in the Annual Report, but the mean of the two was given. From 1915 onwards the separate figures are given.

The 2nd Hay Crop, 1923, was carted in very bad condition as the plots could only be cut when the frost was on them. The Dry Matter figures give a truer indication of the relative yields of the different plots.

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The Park Grass Plots.

BOTANICAL COMPOSITION, PER CENT. 1921, 1st Crop.

Plot.	Manuring.	Liming.	Gramineæ.	Leguminosæ.	Other Orders.	"Other Orders" consist largely of	Plot.
3	Unmanured	Limed ...	68·4	10·5	21·1	Plantago lanceolata	3
		Not limed	73·1	4·7	22·2	Plantago lanceolata	
5-1	Unmanured, following double Amm. Salts, 1856-97	Not limed	86·8	1·1	12·1	Centaurea nigra	5-1
5-2	Super. and Sulph. Potash following double Amm. Salts, 1856-97 ...	Not limed	72·5	9·2	18·3	Rumex acetosa	5-2
7	Complete Mineral Manure	Limed ...	66·1	22·0	11·9	Heracleum sphondylium	7
		Not limed	68·9	13·5	17·6	Achillea millefolium	
9	Complete Mineral Manure and double Amm. Salts	Limed ...	96·3	—	3·7	Rumex acetosa; Heracleum sphondylium	9
		Not limed	99·0	—	1·0	Rumex acetosa	
14	Complete Mineral Manure and double Nitrate of Soda	Limed ...	95·5	3·0	1·5	Taraxacum vulgare	14
		Not limed	97·4	0·2	2·4	Taraxacum vulgare	
15	As plot 7 following double Nitrate of Soda, 1858-75	Limed ...	70·6	18·2	11.2	Plantago lanceolata	15
		Not limed	76·2	8·8	15·0	Plantago lanceolata	
17	Single Nitrate of Soda	Limed ...	74·1	0·9	25·0	Plantago lanceolata	17
		Not limed	65·3	0·2	34·5	Plantago lanceolata	
18	Potash, Sulphate Soda, Magnesia, and double Sulphate of Amm. 1905 and since	limed 6788 lb.	82·6	—	17·4	Rumex acetosa	18
		,, 3951 lb.	86·0	—	14·0	Rumex acetosa	
		Not limed	91·2	—	8·8	Rumex acetosa	
19	Farmyard Dung in 1905 and every 4th year since (omitted in 1917)	limed 3150 lb.	92·3	4·0	3·7	Conopodium denudatum	19
		,, 570 lb.	92·3	2·3	5·4	Rumex acetosa	
		Not limed	88·8	5·1	6·1	Rumex acetosa; Centaurea nigra ...	
20	Farmyard Dung in 1905 and every 4th year since (omitted 1917), each intervening year Sulphate Potash, Super., and Nitrate of Soda ...	limed 2772 lb.	20·2	3·8	6·0	Rumex acetosa; Conopodium denudatum; Ranunculus spp.	20
		limed 570 lb.	91·0	4·8	4·2	Rumex acetosa	
		Not limed	90·2	4·0	5·8	Rumex acetosa	

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The Park Grass Plots—*contd.*

BOTANICAL COMPOSITION, PER CENT. 1922, 1st CROP.

Plot.	Manuring.	Liming.	Gramineæ.	Leguminosæ.	Other Orders.	"Other Orders" consist largely of	Plot.
3	Unmanured	Limed ...	51·0	7·6	41·4	Centaurea nigra	3
		Not limed	60·5	4·6	34·9	Plantago lanceolata	
5-1	Unmanured, following double Ammonium Salts 1856-97	Not limed	57·2	2·1	40·7	Centaurea nigra	5-1
5-2	Super. and Sulph. Potash following double Ammonium Salts 1856-97 ...	Not limed	71·8	6·1	22·1	Rumex acetosa	5-2
7	Complete Mineral Manure	Limed ...	61·3	29·6	9·0	Heracleum sphondylium	7
		Not limed	69·7	12·7	17.5	Centaurea nigra	
9	Complete Mineral Manure & double Ammonium Salts	Limed ...	99·2	0·3	0·5	———	9
		Not limed	99·1	0·1	0·8	———	
14	Complete Mineral Manure & double Nitrate of Soda	Limed ...	92·5	1·1	6·4	Taraxacum vulgare	14
		Not limed	96·4	0·2	3·4	Taraxacum vulgare	
18	Potash, Sulphate Soda, Magnesia, and double Sulphate of Ammonia, 1905 and since.	limed 6788 lb.	82·3	1·4	16·3	Rumex acetosa	18
		,, 3951 lb.	87·5	—	12·5	Rumex acetosa	
		Not limed	80·7	—	19·3	Centaurea nigra	
19	Farmyard Dung in 1905 and every fourth year since (omitted in 1917)	limed 3150 lb.	86·2	7·2	6·6	Conopodium denudatum	19
		,, 570 lb.	88·1	5·9	5·9	Rumex acetosa; Ranunculus spp. ...	
		Not limed	85·8	7·5	6·7	Rumex acetosa	
20	Farmyard Dung in 1905 and every fourth year since (omitted in 1917), each intervening year Sulphate Potash, Super. and Nitrate of Soda	limed 2772 lb.	85·6	4·6	9·8	Conopodium denudatum	20
		,, 570 lb.	86.8	7·9	5·3	Conopodium denudatum	
		Not limed	90·9	1·0	8·1	Conopodium denudatum; Achillea millefolium	

WHEAT. BROADBALK FIELD, 1923.

Plot.	Manurial Treatment.	Top Portion.						Bottom Portion.						71 year Average 1852—1922.	
		Dressed Grain.		Offal Grain per Acre.	Straw per Acre.	Total Straw per Acre.	Proportion of Total Grain to 100 of Total Straw.	Dressed Grain.		Offal Grain per Acre.	Straw per Acre.	Total Straw per Acre.	Proportion of Total Grain to 100 of Total Straw.	Dressed Grain per Acre.	Total Straw per Acre.
		Yield per Acre.	Weight per Bushel.					Yield per Acre.	Weight per Bushel.						
		bush.	lb.	lb.	lb.	cwt.		bush.	lb.	lb.	lb.	cwt.		bush.	cwt.
2A	Farmyard Manure	12·5	63·4	124	1718	20·3	40·4	20·4	63·2	206	2470	29·2	45·7	28·4*	32·8*
2B	Farmyard Manure	13·5	63·3	155	2751	32·9	27·4	21·2	63·8	328	3060	37·5	40·0	34·3	34·6
3	Unmanured	3·8	62·8	27	332	3·7	65·4	4·2	62·9	37	298	3·7	71·6	12·1	9·9
5	Complete Mineral Manure	3·1	61·5	29	264	3·1	63·3	4·4	62·8	56	430	5·3	56·6	13·9	11·7
6	As 5, and Single Amm. Salts	6·2	62·0	61	813	9·9	40·0	7·9	63·1	69	828	9·7	52·2	22·3	20·7
7	As 5, and Double Amm. Salts	10·2	62·6	109	1824	20·9	31·8	15·8	63·5	300	2808	32·4	35·9	30·9	32·2
8	As 5, and Treble Amm. Salts	12·4	62·5	142	2708	30·2	27·1	17·8	63·3	388	3312	38·6	35·0	35·1	40·2
9	As 5, and Single Nitrate of Soda	8·3	62·0	81	1302	14·6	36·3	9·3	62·8	150	1924	23·0	28·5	24·5†	24·7†
10	Double Amm. Salts alone	7·6	62·0	84	1174	14·1	35·2	7·5	63·5	194	1396	19·8	30·1	19·1	18·0
11	As 10, and Superphosphate	6·5	62·2	100	1472	18·5	24·4	8·4	63·3	225	1902	24·1	28·0	21·5	21.7
12	As 10, and Super. and Sulph. Soda	7·8	62·4	108	1396	17·6	30·1	11·1	63·6	250	2096	25·3	33·8	27·6	27·2
13	As 10, and Super. and Sulph. Potash	12·2	63·3	113	1816	21·8	36·2	12·3	62·6	216	2748	30·3	29·0	29·8	31·0
14	As 10, and Super. and Sulph. Magnesia ...	10·5	63·3	135	1714	20·5	34·7	11·3	63·4	300	2270	27·6	32·9	27·3	27·2
15	Double Amm. Salts in Autumn and Minerals ...	17·4	63·3	126	1896	22·2	49·5	13·3	63·5	168	1972	23·4	38·6	28·4	28·7
16	Double Nitrate and Minerals	16·9	63·3	167	2224	26·5	41·7	11·8	61·0	275	2958	33·1	26·8	30·7†	35·8†
17	Minerals alone, or Double Amm. Salts alone in	2·9	61·5	39	356	4·7	40·9	5·0	62·4	76	698	9·2	37·6	28·6	28·6
18	alternate years	11·7	63·9	201	1620	20·0	42·3	11·8	63·4	192	2232	25·9	32·4	14·3	12·4
19	Rape Cake alone	13·6	63·4	232	1664	20·5	47·6	12·2	63·9	229	1918	24·4	36·8	22·0‡	22·7‡
20	Mineral Manure (without Super.) and Amm. Salts	8·6	63·0	122	1443	17·9	33·0	—	—	—	—	—	—	18·6§	19·8§

* 23 years only, 1900-1922. † 38 years only, 1885-1922. ‡ 30 years only, 1893-1922. § 15 years only, 1906-1922 (no crop in 1912 and 1914)

WHEAT. BROADBALK FIELD, 1924.

Plot.	Manurial Treatment.	Top Portion.						Bottom Portion.					
		Dressed Grain.		Offal Grain per Acre.	Straw per Acre.	Total Straw per Acre.	Proportion of Total Grain to 100 of Total Straw.	Dressed Grain.		Offal Grain per Acre.	Straw per Acre.	Total Straw per Acre.	Proportion of Total Grain to 100 of Total Straw.
		Yield per Acre. bush.	Weight per Bushel. lb.	lb.	lb.	cwt.		Yield per Acre. bush.	Weight per Bushel. lb.	lb.	lb.	cwt.	
2A	Farmyard Manure	10·3	60·3	142	1047	18·6	36·7	16·6	60·5	156	1417	22·2	46·5
2B	Farmyard Manure	10·4	59·5	158	1181	19·3	35·8	14·6	60·5	137	1367	22·4	40·6
3	Unmanured	2·1	58·9	25	188	3·6	36·4	2·2	58·9	23	136	2·8	47·3
5	Complete Mineral Manure	4·4	58·8	29	270	4·0	64·6	3·9	58·3	25	220	3·7	60·0
6	As 5, and Single Amm. Salts	10·2	60·0	52	827	11·2	52·7	9·1	60·5	43	554	7·6	69·9
7	As 5, and Double Amm. Salts	19·3	60·7	160	2182	28·9	41·2	24·1	60·9	136	1898	24·9	57·5
8	As 5, and Treble Amm. Salts	23·2	60·5	174	2826	35·8	39·4	23·7	60·0	148	2578	33·1	42·4
9	As 5, and Single Nitrate of Soda	12·9	59·6	107	1268	18·6	42·0	12·6	59·6	69	1012	13·5	54·1
10	Double Amm. Salts alone	4·9	59·0	72	532	11·4	28·2	5·4	58·9	85	434	8·3	43·1
11	As 10, and Superphosphate	5·5	58·3	111	944	16·6	23·1	4·6	58·0	109	632	12·8	26·3
12	As 10, and Super. and Sulph. Soda	9·1	59·4	128	910	15·7	38·0	9·3	58·5	129	1008	17·0	35·3
13	As 10, and Super. and Sulph. Potash ...	15·0	60·2	118	1420	21·2	42·9	11·0	60·0	85	1234	17·6	37·7
14	As 10, and Super. and Sulph. Magnesia ...	9·9	58·8	159	1260	18·0	36·6	8·6	58·8	129	948	14·8	38·3
15	Double Amm. Salts in Autumn and Minerals	7·9	59·0	91	836	14·0	35·7	4·6	58·1	66	532	10·9	27·3
16	Double Nitrate and Minerals	22·1	60·0	146	2168	32·8	40·0	19·3	59·5	156	1648	25·6	45·3
17 }	Minerals alone, or double Amm. Salts alone in	7·8	59·8	68	722	11·1	42·8	7·4	58·0	58	556	9·6	45·0
18 }	alternate years	7·8	59·5	39	480	6·7	67·4	8·4	59·0	46	560	7·8	61·7
19	Rape Cake alone	6·2	58·8	90	822	14·0	29·1	4·5	57·8	98	666	12·1	26·4
20	Mineral Manure (without Super.) and Amm. Salts	2·7	56·8	41	510	8·5	20·5	—	—	—	—	—	—

PERMANENT BARLEY PLOTS. Hoos Field, 1923, 1924.

PRODUCE PER ACRE.

Plot.	Manuring.	1923. Dressed Grain. Yield per Acre.	1923. Dressed Grain. Weight per Bushel.	1923. Offal Grain per Acre.	1923. Straw per Acre.	1923. Total Straw per Acre.	1923. Proportion of Total Grain to 100 of Total Straw.	1924. Dressed Grain. Yield per Acre.	1924. Dressed Grain. Weight per Bushel.	1924. Offal Grain per Acre.	1924. Straw per Acre.	1924. Total Straw per Acre.	1924. Proportion of Total Grain to 100 of Total Straw.	70 years Average Yield 1852—1922.† Dressed Grain per Acre.	70 years Average Yield 1852—1922.† Total Straw per Acre.
		bush.	lb.	lb.	lb.	cwt.		bush.	lb.	lb.	lb.	cwt.		bush.	cwt.
1 O	Unmanured	11·4	53·0	84	690	8·2	74·7	1·7	44·3	72	217	2·7	47·8	14·0	8·0
2 O	Superphosphate only	19·9	54·8	69	927	10·8	96·1	7·5	45·4	107	410	5·3	75·6	19·6	9·9
3 O	Alkali Salts only	13·6	52·1	54	916	11·1	61·5	1·7	44·0	72	195	3·0	44·3	15·0	8·8
4 O	Complete Minerals	17·2	53·6	66	996	11·4	77·0	2·5	44·8	101	289	4·7	40·5	19·8	11·1
5 O	Potash and Superphosphate ...	10·4	54·4	62	655	8·3	67·0	3·2	47·5	96	347	4·9	45·3	16·2	9·6
1 A	Ammonium Salts only	13·4	53·5	144	858	10·5	73·3	4·1	48·1	196	490	7·2	48·8	24·8	14·1
2 A	Superphosphate and Amm. Salts	23·3	54·3	108	1232	14·1	87·4	33·5	48·9	336	1680	18·6	95·0	37·0	20·9
3 A	Alkali Salts and Amm. Salts ...	16·5	54·3	149	1213	15·7	59·1	7·0	44·9	153	583	8·0	52·1	27·0	16·3
4 A	Complete Minerals and Amm. Salts	33·0	55·9	98	1598	18·2	95·3	28·4	49·0	343	1744	20·3	76·1	40·6	24·0
5 A	Potash, Super. and Amm. Salts ...	25·3	56·0	76	1336	15·6	85·7	28·4	49·0	216	1650	18·6	77·0	34·9	22·2
1 AA	Nitrate of Soda only	18·1	53·0	122	1320	15·1	64·0	5·7	48·3	227	699	10·5	42·8	25·3*	15·6*
2 AA	Super. and Nitrate of Soda ...	32·1	54·9	102	1656	18·4	90·4	32·0	47·8	342	1832	20·3	82·1	39·9*	23·5*
3 AA	Alkali Salts and Nitrate of Soda	17·0	54·3	123	1408	17·0	55·0	6·0	44·6	157	627	9·2	41·3	25·9*	16·8*
4 AA	Complete Minerals and Nitrate of Soda	31·2	56·1	107	1562	18·2	91·3	24·3	46·7	337	1700	21·3	61·7	39·2*	23·9*
1 AAS	As Plot 1 AA and Silicate of Soda	21·4	55·0	133	1397	16·5	71·1	10·0	48·3	221	908	11·8	52·9	31·6*	18·7*
2 AAS	,, ,, 2 AA ,, ,,	35·3	55·0	100	1711	18·8	96·9	26·3	48·3	278	1518	17·6	78·3	41·0*	24·5*
3 AAS	,, ,, 3 AA ,, ,,	23·3	54·3	107	1749	19·7	62·2	9·7	49·5	188	858	12·3	48·5	32·9*	20·4*
4 AAS	,, ,, 4 AA ,, ,,	36·0	55·9	96	1898	21·0	89·5	21·2	46·4	250	1469	17·9	61·4	41·5*	26·0*
1 C	Rape Cake only	28·1	54·9	78	1507	17·3	83·6	22·6	45·2	257	1287	15·1	75·7	36·5	20·9
2 C	Superphosphate and Rape Cake	36·0	55·8	89	1471	16·7	112·2	30·8	44·7	284	1612	18·3	80·9	38·8	22·3
3 C	Alkali Salts and Rape Cake ...	27·9	55·3	65	1474	17·2	83·6	17·9	45·0	219	1125	13·5	67·7	35·0	20·9
4 C	Complete Minerals and Rape Cake	35·2	54·9	65	1765	19·5	91·4	27·0	47·7	278	1689	19·5	71·8	38·5	22·9
7—1	Unmanured (after dung 20 years, 1852—71)	17·6	54·9	81	1106	12·7	73·5	2·2	46·5	107	297	4·7	39·7	24·0‡	14·1‡
7—2	Farmyard Manure	30·6	56·1	68	1856	19·3	82·3	28·4	49·9	212	2034	23·8	61·1	46·0	28·5
6—1	Unmanured	8·7	53·1	82	628	8·2	59·2	—	—	42	102	1·6	36·8	15·4	8·9
6—2	Ashes from Laboratory furnace ...	12·3	54·8	87	704	9·4	72·0	2·0	44·0	91	234	3·2	49·8	16·3	9·5
1 N	Nitrate of Soda only	18·3	54·0	144	1320	15·9	63·6	4·4	44·0	169	479	7·4	43·8	30·0§	18·3§
2 N	,, ,, ,, ...	23·1	55·0	119	1463	17·4	71·3	11·7	44·4	215	847	11·3	58·1	33·8§§	20·4§§

† 1912, all plots were fallowed. * 54 years, 1868—1922. ‡ 50 years, 1872—1922. § 69 years, 1853—1922. §§ 63 years, 1859—1922.

RED CLOVER grown year after year on rich Garden Soil, Rothamsted Garden.

Hay, Dry Matter, and Nitrogen per Acre, 1923 and 1924.

Year.	No. of Cuttings.	As Hay.	Dry Matter.	Nitrogen.	Seed Sown.
		lb.	lb.	lb.	
1923	2	1477	1231	37	1923 May mended
1924	2	794	663	20	1924 April mended
Averages:					
25 years, 1854—1878		7664	6387	179	
25 years, 1879—1903		3924	3270	101	
20 years, 1904—1923		2640	2200	65	

WHEAT AFTER FALLOW (without Manure 1851, and since).

Hoos Field, 1923 and 1924.

	1923.	1924.	Average 67 years 1856-1922.
Dressed Grain { Yield per Acre—bushels	2·8	1·6 lb.	15·22
Dressed Grain { Weight per Bushel—lb.	62·0	—	59·6
Offal Grain per Acre—lb.	42·0	1·5	52·0
Straw per Acre—lb.	459·0	18·0	—
Total Straw per Acre—cwt.	5·4	0·9	13·1
Proportion of Total Grain to 100 of Total Straw	35·9	3·1	—

AVERAGE WHEAT YIELDS *of* VARIOUS COUNTRIES.

Country.	Mean Yield per Acre 1901-10. bushels.	Country.	Mean Yield per Acre 1901-10. bushels.
Great Britain	31·6	Denmark	41·3
England	31·7	Argentine	10·6
Hertfordshire	30·5	Australia	10·1
France	20·2	Canada	19·5
Germany	29·1	United States	14·3
Belgium	35·1	Russia—European	10·0

NOTE.—Figures for Great Britain, England and Hertfordshire are taken from the Board of Agriculture's "Agricultural Statistics," Vol. 46. Other figures from "Annuarie International de Statistique Agricole," 1910-12, and converted at the rate of 60 lb. per bushel.

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ROTATION PLOTS.

Little Hoos Field, 1923 and 1924.

Arranged to test the VALUE of VARIOUS MANURES in year of application and their RESIDUAL VALUE one, two, and three years after.

Produce per acre.

Plot.	Manure per Acre from 1919 onwards.	Season of Last Dressing.	1923 (20th Season), Clover.						1924 (21st Season), Wheat.					
			Yield per Acre.			Dry Matter per Acre.			Dressed Grain.		Offal Grain per Acre.	Straw per Acre.	Total Straw per Acre.	Proportion of Total Grain to 100 of Total Straw.
			1st Crop	2nd Crop	Total	1st Crop	2nd Crop	Total	Yield per Acre.	Weight per Bush.				
			cwt.	cwt.	cwt.	lb.	lb.	lb.	bush.	lb.	lb.	lb.	cwt.	
A 1	Control	—	*24·0*	*26·1*	*50·1*	*2578*	*2163*	*4741*	*12·8*	*58·9*	*146*	*676*	*11·0*	*72·8*
2	Ordinary Dung, 16 tons	1920	41·2	34·9	76·1	4002	2814	6816	46·2	60·0	190	3008	36.6	72·1
3	Ordinary Dung, 16 tons	1921	41·3	32·1	73·4	4312	2572	6884	39·0	60·8	197	2772	33·9	67·6
4	Ordinary Dung, 16 tons	1922	43·2	30·7	73·9	4564	2495	7059	36·7	60·0	175	2416	28·9	73·3
5	Ordinary Dung, 16 tons	1924	34·9	28·1	63·0	3605	2371	5976	**47·8**	**60·3**	**149**	**3248**	**37·5**	**72·2**
B 1	Cake fed dung, 16 tons	1920	40·6	34·1	74·7	4068	2702	6770	43·0	60·0	216	3016	36·1	68·9
2	Control	—	*26·4*	*27·6*	*54·0*	*2694*	*2148*	*4842*	*19·9*	*58·2*	*177*	*1180*	*16·1*	*73·7*
3	Cake fed dung, 16 tons	1921	44·4	34·4	78·8	4420	2716	7136	40·4	60·4	201	2728	32·5	72·4
4	Cake fed dung, 16 tons	1922	42·1	34·7	76·8	4345	2690	7035	40·7	59·9	189	2720	33·9	69·2
5	Cake fed dung, 16 tons	1924	38·4	30·1	68·5	3866	2453	6319	**43·6**	**60·8**	**215**	**3260**	**39·7**	**64·4**
C 1	Shoddy; Superphosphate; Sulphate of Potash	1920	26·1	26·4	52·5	2540	2144	4684	14·6	59·0	120	916	13·1	66·6
2	Shoddy; Superphosphate; Sulphate of Potash	1921	17·7	28·1	45·8	1788	2258	4046	16·7	59·0	141	1052	15·0	66·7
3	Control	—	*16·6*	*28·0*	*44·6*	*1668*	*2235*	*3903*	*16·9*	*58·6*	*125*	*1004*	*13·8*	*72·3*
4	Shoddy; Superphosphate; Sulphate of Potash	1922	28·1	33·3	61·4	2837	2820	5657	20·1	58·5	132	1252	17·0	68·5
5	Shoddy; Superphosphate; Sulphate of Potash	1924	20·3	27·1	47·4	1985	2178	4163	**33·4**	**59·7**	**135**	**2180**	**26·0**	**73·1**

D 1	Guano; Sulphate of Ammonia; Sulphate of Potash	1920	27·1	28·1	55·2	2762	2298	5060	20·3	59·8	160	1148	15·5	79·3
2		1921	21·6	23·0	44·6	2179	1900	4079	16·8	59·3	156	1000	16·0	64·3
3		1922	*25·7*	*26·9*	*52·6*	*2644*	*2228*	*4872*	*18·3*	*58·3*	*124*	*1112*	*14·9*	*71·4*
4	Control	—	*24·3*	*27·9*	*52·2*	*2303*	*2278*	*4581*	*17·7*	*59·8*	*148*	*1112*	*16·7*	*64·6*
5	Guano; Sulphate of Ammonia; Sulphate of Potash	1924	*25·7*	*27·6*	*53·3*	*2600*	*2247*	*4847*	**22·9**	**60·1**	**164**	**1416**	**20·8**	**66·2**
E 1		1920	25·5	27·1	52·6	2626	2070	4696	16·1	58·5	160	820	12·5	78·8
2		1921	*25·4*	*27·0*	*52·4*	*2598*	*2158*	*4756*	*21·1*	*59·4*	*174*	*1148*	*17·6*	*72·3*
3	Rape Dust; Superphosphate; Sulphate of Potash	1922	*22·6*	*25·9*	*48·5*	*2298*	*2131*	*4429*	*18.2*	*59·0*	*161*	*1000*	*15·3*	*71·9*
4		1924	*23·5*	*27·9*	*51·4*	*2397*	*2213*	*4610*	**29·2**	**60·0**	**206**	**1912**	**27·6**	**63·3**
5	Control	—	*31·4*	*31·6*	*63·0*	*3072*	*2520*	*5592*	*24·0*	*59·7*	*168*	*1408*	*20·4*	*70·3*
F 1	Control	—	*17·6*	*26·1*	*43·7*	*1825*	*2029*	*3854*	*7·8*	*58·0*	*129*	*444*	*10·2*	*50·7*
2		1920	20·1	24·1	44·2	1934	1875	3809	17·2	59·0	147	932	13·5	76·9
3	Superphosphate; Sulphate of Ammonia; Sulphate of Potash	1921	20·7	25·0	45·7	1945	1840	3785	20·3	59·8	162	1104	14·7	83·4
4		1922	25·3	29·3	54·6	2454	2286	4740	19·9	60·0	133	1120	15·2	78·0
5		1924	26·6	26·7	53·3	2667	2144	4811	**30·1**	**60·2**	**209**	**2176**	**28·1**	**64·4**
G 1	Bone Meal; Sulphate of Ammonia; Sulphate of Potash	1920	20·4	24·4	44·8	1982	2060	4042	11·3	60·1	133	648	11·6	62·1
2		1921	18·1	25·6	43·7	1791	2083	3874	21·7	60·3	130	1296	18·3	70·4
3	Control	—	*20·1*	*23·0*	*43·1*	*1932*	*1896*	*3828*	*20·3*	*60·2*	*118*	*1244*	*15·8*	*75·6*
4	Bone Meal; Sulphate of Ammonia; Sulphate of Potash	1922	25·6	24·4	50·0	2503	1918	4421	21·7	60·5	104	1432	17·1	74·0
5		1924	18·1	22·3	40·4	1777	1833	3610	**20·8**	**59·9**	**156**	**1560**	**22·0**	**56·9**
H 1		1920	31·2	26·9	58·1	3113	2199	5312	29·1	60·8	156	1980	25·4	67·6
2	Basic Slag; Sulphate of Ammonia; Sulphate of Potash	1921	25·3	27·6	52·9	2426	2258	4684	32·6	60·6	181	2140	26·2	73·4
3		1922	32·6	28·9	61·5	3178	2341	5519	32·8	60·2	184	2092	24·4	79·2
4		1924	31·8	25·0	56·8	3146	2055	5201	**34·0**	**60·1**	**260**	**2952**	**33·4**	**61·6**
5	Control	—	*27·9*	*22·0*	*49·9*	*2725*	*1778*	*4503*	*18·2*	*60·5*	*128*	*1416*	*17·3*	*63·2*

NOTES.—Since 1919 the manure for each plot (except of series A and B) has been rationed at 40 lb. Nitrogen, 100 lb. Calcium Phosphate and 50 lb. Potash per acre. Each plot has been supplied with as much of its particular manure (shoddy, guano, &c.) as possible without exceeding the receipt in any of the three rationed ingredients. Any deficit in either of these three has then been made good by adding the necessary quantity of Sulphate of Ammonia, Superphosphate, or Sulphate of Potash. No manure was applied for 1923 crop.

Figures in italics denote unmanured plots. The yields on the plots to which the manure was applied in a given season are printed in heavy type.