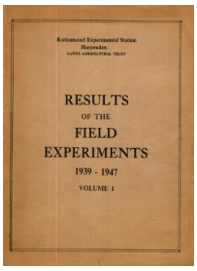
This work is licensed under a Creative Commons Attribution 4.0 International License.

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readible, or you suspect there are some problems, please let us know and we will correct that.

Yields of the Field Experiments 1939-1947 Volume 1



Full Table of Content

Classical Experiments

Rothamsted Research

Rothamsted Research (1948) *Classical Experiments ;* Yields Of The Field Experiments 1939-1947 Volume 1, pp 5 - 56 **- DOI: https://doi.org/10.23637/ERADOC-1-145**

This work is licensed under a Creative Commons Attribution 4.0 International License.

WHEAT - BROADBALK

The first experimental crop of wheat on Broadbalk was sown in the autumn of 1843 for harvesting in 1844, and wheat has been grown each year ever since. The plot treatments varied until 1852 when the present system of manuring was established.

The general purpose of the experiment was to determine over a long period of years the manurial requirements of wheat, testing dung alone and a number of combinations of the ash constituents of crops (compounds of phosphorus, potassium, sodium and magnesium), together with several forms of nitrogen compounds. One plot running the whole length of the field was assigned to each of the treatments tested. Several varieties, some of them now out of cultivation, have been used during the experiment, but since 1899 Squareheads Master or the very similar Red Standard has been sown.

Weeds have always been a problem on Broadbalk, but in spite of this, continuous cropping was maintained until the harvest of 1925, except that half of every plot was fallowed in 1904 and the remainder in 1905, and this process was repeated in 1914 and 1915. In 1926 it was decided that more systematic methods must be tried and a system of regular bare fallowing was introduced. The field was divided into five equal sections so that every year a part of each of the original ½ acre plots could be under fallow and the remainder under crop. From 1926-29 two sections were cropped yearly, leaving three fallow; in 1930 the whole field was cropped and then in 1931 the present arrangement was begun under which one section of the field is fallowed every year. In each year therefore, the yields of every treatment are obtained for the 1st, 2nd, 3rd and 4th years after fallow.

Since 1943 it has been necessary to hand weed wild oats before harvesting.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Treatments
Symbols and amounts per acre

0	Unmanured
N_1, N_2, N_3	Sulphate of ammonia, 43 lb.N, 86 lb.N, 129 lb.N
N_1', N_2'	Nitrate of soda, 43 lb.N, 86 lb.N
P	Superphosphate, 65 lb. P_2O_5
K	Sulphate of potash, 98 lb. K_2O
S	Sulphate of soda, 366 lb.
M	Sulphate of magnesia, 280 lb.
C	Complete mineral manure, consisting of superphosphate (65 lb. P_2O_5), sulphate of potash (98 lb. K_2O), sulphate of soda (100 lb.) and sulphate of magnesia (100 lb.)
C'	As C but without the superphosphate
D	Farmyard manure, 14 tons
R	Rape cake (castor bean meal from 1940 onwards), 1889 lb.

Dung is ploughed-in in autumn. Rape cake and minerals are applied in autumn on the seed bed. 21.5 lb. N per acre of the N_1, N_2 and N_3 treatments is applied in autumn and the remainder of the dressing in spring, except that Plot 15 receives its full dressing in autumn. Nitrate of soda ~~is applied~~ is applied in spring, there being two applications at intervals of a month on plot 16. Plot 2A was unmanured before 1885.

The experiment is discussed, and early departures from the present manuring scheme are described by Sir John Russell and D.J.Watson in "The Rothamsted Field Experiments in the growth of wheat", Imp.Bureau Soil Sci.Tech.Comm. No.40.

Investigations by the Soil Microbiology Department are described by B.N.Singh, "The effect of artificial fertilizers and dung on the numbers of amoebae in Rothamsted soils", J.Gen.Microbiol. 3, (1949), 204.

Weed surveys have been made annually by the Botany Department.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Wheat - Broadbalk

The present fallowing cycle and the preceding fallows are shown in the diagram below. (C = crop, F = fallow). The sections (I to V) are numbered in order from the upper (western) end of the field. Preparatory to the first fallow the field was harvested in five separate sections (1925).

Year	I	II	III	IV	V	Year	I	II	III	IV	V
1926	F	F	F	C	C	1931,-36,-41,-46	F	C	C	C	C
1927	F	F	F	C	C	1932,-37,-42,-47	C	F	C	C	C
1928	C	C	F	F	F	1933,-38,-43,-48	C	C	C	C	F
1929	C	C	F	F	F	1934,-39,-44,-49	C	C	C	F	C
1930	C	C	C	C	C	1935,-40,-45,-50	C	C	F	C	C

Plot 20 extends over sections I and II only.

Crop Notes

Crop Year	Date sown	Date harvested	Variety
1939	Oct. 26	Aug. 18	Red Standard
1940	Oct. 25	Aug. 8	Squareheads Master
1941	Oct. 25	Aug. 20	Squareheads Master
1942	Oct. 24	Aug. 15	Red Standard
1943	Oct. 15	Aug. 4	Red Standard
1944	Oct. 16	Aug. 5	Red Standard
1945	Nov. 8	Aug. 12	Red Standard
1946	Oct. 20	Aug. 16	Squareheads Master 13/4
1947	Oct. 31	Aug. 8	Squareheads Master 13/4

In 1941 there was a considerable amount of lodging, particularly on plots 2A, 2B, 8, 12, 14 and 16.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Years after fallow	Total Grain: cwt. per acre 1	2	3	4	Mean	Total Straw: cwt. per acre 1	2	3	4	Mean
96th season, 1939										
Plot **Section**	V	II	I	III		V	II	I	III	
2A D	24.1	18.5	15.7	19.7	19.5	62.7	40.1	43.0	42.8	47.2
2B D	26.1	23.5	15.7	18.1	20.8	64.2	51.6	48.9	47.8	53.1
3 O	16.7	7.7	8.7	8.9	10.5	29.7	17.0	16.4	19.1	20.6
5 C	18.6	9.9	9.3	7.8	11.4	36.1	24.9	21.9	19.2	25.5
6 N_1C	22.5	13.8	10.9	11.8	14.8	45.3	33.9	29.5	54.5	40.8
7 N_2C	26.4	19.3	13.5	15.8	18.8	55.8	43.4	39.8	37.7	44.2
8 N_3C	20.8	21.6	11.8	12.5	16.7	59.0	54.7	62.9	52.9	57.4
9 $N_1'C$	24.1	16.2	11.3	14.0	16.4	53.5	35.2	28.5	29.8	36.8
10 N_2	20.2	19.6	14.4	17.1	17.8	38.8	35.6	33.4	32.4	35.0
11 N_2P	18.6	18.9	13.4	15.8	16.7	36.6	35.7	28.8	30.4	32.9
12 N_2PS	21.2	20.4	14.8	16.4	18.2	42.4	40.1	32.7	32.3	36.9
13 N_2PK	23.1	17.5	14.4	15.3	17.6	55.2	42.1	33.8	35.2	41.6
14 N_2PM	24.6	19.9	14.1	17.1	18.9	52.7	35.3	29.1	32.4	37.4
15 N_2*C	17.8	16.5	12.7	12.8	15.0	37.1	34.3	28.8	29.3	32.4
16 $N_2'C$	25.4	18.5	11.8	13.5	17.3	69.4	48.9	43.6	44.9	51.7
17 N_2 and C in (C)	13.7	10.1	5.6	7.9	9.3	31.6	24.4	18.8	21.8	24.2
18 alternate (N_2) years	22.5	17.1	14.6	13.5	16.9	43.8	3821	34.8	25.9	35.6
19 R	21.8	17.5	12.4	16.2	17.0	42.6	32.6	27.1	29.2	32.9
20 N_2C'	–	19.3	13.2	–	16.2	–	42.6	32.7	–	37.6
97th season, 1940										
Plot **Section**	IV	V	II	I		IV	V	II	I	
2A D	33.1	31.9	27.7	15.4+	27.0	55.7	44.6	42.2	39.3	45.4
2B D	37.0	29.0	32.3	23.8+	30.5	57.8	42.4	46.5	43.3	47.5
3 O	21.5	13.6	12.6	15.4	15.8	28.6	18.7	16.7	18.3	20.6
5 C	25.5	12.7	14.4	16.3	17.2	38.8	17.0	17.9	22.6	24.1
6 N_1C	30.5	17.1	17.8	20.8	21.6	47.3	25.6	23.6	28.2	31.2
7 N_2C	34.6	21.1	24.4	26.7	26.7	61.7	35.2	37.7	42.4	44.2
8 N_3C	32.2	27.1	27.4	29.9	29.2	61.8	51.7	47.5	55.3	54.1
9 $N_1'C$	31.7	19.0	20.9	26.3	24.5	50.7	30.3	33.0	43.4	39.4
10 N_2	14.8	18.4	17.5	19.8	17.6	26.0	24.3	21.9	27.8	25.0
11 N_2P	27.9	19.0	20.0	20.9	22.0	41.4	31.5	25.3	30.0	32.0
12 N_2PS	32.9	20.3	22.9	25.5	25.4	48.1	29.8	30.9	36.2	36.2
13 N_2PK	35.7	17.8	22.5	24.0	25.0	59.7	33.3	33.6	37.7	41.1
14 N_2PM	34.4	18.7	22.1	24.3	24.9	54.9	30.2	30.4	36.2	37.9
15 N_2*C	32.6	15.1	22.6	25.8	24.0	51.8	25.1	33.3	38.3	37.1
16 $N_2'C$	33.8	26.8	29.6	27.6	29.4	60.8	40.1	43.0	45.3	47.3
17 N_2 and C in (N_2)	33.7	25.2	26.2	28.6	28.4	56.4	39.1	39.3	42.2	44.2
18 alternate (C^2) years	24.4	11.0	11.5	12.2	14.8	33.5	17.1	17.3	15.3	20.8
19 R	34.2	19.0	21.0	20.7	23.7	52.3	28.5	29.3	31.6	35.4
20 N_2C'	–	–	20.4	23.0	21.7	–	–	25.4	33.4	29.4

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Wheat - Broadbalk

Plot	Section	Total Grain: cwt. per acre — Years after fallow 1	2	3	4	Mean	Total Straw† : cwt. per acre — 1	2	3	4	Mean
		98th season, 1941									
		III	IV	V	II		III	IV	V	II	
2A	D	16.8	13.7	14.4	9.5	13.6	40.1	26.6	25.0	25.4	29.3
2B	D	19.2	16.0	16.2	9.1	15.1	41.8	30.8	28.3	25.7	31.6
3	0	14.3	4.5	6.6	4.7	7.5	23.9	7.6	8.7	7.8	12.0
5	C	14.9	5.0	7.2	5.9	8.2	23.3	10.3	12.4	10.0	14.0
6	N_1C	15.7	9.6	9.8	7.6	10.7	29.1	16.1	15.2	14.0	18.6
7	N_2C	17.1	14.2	12.6	11.3	13.8	39.7	31.7	27.2	22.2	30.2
8	N_3C	20.9	14.3	13.1	16.2	16.1	46.2	37.6	32.1	35.0	37.7
9	$N_1'C$	17.8	12.1	11.9	11.6	13.4	34.6	22.8	22.2	22.8	25.6
10	N_2	13.8	14.3	12.5	12.2	13.2	26.6	27.2	19.6	17.4	22.7
11	N_2P	16.7	14.5	10.9	11.1	13.3	30.2	26.1	19.4	18.0	23.4
12	N_2PS	18.2	16.0	14.1	13.8	15.5	35.0	27.0	23.6	20.2	26.4
13	N_2PK	19.3	14.5	9.9	11.3	13.8	28.1	28.0	22.1	18.6	24.2
14	N_2PM	19.7	16.7	11.8	12.3	15.1	34.4	28.3	22.3	18.4	25.8
15	N_2*C	18.4	12.0	5.6	9.8	11.4	36.7	20.1	11.7	14.2	20.7
16	$N_2'C$	21.7	15.9	14.9	15.7	17.0	49.7	36.2	31.7	31.0	37.2
17	N_2 and C in alternate years	15.6	5.7	4.0	4.1	7.4	35.5	8.4	6.2	6.4	14.1
18	(N_2)	18.8	12.2	12.4	10.1	13.4	31.8	21.3	21.6	18.0	23.2
19	R	18.0	13.5	9.3	9.2	12.5	29.9	22.7	13.3	11.6	19.4
20	N_2C'				11.6	11.6				19.6	19.6

Plot	Section	I	III	IV	V		I	III	IV	V	
		99th season, 1942									
2A	D	20.7	23.7	24.5	27.9	24.2	52.2	43.2	45.1	43.6	46.0
2B	D	19.6	26.8	28.6	26.6	25.4	53.5	43.2	45.1	42.4	47.3
3	0	15.7	10.1	15.9	15.0	14.2	22.7	13.5	20.1	18.6	18.7
5	C	21.6	11.7	16.7	17.0	16.8	34.7	15.5	23.7	20.7	23.6
6	N_1C	25.1	16.3	18.6	21.5	20.4	42.3	22.7	26.7	29.4	30.3
7	N_2C	28.9	23.0	27.1	26.4	26.4	43.3	33.9	37.1	36.4	39.0
8	N_3C	25.8	25.7	28.8	24.8	26.3	52.4	39.8	41.6	39.7	43.4
9	$N_1'C$	27.1	20.5	17.8	18.0	20.8	45.2	29.1	24.3	24.0	30.6
10	N_2	22.9	23.4	18.5	17.2	20.5	32.2	28.6	22.8	21.4	26.2
11	N_2P	18.2	21.3	17.9	16.6	18.5	29.2	28.2	23.1	31.2	27.9
12	N_2PS	24.5	24.4	25.4	21.0	23.8	37.0	36.3	29.7	26.3	32.3
13	N_2PK	23.0	22.7	23.3	23.8	24.5	48.5	31.3	33.1	32.9	36.4
14	N_2PM	25.0	22.4	25.0	22.3	23.7	35.4	32.2	32.2	28.6	32.1
15	N_2*C	28.6	20.9	23.7	21.2	23.6	49.8	33.5	33.5	32.6	37.4
16	$N_2'C$	28.1	25.6	24.3	23.5	25.4	46.6	36.2	35.5	33.9	38.0
17	N_2 and C in alternate years	23.8	22.2	25.8	24.0	25.2	43.4	31.6	37.2	34.7	36.7
18	(N_2) (C)	21.6	10.4	11.5	13.6	14.3	29.6	14.6	15.5	22.1	20.4
19	R	31.1	22.2	23.0	24.7	25.2	42.7	29.7	33.1	33.3	34.7
20	N_2C'	24.0				24.0	35.0				35.0

† Includes straw, cavings and chaff. * Sulphate of ammonia applied in autumn.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Years after fallow	Total Grain: cwt. per acre 1	2	3	4	Mean	Total Straw†: cwt. per acre 1	2	3	4	Mean
100th season, 1943										
Plot Section	II	I	III	IV		II	I	III	IV	
2A D	28.5	20.0	15.9	6.6	17.7	62.5	49.8	41.0	46.8	50.0
2B D	29.7	21.4	23.1	14.4	22.2	65.9	57.5	48.6	49.4	55.4
3 O	25.0	13.4	10.1	8.6	14.3	37.9	17.6	14.2	11.1	20.2
5 C	24.9	12.3	11.0	8.8	14.2	43.3	17.6	17.3	14.1	23.1
6 N_1C	25.0	17.0	14.7	13.3	17.5	46.3	28.2	26.1	25.3	31.5
7 N_2C	28.5	26.1	21.7	21.3	24.4	54.4	50.7	44.8	43.9	48.4
8 N_3C	27.3	23.6	20.5	18.9	22.6	58.7	60.0	54.3	54.3	56.8
9 $N_1'C$	26.5	20.8	16.4	16.5	20.0	46.8	40.5	32.8	33.1	38.3
10 N_2	24.1	25.1	20.6	19.0	22.2	36.4	41.2	34.3	31.0	35.7
11 N_2P	23.8	24.7	19.6	19.3	21.8	36.2	42.4	30.7	30.9	35.0
12 N_2PS	25.8	23.4	21.7	22.9	23.4	44.2	43.3	36.2	40.5	41.0
13 N_2PK	30.0	21.3	19.5	20.3	22.8	53.7	47.5	38.7	42.3	45.6
14 N_2PM	26.4	25.1	20.9	21.6	23.5	41.1	45.9	35.4	38.0	40.1
15 N_2*C	26.5	22.2	19.1	19.5	21.8	45.1	41.9	37.3	36.0	40.1
16 $N_2'C$	33.2	25.6	28.7	23.5	27.8	56.1	52.2	50.8	43.5	50.6
17 N_2 and C in (C)	23.3	11.4	9.7	8.5	13.2	36.4	17.3	14.4	12.5	20.2
18 alternate (N_2) years	27.8	22.1	22.2	22.2	23.6	45.3	38.1	39.9	39.8	40.8
19 R	28.9	23.6	19.1	20.2	23.0	43.6	37.8	31.5	35.3	37.0
20 N_2C'	23.2	19.9			21.6	36.2	37.2			36.7
101st season, 1944										
Plot Section	V	II	I	III		V	II	I	III	
2A D	29.8	22.7	16.6	15.8	21.2	62.4	48.5	41.8	36.4	47.3
2B D	29.2	27.5	22.5	23.2	25.6	53.3	51.6	50.0	48.8	50.9
3 O	18.6	8.3	7.9	9.1	11.0	21.4	12.1	12.1	12.0	14.4
5 C	20.2	9.0	9.1	10.2	12.1	29.3	11.8	11.8	14.1	16.8
6 N_1C	25.1	11.7	14.9	13.1	16.2	38.7	18.7	22.9	19.2	24.9
7 N_2C	29.5	19.3	22.8	20.6	23.0	46.3	36.9	38.6	33.9	38.9
8 N_3C	29.9	23.6	24.9	27.0	26.4	54.5	44.4	53.2	45.4	49.4
9 $N_1'C$	23.9	13.9	15.4	19.3	18.2	35.1	22.2	23.2	31.3	28.0
10 N_2	16.2	18.4	17.4	17.6	17.4	26.2	27.4	29.4	25.2	27.0
11 N_2P	15.8	15.7	14.2	13.8	14.9	25.4	26.1	27.8	24.6	26.0
12 N_2PS	22.6	16.5	17.2	16.6	18.2	36.9	25.3	31.8	27.0	30.2
13 N_2PK	28.7	20.1	20.2	17.7	21.7	46.7	36.6	41.0	31.9	39.0
14 N_2PM	27.2	16.0	17.3	15.6	19.0	42.9	27.9	31.5	26.6	32.2
15 N_2*C	25.8	19.3	20.7	20.1	21.5	45.8	32.0	40.9	31.7	37.6
16 $N_2'C$	31.4	23.4	23.7	26.5	26.2	51.6	30.8	36.8	37.1	39.1
17 N_2 and C in (N_2)	26.9	18.9	19.2	20.0	21.2	44.3	28.2	31.1	29.2	33.2
18 alternate (C) years	27.2	8.9	6.1	7.7	12.5	42.1	9.2	8.5	10.6	17.6
19 R	29.3	18.1	16.1	15.4	19.7	50.9	28.4	23.4	27.5	32.6
20 N_2C'		20.7	13.9		17.3		33.4	21.3		27.4

†Includes straw, cavings and chaff. * Sulphate of ammonia applied in autumn.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Wheat - Broadbalk

Plot	Section	Total Grain: cwt. per acre — Years after fallow 1	2	3	4	Mean	Total Straw†: cwt. per acre 1	2	3	4	Mean
		102nd season, 1945									
		IV	V	II	I		IV	V	II	I	
2A	D	25.1	28.9	23.1	12.3	22.4	44.7	46.1	43.3	47.7	45.4
2B	D	23.4	31.0	25.0	17.5	24.2	52.5	49.0	46.5	52.5	50.1
3	0	14.6	11.6	6.5	7.6	10.1	22.1	14.6	10.8	12.0	14.9
5	C	20.9	14.9	9.9	10.5	14.0	34.0	17.6	13.3	15.5	20.1
6	N_1C	23.5	18.9	11.4	13.7	16.9	40.2	30.7	19.4	22.1	28.1
7	N_2C	23.3	20.8	16.1	22.3	20.6	42.0	36.2	29.5	43.4	37.8
8	N_3C	24.0	27.8	22.5	25.2	24.9	43.9	49.4	40.9	55.2	47.4
9	$N_1'C$	15.2	15.4	13.2	14.7	14.6	30.3	25.1	22.5	27.6	26.4
10	N_2	14.6	21.7	15.3	13.7	16.3	24.4	31.8	24.1	24.8	26.3
11	N_2P	14.2	17.5	13.9	16.2	15.4	29.5	26.2	22.9	29.2	27.0
12	N_2PS	18.5	22.0	16.9	16.8	18.6	36.0	34.2	27.6	31.5	32.3
13	N_2PK	23.3	22.3	15.1	15.4	19.0	45.1	40.2	27.9	31.9	36.3
14	N_2PM	16.0	23.8	14.4	14.4	17.2	38.4	39.1	25.1	29.5	33.0
15	N_2*C	22.4	20.0	17.7	18.4	19.6	41.2	33.3	30.6	36.4	35.4
16	$N_2'C$	21.0	23.6	20.8	20.4	21.4	41.8	41.5	39.3	43.4	41.5
17	N_2 and C in alternate years (C)	16.6	10.3	7.7	9.2	11.0	29.9	15.9	12.4	15.1	18.3
18	N_2 and C in alternate years (N_2)	20.8	16.5	17.2	16.4	17.7	38.3	26.5	28.4	28.4	32.9
19	R	23.2	18.0	14.9	16.3	18.1	41.1	27.3	25.2	28.3	30.4
20	N_2C'			13.6	15.2	14.4			28.1	28.6	28.4
		103rd season, 1946									
		III	IV	V	II		III	IV	V	II	
2A	D	31.7	15.4+	20.0	17.9	21.2	71.6	55.1+	55.7	45.1	56.9
2B	D	29.3	18.2+	21.0	22.2	22.7	75.5	52.2+	48.3	48.6	56.2
3	0	18.7	7.3	7.3	7.3	10.2	35.9	16.0	14.6	15.9	20.6
5	C	20.4	9.2	9.7	10.0	12.3	40.0	22.0	19.7	24.3	26.5
6	N_1C	24.4	9.8	9.9	8.8	13.2	53.6	29.2	25.8	26.8	33.8
7	N_2C	26.4	15.9	15.3	14.4	18.0	63.9	41.2	38.1	36.4	44.9
8	N_3C	31.4	20.2	20.1	17.0	22.2	72.0	59.9	57.7	52.6	60.6
9	$N_1'C$	26.6	18.2	14.6	12.1	17.9	52.8	40.3	34.2	31.9	39.8
10	N_2	25.6	19.5	12.3	16.9	18.6	51.8	40.8	33.9	33.1	39.9
11	N_2P	20.2	15.2	15.2	14.5	16.3	39.3	44.2	34.1	32.1	37.4
12	N_2PS	22.4	15.3	11.9	16.0	16.4	45.3	37.7	34.0	33.2	37.6
13	N_2PK	29.0	17.4	14.9	14.7	19.0	62.0	44.0	39.6	38.0	45.9
14	N_2PM	25.3	20.9	16.8	15.1	19.5	47.8	45.5	41.4	32.6	41.8
15	N_2*C	25.3	17.9	15.5	14.7	18.4	58.1	38.5	32.8	34.5	41.0
16	$N_2'C$	31.9	20.6	19.2	16.2	22.0	67.6	53.3	47.9	43.1	53.0
17	N_2 and C in alternate years (N_2)	24.5	19.1	19.6	15.9	19.8	60.6	42.2	46.5	36.0	46.3
18	N_2 and C in alternate years (C)	18.9	9.7	7.9	3.3	10.0	42.3	20.5	18.3	10.2	22.8
19	R	24.3	18.1	17.0	13.3	18.2	50.3	39.4	37.6	27.7	38.8
20	N_2C'				11.1	11.1				28.1	28.1

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Years after fallow	Total Grain: cwt. per acre 1	2	3	4	Mean	Total Straw† : cwt. per acre 1	2	3	4	Mean
	104th season, 1947									
Plot Section	I	III	IV	V		I	III	IV	V	
2A D	19.1	14.6	19.4	14.6	16.9	28.3	19.7	25.9	20.7	23.6
2B D	20.6	16.9	15.0	14.5	16.8	31.9	25.7	20.3	20.6	24.6
3 O	10.1	4.4	5.7	4.9	6.3	12.0	5.3	7.3	6.7	7.8
5 C	16.5	6.2	9.5	7.9	10.0	24.3	9.1	12.8	12.9	14.8
6 N_1C	19.0	9.0	8.8	7.3	11.0	25.0	13.2	15.6	13.8	16.9
7 N_2C	22.3	12.5	7.8	7.1	12.4	28.4	18.1	13.9	15.6	19.0
8 N_3C	20.7	16.7	12.4	11.5	15.3	34.3	23.6	22.3	23.0	25.8
9 $N_1'C$	15.1	9.4	6.5	6.9	9.5	25.5	11.3	10.0	11.2	14.5
10 N_2	8.1	8.1	5.3	4.1	6.4	16.7	11.5	7.7	6.6	10.6
11 N_2P	9.4	9.8	5.8	4.0	7.2	22.9	12.0	7.5	8.1	12.6
12 N_2PS	13.0	10.0	7.1	5.5	8.9	23.9	14.0	11.5	13.6	15.8
13 N_2PK	22.2	9.7	6.7	6.1	11.2	30.8	15.0	12.2	11.3	17.3
14 N_2PM	14.5	10.7	7.3	6.6	9.8	25.3	17.5	11.1	12.5	16.6
15 N_2*C	20.5	11.3	9.1	7.0	12.0	29.2	20.6	13.5	11.6	18.7
16 $N_2'C$	19.2	13.6	11.3	11.1	13.8	28.5	19.3	19.4	18.8	21.5
17 N_2 and C in (C)	14.6	5.0	5.6	6.4	7.9	21.7	9.7	8.4	9.7	12.4
18 alternate (N_2) years	16.1	10.3	14.9	15.3	14.2	21.2	15.2	19.6	19.4	18.8
19 R	15.7	10.0	8.5	10.2	11.1	21.6	15.1	15.9	16.9	17.4
20 N_2C'	9.7				9.7	15.0				15.0

†Includes straw, cavings and chaff

*Sulphate of ammonia applied in autumn

+Yields from small areas left after cutting green wheat and wild oats. (only happened in 1940 and 1946)

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

BARLEY - HOOSFIELD

Experiments on barley grown continuously on the same land were begun on Hoosfield in 1852, the general purpose being the same as on Broadbalk. On Hoosfield however the mineral manures in various combinations were laid on strips running lengthways along the field, and these were crossed at right angles by strips of various nitrogenous manures, to give plots of approximately 1/6 acre - one for each treatment. Dung alone was applied to a plot outside this factorial arrangement.

Since 1919, Plumage Archer has been the variety grown, except that from 1929 to 1932 Plumage Archer and Spratt Archer were grown in strips running through all the plots. Weeds have been troublesome on Hoosfield, as on Broadbalk, and it was found necessary to fallow the whole field in 1912, 1933 and 1943. Commencing in 1944 a yearly spraying with DNOC (dinitro-ortho-cresol) was given in late May or early June to check broad-leaved weeds, but wild oat (Avena fatua) has become a serious pest in recent years and hand pulling is regularly carried out.

Weed surveys have been made by the Botany Department.

Treatments

Symbols and amounts per acre

Cross Dressings

0	Unmanured
A	Sulphate of ammonia, 43 lb. N
AA	Nitrate of soda, 43 lb. N
AAS	Nitrate of soda, 43 lb. N; silicate of soda, 400 lb.
C	Rape cake (castor bean meal from 1940 onwards), 1,000 lb.

Strip Dressings

P	Superphosphate, 65 lb. P_2O_5
K	Sulphate of potash, 98 lb. K_2O
S	Sulphate of soda, 100 lb.
M	Sulphate of magnesia, 100 lb.

Plot Dressings

D	Farmyard manure, 14 tons
D'	Unmanured, following farmyard manure 1852-71
F	Unmanured, following furnace ash 1852-1933
N'	Nitrate of soda, 43 lb. N
N''	Nitrate of soda, 43 lb. N, following double dressing 1852-57

Dung is ploughed in in winter; all other manures are broadcast in spring during the preparation of the seedbed.

Crop Notes

Year	Sown	Harvested	Year	Sown	Harvested
1939	Mar. 10	Aug. 25	1944	Mar. 29	Aug. 18
1940	Mar. 12	Aug. 6	1945	Mar. 9	Aug. 8
1941	Mar. 17	Aug. 25	1946	Mar. 25	Aug. 23
1942	Mar. 29	Aug. 15	1947	Apr. 17	Aug. 19

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Total grain: cwt. per acre

Plot	Cross Dressing	Strip Dressing	1939	1940	1941	1942	1944	1945	1946	1947
1	0	0	9.2	6.4	2.1	8.8	14.8	11.2	10.2	5.4
2	0	P	12.5	9.4	4.4	11.1	22.7	11.7	10.3	6.7
3	0	KSM	12.0	7.8	3.3	12.0	17.9	18.1	11.8	8.3
4	0	PKSM	14.7	10.9	4.7	14.9	27.8	21.1	13.3	9.1
5	0	PK	11.9	6.8	3.8	14.9	28.6	20.8	13.4	10.8
1	A	0	17.1	12.2	5.7	9.4	10.4	15.6	15.0	7.1
2	A	P	20.7	15.8	8.5	8.0	15.3	22.9	14.4	9.0
3	A	KSM	18.4	13.5	6.6	10.2	11.8	21.9	15.6	11.8
4	A	PKSM	24.9	14.4	12.2	12.2	21.1	22.0	16.0	12.5
5	A	PK	22.2	18.2	8.5	9.0	13.9	14.8	22.4	17.4
1	AA	0	16.5	13.9	5.5	6.0	12.1	18.1	19.6	7.7
2	AA	P	24.3	20.8	8.8	9.9	21.3	25.0	16.4	12.0
3	AA	KSM	18.0	14.3	6.8	10.8	11.4	24.2	18.8	11.5
4	AA	PKSM	24.6	21.2	12.2	14.9	24.4	28.7	22.5	13.4
1	AAS	0	19.8	19.5	7.1	9.6	14.4	18.4	23.3	11.0
2	AAS	P	24.5	20.5	8.2	10.2	24.4	24.0	20.0	17.4
3	AAS	KSM	22.4	19.4	8.4	12.8	12.4	22.6	12.5	13.6
4	AAS	PKSM	26.2	23.2	12.9	16.2	26.5	26.8	24.8	16.6
1	C	0	21.0	16.6	7.7	7.4	16.4	19.4	14.7	14.6
2	C	P	21.4	16.6	7.6	7.5	28.5	27.4	17.9	18.6
3	C	KSM	19.6	16.8	9.5	10.3	22.1	24.9	40.5	16.7
4	C	PKSM	24.1	19.3	10.6	13.2	28.5	27.5	38.9	16.1
7-1		D'	15.3	9.7	4.2	13.8	25.4	23.6	14.0	10.5
7-2		D	32.8	20.8	7.6	12.7	30.9	36.6	32.6	21.0
6-1		0	10.9	6.3	2.1	8.7	17.8	14.6	8.1	6.9
6-2		F	10.4	5.3	1.9	6.9	15.1	13.2	11.1	8.1
1		N'	17.4	14.8	7.1	8.1	13.1	18.5	17.8	12.9
2		N"	21.4	17.8	7.8	8.0	17.8	23.1	17.8	19.6

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

X
Vertical lines

Barley - Hoosfield

A/2 3

Barley - Hoosfield

Total straw: cwt. per acre

Plot	Cross Dressing	Strip Dressing	1939	1940	1941	1942	1944	1945	1946	1947
1	0	0	11.8	8.6	8.2	10.9	14.8	12.1	9.8	5.0
2	0	P	12.3	7.3	7.1	10.8	18.2	10.8	9.4	6.4
3	0	KSM	19.0	9.6	9.9	15.2	17.4	17.0	13.0	8.3
4	0	PKSM	20.0	13.7	12.1	19.5	23.2	18.1	14.8	9.1
5	0	PK	15.5	9.9	14.7	19.0	27.8	19.9	14.4	10.0
1	A	0	21.1	18.8	18.5	16.1	11.6	15.8	15.4	5.7
2	A	P	23.0	20.7	21.5	16.6	14.9	25.9	16.5	9.5
3	A	KSM	23.0	16.1	18.7	17.8	12.7	24.7	21.5	13.4
4	A	PKSM	25.0	20.9	19.3	23.1	21.6	31.0	22.2	10.6
5	A	PK	29.1	28.7	25.2	29.8	24.0	39.2	31.4	20.0
1	AA	0	27.2	27.6	18.9	19.9	15.3	25.7	22.4	9.6
2	AA	P	27.9	24.7	25.2	22.1	21.2	30.0	22.4	14.5
3	AA	KSM	25.1	21.2	23.8	20.7	13.1	28.4	25.3	15.4
4	AA	PKSM	25.7	24.5	21.8	27.6	22.4	32.0	28.0	11.1
1	AAS	0	28.3	26.0	22.2	26.3	19.8	30.4	27.1	12.6
2	AAS	P	27.8	29.0	21.5	25.2	24.6	32.1	26.7	15.0
3	AAS	KSM	27.2	22.4	22.3	27.0	15.9	32.4	20.1	13.0
4	AAS	PKSM	27.5	25.4	21.7	28.2	27.3	35.2	31.9	12.7
1	C	0	25.7	25.1	21.5	21.6	18.1	29.4	24.1	15.2
2	C	P	25.4	23.9	21.0	21.4	26.9	32.0	23.6	17.8
3	C	KSM	23.0	21.1	21.5	24.3	24.0	29.3	61.5	15.4
4	C	PKSM	25.8	23.1	20.1	27.2	32.6	33.4	52.3	26.0
7-1		D'	21.0	16.0	13.2	16.6	23.9	23.5	17.9	11.8
7-2		D	41.4	35.6	32.2	31.7	32.5	45.2	47.3	21.4
6-1		0	14.1	10.1	7.9	13.8	18.7	14.5	10.7	8.4
6-2		F	13.9	6.4	7.8	11.4	13.8	13.5	11.3	8.3
1		N'	24.0	23.4	22.8	23.3	16.6	26.8	21.7	13.9
2		N"	28.5	25.4	22.7	24.8	19.8	29.3	21.8	18.2

35.6 X

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

WHEAT AFTER FALLOW - HOOSFIELD

Comparison of a Three-Year Fallow with a One-Year Fallow

The land has been unmanured since 1851. There are two ½-acre strips, each divided into four parts, and the strips are fallowed in alternate years. In 1932 and after, one quarter of the strip in crop has also been fallowed, different quarters being selected in successive years, thus providing in every year from 1934 onwards a comparison of the effect of a three-year fallow with the effect of a one-year fallow. Half the experiment is under wheat after a one-year fallow, so that continuity with previous results is maintained.

Cropping of strips A and B

C = Crop. F = Fallow.

Year	A1	A2	A3	A4	B1	B2	B3	B4
1932, 40	F	C	C	C	F	F	F	F
1933, 41	F	F	F	F	C	C	F	C
1934, 42	C	F	C	C	F	F	F	F
1935, 43	F	F	F	F	C	C	C	F
1936, 44	C	C	F	C	F	F	F	F
1937, 45	F	F	F	F	F	C	C	C
1938, 46	C	C	C	F	F	F	F	F
1939, 47	F	F	F	F	C	F	C	C

Crop Notes

Crop Year	Date Sown	Date Harvested	Variety
1939	Oct. 24	Aug. 24	Red Standard
1940	Oct. 23	Aug. 8	Squareheads Master
1941	Oct. 28	Aug. 21	Squareheads Master
1942	Oct. 21	Aug. 17	Sherriffs "Stand Up"
1943	Oct. 15	Aug. 3	Squareheads Master
1944	Oct. 8	Aug. 10	Red Standard
1945	Oct. 30	Aug. 11	Red Standard
1946	Oct. 15	Aug. 16	Squareheads Master 13/4
1947	Oct. 18	Aug. 12	Squareheads Master 13/4

https://doi.org/10.23637/ERADOC-1-145 *pp 14*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Yields: cwt per acre

Year	Total Grain After 1 year fallow		After 3 years fallow	Mean	Total Straw* After 1 year fallow		After 3 years fallow	Mean
1939	B3 12.5	B4 9.7	B1 11.2	11.1	B3 20.1	B4 16.2	B1 19.6	18.6
1940	A2 11.4	A3 12.2	A4 12.3	12.0	A2 17.9	A3 16.3	A4 18.2	17.5
1941	B4 6.9	B1 7.9	B2 9.3	8.0	B4 10.9	B1 12.0	B2 14.8	12.6
1942	A3 12.4	A4 10.6	A1 14.1	12.4	A3 16.3	A4 16.0	A1 20.0	17.4
1943	B1 14.9	B2 16.5	B3 19.7	17.0	B1 21.6	B2 23.9	B3 29.3	24.9
1944	A4 13.6	A1 17.4	A2 15.0	15.3	A4 18.2	A1 23.9	A2 20.4	20.8
1945	B2 11.2	B3 9.5	B4 9.9	10.2	B2 18.0	B3 16.7	B4 16.6	17.1
1946	A1 11.1	A2 9.9	A3 11.2	10.7	A1 23.1	A2 21.4	A3 26.0	23.5
1947	B3 6.2	B4 5.3	B1 8.9	6.8	B3 8.5	B4 8.1	B1 11.6	9.4

*Includes straw, cavings and chaff.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

CROPS GROWN IN ROTATION - AGDELL FIELD

The experiment, which began in 1848, compares two crop rotations, one with clover and the other with fallow, and the effect of mineral manure with and without nitrogen applied to the root crops.

Area of each plot, 2/5 acre.

Rotations: Turnips or swedes, barley, clover or beans, wheat.
Turnips or swedes, barley, fallow, wheat.

Until 1904, half of each plot of turnips was fed on the land, the remainder being carted off. Subsequently all the roots were carted.

Treatments and rates of dressing.

Applied to the root crops only (all amounts per acre):
None;

Mineral manure, with no nitrogen: Superphosphate, 84 lb. P_2O_5; Sulphate of potash, 245 lb. K_2O; sulphate of soda, 100 lb; sulphate of magnesia, 200 lb.

Complete mineral and nitrogeneous manure: As above, together with sulphate of ammonia, 43 lb. N and 2,000 lb. castor bean meal or rape dust. ~~per acre.~~

Crop Notes.

Year	Crop	Sown	Harvested	Variety
1939	Wheat	Oct. 27, 1938	Aug. 15	Red Standard
1940	Turnips	May 31	Nov. 28	Bruce
1941	Barley	March 19	Sept. 10	Plumage Archer
1942	Clover	May 9, 1941	June 29	Montgomery Red
1943	Wheat	Oct. 15, 1942	Aug. 2	Red Standard
1944	Swedes	June 23	Nov. 5	Mixed seed
1945	Barley	March 9	Aug. 14	Plumage Archer
1946	Clover	April 6, 1945	June 24	Montgomery Red
1947	Winter wheat	Nov. 6, 1946	Aug. 12	Squareheads Master 13/4
1947	Spring wheat	April 18	Aug. 21	Atle

In 1940 the turnips, especially those on plots 1 and 2, were badly attacked by Finger and Toe disease.

In 1944 three varieties of swedes and eleven varieties of turnips were sown in strips down each plot. The turnips on all plots failed, as did also the swedes on plots 5 and 6; all plots were attacked by disease, plots 3 and 4 less severely than the rest.

In 1947 the wheat wintered badly, and it was decided to resow all of plots 1, 3 and 5 and the west side of plots 2, 4 and 6 with spring wheat.

https://doi.org/10.23637/ERADOC-1-145 *pp 16*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Produce per acre

Year	Crop		O Unmanured since 1848 5 Fallow	O Unmanured since 1848 6 Clover or beans	M Mineral Manure No nitrogen 3 Fallow	M Mineral Manure No nitrogen 4 Clover or beans	C Complete mineral and nitrogenous manure 1 Fallow	C Complete mineral and nitrogenous manure 2 Clover or beans
	Twenty-third Course							
1936	Roots (Turnips)	tons	1.22	0.47	2.69	2.55	5.63	3.26
1937	Barley							
	Grain	cwt.	0.5	0.3	3.1	0.5	0.6	1.0
	Straw*	cwt.	3.4	2.1	2.5	4.7	2.7	3.4
1938	Clover hay	cwt.	-	8.3	-	29.1	-	26.4
1939	Wheat							
	Grain	cwt.	14.9	11.9	18.2	22.2	12.8	20.9
	Straw*	cwt.	26.3	19.9	32.9	36.6	24.9	33.2
	Twenty-fourth Course							
1940	Root (Turnips)	tons	0.52	0.14	3.96	5.09	2.76	2.71
1941	Barley							
	Grain	cwt.	7.4	3.2	9.6	11.5	10.3	4.2
	Straw*	cwt.	11.9	10.8	16.6	20.2	12.9	18.6
1942	Clover hay	cwt.	-	10.0	-	39.9	-	32.9
1943	Wheat							
	Grain	cwt.	19.7	17.7	24.7	27.4	21.2	27.1
	Straw*	cwt.	30.3	29.2	39.4	41.7	34.6	42.4
	Twenty-fifth Course							
1944	Roots (Swedes)	tons	Failed		5.26	5.01	3.53	2.09
1945	Barley							
	Grain	cwt.	12.4	9.5	19.8	20.9	24.9	20.6
	Straw*	cwt.	11.4	10.1	21.5	16.7	25.1	24.9
1946	Clover hay	cwt.	-	7.4	-	44.9	-	25.0
1947	Winter wheat							
	Grain	cwt.	-	7.0	-	16.0	-	12.3
	Straw*	cwt.	-	13.3	-	24.9	-	17.3
1947	Spring wheat							
	Grain	cwt.	12.8	10,4	20.3	18.6	18.5	16.8
	Straw*	cwt.	15.8	15.1	26.2	25.0	22.3	19.3

*Includes straw, cavings and chaff.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

MANGOLDS AND SUGAR BEET - BARNFIELD

Experiments on root crops have been conducted on Barnfield since 1843. White turnips were grown from 1843-1848, followed by swedes until 1870 except for three years 1853-1855 when the crop was barley. Sugar beet was grown from 1871-1875 and then in 1876 the field was established under mangolds, variety Yellow Globe, with practically the present scheme of manuring. Since 1946 four rows of sugar beet, variety Klein E, have been drilled on each plot in order to compare the growth of mangolds and sugar beet under a wide range of fertilizer treatments. The leaves of the crops are spread and ploughed in on their respective plots.

Area of each plot, 1/7 to 1/5 acre.

Symbols and amounts per acre.

Cross Dressings

0	Unmanured
N	Nitrate of soda, 86 lb. N
A	Sulphate of ammonia, 86 lb. N
C	Rape cake, (castor bean meal from 1940 onwards) 2000 lb.

Strip Dressings

P	Superphosphate, 65 lb. P_2O_5
K	Sulphate of potash, 245 lb. K_2O
S	Sodium chloride, 200 lb.
M	Sulphate of magnesia, 200 lb.
Ca	Calcium chloride, 190 lb; potassium nitrate, 570 lb; calcium nitrate, 100 lb.
D	Farmyard manure, 14 tons

Treatments

Strip		Strip		Cross Dressings
1	D	6	PK	0
2	DPK	7	PSM	N
4	PKSM	8	0	A
5	P	9	NKSM	AC
				C

From 1904 onwards, plot 4N has been divided, 4(a) receiving the dressing NPKSM, 4(b) receiving the dressing NPCa.

Dung is ploughed down in winter. The mineral manures, castor bean meal, and one third of the sulphate of ammonia and nitrate of soda are applied after the first cultivation but before the seed is drilled. The remaining two-thirds of the nitrogenous fertilizers are applied as a top-dressing about the time of singling.

https://doi.org/10.23637/ERADOC-1-145 *pp 18*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Crop Notes

Year	Date sown	Date lifted	Year	Date sown	Date lifted
1939	May 9	Nov. 11	1944	May 3	Nov. 16
1940	May 10	Nov. 21	1945	April 18	Oct. 26
1941	April 18	Nov. 25	1946(1)	May 3	Nov. 20
1942	May 1	Dec. 7	1946(2)	May 3	Nov. 11
1943	April 27	Nov. 5	1947(1)	May 16	Oct. 31
			1947(2)	May 16	Oct. 30

(1) Mangolds
(2) Sugar beet

Investigations by the Soil Microbiology Department are described by A.V.Garcia, "Contribuicoes para o connecimento da Microbiologia do solo. Estudos sobre as bacterias autoctones e amibas de tres talhoes do campo experimental de Barnfield", Anais do Instituto Superior de Agronomia 18. (1951) 1, and by B.N.Singh, "The effect of artificial fertilizers and dung on the numbers of amoebae in Rothamsted soils", J.Gen.Microbiol., 3, (1949) 204.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Mangolds and Sugar Beet - Barnfield

Mangolds

Strip	Dressing	Roots: tons per acre Cross Dressing O	N	A	AC	C	Leaves: tons per acre Cross Dressing O	N	A	AC	C
1939											
1	D	10.86	18.69	16.87	23.55	22.18	3.17	4.63	4.30	5.39	5.23
2	DPK	14.07	22.14	19.06	28.67	24.00	3.46	5.03	4.65	6.09	5.00
4	PKSM	3.62	18.05	15.42	25.60	18.99	1.20	4.09	3.54	5.71	3.72
4(b)	PCa		17.76					4.82			
5	P	3.69	19.18	10.16	12.00	12.45	1.17	4.50	3.50	4.06	3.74
6	PK	3.07	17.41	15.91	23.09	17.76	0.95	4.34	3.25	5.62	3.72
7	PSM	3.51	19.35	18.19	23.90	20.76	1.10	4.63	3.70	4.92	4.29
8	0	2.29	9.71	6.48	10.03	10.31	0.92	3.57	2.90	3.91	3.98
9	NKSM	17.10	-	-	-	-	3.68	-	-	-	-
1940											
1	D	15.03	25.82	20.64	23.65	23.77	2.44	4.61	4.30	4.62	3.78
2	DPK	18.11	30.35	27.17	30.61	26.37	2.82	6.03	5.40	5.75	4.17
4	PKSM	4.43	21.81	18.51	28.19	22.65	1.13	4.38	3.47	5.21	3.86
4(b)	PCa		21.85					4.56			
5	P	4.64	19.91	12.69	15.60	14.64	0.91	2.92	2.91	4.17	3.29
6	PK	4.33	20.67	16.31	26.09	20.24	0.86	2.84	2.41	4.43	3.17
7	PSM	3.87	22.42	18.52	21.48	21.79	0.99	4.29	3.93	5.71	4.75
8	0	5.53	17.73	10.30	12.11	13.22	1.02	3.90	3.20	4.01	3.49
9	NKSM	19.54	-	-	-	-	3.02	-	-	-	-
1941											
1	D	3.63	13.97	12.10	18.17	15.68	0.87	4.27	3.54	4.37	3.80
2	DPK	4.49	17.28	19.35	22.67	20.60	1.29	4.45	4.41	5.02	4.04
4	PKSM	0.12	8.54	9.40	19.39	17.12	0.08	2.90	2.91	4.15	3.02
4(b)	PCa		6.03					2.18			
5	P	0.24	8.30	8.48	11.22	12.39	0.18	2.06	2.76	3.57	3.12
6	PK	0.43	8.59	12.42	15.29	15.16	0.25	1.91	2.50	3.72	2.87
7	PSM	0.16	6.47	10.20	18.57	15.89	0.12	1.65	2.55	4.06	3.26
8	0	0.70	3.50	2.61	3.06	2.97	0.34	1.54	1.46	0.91	1.16
9	NKSM	11.81	-	-	-	-	2.56	-	-	-	-
1942											
1	D	10.38	25.31	20.02	24.00	21.09	1.83	3.13	3.30	3.47	2.35
2	DPK	15.55	31.06	29.16	32.34	27.36	2.10	4.45	4.09	4.67	3.35
4	PKSM	1.64	24.04	22.56	31.08	24.95	0.32	3.60	2.84	4.28	2.30
4(b)	PCa		22.93					4.31			
5	P	1.97	17.43	8.40	6.40	9.92	0.66	2.45	2.94	1.66	2.69
6	PK	1.14	20.81	18.62	23.46	19.62	0.34	2.98	1.88	3.74	2.01
7	PSM	0.75	22.25	17.77	18.74	19.94	0.10	3.77	2.54	3.03	3.33
8	0	2.40	15.78	8.61	6.10	8.17	0.78	4.13	2.69	2.45	2.79
9	NKSM	20.98	-	-	-	-	2.84	-	-	-	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Mangolds

Strip Dressing	Roots: tons per acre Cross Dressing 0	N	A	AC	C	Leaves: tons per acre Cross Dressing 0	N	A	AC	C
1943										
1 D	12.58	25.71	19.14	30.08	28.10	3.71	6.43	4.89	7.36	4.67
2 DPK	14.14	22.34	21.55	32.26	25.69	3.91	6.39	6.65	6.90	5.70
4 PKSM	2.28	11.24	12.79	29.92	18.27	1.08	7.12	4.53	6.97	5.82
4(b)PCa		13.36					6.36			
5 P	3.13	12.89	11.69	12.44	14.07	1.32	5.33	3.47	5.70	5.21
6 PK	2.18	17.64	15.84	27.85	19.47	0.66	4.21	3.62	6.17	3.47
7 PSM	1.86	17.85	13.72	22.91	23.06	0.68	6.09	4.67	6.17	5.43
8 0	1.82	17.52	10.85	11.47	12.21	1.05	5.26	4.21	7.88	5.24
9 NKSM	19.97	-	-	-	-	4.57	-	-	-	-
1944										
1 D	8.59	14.62	13.79	14.09	10.34	3.77	5.24	4.89	5.63	5.82
2 DPK	9.85	12.40	13.85	20.86	18.34	4.01	5.43	4.40	7.58	6.56
4 PKSM	1.48	8.06	6.76	16.30	9.53	0.76	4.31	3.91	6.51	4.40
4(b)PCa		9.16					3.96			
5 P	0.91	3.61	1.96	4.98	5.45	1.08	2.89	2.57	3.28	3.87
6 PK	1.27	7.16	8.31	19.66	14.17	1.13	4.26	4.99	5.99	3.62
7 PSM	1.31	4.70	4.88	16.27	14.18	0.95	3.16	3.28	6.19	4.75
8 0	0.44	5.69	2.67	5.71	5.21	0.61	3.87	2.59	4.35	4.06
9 NKSM	12.25	-	-	-	-	4.33	-	-	-	-
1945										
1 D	12.18	22.31	17.82	30.10	25.36	3.65	3.74	5.48	4.89	4.70
2 DPK	14.06	21.36	17.59	34.63	26.68	3.69	5.95	4.26	6.02	4.89
4 PKSM	3.61	16.99	18.09	32.45	20.52	1.52	5.82	6.21	7.12	4.09
4(b)PCa		15.57					5.33			
5 P	3.02	9.19	11.51	15.11	15.66	0.95	2.84	2.91	4.48	2.96
6 PK	3.20	14.41	14.47	33.32	24.51	1.20	5.31	3.89	5.21	3.06
7 PSM	2.98	10.43	13.53	21.36	20.83	0.81	3.96	5.02	4.53	4.45
8 0	3.19	12.16	8.06	13.41	15.51	1.08	5.19	4.01	2.76	3.43
9 NKSM	22.91	-	--	-	-	4.35	-	-	-	-
1946										
1 D	8.16	19.30	14.73	12.09	16.12	1.49	4.77	4.87	4.31	4.84
2 DPK	9.13	20.00	17.97	13.31	18.92	2.72	6.14	5.19	5.82	4.28
4 PKSM	2.14	12.76	8.72	16.20	13.50	7.29	4.87	2.98	4.01	3.77
4(b)PCa		15.35					4.72			
5 P	1.14	10.47	3.20	13.70	11.51	3.82	3.77	1.76	2.91	2.42
6 PK	1.50	9.02	8.97	28.85	13.54	3.57	2.25	3.28	4.48	3.57
7 PSM	1.46	12.02	8.58	11.19	9.75	3.28	3.65	2.52	4.50	2.40
8 0	1.46	4.03	2.71	12.69	13.33	3.07	1.49	2.25	2.25	3.33
9 NKSM	8.48	-	-	-	-	3.25	-	-	-	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Mangolds and Sugar Beet - Barnfield

Strip	Dressings	Roots: tons per acre Cross Dressings 0	N	A	AC	C	Leaves: tons per acre Cross Dressings 0	N	A	AC	C
1947					Mangolds						
1	D	6.41	11.29	10.91	10.01	10.01	1.79	2.10	1.91	2.18	2.79
2	DPK	9.54	14.39	12.29	12.87	13.15	1.44	3.11	2.62	3.45	2.40
4	PKSM	3.10	10.57	7.29	7.86	9.84	1.44	2.62	2.25	2.45	2.45
4(b)	PCa		11.52					2.18			
5	P	1.93	8.60	1.63	2.64	3.69	0.69	1.83	0.64	0.83	1.57
6	PK	2.27	7.76	6.07	7.36	6.88	0.61	2.45	1.61	2.23	2.35
7	PSM	1.89	8.22	7.11	5.25	4.49	0.59	2.37	1.93	1.83	1.57
8	0	0.57	0.71	0.42	3.51	3.67	0.44	0.59	0.49	0.98	1.13
9	NKSM	3.67	-	-	-	-	1.79	-	-	-	-
1946					Sugar beet						
		Roots (washed): tons per acre					Tops: tons per acre				
2	DPK	6.01	7.24	6.41	13.28	9.20	5.82	12.48	8.71	15.71	12.09
4	PKSM	1.27		5.06	8.54	6.80	2.69		4.26	10.42	5.97
4(b)	PCa		8.12					9.39			
5	P	1.24	7.19	1.59	11.11	6.95	3.91	10.86	2.50	10.62	5.24
6	PK	1.17	6.39	4.89	9.59	10.13	2.40	9.54	3.77	15.02	7.93
7	PSM	1.43	7.66	5.50	6.12	8.32	3.62	6.85	5.63	12.09	12.87
8	0	0.38	2.79	2.10	8.12	7.24	1.50	4.11	2.50	11.35	11.06
1947											
1	D	6.28	7.65	7.60	6.34	8.02	4.65	6.41	6.46	5.48	7.19
2	DPK	4.92	7.05	5.65	6.26	8.24	5.97	6.56	5.72	5.58	6.70
4	PKSM	1.90		5.59	6.53	6.23	1.22		5.33	7.29	4.70
4(b)	PCa		7.49					5.48			
5	P	2.28	5.65	1.90	3.01	4.06	1.03	6.80	2.50	3.13	3.91
6	PK	1.35	5.66	4.04	6.84	6.20	1.32	6.46	2.54	7.00	4.21
7	PSM	1.75	5.87	4.43	3.88	4.64	1.47	7.05	3.82	5.28	4.26
8	0	1.55	1.86	0.49	1.38	1.28	1.37	2.50	1.17	3.23	3.57

No Sugar beet was grown on strip 1 in 1946.

https://doi.org/10.23637/ERADOC-1-145 *pp 22*

This work is licensed under a Creative Commons Attribution 4.0 International License.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

HAY - THE PARK GRASS PLOTS

Long period effects of fertilizers and manures on the yield and botanical composition of meadow hay

This field has been under grass for centuries. The experimental treatments were first applied in 1856. Until 1874 the aftermath was grazed by sheep, but since then a second cut of hay has been taken in late summer, and no stock has been admitted.

In 1903 most of the plots were divided, the southern halves receiving 18 cwt. of ground lime per acre, every fourth year.

Most plots are $\frac{1}{4}$ acre, but the sizes range from $\frac{1}{2}$ to $^1/_{12}$ acre.

The experiment is discussed, and early departures from the present manuring system described, by R.O.Cashen, J.Agric.Sci., 37, (1947), 1.

Plot		Treatments (all amounts per acre)
1	N_1	Sulphate of ammonia (43 lb.N); (with dung (14 tons) also, 1856-63).
2	0	Unmanured, following dung (14 tons), 1856-63.
3	0	Unmanured.
4-1	P	Superphosphate (65 lb. P_2O_5).
4-2	N_2P	Sulphate of ammonia (86 lb.N), superphosphate (65 lb. P_2O_5).
5-1	0	Unmanured, following ammonium salts (86 lb.N), 1856-97.
5-2	PK	Superphosphate (65 lb. P_2O_5), sulphate of potash (245 lb. K_2O), following ammonium salts (86 lb.N) 1856-97.
6	PKM	Complete minerals as Plot 7, following ammonium salts (86 lb. N), 1856-68.
7	PKM	Complete minerals: Superphosphate (65 lb. P_2O_5). Sulphate of potash (245 lb. K_2O). Sulphate of soda (100 lb.) Sulphate of magnesia (100 lb.)
8	PM	Complete minerals without sulphate of potash.
9	N_2PKM	Complete minerals, with sulphate of ammonia (86 lb. N).
10	N_2PM	Complete minerals, without sulphate of potash; with sulphate of ammonia (86 lb. N).

https://doi.org/10.23637/ERADOC-1-145 pp 24

This work is licensed under a Creative Commons Attribution 4.0 International License.

Plot		
11-1	N_3PKM	Complete minerals, with sulphate of ammonia (129 lb. N).
11-2	N_3PKMS	As plot 11-1, with silicate of soda (400 lb.) since 1862.
12	C	Unmanured.
13	DF	Dung (14 tons) in 1905 and every fourth year since (omitted in 1917), fish guano (6 cwt.) in 1907 and every fourth year since; following complete minerals with ammonium salts (86 lb. N), 1856-1904.
14	N_2'PKM	Complete minerals, with nitrate of soda (86 lb. N).
15	PKM	Complete minerals, following nitrate of soda (86 lb. N), 1858-63.
16	N_1'PKM	Complete minerals, with nitrate of soda (43 lb. N).
17	N_1'	Nitrate of soda (43 lb. N).
18	N_2KM	Complete minerals without superphosphate, with sulphate of ammonia (86 lb. N); following minerals and ammonium salts supplying the constituents of 1 ton of hay, 1865-1904.
19	D	Dung (14 tons) in 1905 and every fourth year since except 1917, following nitrate of soda (43 lb. N), superphosphate (65 lb. P_2O_5) and sulphate of potash (142 lb. K_2O), 1872-1904.
20	D;C	Dung (14 tons) in 1905 and every fourth year since except in 1917; in each intervening year nitrate of soda (27 lb. N), superphosphate (33 lb. P_2O_5) and sulphate of potash (49 lb. K_2O); following superphosphate (66 lb. P_2O_5) and nitrate of potash (327 lb.), 1872-1904.

Ground lime was applied to the southern portion (limed) of the plots at the rate of 2,000 lb. per acre in the winters of 1903-4, 1907-8, 1915-16, 1923-24, 1927-28, 1931-32, 1935-36, 1939-40, 1943-44 and at the rate of 2,500 lb. per acre in the winter of 1920-21, except on plots 18, 19 and 20, where part received light liming and part heavy liming as follows (weights in lb. per acre):-

Plot	Light liming (LL)	Heavy Liming (HL)
18	3,951	6,788
19	570	3,150
20	570	2,772

https://doi.org/10.23637/ERADOC-1-145 *pp 25*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Dung and lime are applied in winter, minerals as early in spring as possible, and nitrogenous fertilizers in March. On plots 11-1, 11-2 and 16 the nitrogenous fertilizer is given in two dressings one month apart.

Dates of cutting

Year	1st cut	2nd cut	Year	1st cut	2nd cut
1939	July 1	Sept. 28	1944	June 21	Nov. 22
1940	June 20	Jan. 1941	1945	June 19	Nov. 9
1941	June 25	Oct. 1	1946	June 22	Dec. 24
1942	June 10	Sept. 19	1947	June 13	Sept. 2
1943	June 21	Nov. 25			

The second crop is carted green, and hay yields are estimated from the dry matter.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

A/6.4

Yield of hay: cwt. per acre

Plot	1939 Not limed 1st Crop	1939 Not limed 2nd Crop	1939 Not limed Total	1939 Limed 1st Crop	1939 Limed 2nd Crop	1939 Limed Total	1940 Not limed 1st Crop	1940 Not limed 2nd Crop	1940 Not limed Total	1940 Limed 1st Crop	1940 Limed 2nd Crop	1940 Limed Total
1	8.4	16.8	25.2	20.4	11.8	32.2	10.6		10.6	16.0		16.0
2	13.0	11.4	24.4	13.8	9.0	22.8	13.0		13.0	14.5		14.5
3	11.1	9.9	21.0	12.8	6.5	19.3	13.6		13.6	14.5		14.5
4-1	19.0	14.4	33.4	17.7	10.6	28.3	14.7		14.7	16.0		16.0
4-2	12.2	20.2	32.4	29.6	12.0	41.6	14.1		14.1	27.9		27.9
5-1	9.5	9.1	18.6	-	-	-	9.6		9.6	-		-
5-2	20.9	12.9	33.8	-	-	-	21.9		21.9	-		-
6	32.9	20.9	53.8	-	-	-	22.4		22.4	-		-
7	35.5	23.6	59.1	41.1	26.2	67.3	24.2		24.2	33.3		33.3
8	20.7	12.0	32.7	14.3	10.9	25.2	16.5		16.5	19.4		19.4
9	32.8	26.6	59.4	54.0	22.5	76.5	36.7	3.8	40.5	39.3	1.2	40.5
10	23.8	17.2	41.0	43.6	19.0	62.6	16.7		16.7	31.1	1.2	32.3
11-1	25.6	29.2	54.8	54.8	31.8	86.6	31.3	18.2	49.5	48.9	6.6	55.5
11-2	36.1	28.0	64.1	56.8	35.2	92.0	40.8	17.8	58.6	51.6	9.4	61.0
12	15.0	9.6	24.6	-	-	-	11.5		11.5			
13	37.5	23.4	60.9	32.0	20.5	52.5	27.7	2.0	29.7	24.1	0.9	25.0
14	52.4	23.1	75.5	52.3	19.1	71.4	51.5	2.6	54.1	48.6	1.1	49.7
15	20.0	15.1	35.1	31.1	17.8	48.9	18.0		18.0	28.5		28.5
16	39.5	19.4	58.9	37.4	19.4	56.8	35.7	1.6	37.3	39.3	0.6	39.9
17	17.8	12.9	30.7	21.8	9.0	30.8	19.8		19.8	25.9		25.9
18	12.1	17.1	29.2	29.5*	9.6*	39.1*	6.8	2.9	9.7	24.3*		24.3*
				25.7†	8.2†	33.9†				20.2†		20.2†
19	25.0	18.1	43.1	26.7*	17.4*	44.1*	27.2		27.2	23.8*		23.8*
				25.8†	16.0†	41.8†				23.4†		23.4†
20	37.6	19.2	56.8	36.1*	22.4*	58.5*	33.5		33.5	38.4*		38.4*
				33.2†	18.1†	51.3†				35.0†		35.0†

* Heavy liming.

† Light liming.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Yield of hay: cwt. per acre

Plot	1941 Not limed 1st Crop	1941 Not limed 2nd Crop	1941 Not limed Total	1941 Limed 1st Crop	1941 Limed 2nd Crop	1941 Limed Total	1942 Not limed 1st Crop	1942 Not limed 2nd Crop	1942 Not limed Total	1942 Limed 1st Crop	1942 Limed 2nd Crop	1942 Limed Total
1	6.7	6.3	13.0	18.5	5.5	24.0	5.8	4.0	9.8	15.0	4.1	19.1
2	11.4	6.6	18.0	11.7	5.8	17.5	4.0	1.8	5.8	7.3	1.2	8.5
3	9.8	7.1	16.9	12.5	11.9	24.4	3.3	0.6	3.9	5.8	0.6	6.4
4-1	17.3	6.4	23.7	14.7	7.3	22.0	8.5	0.9	9.4	8.7	1.4	10.1
4-2	10.8	4.6	15.4	23.7	4.0	27.7	15.0	4.8	19.8	27.2	3.6	30.8
5-1	6.5	6.2	12.7	-	-	-	7.5	1.4	8.9	-	-	-
5-2	12.8	8.8	21.6	-	-	-	13.6	4.6	18.2	-	-	-
6	21.4	13.8	35.2	-	-	-	8.1	4.8	12.9	-	-	-
7	27.8	20.3	48.1	31.4	14.6	46.0	25.5	4.8	30.3	35.4	3.0	38.4
8	19.4	15.8	35.2	13.6	13.4	27.0	12.2	2.6	14.8	9.7	1.9	11.6
9	15.8	6.7	22.5	39.4	16.6	56.0	46.6	13.8	60.4	40.2	3.8	44.0
10	13.1	14.1	27.2	28.7	10.6	39.3	11.8	7.4	19.2	29.4	4.6	34.0
11-1	9.4	24.0	33.4	45.0	24.3	69.3	35.6	25.1	60.7	45.8	6.4	52.2
11-2	31.2	29.2	60.4	50.5	34.0	84.5	46.6	23.8	70.4	54.2	8.4	62.6
12	11.4	8.5	19.9	-	-	-	7.2	2.8	10.0	-	-	-
13	29.2	32.6	61.8	25.2	20.6	45.8	32.6	3.1	35.7	21.8	2.1	23.9
14	52.6	16.3	68.9	50.8	9.2	60.0	52.4	6.5	58.9	46.9	6.0	52.9
15	19.3	9.6	28.9	29.9	7.7	37.6	14.7	2.8	17.5	23.6	1.2	24.8
16	30.8	10.7	41.5	33.9	8.3	42.2	33.3	3.6	36.9	35.2	3.4	38.6
17	19.3	7.0	26.3	21.4	3.8	25.2	12.5	5.2	17.7	22.2	2.9	25.1
18	7.2	12.8	20.0	22.1*	7.2*	29.3*	7.8	4.5	12.3	21.3*	1.6*	22.9*
				21.1†	7.0†	28.1†				24.3†	2.2†	26.5†
19	30.9	15.5	46.4	28.9*	14.7*	43.6*	22.5	5.1	27.6	23.5*	4.9*	28.4*
				31.3†	17.9†	49.2†				25.5†	2.9†	28.4†
20	30.4	14.6	45.0	31.9*	13.8*	45.7*	34.0	4.2	38.2	37.7*	2.9*	40.6*
				28.9†	11.0†	39.9†				40.7†	4.9†	45.6†

* Heavy liming.

† Light liming.

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Yield of hay: cwt. per acre

Plot	1943 Not limed 1st Crop	1943 Not limed 2nd Crop	1943 Not limed Total	1943 Limed 1st Crop	1943 Limed 2nd Crop	1943 Limed Total	1944 Not limed 1st Crop	1944 Not limed 2nd Crop	1944 Not limed Total	1944 Limed 1st Crop	1944 Limed 2nd Crop	1944 Limed Total
1	8.4	-	8.4	13.8	-	13.8	0.7	-	0.7	5.4	-	5.4
2	11.4	-	11.4	9.9	-	9.9	3.8	-	3.8	2.0	-	2.0
3	10.9	-	10.9	9.8	-	9.8	3.5	-	3.5	2.8	-	2.8
4-1	11.9	-	11.9	11.6	-	11.6	5.6	-	5.6	3.4	-	3.4
4-2	13.8	0.5	14.3	28.7	1.6	30.3	0.5	-	0.5	10.7	3.0	13.7
5-1	8.4	0.5	8.9	-	-	-	3.4	1.4	4.8	-	-	-
5-2	14.2	1.9	16.1	-	-	-	7.4	3.4	10.8	-	-	-
6	22.6	2.4	25.0	-	-	-	18.3	4.6	22.9	-	-	-
7	27.5	2.5	30.0	33.7	1.1	34.8	16.8	6.5	23.3	32.0	6.9	38.9
8	22.9	1.1	24.0	17.0	0.5	17.5	8.9	2.4	11.3	6.5	1.0	7.5
9	54.7	9.1	63.8	43.7	3.5	47.2	24.0	15.9	39.9	28.2	6.4	34.6
10	22.5	4.4	26.9	33.7	3.0	36.7	7.6	7.2	14.8	18.2	4.0	22.2
11-1	61.9	15.5	77.4	54.4	9.8	64.2	18.5	31.5	50.0	48.6	12.2	60.8
11-2	73.9	13.8	87.7	56.7	11.9	68.6	37.2	25.8	63.0	45.3	15.6	60.9
12	16.7	10.6	17.3	-	-	[illegible]	6.5	-	6.5	-	-	-
13	30.9	4.9	35.8	28.8	1.8	30.6	17.5	4.8	22.3	20.8	-	20.8
14	47.4	3.0	50.4	46.1	2.1	48.2	30.7	6.9	37.6	12.1	4.0	16.1
15	17.8	-	17.8	27.6	-	27.6	4.5	2.8	7.3	7.7	1.4	9.1
16	31.5	-	31.5	33.8	0.5	34.3	15.5	3.2	18.7	18.2	3.6	21.8
17	16.8	-	16.8	19.1	-	19.1	4.2	-	4.2	3.9	1.1	5.0
18	15.7	1.9	17.6	36.2*	-	36.2*	5.0	4.1	9.1	19.0*	2.1*	21.1*
				29.8†	-	29.8†				12.7†	2.5†	15.2†
19	25.1	-	25.1	19.1*	-	19.1*	11.9	6.8	18.7	9.7*	4.4*	14.1*
				21.8†	-	21.8†				11.4†	4.2†	15.6†
20	38.0	1.1	39.1	33.7*	0.5*	34.2*	20.3	5.5	25.8	17.4*	2.9*	20.3*
				38.4†	2.0†	40.4†				23.0†	3.6†	26.6†

* Heavy liming.

† Light liming.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Yield of hay: cwt per acre

Plot	1945 Not limed 1st Crop	1945 Not limed 2nd Crop	1945 Not limed Total	1945 Limed 1st Crop	1945 Limed 2nd Crop	1945 Limed Total	1946 Not limed 1st Crop	1946 Not limed 2nd Crop	1946 Not limed Total	1946 Limed 1st Crop	1946 Limed 2nd Crop	1946 Limed Total
1	6.0	4.0	10.0	17.7	2.2	19.9	13.6	6.4	20.0	20.3	3.7	24.0
2	11.8	-	11.8	10.5	-	10.5	12.9	3.0	15.9	14.2	2.3	16.5
3	11.9	-	11.9	11.1	-	11.1	12.3	3.6	15.9	12.8	1.8	14.6
4-1	17.2	1.2	18.4	16.0	0.6	16.6	16.5	3.3	19.8	14.3	3.8	18.1
4-2	15.9	1.5	17.4	26.9	1.5	28.4	19.2	6.1	25.3	43.5	7.9	51.4
5-1	6.7	1.4	8.1	-	-	-	7.3	2.4	9.7	-	-	-
5-2	16.6	3.9	20.5	-	-	-	11.7	5.8	17.5	-	-	-
6	33.5	11.5	45.0	-	-	-	26.2	11.2	37.4	-	-	-
7	30.4	10.0	40.4	48.8	10.1	58.9	22.5	11.0	33.5	52.2	11.9	64.1
8	26.8	5.6	32.4	19.7	3.8	23.5	20.2	8.4	28.6	13.8	6.5	20.3
9	38.2	15.5	53.7	42.2	4.0	46.2	19.5	24.2	43.7	40.5	11.5	52.0
10	30.9	6.9	37.8	34.1	3.4	37.5	18.5	13.4	31.9	30.6	9.0	39.6
11-1	30.0	19.1	49.1	53.5	7.0	60.5	30.6	3.4	34.0	48.1	20.6	68.7
11-2	44.8	23.0	67.8	54.9	10.8	65.7	32.0	3.2	35.2	52.5	2.0	54.5
12	16.8	2.8	19.6	-	-	-	11.1	6.0	17.1	-	-	-
13	37.9	9.1	47.0	52.3	13.8	66.1	24.4	14.2	38.6	36.7	10.4	47.1
14	49.7	11.8	61.5	52.8	6.8	59.6	52.5	12.9	65.4	54.7	11.4	66.1
15	22.0	8.2	30.2	30.2	6.5	36.7	21.3	7.4	28.7	25.9	5.6	31.5
16	17.5	6.2	23.7	34.6	7.9	42.5	35.8	9.3	45.1	37.7	10.8	48.5
17	28.0	7.5	35.5	26.0	5.2	31.2	24.9	7.1	32.0	23.2	5.8	29.0
18	17.0	4.0	21.0	33.2*	-	33.2*	6.5	13.8	20.3	21.9*	3.8*	25.7*
				32.0†	-	32.0†				19.5†	6.7†	26.2†
19	40.3	10.1	50.4	38.8*	5.0*	43.8*	28.7	10.9	39.6	27.4*	7.4*	34.8*
				41.2†	5.5†	46.7†				31.9†	8.2†	40.1†
20	38.6	5.2	43.8	40.6*	3.1*	43.7*	43.5	10.7	54.2	46.6*	7.2*	53.8*
				42.7†	8.8†	51.5†				51.1†	11.9†	63.0†

* Heavy liming.

† Light liming.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Yield of hay: cwt per acre

	1947					
	Not Limed			Limed		
Plot	1st Crop	2nd Crop	Total	1st Crop	2nd Crop	Total
1	9.0	3.9	12.9	23.2	6.0	29.2
2	18.4	1.1	19.5	21.2	4.2	25.4
3	19.1	1.4	20.5	20.4	2.1	22.5
4-1	24.8	2.6	27.4	23.4	3.4	26.8
4-2	15.4	5.9	21.3	19.9	7.8	27.7
5-1	13.3	1.6	14.9	-	-	-
5-2	28.2	5.0	33.2	-	-	-
6	40.3	8.9	49.2	-	-	-
7	41.2	8.2	49.4	51.4	9.2	60.6
8	29.4	6.0	35.4	24.6	4.6	29.2
9	20.2	22.2	42.4	30.1	9.0	39.1
10	18.0	10.8	28.8	26.4	8.5	34.9
11-1	9.8	22.2	32.0	44.1	11.9	56.0
11-2	18.3	30.9	49.2	52.1	17.2	69.3
12	22.1	3.0	25.1	-	-	-
13	33.8	7.6	41.4	43.2	13.1	56.3
14	45.8	13.8	59.6	40.2	12.0	52.2
15	33.5	6.0	39.5	45.3	7.0	52.3
16	34.9	9.5	44.4	41.2	9.5	50.7
17	23.1	7.4	30.5	26.9	6.8	33.7
18	15.5	3.9	19.4	32.4*	10.5*	42.9*
				28.9†	9.8†	38.7†
19	29.8	6.6	36.4	33.8*	5.2*	39.0*
				33.6†	5.2†	38.8†
20	41.9	8.0	49.9	42.9*	7.1*	50.0*
				37.4†	9.9†	47.3†

* Heavy liming.

† Light liming.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

A/6.9

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 1 1939 U	L	1940 U	L	1947 U	L	1948 U	L	Plot 2 1949 U	L	Plot 4 1949 U	L
1	52.4	3.7	24.1	3.2	76.0	1.1	75.3	1.5	10.0	0.5	2.0	0.4
3	0.2	4.0	0.2	4.0	0.2	1.4	0.1	2.5	9.6	4.1	2.2	2.4
4	0.7	2.4	0.9	5.6	0.3	6.0	0.2	1.4	1.1	0.4	3.4	1.1
5	0.1	2.2	0.1	0.8	0.2	4.2	-	3.0	0.4	0.2	7.3	0.1
6	-	2.2	-	2.4	-	1.3	-	1.7	0.2	1.5	0.9	2.7
7	-	34.7	-	27.7	0.3	27.4	0.2	12.1	3.5	22.5	5.5	18.1
8	-	-	-	-	-	-	-	-	1.8	3.9	0.5	1.8
9	-	-	-	0.1	-	-	-	-	-	-	0.1	-
11	0.8	13.0	0.2	12.2	2.0	15.9	3.2	18.3	7.9	7.5	7.1	4.9
12	40.9	15.2	72.2	19.3	14.0	6.1	15.6	15.4	15.5	7.4	9.1	3.6
13	-	-	-	-	-	-	-	-	0.1	-	0.3	1.1
14	-	3.5	0.1	3.3	-	5.9	-	5.8	3.3	2.0	6.7	4.5
15	-	-	-	-	-	-	-	-	-	0.1	0.3	-
16	0.2	2.3	0.2	2.5	-	1.3	-	1.3	0.1	1.0	0.9	1.6
17	-	0.2	-	0.9	-	0.3	-	0.3	-	0.3	0.5	1.8
51	-	1.5	-	1.7	-	1.9	-	2.0	2.2	2.4	3.0	7.3
52	-	0.5	-	0.6	-	1.2	-	2.4	9.4	9.9	3.8	7.7
53	-	-	-	-	-	-	-	-	-	-	2.4	-
54	-	0.1	-	0.2	-	0.6	-	0.2	3.6	4.8	2.3	4.9
55	-	-	-	-	-	-	-	-	0.4	0.7	2.9	2.5
101	-	1.1	-	1.2	-	1.1	-	0.8	0.9	2.8	3.8	2.3
104	-	0.2	-	0.1	-	0.3	-	0.6	0.2	0.3	0.4	-
105	-	-	-	-	-	-	-	-	0.1	-	-	-
106	-	-	-	-	-	-	-	-	-	0.6	-	-
109	-	-	-	-	0.2	-	1.9	0.1	-	-	-	-
110	-	-	-	-	-	-	-	-	0.6	0.1	0.9	2.1
111	-	-	-	-	-	-	-	-	-	0.3	-	-
114	-	0.1	-	-	-	0.4	0.1	0.1	3.2	0.2	1.1	-
116	-	0.5	-	0.8	-	0.1	-	0.4	0.1	0.3	0.1	0.3
117	2.1	-	-	-	-	-	-	-	1.6	-	-	-
118	-	0.9	-	-	-	0.9	-	2.0	0.5	1.7	0.2	2.2
119	-	1.1	-	1.7	-	0.5	--	1.7	1.9	1.2	3.8	3.4
120	0.4	4.7	0.7	1.4	0.5	0.7	0.8	2.0	1.3	2.5	1.6	3.6
123	-	-	-	-	-	-	-	-	-	0.1	-	-
124	-	0.1	-	-	-	0.8	-	1.3	12.5	8.7	11.0	6.3
125	-	-	-	-	-	-	-	0.2	-	-	-	-
126	-	0.5	-	0.5	-	0.5	-	1.0	0.4	0.5	0.6	0.1
127	-	-	-	-	-	0.8	-	-	-	0.2	-	0.7
129	-	3.5	-	6.6	0.6	10.7	-	19.8	5.7	10.2	8.5	9.7
130	-	-	-	0.1	-	-	-	-	-	0.1	0.1	0.3
131	-	-	-	0.1	-	-	-	-	-	-	-	-
134	2.0	1.7	0.8	2.8	5.7	8.5	2.5	2.1	1.4	0.5	5.8	2.1
136	0.2	0.1	0.5	0.2	-	0.1	0.1	-	0.4	0.5	0.9	0.4
137	-	-	-	-	-	-	-	-	0.1	-	-	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

A/6.10

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 3 1939 U	1939 L	1940 U	1940 L	1941 L	1947 U	1947 L	1948 U	1948 L	Plot 5¹ 1949	Plot 5² 1949
1	7.7	1.2	12.1	2.0	1.4	8.4	1.1	15.6	0.8	17.8	7.1
2	-	-	-	-	-	-	-	-	-	0.7	-
3	2.0	3.3	2.6	7.0	4.1	2.4	2.8	7.9	6.2	0.3	9.1
4	1.7	0.3	2.8	0.9	0.3	5.1	2.6	0.6	0.7	1.1	0.1
5	-	0.2	0.7	0.6	-	0.6	0.1	0.1	0.1	0.5	1.8
6	0.3	2.0	0.2	2.0	1.2	0.6	1.9	0.2	1.2	-	-
7	5.2	16.1	5.7	18.2	18.9	3.4	13.5	2.7	13.4	0.5	3.5
8	3.1	4.9	0.9	1.5	3.2	4.7	3.6	0.2	1.0	-	-
9	0.1	-	-	-	-	-	-	-	-	-	-
10	0.1	-	0.3	0.1	0.1	-	-	-	-	-	-
11	3.0	3.1	3.5	3.7	3.7	12.1	3.5	4.5	3.3	4.1	4.7
12	11.3	4.7	19.4	7.7	8.5	10.4	3.0	16.6	4.1	55.8	11.5
14	3.5	1.8	4.6	3.1	2.6	5.3	5.0	4.3	2.5	0.7	4.1
15	-	0.1	0.1	-	-	-	-	-	-	-	-
16	-	1.3	0.1	2.2	1.8	0.3	1.6	0.2	2.1	0.7	2.6
17	-	0.3	0.1	0.7	1.2	-	0.8	-	0.3	-	-
51	0.5	1.9	0.7	2.3	3.5	2.7	2.5	0.9	2.0	-	16.8
52	4.4	10.9	6.3	13.7	9.6	3.3	5.0	3.8	7.0	3.1	5.2
54	1.6	4.7	2.2	7.0	4.1	4.9	7.5	2.3	6.4	-	1.1
55	0.1	0.3	0.3	0.3	0.5	0.1	0.2	0.3	0.7	-	1.3
56	-	-	-	-	-	-	-	-	-	-	2.1
101	0.1	2.8	0.1	1.9	1.1	1.1	8.6	0.1	3.0	-	0.3
104	0.2	0.2	0.1	0.1	0.3	0.6	0.4	0.2	0.2	-	-
105	0.1	-	0.1	-	-	-	-	0.2	-	0.2	0.1
106	-	0.8	-	0.2	0.3	-	0.1	-	0.1	-	-
109	-	0.1	-	-	-	-	-	0.3	-	-	-
110	14.6	12.6	9.1	4.1	9.8	5.0	13.4	5.6	11.7	-	-
111	-	-	-	0.3	0.1	-	0.2	-	0.4	-	-
114	2.2	0.3	1.6	-	0.1	5.7	0.9	1.6	0.1	2.0	0.1
115	-	-	-	-	-	-	-	-	-	-	0.6
116	0.3	0.6	0.3	0.6	0.4	-	0.2	0.1	0.2	-	0.3
117	-	-	0.1	-	-	0.1	-	1.1	-	0.6	-
118	1.1	3.7	0.4	3.8	3.2	0.7	2.1	0.9	2.1	1.7	0.9
119	1.4	0.7	1.9	0.8	1.0	0.9	0.5	1.3	1.0	1.6	12.8
120	2.9	1.5	1.3	0.4	0.4	0.6	0.5	1.0	2.0	2.0	5.4
122	-	-	0.1	0.1	-	-	-	-	-	-	-
123	-	-	-	-	-	-	0.1	0.1	-	0.4	-
124	18.2	9.5	12.3	7.0	6.4	12.0	8.8	17.9	12.5	1.6	0.1
126	0.1	0.2	0.2	0.4	-	0.3	0.5	0.1	0.2	-	-
127	0.3	0.1	-	-	-	0.4	0.3	0.1	-	-	-
129	11.8	7.7	6.3	5.3	9.7	3.7	6.2	6.2	13.0	2.4	0.9
130	0.1	0.3	0.3	0.6	0.6	-	0.4	0.1	0.2	-	-
131	-	-	-	0.1	-	-	-	-	-	-	-
132	-	0.1	0.6	0.1	0.1	-	-	-	-	-	-
133	-	-	0.1	-	-	-	-	0.3	-	-	-
134	1.3	1.2	0.2	0.3	1.4	3.7	1.8	2.4	1.3	1.0	5.7
136	0.3	0.4	0.6	0.8	0.3	0.3	0.2	0.1	0.2	1.2	1.8
137	0.4	0.1	1.7	0.1	0.1	0.6	0.1	0.1	-	-	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

X

A/6.11

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 4/2 1947 U	1947 L	1949 U	1949 L	Plot 10 1939 U	1939 L	1940 U	1940 L	1947 U	1947 L	1948 U	1948 L
1	68.8	1.8	36.2	2.2	30.4	0.9	33.9	2.1	31.3	1.9	51.9	1.9
3	0.2	32.4	0.7	24.3	0.1	63.8	0.1	50.3	0.4	25.2	0.3	28.6
4	14.5	4.6	10.0	1.2	43.7	0.9	31.5	2.9	52.4	11.3	10.3	1.8
5	-	2.3	-	2.5	1.1	3.5	0.9	7.6	5.4	2.7	5.1	4.1
7	-	-	-	0.3	-	-	-	-	-	0.1	-	-
11	-	0.1	-	0.3	0.1	0.2	0.1	0.1	0.1	0.6	0.3	-
12	9.6	29.8	35.4	57.4	0.7	22.2	2.1	26.3	2.6	43.7	10.2	54.5
14	4.8	1.0	17.5	0.1	23.9	0.2	31.3	0.2	6.6	0.6	21.6	0.5
X16	-	5.3	-	6.3	-	6.0	-	6.2	0.1	3.3	-	3.4
51	-	0.1	-	-	-	-	0.1	-	-	-	-	-
101	-	0.6	-	0.1	-	-	-	-	-	-	-	-
112	0.8	-	-	-	-	-	-	-	-	-	-	-
116	-	-	-	0.1	-	-	-	-	-	-	-	-
117	-	0.8	-	0.4	-	-	-	-	-	1.0	-	-
119	-	0.2	-	0.8	-	-	-	-	-	0.2	-	0.7
126	-	-	-	-	-	0.3	-	-	-	0.5	-	0.4
127	-	-	-	-	-	-	-	-	-	0.1	-	-
129	-	-	-	0.1	-	-	-	-	-	0.4	-	-
134	1.3	20.6	0.2	3.9	-	2.0	-	4.3	1.1	8.4	0.3	5.0
135	-	0.4	-	-	-	-	-	-	-	-	-	-

37

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 6 1949	Plot 7								Plot 15 1949	
		1939		1940		1947		1948			
	U	U	L	U	L	U	L	U	L	U	L
1	2.5	7.2	0.1	3.1	0.2	4.7	0.1	3.8	0.4	2.8	0.4
3	6.1	1.2	15.6	6.1	22.9	4.5	15.7	8.2	13.2	18.5	6.8
4	2.2	1.5	0.1	2.6	0.1	6.7	0.3	3.6	0.3	1.7	0.3
5	2.2	1.5	11.0	3.1	10.9	4.0	19.2	2.4	11.7	0.6	13.9
6	0.1	0.5	2.2	0.6	2.5	0.8	2.1	1.0	2.5	0.2	0.2
7	3.1	1.8	5.9	1.8	2.7	1.2	3.9	1.1	5.2	1.1	12.6
9	0.2	-	2.2	0.2	7.3	-	0.2	0.2	2.1	-	1.1
11	11.8	21.8	18.9	26.3	13.8	20.8	20.7	15.7	13.2	8.4	4.4
12	5.3	7.7	2.6	6.5	1.2	4.1	1.0	4.6	1.0	7.0	3.7
13	-	-	1.6	-	0.4	0.2	3.9	0.3	3.3	-	-
14	2.6	1.0	1.4	5.8	0.9	1.8	0.6	2.8	1.2	1.4	1.6
15	-	-	-	-	-	-	-	-	0.2	-	-
16	1.7	1.1	1.5	1.7	1.3	2.1	1.3	2.6	1.2	0.5	1.2
17	-	-	5.6	0.3	9.3	0.2	2.0	0.3	1.1	-	0.4
51	20.7	28.8	13.1	8.8	6.4	11.4	5.2	11.3	15.6	22.3	13.4
52	2.6	2.3	0.1	2.6	-	0.3	-	0.5	-	0.9	-
54	5.3	4.6	1.4	4.9	2.1	4.3	0.1	4.6	3.4	1.7	2.8
55	2.2	3.9	7.8	3.0	5.7	1.6	3.8	3.4	6.2	2.8	16.5
56	0.5	-	-	-	-	-	-	-	-	-	-
101	0.8	0.8	1.2	1.0	1.2	1.3	3.2	0.7	1.9	0.4	1.8
104	-	-	0.1	-	-	-	0.1	-	-	-	0.1
111	-	0.8	-	2.3	-	-	-	-	-	-	-
113	-	-	0.2	-	-	-	-	-	0.3	-	-
114	4.1	1.4	0.2	2.0	0.1	4.4	0.1	1.4	0.1	1.1	0.4
115	0.6	1.4	1.2	4.8	4.4	1.1	4.6	1.0	4.5	-	3.2
117	0.1	-	-	0.1	-	-	-	0.2	-	-	-
118	1.1	0.1	0.7	-	1.6	-	-	-	0.3	-	-
119	8.9	2.8	0.2	1.2	0.1	7.6	0.3	14.0	1.0	10.0	1.2
120	5.5	4.0	0.8	3.1	0.1	7.0	1.5	4.3	0.5	7.6	1.4
124	0.2	0.4	-	-	-	0.1	-	-	-	0.3	-
126	0.2	-	1.7	0.1	3.3	0.1	1.6	0.4	1.9	0.1	1.9
127	0.3	0.1	-	-	0.1	0.9	3.5	1.0	2.6	-	0.3
129	7.4	1.6	1.0	1.3	0.5	5.4	1.8	6.5	4.6	9.7	9.6
130	-	-	0.1	-	0.1	0.1	0.1	-	0.1	-	0.1
134	1.5	1.3	1.5	5.6	0.8	2.3	3.1	2.2	0.4	0.8	0.6
136	0.2	0.4	-	1.1	-	0.1	-	0.2	-	0.1	0.1
138	-	-	-	-	-	0.9	-	1.7	-	-	-

https://doi.org/10.23637/ERADOC-1-145 *pp 35*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 8 1939 U	1939 L	1940 U	1940 L	1941 U	1941 L	1947 U	1947 L	1948 U	1948 L	Plot 16 1949 U	1949 L
1	5.9	0.8	4.0	1.3	2.4	0.7	4.2	0.9	3.0	1.3	2.3	0.2
3	0.4	1.5	0.8	2.8	0.4	1.5	1.1	2.7	3.6	2.7	22.5	10.9
4	1.2	1.0	2.3	1.4	2.8	0.9	5.8	5.6	2.4	1.4	4.2	0.2
5	10.8	11.6	5.4	9.5	4.8	8.2	12.4	8.3	14.2	14.7	22.0	19.4
6	1.8	4.2	1.7	3.5	0.7	2.4	1.4	2.0	0.5	2.1	0.6	0.6
7	3.5	16.1	3.6	14.7	4.3	20.5	1.7	16.7	1.9	11.3	5.8	15.3
8	0.2	1.5	0.1	0.7	-	1.4	0.2	2.4	0.1	0.9	-	-
9	-	0.1	-	-	-	-	-	-	-	-	0.2	0.6
10	-	-	-	0.1	-	-	-	-	-	-	-	-
11	4.5	4.7	3.7	4.7	2.9	4.8	10.9	6.2	12.6	5.6	9.8	13.4
12	9.5	4.6	11.6	6.8	23.6	8.7	4.6	1.5	5.2	2.1	6.2	14.4
13	-	4.0	0.1	1.6	-	2.1	6.3	6.3	0.4	6.9	-	-
14	6.2	3.5	7.8	3.6	4.3	2.4	6.5	4.2	7.4	2.1	1.1	-
15	0.2	0.3	0.2	0.2	-	0.1	0.3	-	0.1	-	-	-
16	0.7	1.1	0.6	1.3	0.7	1.8	1.4	1.7	1.1	1.5	0.4	0.5
17	0.7	1.1	0.6	3.0	0.3	3.2	0.3	1.7	0.1	0.8	0.1	0.4
51	1.6	0.8	0.3	0.5	0.6	0.6	0.4	0.8	0.6	1.5	11.7	8.5
52	4.3	5.4	6.1	6.2	3.1	5.2	1.8	2.1	3.3	5.9	-	-
54	8.1	8.6	17.9	17.3	6.2	8.5	6.5	7.3	2.7	3.5	-	0.7
55	0.5	0.1	0.9	-	1.8	0.2	0.5	0.1	0.7	0.1	0.2	0.4
101	2.3	0.8	2.7	0.8	1.4	0.6	9.8	4.0	5.7	2.1	0.2	0.4
104	0.5	0.5	0.2	0.1	0.7	0.8	0.4	0.3	0.1	0.4	-	-
105	0.2	-	0.1	-	0.1	0.1	0.1	-	0.1	-	-	-
107	-	0.8	-	-	-	-	-	-	-	-	-	-
111	-	-	-	1.0	-	1.1	-	0.6	-	0.6	-	-
113	-	-	-	-	-	-	-	-	-	-	-	1.5
114	0.7	0.1	0.9	-	0.6	0.1	2.1	0.1	0.8	0.2	0.7	0.4
115	0.1	0.1	-	-	-	-	-	-	-	-	-	0.9
116	0.2	0.6	0.3	0.4	0.3	0.5	-	0.2	0.1	0.2	-	-
117	0.2	0.1	0.2	0.1	1.5	0.1	0.2	0.1	0.4	0.2	-	-
118	2.2	3.5	0.9	4.6	1.4	5.6	0.7	4.7	0.9	3.6	-	-
119	4.3	0.8	3.4	0.7	6.3	1.4	4.1	1.2	6.9	4.0	3.9	1.1
120	4.0	5.4	2.8	1.7	2.1	2.6	1.0	1.0	2.0	2.5	-	-
124	4.4	3.2	2.0	1.6	3.0	1.5	4.9	3.4	4.5	5.6	-	-
126	0.2	-	0.4	0.1	0.3	0.2	0.4	0.2	0.1	0.1	0.9	3.3
127	-	-	-	-	-	0.1	-	0.7	-	0.9	0.7	1.4
129	13.0	10.7	11.1	6.8	18.6	9.9	10.0	9.5	15.0	13.1	6.3	5.3
130	0.3	0.3	0.5	0.8	0.3	0.6	0.2	0.6	0.3	0.2	-	-
131	-	-	-	0.1	-	-	-	-	-	-	-	-
132	-	-	-	-	-	0.1	-	-	-	-	-	-
134	6.8	1.8	4.0	1.4	2.5	1.2	5.7	2.6	2.9	1.8	0.2	0.2
136	0.5	0.3	2.8	0.6	2.0	0.3	0.2	0.3	0.3	0.1	-	-
138	-	-	-	-	-	-	0.2	-	-	-	-	-

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop
Plot 9

Sp. No.	1939 U	1939 L	1940 U	1940 L	1941 U	1947 U	1947 L	1948 U	1948 L
1	2.0	0.8	5.3	2.6	5.6	23.8	3.4	7.8	4.3
3	0.1	69.4	0.1	55.0	-	0.8	31.8	-	38.1
4	3.2	0.7	0.3	2.4	8.0	15.7	12.4	0.4	4.2
5	0.3	14.3	0.9	21.9	0.2	4.3	13.2	0.6	14.7
6	-	-	-	-	-	-	-	-	0.1
7	-	-	-	0.2	-	-	0.5	-	0.5
9	-	0.1	-	1.0	-	-	0.1	-	0.1
11	-	4.3	-	4.1	0.2	0.2	12.5	-	11.6
12	0.1	1.9	0.1	4.7	0.1	0.1	2.8	0.1	4.3
14	94.1	2.5	93.3	2.1	85.1	51.3	3.4	90.6	2.5
16	-	4.4	-	2.1	-	0.1	3.8	-	9.4
17	-	-	-	0.1	-	-	-	-	-
51	-	0.8	-	0.7	-	-	6.0	-	3.5
55	-	-	-	-	0.1	-	-	-	-
112	-	-	-	-	-	1.6	-	0.5	-
113	-	0.1	-	0.2	-	-	0.1	-	-
114	-	-	-	-	-	-	0.8	-	0.1
115	-	0.2	-	2.0	-	-	1.4	-	1.5
119	-	-	-	-	-	-	0.2	-	0.5
124	-	-	-	-	-	0.1	-	-	-
126	-	0.5	-	0.6	-	0.1	4.8	-	3.3
127	-	-	-	-	-	-	0.3	-	0.1
129	0.1	-	-	-	-	0.1	0.2	-	0.1
134	0.1	-	-	0.3	0.7	1.8	2.3	-	1.1

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 11[1] 1947 U	Plot 11[1] 1947 L	Plot 11[1] 1949 U	Plot 11[1] 1949 L	Plot 11[2] 1947 U	Plot 11[2] 1947 L	Plot 11[2] 1949 U	Plot 11[2] 1949 L	Plot 12 1949 U	Plot 17 1949 U	Plot 17 1949 L
1	4.5	0.8	-	-	44.1	0.2	5.3	-	3.5	1.2	0.6
3	1.0	78.9	0.1	82.0	0.8	70.2	0.3	57.5	7.6	14.5	7.3
4	0.8	0.7	-	-	0.1	0.1	-	-	3.4	8.7	0.8
5	0.3	2.9	-	2.3	12.7	11.3	0.8	17.5	0.8	-	1.7
6	-	-	-	-	-	-	-	-	0.2	-	1.5
7	-	-	-	-	-	-	-	-	4.1	1.7	20.5
8	-	-	-	-	-	0.1	-	-	6.0	0.6	0.7
9	-	0.1	-	-	-	-	-	-	-	-	0.7
11	-	2.5	-	4.9	-	7.8	-	10.3	8.8	25.4	21.1
12	0.2	-	-	0.4	0.2	-	0.1	-	19.4	9.4	22.3
13	-	-	-	-	-	-	-	-	1.7	-	0.8
14	81.1	7.6	99.6	3.5	40.8	2.4	92.8	1.6	2.8	8.4	2.1
15	-	-	-	-	-	-	-	-	-	0.6	2.4
16	-	4.5	--	5.1	0.1	6.3	-	10.6	0.2	-	0.1
17	-	-	-	-	-	0.1	-	-	-	-	0.6
51	-	-	-	-	-	0.1	-	-	1.1	0.1	-
52	-	-	-	-	-	-	-	-	7.4	-	2.8
54	0.2	-	-	-	-	-	-	-	4.6	-	-
55	-	-	-	-	-	-	-	-	0.2	-	-
101	-	-	-	-	-	-	-	-	0.7	0.4	2.1
104	-	-	-	-	-	-	-	-	0.1	0.1	0.1
105	-	-	-	-	-	-	-	-	0.2	-	-
109	-	-	-	-	-	-	-	-	0.1	-	-
111	-	-	-	-	-	-	-	-	0.2	-	-
112	11.9	-	0.3	-	-	-	-	-	-	-	-
114	-	0.1	-	-	-	-	-	-	1.3	0.4	0.1
115	-	-	-	-	-	0.1	-	0.1	-	-	0.2
116	-	-	-	-	-	-	-	-	0.1	-	-
117	-	-	-	-	-	-	-	-	0.9	-	0.4
118	-	-	-	-	-	-	-	-	1.7	-	-
119	-	-	-	-	-	-	-	-	1.8	1.2	1.0
120	-	-	-	-	-	-	-	-	1.8	5.5	1.4
123	-	-	-	-	-	-	-	-	0.1	-	-
124	-	-	-	-	-	-	-	-	10.0	4.0	1.7
126	-	1.6	-	0.5	-	1.3	-	1.3	0.2	1.4	0.6
127	-	-	-	-	-	-	-	-	0.1	-	0.5
129	-	-	-	-	-	-	-	-	6.8	14.0	5.6
130	-	-	-	-	-	-	-	-	0.1	-	-
134	-	0.3	-	1.3	1.2	-	0.7	1.1	1.0	0.6	0.2
136	-	-	-	-	-	-	-	-	0.6	-	0.1
137	-	-	-	-	-	-	-	-	0.4	1.8	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop
Plot 13

Sp. No.	1944 U	1944 L	1945 U	1945 L	1946 U	1946 L	1947 U	1947 L	1948 U	1948 L
1	8.4	-	6.3	-	8.0	0.1	10.9	-	15.7	0.2
3	56.7	5.8	46.0	6.8	32.5	8.6	27.6	13.7	31.9	10.4
4	4.8	0.5	4.9	0.3	15.5	1.2	14.2	0.8	6.3	0.3
5	0.9	5.9	2.1	7.0	1.4	10.9	2.1	14.2	3.4	25.9
6	0.1	-	-	-	-	-	-	-	-	0.1
7	-	-	-	0.2	-	0.4	0.1	0.7	-	0.3
9	0.1	0.1	-	0.1	-	0.1	-	-	-	0.1
11	6.7	8.6	5.6	7.8	6.8	27.5	9.8	24.2	9.1	21.5
12	3.6	1.1	3.4	1.6	6.0	1.1	4.5	1.0	4.0	0.9
13	-	-	-	-	-	-	-	0.1	-	-
14	2.7	1.8	4.5	2.1	5.7	5.4	6.2	5.3	2.5	4.4
15	0.1	-	-	-	-	-	-	-	-	-
16	1.3	1.4	0.8	1.9	0.1	1.4	0.9	2.3	0.9	1.8
17	0.4	1.2	0.1	8.2	0.1	5.8	0.2	4.6	0.1	1.2
51	0.3	31.0	0.5	26.6	0.2	4.4	0.7	6.3	0.5	7.9
52	-	0.2	-	0.3	-	0.1	-	-	-	-
54	-	7.3	-	6.0	0.1	2.4	0.1	1.2	-	2.4
55	-	2.6	-	4.0	-	0.8	-	-	-	0.3
101	-	0.9	-	2.1	0.1	1.0	0.6	2.3	0.1	2.2
104	0.3	0.5	-	0.2	0.1	0.1	0.1	0.2	0.1	0.2
105	0.2	-	0.6	-	0.6	0.1	0.2	-	0.1	-
113	0.2	2.0	-	-	-	0.3	-	0.2	-	0.7
114	0.9	-	1.6	0.2	1.0	0.1	2.0	-	0.8	0.1
115	0.2	-	1.3	-	-	-	-	-	-	-
117	-	-	-	-	0.4	-	-	-	-	-
119	0.6	0.2	3.0	0.5	2.9	0.4	3.8	0.5	4.0	0.3
120	0.3	4.0	-	0.4	0.5	0.4	0.7	1.6	0.2	0.7
123	0.2	-	-	-	-	-	-	-	-	-
124	-	0.9	0.3	1.2	0.4	1.3	0.3	1.5	1.7	1.3
126	0.3	6.2	0.7	3.6	1.0	4.1	0.9	5.4	1.5	3.2
127	-	0.5	-	2.2	-	1.0	-	0.4	0.3	1.3
129	6.2	16.2	12.1	14.5	14.0	19.3	10.3	10.8	14.7	11.5
130	0.5	0.7	0.4	0.9	0.9	0.4	0.7	0.2	0.2	-
131	-	0.1	-	-	-	-	0.2	-	-	-
134	3.9	0.3	5.8	1.3	1.7	1.3	2.9	2.5	1.9	0.8
136	0.1	-	-	-	-	-	-	-	-	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Plot 14

Sp. No.	1939 U	1939 L sun	1939 L shade	1940 U	1940 L sun	1940 L shade	1941 U	1941 L sun	1941 L shade	1947 U	1947 L sun	1947 L shade	1948 U	1948 L sun	1948 L shade
1	-	-	0.1	0.1	0.1	0.2	-	-	0.1	0.5	0.2	1.0	0.6	0.1	0.4
3	53.1	23.9	13.7	49.1	18.5	12.4	59.2	23.1	18.5	27.6	10.5	5.0	31.8	12.1	6.7
4	-	-	0.4	-	-	0.5	-	-	0.5	0.2	0.3	0.5	0.6	-	0.2
5	31.1	48.2	12.4	30.9	52.0	13.1	28.9	44.5	18.7	36.8	43.6	27.1	36.2	45.0	34.7
6	-	-	0.6	-	0.1	0.6	-	0.2	0.4	-	0.1	1.2	0.2	0.5	1.1
7	0.6	0.9	12.6	0.1	0.7	11.9	0.1	0.8	14.4	0.5	3.9	12.6	1.4	5.3	11.6
9	0.1	0.4	0.3	-	0.1	0.6	0.1	0.3	0.6	-	-	-	0.3	-	-
11	6.3	4.3	1.0	5.7	6.0	1.9	7.2	7.2	1.1	14.5	10.7	5.2	14.2	13.6	5.0
12	0.2	4.8	38.0	0.1	5.3	36.6	-	11.4	34.6	-	9.0	27.1	-	13.4	27.4
14	0.2	-	0.2	-	-	0.1	-	-	-	0.8	-	0.3	-	-	2.3
15	-	-	0.1	-	-	-	-	-	0.1	-	-	-	-	-	-
16	1.2	1.9	3.6	0.3	1.0	1.6	0.7	1.3	3.1	3.9	2.9	222	4.7	2.9	2.9
17	3.5	7.3	3.1	9.8	10.5	2.3	1.5	3.9	1.5	0.3	0.5	0.9	2.4	1.0	1.0
51	1.6	5.6	12.1	0.7	1.5	15.0	0.3	4.0	4.9	3.3	13.2	12.2	2.1	3.2	3.6
54	-	-	-	-	-	-	-	-	0.1	-	-	0.1	-	-	0.3
55	-	-	0.3	-	-	-	-	-	-	-	-	0.3	-	-	0.5
101	-	-	0.1	-	-	0.1	-	-	-	-	0.1	0.1	-	-	-
107	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-
113	0.6	1.2	0.6	1.3	2.3	1.9	0.8	0.1	0.6	5.3	0.8	0.3	0.2	0.7	0.5
114	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-
116	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-
119	-	-	0.2	-	-	0.1	-	-	-	-	-	0.1	-	-	0.1
120	-	-	-	-	-	0.1	-	-	-	0.2	-	-	-	-	-
126	0.1	0.2	0.2	0.6	0.9	0.7	0.7	2.0	0.6	3.0	2.9	3.6	3.2	1.1	1.7
127	-	-	-	-	-	-	-	-	-	-	0.9	-	-	0.5	-
129	0.1	-	-	-	-	0.2	-	0.1	-	1.1	0.3	0.1	1.6	-	-
134	1.3	1.3	0.3	1.3	1.0	0.1	0.5	0.8	0.2	2.0	0.1	0.1	0.4	0.6	-

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop

Sp. No.	Plot 18 1946 U	1946 LL	1946 HL	1948 U	1948 LL	1948 HL	Plot 19 1946 U	1946 LL	1946 HL	1948 U	1948 LL	1948 HL
1	74.6	2.0	1.4	76.9	3.4	1.2	8.1	2.8	0.1	11.8	4.3	0.4
2	-	-	3.1	-	-	-	-	-	-	-	-	-
3	1.8	2.9	2.9	0.1	2.8	3.8	13.1	18.3	19.7	6.2	25.2	16.7
4	4.2	2.3	0.2	0.8	0.8	-	9.1	2.7	0.1	7.3	1.5	-
5	-	10.1	10.3	0.5	24.6	25.0	9.8	6.4	13.9	5.7	5.5	14.3
6	-	-	-	-	-	-	1.4	0.5	2.4	1.7	3.0	3.1
7	-	1.0	0.7	-	3.2	0.8	0.5	1.7	2.7	0.9	1.9	5.4
9	-	0.4	0.1	-	0.3	0.1	-	0.5	0.1	-	0.2	0.3
11	-	12.5	36.5	1.3	35.0	48.3	3.6	4.4	4.3	3.3	10.9	13.6
12	12.5	9.8	5.1	8.9	6.8	2.2	4.6	2.5	3.3	9.8	5.0	4.5
13	-	-	-	-	0.1	-	2.4	-	4.1	1.1	0.4	5.7
14	0.5	0.3	0.3	-	0.2	-	2.7	2.0	0.4	1.3	1.7	-
15	-	0.1	0.1	-	0.1	0.1	-	-	-	-	-	0.3
16	--	1.1	1.0	-	0.8	1.1	0.2	0.9	1.4	0.6	0.9	1.9
17	0.1	0.6	0.3	-	0.2	0.2	0.5	1.0	1.3	0.5	1.8	0.7
18	-	1.6	-	-	2.6	0.1	-	-	-	-	-	-
51	-	0.1	1.4	-	-	0.5	9.5	10.5	13.2	13.5	7.4	7.5
52	-	-	-	-	-	-	-	-	2.6	1.1	-	1.7
54	-	0.4	0.1	-	0.1	0.1	0.4	1.2	0.8	0.2	-	0.5
55	-	0.1	-	-	-	-	0.9	2.9	1.5	2.7	1.0	0.7
101	-	-	-	-	-	-	5.9	10.4	2.2	5.7	7.9	4.0
104	-	0.6	0.1	-	0.1	-	0.3	0.4	0.1	0.2	-	-
105	-	-	-	-	-	-	-	-	-	0.2	-	-
107	-	0.2	-	-	-	-	-	-	-	-	-	-
111	-	-	-	-	0.1	-	-	-	-	-	-	-
113	-	-	-	-	-	-	-	0.4	0.1	-	-	-
114	-	0.1	-	-	0.3	0.1	0.4	0.4	0.2	0.3	0.4	-
115	-	1.5	2.4	-	0.6	1.6	0.1	1.5	1.7	1.0	0.4	1.1
117	-	-	0.4	-	-	-	-	-	-	-	-	-
119	-	0.1	0.5	-	0.2	-	6.3	5.4	1.9	10.2.	5.2	2.3
120	-	10.2	0.9	-	3.5	--	-	0.7	1.8	-	1.0	1.4
123	-	-	-	-	-	-	0.3	-	-	-	-	-
124	-	0.1	-	-	0.1	-	0.1	-	-	0.4	-	-
126	-	22.6	23.4	0.2	8.9	10.8	1.3	2.5	1.7	0.6	0.6	1.0
127	-	1.5	3.4	-	1.2	2.6	-	0.1	0.8	-	0.4	2.9
129	0.1	17.3	4.5	-	3.8	1.0	15.8	14.2	16.3	11.8	10.4	9.7
130	-	-	-	-	-	-	0.9	1.8	0.9	0.2	0.7	-
131	-	-	-	-	-	-	-	-	-	0.2	-	-
134	6.2	0.5	0.9	11.2	0.2	0.4	1.8	3.9	0.4	1.3	2.3	0.3
136	-	-	-	-	-	-	-	-	-	0.2	-	-
138	-	-	-	0.1	-	-	-	-	-	-	-	-

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Botanical Composition per cent. 1st Crop
Plot 20

Sp. No.	1946 U	1946 LL	1946 HL	1948 U	1948 LL	1948 HL
1	2.9	1.5	0.1	4.1	2.5	0.1
3	33.9	18.0	12.6	39.2	21.8	17.6
4	1.3	3.2	0.7	1.1	1.9	0.2
5	9.9	26.9	15.5	15.1	21.7	17.4
6	1.5	2.3	2.6	4.0	1.9	3.3
7	2.6	4.0	9.1	0.7	3.0	6.8
9	-	0.3	0.2	0.2	0.1	0.2
11	10.3	7.9	4.3	14.6	14.4	14.2
12	4.8	3.6	9.4	3.7	2.8	4.8
13	0.5	-	0.5	-	-	-
14	3.0	2.9	1.4	1.0	5.7	1.6
15	0.1	0.2	0.2	-	0.1	0.8
16	0.3	0.3	1.2	1.3	0.4	3.0
17	0.9	4.0	3.6	1.3	3.9	4.3
51	5.5	4.8	7.1	4.3	2.1	8.8
52	0.3	-	0.4	0.1	-	-
54	-	-	0.6	-	0.1	0.2
55	-	0.7	3.0	0.6	2.8	0.8
101	5.0	1.2	1.9	1.2	1.9	1.3
104	0.1	0.2	0.3	-	0.3	-
113	0.7	2.7	0.7	0.5	-	0.3
114	0.2	0.1	0.1	-	-	-
115	-	-	0.6	0.1	--	0.2
117	-	-	0.3	-	-	0.4
119	1.7	1.8	3.7	0.4	1.8	2.7
120	-	1.9	2.8	-	0.7	0.2
126	1.3	2.6	3.0	0.7	1.1	2.3
127	3.7	0.2	3.1	3.3	1.1	3.8
129	3.2	6.7	6.3	0.9	6.2	4.1
130	1.2	0.5	3.0	0.1	0.3	0.1
134	5.1	1.5	1.7	1.5	1.4	0.5

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop

Plot	1939 Gram-ineae	1939 Legum-inosae	1939 Other orders	1939 Dom. Sp.	1940 Gram-ineae	1940 Legum-inosae	1940 Other orders	1940 Dom. Sp.
1 U	95.3	-	4.7	117 134	98.0	-	2.0	ND
1 L	83.4	2.1	14.5	120	82.0	2.5	15.5	129
3 U	37.9	6.7	55.4	124	53.1	9.6	37.3	124 110
3 L	39.4	17.8	42.8	110	49.8	23.2	27.0	124 129
7 U	45.3	39.7	15.0	120	58.1	19.3	22.6	134 115
7 L	68.7	22.4	8.9	126	73.6	14.2	12.2	115 126
8 U	45.6	14.4	40.0	129	42.4	25.3	32.3	129
8 L	56.2	14.8	29.0	129	55.2	24.0	20.8	129 118
9 U	99.9	-	0.1	ND	100.0	-	-	-
9 L	98.4	0.8	0.8	126	96.2	0.7	3.1	115
10 U	100.0	-	-	-	99.9	0.1	-	-
10 L	97.6	-	2.4	134	95.7	-	4.3	134
14 U	96.3	1.6	2.1	134	96.0	0.7	3.3	113 134
14 L Sun	91.7	5.6	2.7	134	94.3	1.5	4.2	134 113
14 L Shade	86.1	12.5	1.4	ND	81.9	15.0	3.1	113
18 U	98.6	0.1	1.3	134	98.3	0.1	1.6	ND
18 LL	68.9	0.2	30.9	126	62.2	0.2	37.6	126
18 HL	73.6	0.3	26.1	126	61.9	0.4	37.7	126
19 U	65.6	19.9	14.5	ND	80.6	7.0	12.4	ND
19 LL	59.1	26.3	14.6	ND	84.1	3.9	12.0	ND
19 HL	72.8	19.0	8.2	ND	87.4	6.7	5.9	ND
20 U	84.4	9.0	6.6	134	83.6	5.9	10.5	ND
20 LL	65.5	23.4	11.1	ND	84.7	5.4	9.9	ND
20 HL	68.1	15.6	16.3	ND	79.2	7.0	13.8	ND

U - Unlimed; L - Limed; LL - Light lime; HL - Heavy lime; ND - None Dominant

Columns headed "Dom. Sp." give the code numbers of the dominant non-gramineous or leguminous species.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Plot	1941 Gram-ineae	1941 Legum-inosae	1941 Other orders	1941 Dom. Sp.	1942 Gram-ineae	1942 Legum-inosae	1942 Others orders	1942 Dom. Sp.
1 U	95.9	0.2	3.9	ND	96.7	0.1	3.2	ND
1 L	73.4	3.7	22.9	ND	72.6	3.5	23.9	ND
3 U	46.8	12.4	40.8	ND	48.1	8.0	43.9	110
3 L	47.0	17.7	35.3	129 110	52.2	11.1	36.7	129
7 U	22.8	28.5	48.7	ND	67.4	9.8	22.8	ND
7 L	63.2	25.7	11.1	ND	63.9	11.4	24.7	ND
8 U	47.2	11.7	41.1	129	40.4	6.9	52.7	129
8 L	58.7	14.5	26.8	129 118	64.8	9.9	25.3	ND
9 U	99.2	0.1	0.7	ND	99.6	-	0.4	ND
9 L	98.9	0.3	0.8	ND	94.6	0.1	5.3	ND
10 U	98.3	-	1.7	ND	99.4	0.1	0.5	ND
10 L	98.6	0.1	1.3	ND	90.7	-	9.3	ND
14 U	97.6	0.3	2.1	ND	94.7	0.3	5.0	ND
14 L Sun	92.6	4.1	3.3	126	91.7	0.9	7.4	ND
14 L Shade	93.5	5.0	1.5	ND	91.9	3.7	4.4	ND
18 U	96.7	0.1	3.2	134	90.3	-	9.7	ND
18 LL	57.1	0.3	42.6	ND	62.7	0.7	36.6	126
18 HL	59.7	0.1	40.2	ND	62.7	0.4	36.9	ND
19 U	82.3	5.9	11.8	ND	77.7	2.4	19.9	ND
19 LL	86.7	4.3	9.0	ND	79.5	1.5	19.0	ND
19 HL	90.8	4.2	5.0	ND	94.7	0.5	4.8	ND
20 U	86.1	6.1	7.8	ND	67.0	3.3	29.7	ND
20 LL	82.4	3.7	13.9	ND	81.7	0.6	17.7	ND
20 HL	90.8	2.3	6.9	ND	87.0	1.1	11.9	ND

U - Unlimed; L - Limed; LL - Light lime; HL - Heavy lime; ND - None Dominant

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop

Plot	1943 Gram-ineae	1943 Legum-inosae	1943 Other orders	1943 Dom. Sp.	1944 Gram-ineae	1944 Legum-inosae	1944 Other orders	1944 Dom. Sp.
1 U	99.0	-	1.0	ND	96.5	0.2	3.3	120
1 L	70.3	2.5	27.2	129	65.7	2.0	32.3	ND
3 U	54.2	8.2	37.6	ND	60.7	5.3	34.0	ND
3 L	41.3	12.7	46.0	110	28.4	17.3	54.3	110
7 U	54.0	19.4	26.6	114	38.2	31.9	29.9	ND
7 L	71.1	16.6	12.3	ND	52.3	34.3	13.4	ND
8 U	46.6	14.6	38.8	ND	35.0	16.8	48.2	ND
8 L	48.3	19.6	32.1	ND	46.4	20.2	33.4	ND
9 U	100.0	-	-	-	100.0	-	-	-
9 L	97.9	0.1	2.0	ND	95.8	-	4.2	115
10 U	99.8	0.1	0.1	ND	99.8	0.1	0.1	ND
10 L	98.7	-	1.3	ND	93.5	-	6.5	134
13 U	not sampled				85.8	0.3	13.9	129
13 L					26.4	41.1	32.5	129
14 U	98.1	0.5	1.4	ND	98.3	0.6	1.1	ND
14 L Sun	97.1	1.3	1.6	ND	93.8	4.0	2.2	ND
14 L Shade	95.1	2.6	2.3	ND	94.9	2.5	2.6	126
18 U	98.7	0.1	1.2	134	80.2	0.3	19.5	134
18 LL	78.8	0.1	21.1	126	43.2	0.9	55.9	ND
18 HL	85.9	0.4	13.7	126	64.1	0.6	35.3	126
19 U	75.5	7.7	16.8	ND	62.4	8.0	29.6	ND
19 LL	79.7	4.5	15.8	ND	67.6	10.7	21.7	ND
19 HL	79.0	9.3	11.7	ND	76.7	5.6	17.7	ND
20 U	91.7	2.3	6.0	ND	88.6	2.8	8.6	ND
20 LL	90.1	1.4	8.5	115	84.0	1.1	14.9	ND
20 HL	83.8	1.5	14.7	ND	78.4	2.7	18.9	ND

U - Unlimed; L - Limed; LL - Light lime; HL - Heavy lime; ND - None Dominant

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

Botanical Composition per cent. 1st Crop

Plot	1945 Gram-ineae	1945 Legum-inosae	1945 Others orders	1945 Dom. Sp.	1946 Gram-ineae	1946 Legum-inosae	1946 Other orders	1946 Dom. Sp.
1 U	95.1	0.1	4.8	109	98.5	-	1.5	ND
1 L	53.2	6.9	39.9	129	64.8	6.2	29.0	ND
3 U	52.8	12.4	34.8	110 124	45.6	14.0	40.4	124
3 L	28.3	20.9	50.8	ND	27.2	21.0	51.8	124
7 U	26.1	40.1	33.8	120	28.6	25.9	45.5	ND
7 L	60.7	20.4	18.9	ND	65.4	15.5	19.1	127
8 U	31.7	17.5	50.8	129. 124 120	27.3	16.0	56.7	124
8 L	33.2	24.2	42.6	ND	33.0	24.0	43.0	124 129
9 U	100.0	-	-	-	99.6	-	0.4	ND
9 L	89.7	3.4	6.9	115	95.6	0.2	4.2	ND
10 U	100.0	-	-	-	99.6	0.1	0.3	134
10 L	97.5	-	2.5	134	93.3	-	6.7	134
13 U	73.7	0.5	25.8	129	76.0	0.3	23.6	129
13 L	36.1	36.9	27.0	129	62.5	7.7	29.8	129
14 U	97.7	1.6	0.7	126	92.5	2.1	5.4	113 126
14 L	90.2	6.6	3.2	126	87.6	9.2	3.2	126
14 L	92.4	4.4	3.2	126	89.8	7.4	2.8	126
18 U	83.9	-	16.1	134	93.7	-	6.3	134
18 LL	52.4	0.1	47.5	126 129	44.7	0.6	54.7	126
18 HL	62.3	1.2	36.5	126 127	61.9	1.5	36.6	126
19 L	52.9	16.3	30.8	ND	56.0	10.8	33.2	129
19 LL	50.2	22.5	27.3	129	43.7	14.6	41.7	129
19 HL	70.0	15.4	14.6	ND	53.9	18.0	28.1	129
20 L	65.4	18.4	16.2	119	72.1	5.7	22.2	134
20 LL	65.3	12.5	22.2	119	74.9	5.6	19.5	129
20 HL	57.3	13.1	29.6	119	61.5	11.1	27.4	129

U - Unlimed; L - Limed; LL - Light lime; HL - Heavy lime; ND - None Dominant

https://doi.org/10.23637/ERADOC-1-145 *pp 46*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Botanical Composition per cent. 1st Crop 1947

Plot	Gram-ineae	Legum-inosae	Other orders	Dom. Sp.	Plot	Gram-ineae	Legum-inosae	Other orders	Dom. Sp.
1 U	93.1	-	6.9	134	2 U	58.0	10.7	31.3	124
1 L	70.9	3.7	25.4	129	2 L	58.6	15.4	26.0	ND
3 U	53.3	11.0	35.7	124	4^1_1U	46.8	13.5	39.7	134
3 L	39.5	15.2	45.3	110	4^1_1L	42.0	21.2	36.8	124
7 U	51.2	17.7	31.1	119	4^2_2U	97.9	-	2.1	ND
				120	4^2_2L	77.4	0.1	22.5	134
7 L	71.0	9.1	19.9	115					
8 U	50.8	9.2	40.0	129	5^1_2	72.8	1.1	26.1	ND
				101	5^2	49.1	11.0	39.9	119
8 L	60.2	10.3	29.5	129					
9 U	96.4	-	3.6	134	6	59.6	16.3	24.1	119
9 L	83.9	6.0	10.1	126					
10 U	98.8	-	1.2	134	11^1_1U	87.8	0.2	12.0	112
10 L	89.4	-	10.6	134	11^1_1L	98.0	-	2.0	126
13 U	76.6	0.7	22.7	129	11^2_2U	98.8	-	1.2	134
13 L	66.9	7.5	25.6	129	11^2_2L	98.4	0.1	1.5	126
14 U	85.1	3.3	11.6	113	12	53.2	8.5	38.3	124
14 L Sun	81.6	13.2	5.2	126					
14 L Shade	83.2	12.6	4.2	126					
18 U	93.4	-	6.6	134	15 U	61.9	14.1	24.0	129
18 LL	65.3	0.7	34.0	126	15 L	62.1	11.6	26.3	129
				127					
18 HL	64.7	1.6	33.7	126					
19 U	50.7	17.0	32.3	119	16 U	68.2	13.0	18.8	ND
19 LL	51.2	9.9	38.9	ND	16 L	72.3	7.5	20.2	129
19 HL	60.5	13.5	26.0	129					
20 U	68.6	8.5	22.9	134	17 U	69.7	0.1	30.2	129
20 LL	70.2	4.4	25.4	129	17 L	76.3	2.7	21.0	119
20 HL	52.4	10.3	37.3	127					

U - Unlimed; L - Limed; LL - Light lime; HL - Heavy lime; ND - None Dominant

https://doi.org/10.23637/ERADOC-1-145 *pp 47*

This work is licensed under a Creative Commons Attribution 4.0 International License.

Hay - Park Grass

A/6.25

Botanical Composition per cent. 1st Crop

Plot	1948 Gram-ineae	Legum-onosae	Other orders	Plot	1949 Gram-ineae	Legum-inosae	Other orders
1 U	94.7	-	5.3	2 U	53.6	15.4	31.0
1 L	63.3	4.6	32.1	2 L	51.4	17.8	30.8
3 U	53.0	7.2	39.8	4_1^1U	46.7	14.4	38.9
3 L	35.8	16.1	48.1	4^1L	44.3	22.4	33.3
7 U	46.6	19.8	33.6	4_2^2U	99.8	-	0.2
7 L	56.5	25.3	18.2	4^2L	94.7	-	5.3
8 U	52.5	7.3	40.2	5_2^1	82.2	3.0	14.8
8 L	53.4	11.1	35.5	5^2	44.6	26.5	28.9
9 U	99.5	-	0.5	6	37.7	31.3	31.0
9 L	89.9	3.5	6.6				
10 U	99.7	-	0.3	11_1^1U	99.7	-	0.3
10 L	93.8	-	6.2	11^1L	98.2	-	1.8
13 U	73.8	0.5	25.7	11_2^2U	99.4	-	0.6
13 L	67.0	10.6	22.4	11^2L	97.5	-	2.5
14 U	92.4	2.0	5.6	12	58.5	13.4	28.1
14 L Sun	93.8	3.2	2.9	1			
14 L Shade	93.4	4.3	2.3				
				15 U	42.2	27.8	30.0
				15 L	46.6	32.7	20.7
18 U	88.5	-	11.5	16 U	75.3	11.9	12.8
18 LL	80.9	0.1	19.0	16 L	76.0	9.6	14.4
18 HL	82.9	0.6	16.5				
19 U	50.3	17.4	32.3	17 U	70.6	0.1	29.3
19 LL	62.1	8.5	29.4	17 L	83.2	2.8	14.0
19 HL	66.9	10.4	22.7				
20 U	86.3	5.0	8.7				
20 LL	80.3	4.9	14.8				
20 HL	74.2	9.9	15.9				

These results have not been previously published. Sampling was discontinued in 1950.

U - Unlimed; L - Limed; LL - Light lime; HL - Heavy lime; ND - None Dominant

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

WHEAT AND BARLEY - WOBURN STACKYARD

These are two almost identical, but distinct experiments which were for many years carried out on similar lines to those on Broadbalk and Hoosfield at Rothamsted. The field was under continuous wheat and barley from 1877 to 1926, and the treatments and results for this period are given in the 1928 Station Report p.103. From 1927-1940 no manures were applied, wheat and barley being grown each year except 1927, 28, 34, 35 when the field was fallowed. Results for 1929 to 1938 are given annually in the Station Reports in the sections devoted to Woburn. In 1941 and 42 a top dressing of 2 cwt. sulphate of ammonia was applied.

In 1943 a new scheme was started. The plots were divided into sets of three according to their previous manurial treatments (omitting plots 2, 5 and 8 of each crop, which were so acid as to give negligible crops). In 1943 the wheat was so weedy that it was ploughed up and the land fallowed for the rest of the season. In 1947 and 1948 the field was fallowed and no treatments were applied.

Area of one whole plot, ½ acre.

The experiments are discussed by H. H. Mann, "The influence of fallowing on the yield of wheat or barley on very exhausted land", J. Agric. Sci., 33, (1943), 207.

Treatments

In the present system of manuring, of each set of three plots one receives a top-dressing of nitrochalk at 2 cwt. per acre (N1), one at 4 cwt. (N2), and the third at 6 cwt. (N3). The dressings rotate in cyclical order.

Summary of treatments 1877-1926 (plots arranged in the present sets of three)

Plot 1 Unmanured
3 Nitrate of Soda; 3a, (2N) since 1877; 3b, (1N) since 1907 only.
3aa, as 3a with lime in 1921; 3bb, as 3b with lime in 1921
7 Unmanured

4a Minerals; 4b, as 4a with lime in 1915
6 Minerals and Nitrate of Soda, (1N)
9a, 9b Minerals and, in alternate years, Nitrate of Soda (1N)

10a Superphosphate and Nitrate of Soda (1N)
10b Rape cake (1N)
11a Sulphate of Potash and Nitrate of Soda (1N)
11b Dung (4N)

N

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

2 Sulphate of Ammonia (1N); 2a unlimed, 2aa, limed in 1905, 09, 10, 11, 2b, limed in 1897 2bb limed in 1897 and 1905

5 Minerals and Sulphate of Ammonia (1N); 5a, unlimed 5aa, limed in 1905 and 1916 5b, limed in 1905

8 Minerals and, in alternate years, Sulphate of Ammonia (2N); 8a, 8b unlimed, 8aa and 8bb limed in 1905 and 1918

N provides 25 lb. per acre of Ammonia

Crop Notes

Wheat-Red Standard

Year	Sown	Harvested
1939	17.10.38	Aug. 15
1940	2 .11.39	Aug. 17
1941	15.10.40	Aug. 19
1942	19.11.41	Aug. 17
1943		Ploughed in, May 6
1944	27.9.43	Aug. 15
1945	23.10.44	Aug. 2
1946	2. 10.45	Aug. 22

Barley - Plumage Archer

Year	Sown	Harvested
1939	Feb.27	Aug. 17
1940	Mar. 9	Aug. 8
1941	Mar.18	Sept.10
1942	Apr.13	Sept. 4
1943	Mar.12	Aug. 27
1944	Mar. 8	Sept. 4
1945	Mar. 6	Aug. 2
1946	Mar.13	Aug. 15

This work is licensed under a Creative Commons Attribution 4.0 International License.

Wheat and Barley - Woburn Stackyard

Yields of Wheat (lb. per acre)

Plot	Grain 1939	Straw	Grain 1940	Straw	Grain 1941	Straw	Grain 1942	Straw
1	450	976	294	609			213	680
2a	85	341	Nil	81	Nil	Nil	Nil	Nil
2aa	416	993	8	147	77	242	Nil	Nil
2b	263	847	98	214	113	255	Nil	Nil
2bb	337	674	278	459	528	1117	48	161
3a	289	632	447	721	935	1865	302	893
3b	155	386	239	506	641	1123	325	675
4	480	1124			975	2522	671	1396
5a	652	1362	201	423	258	610	79	417
5b	575	1030	217	602	1016	1815	171	364
6	435	1019	695	1362	1347	2246	797	2043
7	367	761	402	932	680	1909	334	901
8a	101	222	36	81	Nil	Nil	Nil	Nil
8aa	625	1117	355	649	69	177	67	419
8b	218	444	73	113	56	177	Nil	Nil
8bb	621	1194	218	452	278	661	173	706
9a	344	1052	544	1171	1115	2421	764	1929
9b	560	1194	474	919	919	1800	526	1339
10a	272	597	186	273			382	598
10b	289	554	231	446			371	888
11a	363	950	591	880	1197	2148	828	1516
11b	443	1312	918	1720	1211	2807	1168	2732

Yields of plots damaged by rabbits, or otherwise invalidated, are omitted.

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

Yields of Barley (lb. per acre)

Plot	Grain 1939	Straw 1939	Grain 1940	Straw 1940	Grain 1941	Straw 1941	Grain 1942	Straw 1942
1	385	1071	21	350	284	896	194	483
2a	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2aa	367	1316	24	453	284	933	146	435
2b	341	877	24	325	442	1017	363	827
2bb	349	910	24	340	566	1200	151	384
3a	361	747	20	373	412	850	411	762
3aa	363	887	24	302	234	600	185	556
3b	593	1266	20	390	420	933	383	823
3bb	259	755	24	208	142	367	125	384
4a	337	976	12	234	691	1203	417	894
4b	228	929	12	226	304	1138	404	890
5a	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5aa	175	774	Nil	Nil	Nil	Nil	323	762
5b	417	885	28	655	606	1057	560	947
6	717	1342	12	250	924	1484	1086	1384
7	368	1028	19	372	388	721	246	586
8a	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
8aa	435	1065	20	468	Taken with 8bb		658	1313
8b	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
8bb	577	1113	20	500	686	1242	483	1100
9a	727	1412	37	677	1006	1675	975	1600
9b	572	1417	79	744	862	1500	1281	1583
10a	345	932	17	280	297	744	204	504
10b	288	1212	17	280	192	686	136	620
11a	444	967	76	543	676	1496	915	1393
11b	668	1635	135	912	886	876	1405	1909

https://doi.org/10.23637/ERADOC-1-145

This work is licensed under a Creative Commons Attribution 4.0 International License.

A/7.5

Wheat and Barley - Woburn Stackyard

New system of Manuring - Yields, (lb. per acre).
Plots arranged in their groups of three.

Wheat

Plot	Grain 1944	Straw	Grain 1945	Straw	Grain 1946	Straw
1	N2 1980	4887	N1 737	1334	N3	
3	N1 2259	5411	N3 1466	2559	N2 469	1927
7	N3 2494	5794	N2 841	2140	N1	
4	N3 2104	4371	N2 664	1558	N1	
6	N1 2318	5539	N3 1377	2689	N2 379	1862
9	N2 3625	6782	N1 601	1229	N3 744	2205
10a	N2 2250	5645	N1 587	1151	N3 569	2446
10b	N3 2109	4960	N2 833	1635	N1	
11a	N1 2504	7917	N3 1693	3183	N2 425	2014
11b(1)	N3 1872	4829	N2 1451	2841	N1 372	1598
11b(2)	N1 2452	6079	N3 1591	3037	N2 585	2354
11b(3)	N2 1689	4421	N1 762	1524	N3 750	2384

Yield of plots damaged by rabbits, or otherwise invalidated, are omitted.

Barley

Plot	1943 Grain	1943 Straw	1944 Grain	1944 Straw	1945 Grain	1945 Straw	1946 Grain	1946 Straw
1	N1 87	311	N3 906	1766	N2 539	1839	N1 209	1123
3	N2 328	863	N1 529	1037	N3 908	2015	N2 419	1456
7	N3 458	977	N2 549	1115	N1 533	1594	N3 879	1958
4	N3 519	1051	N2 1343	1936	N1 676	2053	N3 862	1944
6	N1 551	1144	N3 821	1535	N2 1019	2717	N1 513	1683
9	N2 928	1661	N1 988	2152	N3 1020	2144	N2 1018	2686
10a	N3 107	422	N2 404	1122	N1 304	1393	N3 308	1447
10b	N1 99	1045	N3 635	1929	N2 519	2081	N1 226	1101
11a	N2 702	1764	N1 668	2227	N3 857	2143	N2 780	2195
11b(1)	N2 1237	2537	N1 896	2530	N3 1006	2959	N2 757	2482
11b(2)	N3 800	2075	N2 604	2067	N1 727	2285	N3 1253	3279
11b(3)	N1 606	2475	N3 1192	2545	N2 1087	2628	N1 1178	2586

https://doi.org/10.23637/ERADOC-1-145 pp 54