The Park Grass Plots at Rothamsted 1856 -1949

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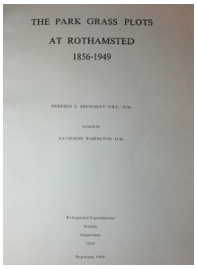


Tables

Rothamsted Research

Rothamsted Research (1958) *Tables ;* The Park Grass Plots At Rothamsted 1856 -1949, pp 159 - 174
- DOI: https://doi.org/10.23637/ERADOC-1-154

Fig. 15.

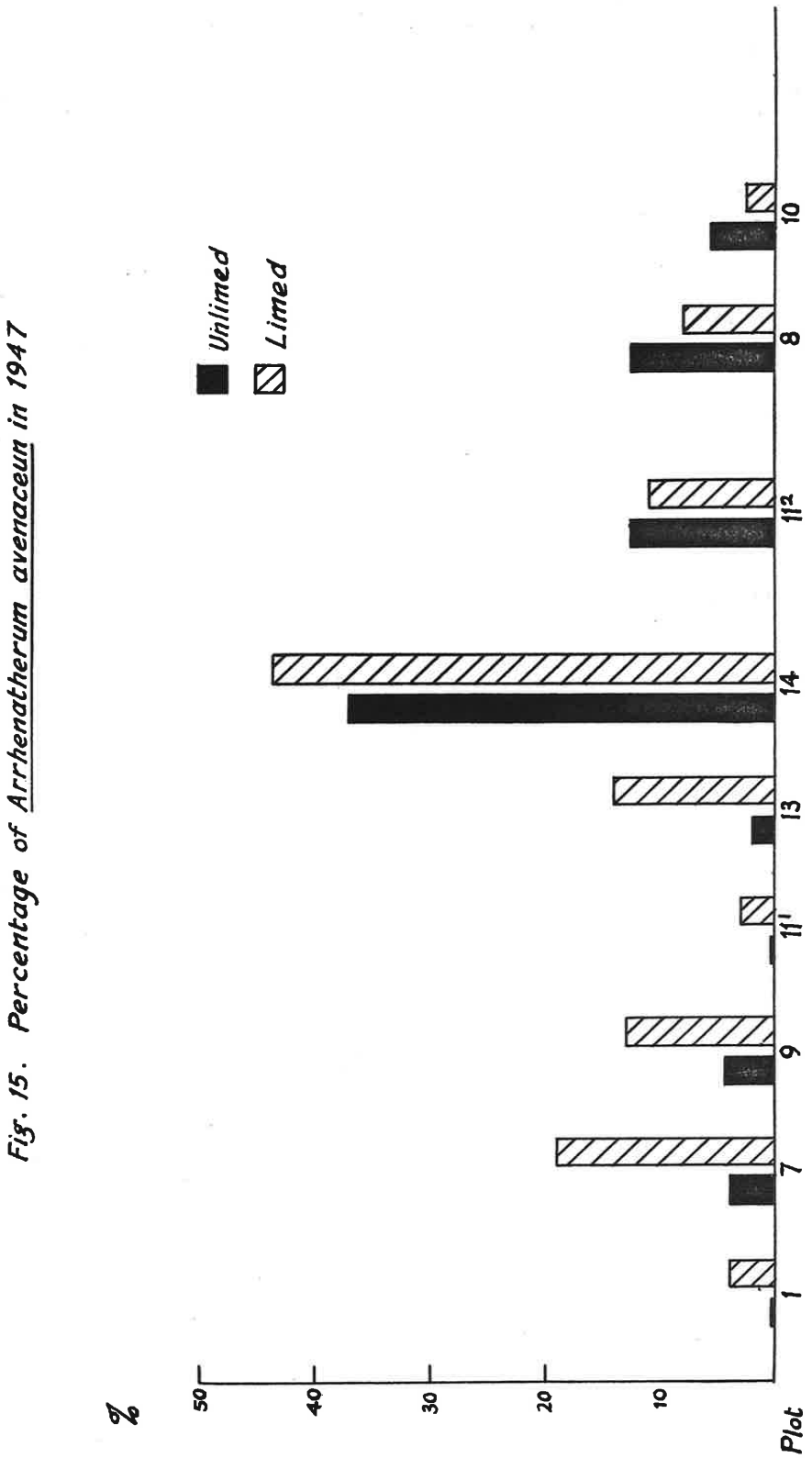


Fig. 15. Percentage of Arrhenatherum avenaceum in 1947

https://doi.org/10.23637/ERADOC-1-154

Fig. 16.

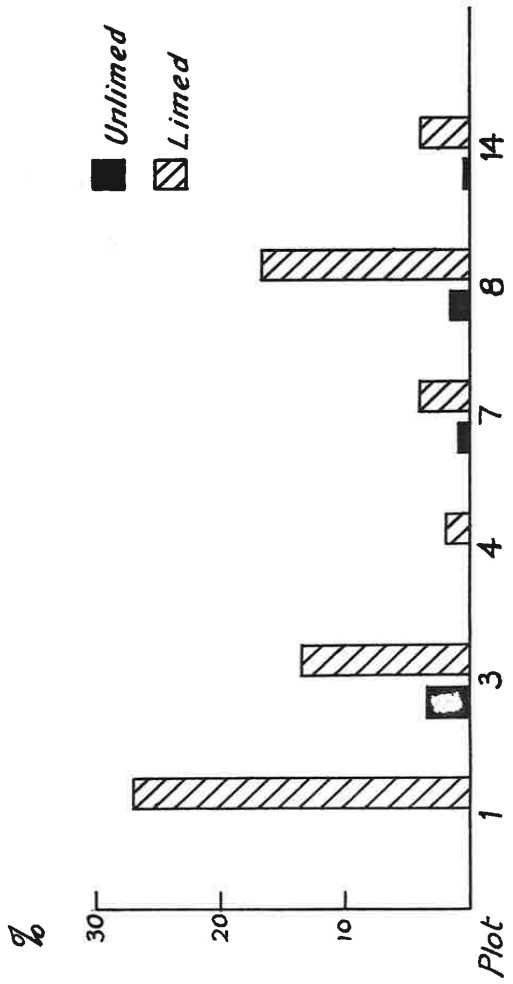


Fig. 16. Percentage of Avena pubescens in 1947

Fig. 17.

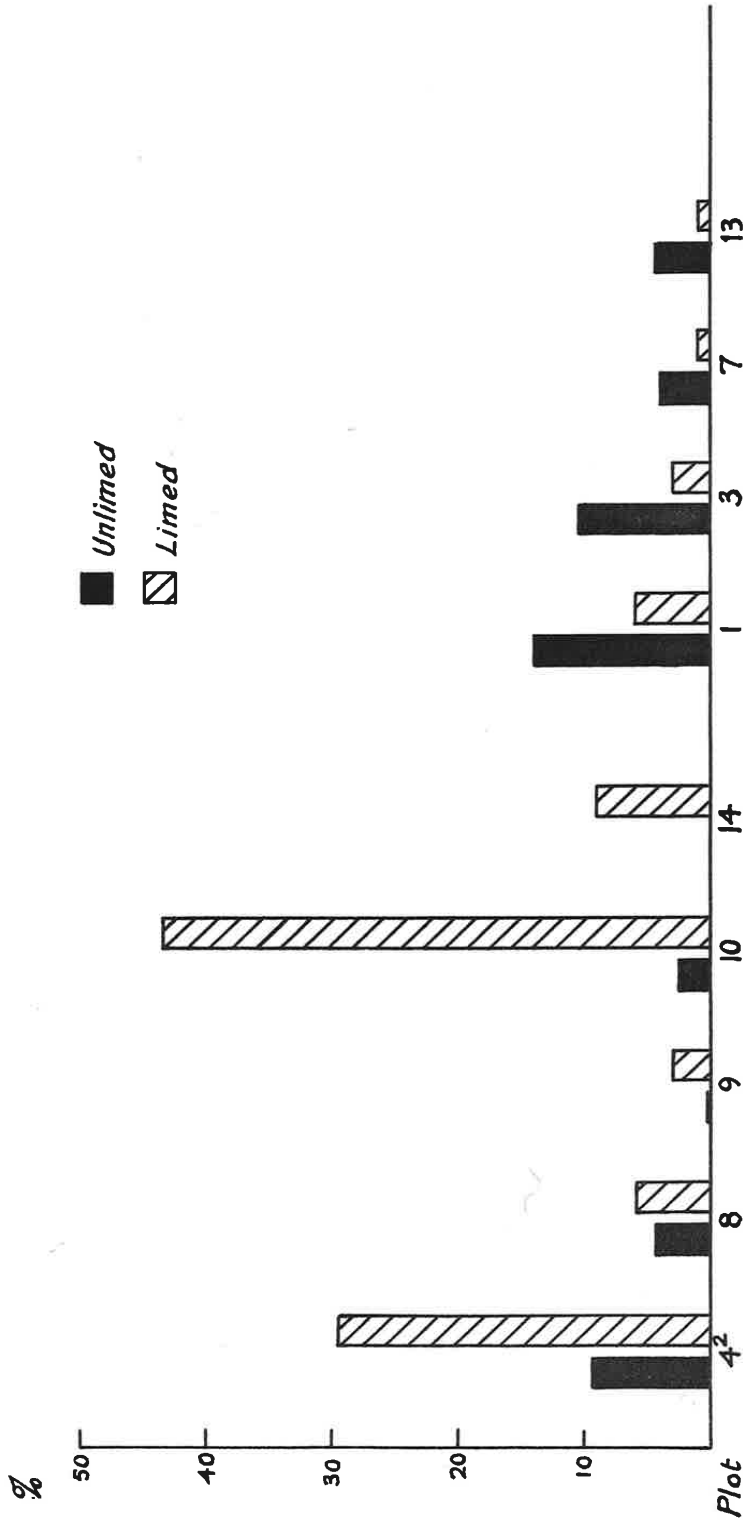


Fig. 17. Percentage of Festuca rubra in 1947

Fig. 18.

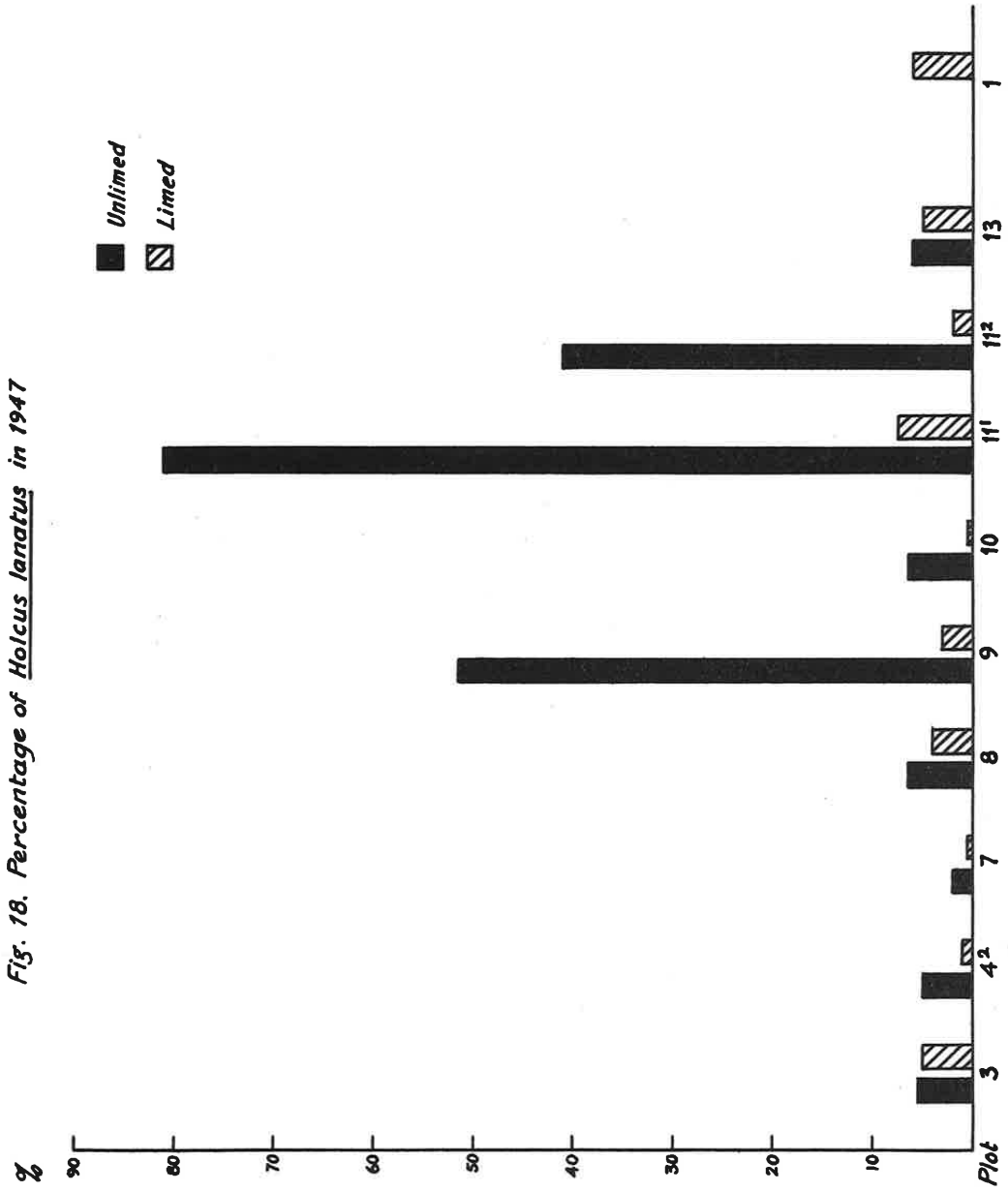


Fig. 18. Percentage of Holcus lanatus in 1947

Fig. 19.

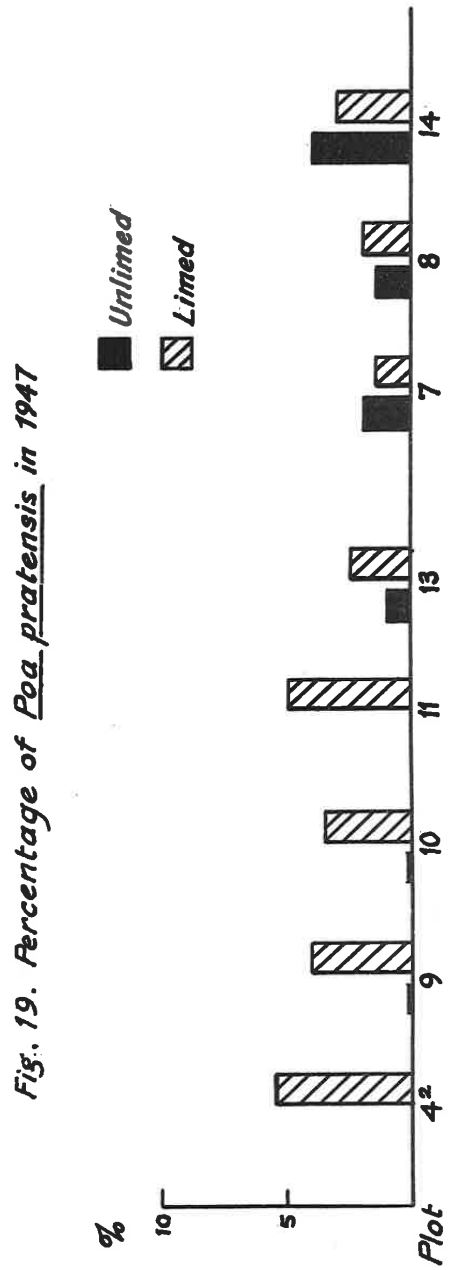
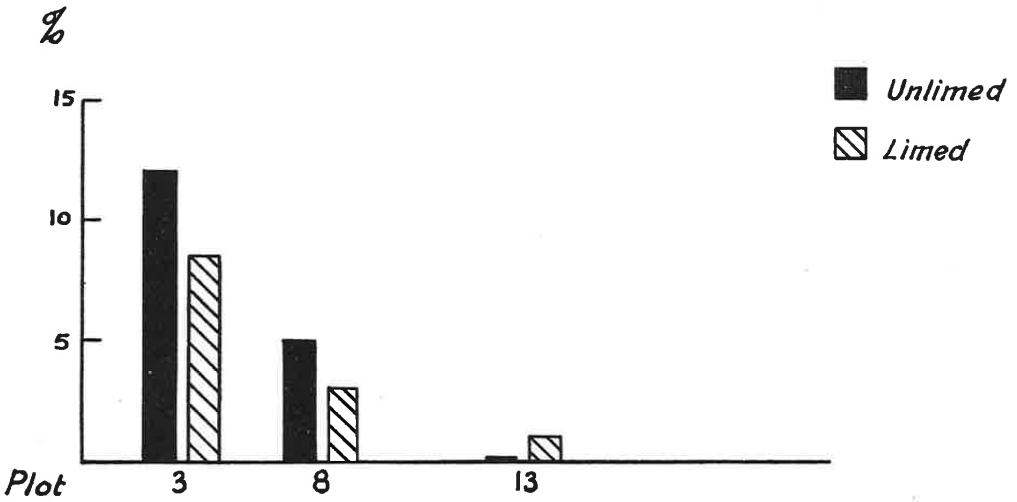


Fig. 19. Percentage of Poa pratensis in 1947

https://doi.org/10.23637/ERADOC-1-154

Fig.20.

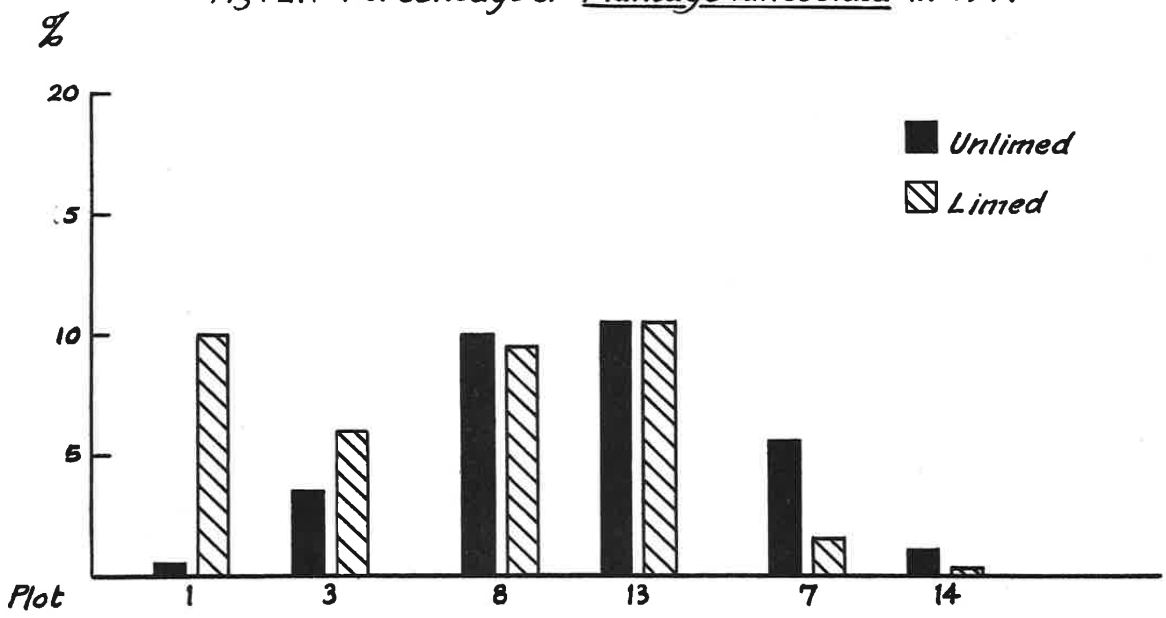
Fig. 20. Percentage of Leontodon hispidus in 1947



https://doi.org/10.23637/ERADOC-1-154

Fig.21.

Fig. 21. Percentage of Plantago lanceolata in 1947



https://doi.org/10.23637/ERADOC-1-154

Fig.22.

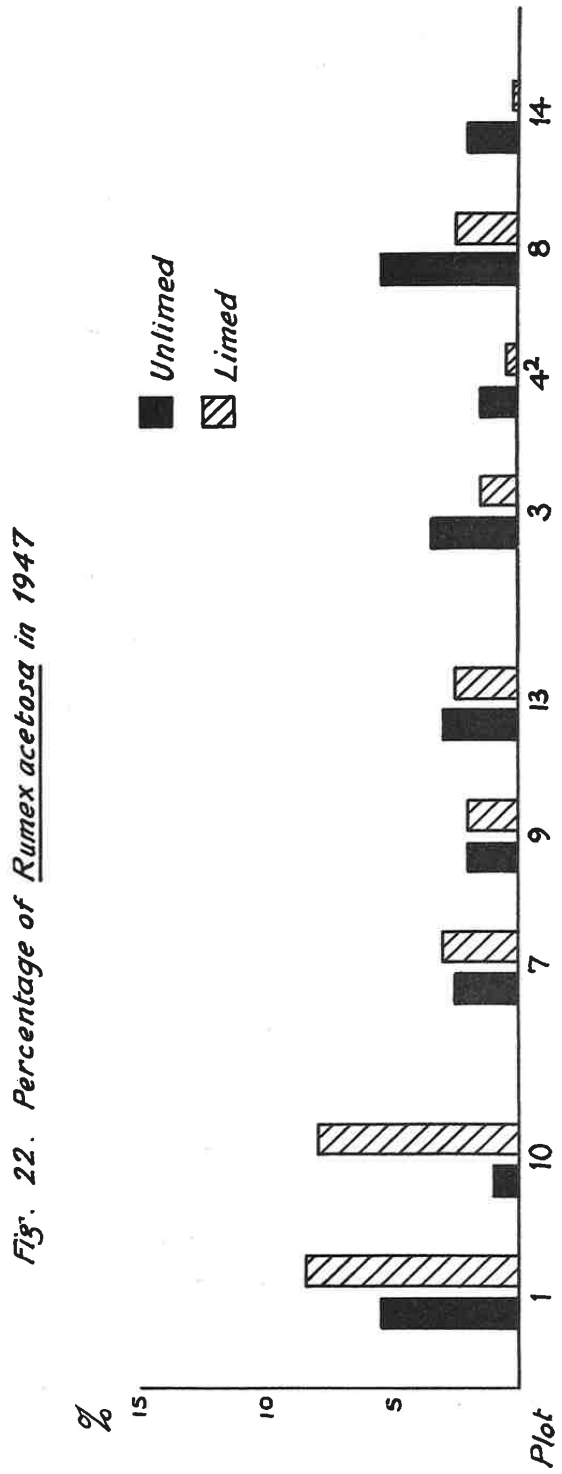


Fig. 22. Percentage of *Rumex acetosa* in 1947

TABLE 1a

Plot	Description of Manure	Quantity of Manure per Acre. Nitrogenous Manures: Ammonium sulphate (Lb.)	Nitrate of soda (Lb.)	Mineral Manures: Superphosphate 37 per cent (Cwt.)	Sulphate of Potash (Lb.)	Sulphate of soda (Lb.)	Sulphate of Magnesia (Lb.)	Silicate of Soda (Lb.)	Organic Manures: Farmyard Manure (Ton.)	Fish Guano (Cwt.)
1	Ammonium salts = 43 lbs.N (with farmyard manure, 1856-63)	220	-	-	-	-	-	-	-	-
2	Unmanured (after farmyard manure, 1856-63)	-	-	-	-	-	-	-	-	-
3_1	Unmanured	-	-	-	-	-	-	-	-	-
4_2	Superphosphate of lime	-	-	3.5	-	-	-	-	-	-
4_1	Superphosphate and ammonium salts = 86 lbs. N	440	-	3.5	-	-	-	-	-	-
5	(N.half) Unmanured (after ammonium salts, 1856-97 = Plot 5)	-	-	-	-	-	-	-	-	-
5^2	(S.half) Superphosphate, sulphate of potash (after ammonium salts, 1856-97 = Plot 5)	-	-	3.5	500	-	-	-	-	-
6	As plot 7 (after ammonium salts, 1856-68)	-	-	3.5	500	100	100	-	-	-
7	Complete mineral manure	-	-	3.5	500	100	100	-	-	-
8	Mineral manure without potash	-	-	3.5	-	100	100	-	-	-
9	Complete mineral manure and ammonium salts = 86 lbs. N.	440	-	3.5	500	100	100	-	-	-
10	Mineral manure (without potash) and ammonium salts = 86 lbs. N.	440	-	3.5	-	100	100	-	-	-
11^1	Complete mineral manure and extra ammonium salts = 129 lbs. N.	660	-	3.5	500	100	100	-	-	-
11^2	As plot 11 and silicate of soda	660	-	3.5	500	100	100	400	-	-
12	Unmanured	-	-	-	-	-	-	-	-	-
13	Farmyard manure and fish guano, each once in four years since 1905 (after cut wheat straw, minerals, and ammonium salts)	-	-	-	-	-	-	-	14	6
14	Complete mineral manure and nitrate of soda 86 lbs. N.	-	550	3.5	500	100	100	-	-	-
15	Complete mineral manure (after nitrate of soda, 1858-75)	-	-	3.5	500	100	100	-	-	-
16	Complete mineral manure and nitrate of soda = 43 lbs. N.	-	275	3.5	500	100	100	-	-	-
17	Nitrate of soda = 43 lbs. N.	-	275	-	-	-	-	-	-	-
18	Mineral manure without superphosphate, and ammonium salts = 86 lbs. N (after minerals and nitrogen equal to constituents of 1 ton of hay, 1865-1904)	440	-	-	500	100	100	-	-	-
19	Farmyard manure every fourth year (after superphosphate, sulphate of potash, and nitrate of soda, 1872-1904)	-	-	-	-	-	-	-	14	-
20	Farmyard manure every fourth year; sulphate of potash, superphosphate, and nitrate of soda = 26 lbs. N in other years (after superphosphate and nitrate of potash, 1872-1904)	-	168	1.8	100	-	-	-	14	-

Average Produce of Hay per Acre over the Nine Successive 10 year Periods, 1856-1945, and over the 4-year Period, 1946-49. First Crops only.

Plot	Averages Over. 1856-65. (Cwts.)	1866-75. (Cwts.)	1876-85. (Cwts.)	1886-95. (Cwts.)	1896-1905. (Cwts.)	1906-15. (Cwts.)	1916-25. (Cwts.)	1926-35. (Cwts.)	1936-45. (Cwts.)	1946-1949. (Cwts.)
1	48.4	37.8	30.1	23.8	19.3	18.9	15.9	13.5	7.1	9.5
2	41.7	32.1	22.0	20.5	15.1	14.2	14.3	13.3	9.2	14.0
3_1	22.6[1]	20.0	17.5	16.8	13.2	10.9	11.9	11.7	8.6	13.0
4_2	24.4[1]	21.3	19.1	16.5	15.7	15.8	19.7	16.4	12.2	17.8
4_1	39.6	30.5	30.4	29.0	26.8	22.5	19.7	17.8	12.8	16.2
5	30.5	22.1	17.6	17.5	-[5]	-	-	-	-	-
5^1	-	-	-	-	14.4[5]	10.2	10.1	11.0	7.9	9.3
5^2	-	-	-	-	24.2[5]	17.2	20.1	18.7	15.8	16.3
6	31.4	30.2	30.5	29.0	34.9	29.5	28.4	24.9	23.0	29.6
7	33.9	36.8	32.3	27.1	36.1	30.0	27.4	26.6	26.2	29.2
8	33.6	26.6	21.8	16.5	21.3	19.3	18.5	18.2	16.9	22.9
9	53.6	48.4	50.5	39.3	44.1	36.8	35.2	42.2	34.6	29.1
10	52.8	39.6	38.6	35.5	34.6	25.6	26.1	24.1	19.3	19.7
11^1	61.7[2]	53.6	48.5	47.6	37.8	45.9	41.5	45.8	30.3	30.5
11^2	66.4[2]	61.7	60.6	62.0	57.1	56.8	50.9	53.4	42.4	34.4
12	25.1	22.9	18.0	17.1	17.6	14.0	14.8	13.6	11.2	13.8
13	55.1	57.6	54.2	49.1	47.0[7]	32.1[8]	41.2	42.2	32.1	28.6
14	53.1[6]	60.5	53.8	45.6	50.0	47.7	54.9	53.5	48.0	51.0
15	36.1	34.9	24.9	29.1	38.7	30.1	27.8	25.6	17.4	23.8
16	48.1[3]	47.6	41.5	37.4	40.4	39.9	40.6	36.9	30.9	35.8
17	34.3	33.5	30.1	27.0	28.9	25.7	25.2	21.3	17.3	23.4
18	-	33.1[4]	32.2	31.1	29.1[7]	29.3[8]	23.4	20.2	10.3	9.9
19	-	38.8[5]	37.2	43.6	39.2[7]	26.4[8]	26.4	26.2	26.1	29.5
20	-	36.5[5]	38.7	40.3	41.2[7]	33.1[8]	30.6	37.6	33.5	39.1

[1] 7 years only, 1859-65
[2] 4 " " 1862-65
[3] 8 " " 1858-65
[4] 11 " " 1865-75
[5] 4 years only, 1872-75
[6] 8 " " 1898-1905
[7] 9 " " 1896-1904
[8] 11 " " 1905-15

TABLE 1a
Manures - all plots
Yield of hay on all unlimed plots

TABLE 1 b.

Plot	Regular liming [1] (Burnt lime) Begun in Year	Amount per acre every 4th year	pH Plots 1-17 in 1945 Plots 18-20 in 1957 Unlimed	Limed	Average produce of hay per acre over two successive 10 - year periods 1926 - 45 and over the 4 - year period 1946 - 9. First crop only, cwt at 85% dry matter, LIMED 1926 - 35	1936 - 45	1946 - 49
1	1903	2000 lb	4.5	7.0	17.2	13.6	16.9
2	1903	"	5.0	7.0	12.8	9.0	13.4
3	1903	"	5.5	7.0	10.6	8.7	12.7
4-1	1903	"	5.5	7.0	11.8	10.0	15.3
4-2	1903	"	4.0	5.5	30.7	24.2	24.2
5-1	-	-	4.5	-	-	-	-
5-2	-	-	4.5	-	-	-	-
6	-	-	5.0	-	-	-	-
7	1903	2000 lb	5.0	7.0	31.0	30.4	33.0
8	1903	"	5.0	7.0	13.4	12.2	13.6
9	1903	"	4.0	5.0	50.6	38.0	32.7
10	1903	"	4.0	5.0	36.6	30.6	24.9
11-1	1903	"	4.0	4.5	51.9	45.4	45.1
11-2	1903	"	4.0	4.5	53.4	47.3	45.8
12	-	-	5.0	-	-	-	-
13	1903	2000 lb	4.6	6.5	36.0	26.4	29.2
14	1920	"	6.0	7.0	46.9	38.5	39.6
15	1920	"	5.0	6.5	23.8	21.7	23.4
16	1903	"	5.0	7.0	30.4	29.5	31.1
17	1920	"	6.0	7.0	22.7	17.7	19.7
18	1920	61 cwt	4.0	8.0	38.0	21.9	22.6
"	1920	35 cwt		7.5	30.2	20.0	20.1
19	1920	28 cwt	5.5	7.6	21.5	22.0	24.6
"	1920	5 cwt		6.5	24.1	23.3	26.2
20	1920	25 cwt	5.7	7.6	33.3	27.6	35.3
"	1920	5 cwt		6.5	35.1	29.7	32.4

TABLE 1b. Liming, soil pH and yield of hay on limed plots

[1] 1911 omitted. 1919 dressing not given until 1920 and amount increased by $\frac{1}{4}$ to allow for the extra year.

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NUMBER OF SPECIES, AND PERCENTAGE OF EACH SPECIES AND GROUP OF SPECIES.

NO MANURE.

Manuring	Since 1856.						After F.Y.M., 1856-1863.												After Ammonium Salts, 1856-1897.				
Plot number	3						12					2							5^1				
Unlimed or Limed	UNLIMED					LIMED						UNLIMED			LIMED				UNLIMED				
Season	1903	1914	1919	1926	1936	1948	1914	1919	1926	1936	1948	1914	1919	1949	1914	1919	1949	1914	1919	1949	1903	1914	1919	1926	1949
GRAMINEAE																									
Number of species	13	13	12	12	12	11	12	12	14	13	12	14	12	12	13	13	12	13	14	13	13	11	10	10	10
1. Agrostis vulgaris	0.2	13.1	8.4	18.3	14.2	15.6	2.9	1.5	2.2	3.5	0.8	8.5	4.8	3.5	8.2	8.5	10.0	1.9	0.5	0.5	11.7	17.7	4.5	23.6	17.8
2. Aira caespitosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	0.3	0.5	0.7
3. Alopecurus pratensis	0.6	0.3	0.3	1.9	1.2	7.9	1.1	0.6	2.7	2.5	6.2	1.4	1.7	7.6	1.7	1.5	9.6	1.9	1.5	4.1	0.3	0.1	0.7	0.6	0.3
4. Anthoxanthum odoratum	1.3	2.8	7.0	3.1	3.3	0.7	1.1	3.1	0.4	0.2	0.7	2.9	7.7	3.4	4.0	8.8	1.1	1.5	1.7	0.4	12.3	8.5	11.7	12.3	1.1
5. Arrhenatherum avenaceum	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.5	0.4	0.2	0.1	1.1	4.4	0.8	0.2	1.4	0.4	-	0.3	0.2	0.2	0.4	1.7	4.9	0.5
6. Avena flavescens	0.9	0.6	0.9	0.7	0.6	0.2	1.1	2.8	3.4	4.9	1.2	0.6	0.5	0.2	1.0	1.2	0.2	1.7	3.7	1.5	<	-	-	-	-
7. Avena pubescens	4.8	4.0	4.2	4.3	4.7	2.7	14.2	19.3	18.6	11.9	13.4	2.3	3.6	4.1	4.9	4.7	3.5	18.1	20.3	22.5	<	0.5	0.2	0.3	0.5
8. Brisa media	20.1	4.3	2.0	1.3	3.1	0.2	10.5	9.0	10.9	5.4	1.0	10.3	2.2	6.0	5.6	3.4	1.8	2.7	1.7	3.9	-	-	-	-	-
9. Bromus mollis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	0.2	-	-	-
10. Cynosurus cristatus	0.3	0.1	0.2	0.3	-	-	-	-	0.1	0.1	-	<	-	-	0.3	0.6	-	0.1	0.1	-	<	-	-	-	-
11. Dactylis glomerata	1.1	3.8	8.4	5.2	3.0	4.5	3.1	7.4	8.1	2.9	3.3	4.5	14.4	8.8	3.8	10.7	7.9	4.9	15.1	7.5	1.3	9.5	8.9	8.2	4.1
12. Festuca rubra	17.5	24.7	6.7	7.5	13.0	16.6	23.5	5.1	5.8	7.2	4.1	33.5	10.2	19.4	25.7	5.3	15.5	24.1	4.6	7.4	55.7	47.3	46.7	27.9	55.8
13. Festuca pratensis	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	0.1	-	-	-	-	-	-	-	-
14. Holcus lanatus	5.1	2.9	9.2	6.6	1.6	4.3	4.4	7.7	6.2	2.9	2.5	2.7	4.9	2.8	4.3	10.7	3.3	5.0	9.3	2.0	<	0.2	0.6	1.2	0.7
15. Lolium perenne	-	0.1	-	-	-	-	-	-	0.2	-	-	0.1	0.1	-	0.3	0.5	-	0.1	0.2	0.1	-	-	-	-	-
16. Poa pratensis	0.3	0.1	0.1	0.1	0.1	0.2	1.6	2.0	2.4	3.9	2.1	0.3	0.4	0.2	0.5	0.5	0.1	1.4	1.8	1.0	0.9	1.1	1.4	1.2	0.7
17. Poa trivialis	<	-	-	-	0.1	-	0.1	0.1	0.4	1.5	0.3	0.1	-	-	-	-	-	0.1	0.3	0.3	-	0.2	-	-	-
Stalks	-	-	-	-	-	-	0.7	-	-	-	-	0.9	-	-	0.1	-	-	0.1	-	-	-	0.6	-	-	-
Total	52.3	56.9	47.7	49.4	45.0	53.0	64.5	59.1	61.8	47.1	35.7	69.2	54.9	58.4	60.6	57.8	53.5	63.6	61.1	51.4	82.4	86.3	76.7	80.7	82.2
LEGUMINOSAE																									
Number of Species	4	4	3	4	4	4	3	3	4	4	4	4	3	4	4	3	4	4	4	4	0	3	1	3	1
1. Lathyrus pratensis	2.5	0.5	0.9	1.5	0.7	0.9	2.7	1.2	2.1	0.9	2.0	1.0	2.0	1.1	0.7	0.8	2.2	2.4	2.1	2.4	-	0.2	-	0.1	-
2. Lotus corniculatus	3.6	3.5	1.6	3.0	6.7	3.8	3.5	2.5	4.0	10.3	7.0	4.2	1.7	7.4	3.8	2.7	9.4	2.1	2.5	9.9	-	0.2	0.4	0.5	3.1
4. Trifolium pratense	1.4	2.1	2.1	1.4	2.0	2.5	2.3	1.8	1.5	4.7	6.4	2.1	1.6	4.6	1.0	0.8	3.6	2.8	0.9	4.8	-	0.1	-	0.1	-
5. Trifolium repens	0.1	0.1	-	0.2	0.2	0.3	-	-	0.1	0.3	0.7	<	-	0.2	0.1	-	0.4	0.1	0.1	0.7	-	-	-	-	-
Total	7.6	6.2	4.6	6.1	9.6	7.3	8.5	5.5	7.7	16.2	16.1	7.3	5.3	13.3	5.6	4.3	15.6	7.4	5.6	17.8	0	0.5	0.4	0.7	3.1
MISCELLANEOUS																									
Number of species	26	22	13	22	20	21	18	15	22	16	16	22	15	20	17	15	16	19	14	18	9	17	14	17	11
1 & 2. Ranunculus acris et bulbosum	1.9	0.2	0.4	0.1	0.1	0.1	1.0	2.6	1.7	1.2	3.0	0.1	0.5	0.7	0.3	0.5	0.9	1.4	4.4	2.8	-	0.1	0.3	0.2	-
3. Viola canina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-
4. Cerastium vulgatum	1.1	0.2	0.6	0.1	0.3	0.2	0.6	0.8	0.5	0.3	0.2	0.4	0.8	0.1	0.5	0.8	0.2	0.6	1.0	0.3	0.2	0.2	0.4	0.1	-
5. Stellaria graminea	0.9	0.1	-	0.1	0.1	0.2	0.1	0.1	0.1	-	-	0.1	0.3	0.2	0.1	-	0.1	<	0.1	-	-	0.1	0.1	0.2	0.2
6. Linum catharticum	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	0.1	0.5	0.6	-	-	-	-	-
7. Agrimonia eupatoria	-	-	-	-	-	-	-	-	0.1	0.2	-	-	-	-	0.1	-	-	0.1	-	-	-	-	-	-	-
8. Alchemilla vulgaris	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	0.3	0.1	-	0.1	-	0.3	0.1	-	0.1	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-
11. Poterium sanguisorba	13.8	1.8	5.8	5.8	9.1	5.6	2.6	3.1	3.6	8.8	11.7	-	-	-	-	-	0.6	-	-	0.1	-	-	-	-	-
12. Spiraea ulmaria	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.2	-	-	-	-	-	0.3	-	-	-	-	-
14. Conopodium denudatum	0.9	0.5	4.7	5.5	2.5	1.6	0.1	0.6	0.6	0.3	0.1	0.5	10.6	1.3	0.5	4.4	3.2	0.1	0.7	0.2	0.1	0.1	1.3	1.8	2.0
15. Heracleum sphondylium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-
16. Pimpinella saxifraga	0.4	0.6	-	0.7	1.0	0.1	0.7	0.1	0.8	0.8	0.2	0.4	0.1	0.1	0.6	0.1	0.1	0.7	0.2	0.3	-	0.2	0.1	0.1	-
17. Galium verum	<	0.1	-	0.1	0.6	1.1	-	-	-	-	-	0.1	-	0.9	0.2	0.4	1.6	-	-	-	1.4	1.0	2.0	0.3	0.5
18. Scabiosa arvensis	0.8	0.1	-	0.6	4.5	0.9	0.9	1.6	2.7	10.4	2.1	0.5	1.0	1.6	0.2	0.1	0.5	0.1	0.5	1.7	0.5	1.1	0.6	1.4	1.7
19. Achillea millefolium	2.7	0.8	1.6	1.5	2.2	1.3	1.0	1.9	1.2	0.8	1.0	1.4	2.0	1.8	0.9	1.2	1.9	0.7	1.2	1.2	<	0.4	0.7	1.0	1.7
20. Centaurea nigra	4.1	9.1	5.8	2.8	2.9	1.0	10.7	6.2	3.8	3.2	2.0	5.5	3.0	1.8	7.3	4.9	1.3	7.7	4.5	2.5	0.7	7.2	3.9	6.3	2.0
22. Hieracium pilosella	0.2	0.1	-	0.1	-	-	0.1	-	0.1	-	-	<	-	-	-	-	-	0.1	-	-	-	0.2	-	<	-
23. Hypochaeris radicata	<	-	-	-	-	0.1	-	-	-	-	-	0.1	-	0.1	-	-	-	-	-	0.1	-	0.2	-	-	0.4
24. Leontodon hispidus	6.0	17.8	6.9	5.5	13.6	17.9	3.6	1.5	1.7	4.2	12.5	6.5	2.6	10.0	16.5	2.8	12.4	8.5	1.7	8.7	-	-	0.1	0.1	1.7
26. Tuxacum vulgare	<	0.1	-	0.2	0.1	0.1	-	-	0.1	0.1	0.2	-	-	0.2	0.1	-	0.4	-	-	0.5	-	-	-	-	-
27. Tragopogon pratensis	<	0.1	-	0.1	0.3	0.1	-	-	0.1	-	-	<	0.2	0.1	-	0.1	-	<	-	0.2	-	-	-	0.1	-
28. Primula veris	0.1	-	-	0.1	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-
29. Plantago lanceolata	2.0	3.4	19.1	17.4	5.8	6.2	3.6	12.1	9.0	4.9	13.0	5.2	15.1	6.8	5.5	20.6	5.7	7.9	15.4	10.2	-	0.2	0.4	1.7	2.4
30. Veronica chamaedrys	0.6	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.6	0.2	0.1	-	0.1	0.1	0.1	-	0.1	0.3	0.1	-	0.1	0.1	0.1	-
31. Ajuga reptans	0.1	0.1	0.1	-	-	-	-	-	0.1	-	-	<	0.1	-	-	0.1	-	-	-	-	-	-	-	-	-
32. Prunella vulgaris	0.1	0.1	-	-	0.1	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-
33. Thymus serpyllum	<	-	-	-	0.3	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34. Rumex acetosa	2.2	0.4	2.0	2.4	0.3	2.4	0.6	4.2	3.7	0.6	1.3	0.2	3.0	1.0	0.5	1.5	1.4	0.4	2.8	0.6	14.8	1.4	12.3	4.7	1.0
35. Luzula campestris	0.3	0.4	0.1	0.1	0.6	0.1	0.4	0.2	0.2	0.4	0.2	0.3	0.3	0.6	0.5	0.1	0.4	0.4	0.1	0.3	0.1	0.2	0.8	0.6	1.2
36. Carex praecox	1.2	1.3	0.5	1.0	0.5	-	0.8	0.4	0.4	0.1	-	1.9	0.3	0.4	0.1	-	0.1	0.1	-	-	-	-	-	-	-
Mosses	0.1	-	-	0.1	-	0.1	0.1	-	0.1	-	-	-	-	-	-	-	-	<	-	-	<	-	-	0.1	-
Total	42.0	37.5	47.7	44.6	45.2	30.8	27.1	35.5	30.8	36.9	48.2	23.5	39.9	28.1	34.0	37.7	30.8	29.0	33.4	30.2	17.6	13.1	23.1	18.8	14.8

TABLE 2

Botanical analyses
Plots 3, 12, (2, 5^1)
Unmanured

<= less than 0.05

TABLE 3.

NUMBER OF SPECIES AND PERCENTAGE OF EACH SPECIES AND GROUP OF SPECIES

Manuring	MIXED MINERAL MANURE = Potassium, Sodium and Magnesium sulphates and Superphosphate of lime																													
	COMPLETE 1856 and since										WITHOUT POTASH after COMPLETE 6 years 1856-1861										COMPLETE after Ammonium salts 13 years, 1856-1868				COMPLETE after Nitrate of Soda 18 years, 1858-1875								
Plot number	7										8										6				15								
Unlimed or Limed	UNLIMED						LIMED					UNLIMED					LIMED				UNLIMED				UNLIMED						LIMED		
Season	1903	1914	1919	1925	1935	1948	1914	1919	1925	1935	1948	1903	1914	1919	1935	1948	1914	1919	1935	1948	1903	1914	1919	1949	1903	1914	1919	1923	1933	1949	1923	1933	1949
GRAMINEAE																																	
Number of species	16	14	12	12	11	13	13	12	13	12	14	15	16	13	11	14	15	13	15	14	15	12	12	11	16	14	12	12	13	10	13	12	12
1. Agrostis vulgaris	3.3	7.0	5.4	11.1	8.3	3.8	4.3	2.0	1.8	0.7	0.4	0.7	7.8	3.9	8.8	3.0	5.3	2.0	1.7	1.3	2.5	7.4	7.6	2.5	3.0	12.1	11.4	13.1	16.8	2.8	13.8	3.6	0.5
2. Aira caespitosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-
3. Alopecurus pratensis	4.5	1.7	1.7	1.1	3.6	8.3	9.8	15.2	8.9	11.3	13.2	0.5	0.4	1.2	0.9	3.6	1.0	1.5	2.7	2.7	0.6	1.9	3.0	6.1	10.2	13.9	30.1	8.5	10.6	18.6	15.5	8.9	6.8
4. Anthoxanthum odoratum	1.4	4.2	3.6	2.3	1.9	3.6	0.6	0.5	0.1	0.8	0.3	1.5	3.9	4.6	3.0	2.4	3.2	1.5	0.4	1.4	1.9	5.0	4.3	2.2	1.7	3.1	3.5	3.8	8.2	1.7	0.2	0.8	0.3
5. Arrhenatherum avenaceum	1.2	1.2	3.1	5.3	0.2	2.4	2.0	2.6	27.3	6.3	11.7	4.2	3.1	8.0	7.5	14.2	4.0	18.2	13.7	14.7	1.9	1.1	3.2	2.2	0.2	0.5	1.5	1.1	10.8	0.6	2.6	8.0	13.9
6. Avena flavescens	6.6	1.9	0.7	0.5	0.4	1.0	4.0	1.0	0.5	3.4	2.5	3.9	2.1	1.2	1.6	0.5	3.2	1.6	5.3	2.1	1.5	0.8	0.2	0.1	5.5	1.7	0.5	0.7	0.8	0.2	0.9	1.9	0.2
7. A.pubescens	4.3	2.6	2.9	1.5	2.5	1.1	4.5	8.8	8.1	8.7	5.2	8.0	5.2	3.4	5.8	1.9	9.4	12.1	15.2	11.3	7.5	6.5	5.1	3.1	4.2	2.0	2.0	2.0	4.2	1.1	3.3	12.5	12.6
8. Brina media	0.1	-	-	0.1	-	-	-	-	-	-	-	5.9	1.5	0.4	0.4	0.1	9.4	2.0	1.4	0.9	0.2	-	-	-	0.2	-	-	-	-	+	-	-	-
9. Bromus mollis	0.6	2.1	0.1	-	-	0.2	15.6	0.6	<	2.9	2.1	-	0.2	-	-	-	-	-	0.1	<	0.2	0.7	0.1	0.2	3.4	2.9	0.1	0.7	0.6	-	2.3	0.2	1.1
10. Cynosurus cristatus	0.1	-	-	-	-	-	-	-	-	-	-	0.5	0.1	-	-	-	0.1	-	0.1	-	-	7.4	-	-	-	-	-	-	-	-	-	-	-
11. Dactylis glomerata	5.0	10.2	21.6	34.1	6.1	15.7	12.5	18.6	22.8	11.2	13.2	1.1	4.0	3.8	2.6	12.6	2.9	5.1	5.3	5.6	3.5	27.6	21.2	11.8	0.5	2.4	5.0	3.3	12.3	8.4	1.6	6.6	4.5
12. Festuca rubra	7.7	31.6	7.1	9.3	20.1	4.6	13.3	5.4	3.2	4.9	1.0	9.5	25.0	6.9	17.6	5.2	21.4	6.0	8.6	2.1	8.8	3.4	6.7	5.3	15.0	13.8	7.4	20.9	9.2	7.0	23.7	13.4	3.7
13. F. pratensis	0.5	0.2	-	-	-	0.3	-	-	-	-	3.3	0.1	-	-	-	0.4	-	-	-	6.9	0.1	1.1	-	-	<	-	-	-	-	-	-	-	-
14. Holcus lanatus	3.1	3.4	4.3	6.5	3.0	2.8	2.5	1.6	0.7	0.2	1.2	6.3	8.0	11.2	6.4	7.4	6.9	5.2	5.1	2.1	2.9	0.1	4.4	2.7	2.3	5.6	-	2.1	4.0	1.4	1.7	1.6	1.6
15. Lolium perenne	0.1	0.2	-	-	-	-	-	-	<	-	0.2	0.1	0.4	0.3	-	0.1	0.1	0.1	0.1	-	<	0.2	6.0	-	<	-	-	-	0.1	-	0.9	-	-
16. Poa pratensis	2.3	1.4	1.2	1.0	1.3	2.6	1.3	1.6	1.1	4.5	1.2	1.0	1.1	1.1	1.1	1.1	1.4	2.0	1.5	1.5	3.7	-	1.3	1.7	2.5	0.4	1.4	1.4	1.1	0.5	1.8	0.3	1.2
17. P. trivialis	1.0	0.5	0.4	<	0.1	0.3	1.9	1.2	0.7	3.7	1.1	0.1	0.2	0.6	-	0.1	0.8	0.7	1.6	0.8	0.2	-	0.1	-	1.2	0.4	0.2	0.2	0.1	-	0.9	0.3	0.4
Stalks	-	0.1	-	-	-	-	0.6	-	-	-	-	-	0.3	-	-	-	0.5	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-
Total	41.8	68.3	52.1	72.8	47.5	46.7	72.9	59.1	75.2	58.6	56.6	43.4	63.3	46.6	55.7	52.6	69.6	58.0	62.8	53.4	35.6	63.1	57.2	37.7	49.9	59.5	69.5	57.8	78.8	42.2	69.5	58.1	46.8
LEGUMINOSAE																																	
Number of species	4	5	5	4	4	5	4	3	3	3	4	4	4	4	4	4	4	3	3	4	4	5	4	5	5	4	2	3	3	4	3	3	3
1. Lathyrus pratensis	22.0	10.7	7.1	6.1	31.0	11.3	15.9	19.5	1.1	23.6	15.6	3.7	3.4	4.2	0.3	0.6	2.4	5.0	0.7	1.5	30.9	17.5	9.9	20.7	16.3	28.0	5.3	15.1	7.7	22.3	11.2	13.8	13.4
2. Lotus corniculatus	0.4	0.6	0.5	<	2.8	0.5	0.1	<	<	-	<	12.2	1.8	1.3	4.4	3.3	2.1	1.6	3.4	5.9	2.3	1.6	1.1	2.6	<	0.1	-	-	-	0.9	-	-	-
3. Trifolium pratense	6.4	4.7	1.0	0.2	3.1	4.6	2.7	<	<	1.8	3.4	1.4	5.4	5.0	6.5	2.7	5.0	1.5	4.6	3.5	5.9	5.2	0.4	5.3	5.8	2.6	0.1	0.1	0.5	1.7	2.6	6.0	2.8
4. T. repens	4.3	0.9	0.1	-	0.7	3.4	1.0	-	-	6.1	6.3	1.3	0.1	<	0.1	0.7	0.1	-	-	0.1	1.7	0.1	0.1	2.2	6.7	2.4	-	0.3	0.9	2.8	4.6	6.6	16.3
5. T. minus?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.2	-	-	-	-	-	-	-	-
6. T. minus?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-
7. Vicia sepium?	-	0.1	0.1	<	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	33.1	17.0	8.8	6.5	37.6	19.9	19.7	19.5	1.1	31.5	25.3	18.6	10.7	10.5	11.3	7.3	9.6	8.1	8.7	11.1	40.8	24.4	11.5	31.3	29.0	33.1	5.4	15.4	9.1	27.7	18.4	26.4	32.7
MISCELLANEOUS																																	
Number of species	16	13	14	13	12	12	13	14	11	13	13	23	15	14	17	15	13	15	14	16	20	15	12	13	14	11	10	14	13	9	11	13	12
1&2. Ranunculus acris et bulbosus	2.8	0.9	1.9	0.8	0.3	0.7	0.7	4.0	2.1	0.3	1.9	10.9	0.5	2.1	0.8	5.7	0.7	4.6	0.5	2.1	3.7	1.1	4.1	0.8	6.2	0.8	2.7	1.3	0.4	0.4	1.4	0.5	1.8
3. Viola canina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	<	-	-	-	-	-	-	-	-	-	-	-
4. Cerastium vulgatum	0.3	0.2	0.1	-	0.1	-	<	0.1	-	-	<	1.1	0.7	0.5	0.3	0.1	0.7	1.1	0.8	0.4	0.1	0.1	-	-	<	0.1	-	0.1	0.1	-	-	0.1	0.1
5. Stellaria graminea	0.1	-	0.1	<	0.2	-	-	-	-	0.7	-	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.1	-	<	-	-	-	-	-	-	0.1	-	-	-	-	-
7. Agrimonia eupatoria	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-
11. Poterium sanguisorba	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-
12. Spiraea ulmaria	0.9	0.7	1.9	1.2	0.1	-	-	-	-	-	-	0.1	-	-	0.1	-	-	-	-	0.6	-	<	-	-	<	0.1	-	0.1	-	-	-	-	-
13. Anthriscus sylvestris	-	-	-	-	-	-	-	-	1.1	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-
14. Conopodium denudatum	1.7	0.8	9.5	2.6	0.2	1.4	0.3	3.7	0.5	0.1	0.1	0.8	0.1	2.9	0.1	0.8	-	0.5	-	0.2	1.3	-	6.7	4.1	1.1	0.2	1.6	2.5	1.5	1.1	2.0	0.7	0.5
15. Heracleum sphondylium	1.9	0.5	4.2	4.2	2.3	1.0	0.3	1.6	12.0	2.9	4.5	-	-	-	0.1	-	-	-	-	-	0.3	0.1	0.3	0.6	-	-	0.3	-	-	-	-	1.4	3.1
16. Pimpinella saxifraga	0.5	-	-	-	-	-	-	<	-	0.1	-	1.0	0.1	0.2	0.6	0.1	0.3	0.1	0.8	0.2	1.3	0.3	0.1	-	0.2	-	-	-	0.1	-	-	-	-
17. Galium verum	-	0.2	0.2	-	-	0.2	-	-	-	-	-	0.5	0.3	0.1	1.4	0.4	0.3	-	-	0.2	0.3	-	-	-	-	-	-	0.1	0.1	-	-	-	-
18. Scabiosa arvensis	0.1	0.5	0.1	0.3	-	-	0.8	0.6	-	0.1	0.3	2.2	0.8	0.8	2.1	0.9	1.5	4.5	5.7	3.6	0.8	0.8	1.4	1.1	<	-	-	-	-	-	-	-	-
19. Achillea millefolium	8.9	2.5	6.3	1.8	1.8	14.0	0.7	1.0	0.6	0.5	1.0	3.5	2.8	4.8	3.6	6.9	1.5	2.1	0.8	4.0	7.6	3.1	5.0	8.9	10.0	4.3	5.3	1.7	1.5	10.0	1.2	0.9	1.2
20. Centaurea nigra	1.0	6.9	2.5	2.2	5.0	4.3	3.5	1.1	0.8	1.3	0.5	7.2	9.3	4.8	2.9	2.0	9.5	4.5	5.1	2.5	1.3	0.1	1.8	5.5	0.8	1.0	0.6	0.3	0.4	7.6	0.8	0.8	1.4
21. Chrysanthemum leucanthemum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-
22. Hieracium pilosella	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23. Hypochaeris radicata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24. Leontodon hispidus	-	-	-	-	-	-	-	-	-	0.3	-	0.9	1.0	0.7	6.1	4.5	0.5	0.5	4.1	5.6	-	-	-	0.2	-	-	-	-	-	0.3	-	-	-
26. Taraxacum vulgare	-	-	-	-	0.1	0.4	<	0.1	1.4	1.0	1.9	0.1	-	-	0.1	0.1	-	-	0.3	0.1	0.1	<	-	0.2	0.1	0.2	1.3	0.8	0.4	0.1	1.6	0.4	1.9
27. Tragopogon pratensis	1.1	0.2	0.1	<	-	1.1	0.5	1.5	0.1	-	2.6	0.3	-	-	-	-	0.2	0.1	-	0.9	0.3	0.1	0.1	0.3	-	0.1	0.3	0.5	0.1	-	0.1	-	0.3
29. Plantago lanceolata	0.1	0.7	1.3	3.3	3.4	6.5	0.2	0.5	0.2	1.3	4.6	5.9	8.7	18.5	15.0	19.3	5.3	7.7	7.8	13.1	0.1	-	0.1	7.4	0.2	0.3	3.8	13.5	4.4	9.7	4.6	9.7	9.6
30. Veronica chamaedrys	1.5	-	-	<	-	-	<	0.1	<	0.3	0.1	0.7	0.1	0.1	0.4	0.3	-	0.1	0.5	0.2	0.5	0.1	-	-	0.2	-	-	0.1	-	-	0.1	0.1	0.1
31. Ajuga reptans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	<	-	-	-	-	-	-	-	-	0.1	-	-
32. Prunella vulgaris	3.7	0.2	10.6	4.0	0.6	2.2	0.4	7.1	4.8	0.6	0.4	1.9	0.3	6.9	0.7	2.9	0.5	7.8	1.1	1.7	5.2	0.3	10.9	1.3	1.6	0.2	7.4	2.0	2.3	0.8	0.3	0.3	0.6
34. Rumex acetosa	-	-	-	-	-	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34(a). Urtica dioica	-	-	-	-	-	-	-	-	-	-	-	0.4	0.4	0.3	0.6	0.3	0.3	0.2	0.2	0.1	0.3	0.2	0.7	0.2	0.6	0.3	0.2	3.6	1.0	0.1	0.3	0.3	0.1
35. Lapsana communis	0.2	0.2	0.3	0.2	0.9	0.2	<	0.1	-	-	-	0.2	0.1	-	-	-	-	-	-	-	<	-	-	-	0.1	-	-	-	-	-	-	-	-
36. Carex praecox	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37. Ophioglossum vulgatum	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mosses	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	25.2	14.5	39.1	20.6	15.0	33.7	7.4	21.3	23.6	9.7	18.2	38.1	29.6	42.8	33.1	40.2	21.0	33.7	28.3	35.3	25.4	12.3	31.3	30.9	21.1	7.6	25.9	26.7	12.4	30.8	12.6	15.4	20.7

TABLE 3

Botanical analyses
Plots 6, 7, 8, 15
Minerals only (no N)

<= less than 0.05

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TABLE 4.

NUMBER OF SPECIES AND PERCENTAGE OF EACH SPECIES AND GROUP OF SPECIES.

Manuring	Mixed Mineral Manure: After Ammonium Salts 42 years, 1856-1897.				Superphosphate: Alone, 1856 and since.						
Plot Number	5^2				4^1						
Unlimed or Limed	Unlimed				Unlimed				Limed		
Season	1914	1919	1926	1949	1903	1914	1919	1949	1914	1919	1949
GRAMINEAE											
Number of species	11	11	10	9	15	14	14	15	12	13	13
1. Agrostis vulgaris	16.7	8.4	20.7	7.1	<	1.0	0.7	2.0	1.6	0.5	0.4
3. Alopecurus pratensis	4.0	11.1	12.6	9.1	0.3	0.1	0.1	2.2	1.3	1.5	2.4
4. Anthoxanthum odoratum	6.2	5.1	4.9	0.1	2.4	4.1	3.2	3.4	1.5	1.9	1.1
5. Arrhenatherum avenaceum	0.4	2.3	7.7	1.8	<	0.5	0.9	7.3	0.1	0.1	0.1
6. Avena flavescens	-	-	-	-	2.8	2.5	3.1	0.9	1.9	4.4	2.7
7. Avena pubescens	1.2	1.7	2.0	5.5	9.8	10.3	14.1	5.5	13.0	20.0	18.1
8. Briza media	-	-	-	-	11.2	2.3	1.3	0.5	3.5	2.9	1.8
9. Bromus mollis	3.0	0.1	-	-	-	-	-	0.1	-	-	-
10. Cynosurus cristatus	-	-	-	-	<	0.1	0.1	-	-	0.2	-
11. Dactylis glomerata	3.8	7.4	15.1	4.7	1.3	4.7	11.4	7.1	1.8	6.5	4.9
12. Festuca rubra	34.3	19.6	13.7	11.5	8.8	21.9	5.2	9.1	22.8	5.5	3.6
13. Festuca pratensis	-	-	-	-	<	-	-	0.3	-	-	1.1
14. Holcus lanatus	0.8	1.1	3.7	4.1	4.7	8.9	10.1	6.7	6.6	6.9	4.5
15. Lolium perenne	-	-	-	-	<	0.1	0.2	0.3	-	-	-
16. Poa pratensis	4.7	6.3	2.2	2.6	0.8	1.0	0.9	0.9	0.8	2.1	1.7
17. Poa trivialis	0.1	0.1	<	-	0.6	0.6	1.5	0.5	0.5	1.4	1.8
Stalks	1.2	-	-	-	-	-	-	-	0.1	-	-
Total	76.4	63.2	82.6	44.5	42.7	57.9	52.8	46.8	55.5	53.9	44.2
LEGUMINOSAE											
Number of species	4	3	5	5	4	5	5	5	4	3	4
1. Lathyrus pratensis	2.0	1.3	6.7	16.8	4.8	1.7	1.6	3.0	11.5	5.1	7.3
2. Lotus corniculatus	3.9	3.1	1.6	5.1	7.3	1.1	0.8	3.8	2.2	3.7	7.7
3. Ononis arvensis	-	-	-	-	-	0.5	0.2	2.4	-	-	-
4. Trifolium pratense	2.5	-	0.4	1.1	2.7	3.1	0.1	2.3	5.0	0.9	4.9
5. Trifolium repens	0.1	-	0.2	1.3	2.8	1.3	0.1	2.9	0.2	-	2.5
6. Vicia sepium	-	0.2	1.5	2.1	-	-	-	-	-	-	-
Total	8.5	4.6	10.4	26.4	17.6	7.7	2.8	14.4	18.9	9.7	22.4
MISCELLANEOUS											
Number of species	16	16	15	12	22	14	12	14	16	15	13
1 & 2. Ranunculus acris et bulbosus	0.1	0.6	0.4	0.3	1.5	0.4	1.6	3.8	1.1	4.6	2.3
4. Cerastium vulgatum	0.5	0.2	<	-	0.7	0.6	0.6	0.4	1.0	0.2	-
5. Stellaria graminea	0.3	0.3	0.1	0.1	0.1	0.1	<	-	0.1	0.1	-
7. Agrimonia eupatoria	-	-	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	-	-	-	-	<	-	-	-	-	-	-
11. Poterium sanguisorba	-	-	-	-	8.5	1.1	0.8	0.9	0.1	0.1	2.1
13. Anthriscus sylvestris	-	-	-	-	-	-	-	-	-	-	-
14. Conopodium denudatum	-	0.1	0.1	0.1	0.2	-	0.4	1.1	-	0.2	-
15. Heracleum sphondylium	0.1	0.3	0.6	0.6	-	0.4	-	-	-	-	-
15. Pimpinella saxifraga	0.2	0.4	0.2	0.3	0.5	-	-	0.1	0.5	0.2	0.3
17. Galium verum	0.3	0.2	0.1	-	-	-	-	-	-	-	-
18. Scabiosa arvensis	0.1	0.2	1.2	0.9	0.3	0.3	-	0.2	0.8	1.5	2.2
19. Achillea millefolium	0.8	2.8	4.5	12.8	1.8	1.6	2.3	3.8	1.1	2.3	3.4
20. Centaurea nigra	9.0	3.4	3.2	3.4	4.8	8.9	7.6	1.7	8.2	5.9	3.5
22. Hieracium pilosella	0.1	-	-	-	0.4	-	-	-	0.1	-	-
23. Hypochaeris radicata	0.2	0.1	-	-	-	-	-	-	-	-	-
24. Leontodon hispidus	0.1	-	-	0.1	14.7	12.9	-	11.0	7.0	2.3	6.3
25. Senecio jacobaea	-	-	-	-	-	-	2.5	-	-	-	-
26. Taraxacum vulgare	-	-	-	-	0.1	-	-	0.6	-	-	0.1
27. Tragopogon pratensis	-	0.5	0.1	-	0.1	-	-	-	0.1	0.1	0.7
29. Plantago lanceolata	0.1	0.6	0.4	0.9	2.5	7.0	18.0	8.5	4.1	11.4	9.7
30. Veronica chamaedrys	0.2	0.1	<	-	0.4	0.1	0.2	0.1	0.1	0.2	0.3
31. Ajuga reptans	-	-	-	-	<	-	-	-	-	-	-
32. Prunella vulgaris	-	-	-	-	0.1	-	-	-	-	-	-
34. Rumex acetosa	2.5	18.1	3.0	5.7	1.5	0.7	10.3	3.8	0.6	6.3	2.1
35. Luzula campestris	0.7	4.3	3.3	1.8	0.6	0.5	0.3	0.9	0.6	0.3	0.4
36. Carex praecox	-	-	-	-	0.5	0.1	-	-	0.1	-	-
Mosses	-	-	-	-	<	-	-	-	-	-	-
Total	13.3	32.2	17.2	29.0	39.3	34.7	44.6	38.9	25.6	35.7	33.4

Manuring	Nitrate of Soda: Alone = 43 lb. N.								
Plot Number	17								
Unlimed or Limed	Unlimed						Limed		
Season	1903	1914	1919	1923	1933	1949	1923	1933	1949
GRAMINEAE									
Number of species	15	14	14	14	15	9	14	14	15
1. Agrostis vulgaris	1.8	12.5	6.1	9.2	5.1	1.2	4.0	0.5	0.6
3. Alopecurus pratensis	9.7	14.5	12.9	13.3	14.5	14.5	10.3	9.3	7.3
4. Anthoxanthum odoratum	11.1	4.9	7.3	7.5	10.3	8.7	2.9	0.5	0.8
5. Arrhenatherum avenaceum	-	0.3	0.3	0.1	0.1	-	0.4	1.9	1.7
6. Avena flavescens	1.8	1.2	1.3	1.5	0.3	-	1.3	2.6	1.5
7. Avena pubescens	8.7	3.9	4.9	5.5	1.7	1.7	10.4	10.5	20.5
8. Briza media	2.2	1.1	0.5	0.2	0.3	0.6	0.4	1.0	0.7
9. Bromus mollis	0.2	0.1	-	0.1	0.1	-	0.4	0.1	0.7
10. Cynosurus cristatus	0.2	-	0.1	-	0.1	-	-	0.2	-
11. Dactylis glomerata	0.9	5.8	8.3	7.3	17.7	25.4	4.3	10.7	21.1
12. Festuca rubra	12.8	14.4	4.3	17.6	6.8	9.4	35.3	29.3	22.3
13. Festuca pratensis	0.1	-	-	-	-	-	-	-	0.8
14. Holcus lanatus	4.8	7.5	10.9	2.7	13.7	8.5	2.7	5.9	2.1
15. Lolium perenne	0.5	1.4	0.7	0.7	0.5	0.6	0.4	1.7	2.4
16. Poa pratensis	0.2	0.1	0.3	0.6	0.1	-	0.1	-	0.1
17. Poa trivialis	1.0	0.1	0.5	1.4	0.6	-	1.1	1.9	0.6
Stalks	-	1.2	-	-	-	-	-	-	-
Total	56.0	69.0	58.4	65.7	71.7	70.6	74.0	76.1	83.2
LEGUMINOSAE									
Number of species	4	3	2	1	1	1	3	1	1
1. Lathyrus pratensis	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	-
2. Lotus corniculatus	2.3	0.4	0.3	-	-	-	1.1	1.8	2.8
3. Ononis arvensis	-	-	-	-	-	-	-	-	-
4. Trifolium pratense	<	0.1	-	-	-	-	0.1	-	-
5. Trifolium repens	0.2	-	-	-	-	-	-	-	-
6. Vicia sepium	-	-	-	-	-	-	-	-	-
Total	2.6	0.6	0.4	0.1	0.1	0.1	1.3	1.8	2.8
MISCELLANEOUS									
Number of species	20	13	14	15	14	10	17	12	13
1 & 2. Ranunculus acris et bulbosus	3.9	0.6	0.8	0.3	0.2	0.4	0.5	0.5	2.1
4. Cerastium vulgatum	-	0.3	0.3	0.4	0.2	0.1	0.9	0.5	0.1
5. Stellaria graminea	0.2	-	0.1	-	-	-	0.1	-	-
7. Agrimonia eupatoria	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	0.1	-	-	-	-	-	-	-	-
11. Poterium sanguisorba	<	-	-	-	-	-	-	-	-
13. Anthriscus sylvestris	-	-	-	-	-	-	-	-	-
14. Conopodium denudatum	0.6	0.6	1.2	0.3	0.2	0.4	0.8	0.1	0.1
15. Heracleum sphondylium	<	-	0.3	-	-	-	0.3	-	0.2
15. Pimpinella saxifraga	<	-	-	0.1	-	-	0.1	-	-
17. Galium verum	-	-	-	-	-	-	0.1	-	0.4
18. Scabiosa arvensis	-	-	-	-	-	-	-	-	-
19. Achillea millefolium	2.8	1.2	0.9	0.3	0.8	1.2	1.1	0.8	1.0
20. Centaurea nigra	11.2	0.1	8.7	1.2	3.2	5.5	1.4	0.3	1.4
22. Hieracium pilosella	2.6	-	-	-	-	-	0.1	-	-
23. Hypochaeris radicata	-	-	-	-	-	-	-	-	-
24. Leontodon hispidus	3.7	4.4	3.4	1.9	1.3	4.0	1.5	1.3	1.7
25. Senecio jacobaea	-	0.1	-	-	-	-	-	-	-
26. Taraxacum vulgare	1.5	0.1	0.2	0.4	0.5	1.4	0.5	0.4	0.6
27. Tragopogon pratensis	0.1	-	-	-	-	-	-	-	0.5
29. Plantago lanceolata	10.7	14.0	24.1	27.1	16.2	14.0	15.9	17.1	5.6
30. Veronica chamaedrys	0.2	0.1	-	0.3	0.2	-	0.1	0.1	-
31. Ajuga reptans	0.5	-	0.2	-	0.2	-	-	0.1	-
32. Prunella vulgaris	-	-	-	-	0.1	-	-	-	-
34. Rumex acetosa	1.8	0.4	0.9	0.3	1.7	0.5	0.5	0.7	0.2
35. Luzula campestris	0.8	0.3	0.1	0.8	0.2	-	0.5	0.2	0.1
36. Carex praecox	0.6	0.1	0.2	0.8	1.4	1.8	0.9	-	-
Mosses	<	-	-	-	-	-	-	-	-
Total	41.3	30.3	41.4	34.4	28.4	29.3	25.1	22.1	14.0

Manuring	Nitrate of Soda: With Mixed Mineral Manure = 43 lb. N.					
Plot Number	16					
Unlimed or Limed	Unlimed			Limed		
Season	1914	1919	1949	1914	1919	1949
GRAMINEAE						
Number of species	12	11	12	12	12	11
1. Agrostis vulgaris	4.9	1.3	2.3	0.1	0.2	0.2
3. Alopecurus pratensis	26.5	50.6	22.5	25.8	36.1	10.9
4. Anthoxanthum odoratum	2.9	2.0	4.2	0.1	<	0.2
5. Arrhenatherum avenaceum	2.8	3.3	22.0	1.3	3.1	19.4
6. Avena flavescens	3.6	1.2	0.6	3.0	1.1	0.6
7. Avena pubescens	5.1	2.8	5.8	14.0	17.7	15.3
8. Briza media	-	-	-	-	-	-
9. Bromus mollis	8.0	-	0.2	3.0	<	0.6
10. Cynosurus cristatus	-	-	-	-	-	-
11. Dactylis glomerata	9.7	20.1	9.9	9.5	18.9	13.4
12. Festuca rubra	7.7	1.8	6.2	30.9	11.4	14.4
13. Festuca pratensis	-	-	-	-	-	-
14. Holcus lanatus	1.5	1.7	1.1	0.6	0.2	-
15. Lolium perenne	-	-	-	-	-	-
16. Poa pratensis	0.7	1.2	0.4	0.3	0.5	0.5
17. Poa trivialis	0.1	0.3	0.1	1.6	0.4	0.4
Stalks	2.3	-	-	0.6	-	-
Total	75.8	86.3	75.3	90.8	89.6	75.9
LEGUMINOSAE						
Number of species	3	1	2	3	2	3
1. Lathyrus pratensis	14.7	1.2	11.7	1.3	0.7	8.5
2. Lotus corniculatus	-	-	-	-	<	-
3. Ononis arvensis	-	-	-	-	-	-
4. Trifolium pratense	0.8	-	-	0.3	-	0.7
5. Trifolium repens	0.4	-	0.2	0.7	-	0.4
6. Vicia sepium	-	-	-	-	-	-
Total	15.9	1.2	11.9	2.3	0.7	9.6
MISCELLANEOUS						
Number of species	10	9	7	9	10	9
1 & 2. Ranunculus acris et bulbosus	0.3	0.3	0.2	0.6	0.8	0.4
4. Cerastium vulgatum	-	-	-	-	-	-
5. Stellaria graminea	-	-	-	-	-	-
7. Agrimonia eupatoria	-	-	-	-	-	-
10. Potentilla reptans	-	-	-	-	-	-
11. Poterium sanguisorba	-	-	-	-	-	-
13. Anthriscus sylvestris	0.1	0.9	-	0.9	3.4	1.5
14. Conopodium denudatum	0.1	0.5	0.7	-	1.2	0.4
15. Heracleum sphondylium	-	-	-	-	0.3	0.9
15. Pimpinella saxifraga	-	-	-	-	-	-
17. Galium verum	-	-	-	-	-	-
18. Scabiosa arvensis	-	-	-	-	-	-
19. Achillea millefolium	2.9	0.2	3.9	3.1	1.0	1.1
20. Centaurea nigra	0.6	0.1	-	0.9	0.4	-
22. Hieracium pilosella	-	-	-	-	-	-
23. Hypochaeris radicata	-	-	-	-	-	-
24. Leontodon hispidus	-	-	-	-	-	-
25. Senecio jacobaea	-	-	-	-	-	-
26. Taraxacum vulgare	1.4	7.3	0.9	0.3	0.1	3.3
27. Tragopogon pratensis	0.1	-	0.7	0.2	0.1	1.4
29. Plantago lanceolata	2.9	2.3	6.3	0.4	1.3	9.3
30. Veronica chamaedrys	-	-	-	-	-	-
31. Ajuga reptans	-	-	-	-	-	-
32. Prunella vulgaris	-	-	-	-	-	-
34. Rumex acetosa	0.1	1.0	0.2	0.4	0.7	0.2
35. Luzula campestris	0.1	-	-	<	-	-
36. Carex praecox	-	-	-	-	-	-
Mosses	-	-	-	-	-	-
Total	8.6	12.8	12.9	6.8	9.3	14.5

Manuring	Nitrate of Soda: With Mixed Mineral Manure = 86 lb. N.													
Plot Number	14													
Unlimed or Limed	Unlimed							Limed						
								Limed	Sun	Shade	Sun	Shade	Sun	Shade
Season	1903	1914	1919	1923	1935	1941	1948	1923	1935	1935	1941	1941	1948	1948
GRAMINEAE														
Number of species	13	12	11	9	10	9	10	12	10	12	9	12	10	11
1. Agrostis vulgaris	0.1	1.5	0.5	0.1	<	<	0.5	0.6	-	0.5	-	0.1	0.1	0.4
3. Alopecurus pratensis	28.7	22.6	53.7	42.3	61.9	59.2	31.8	23.9	22.3	20.0	23.1	18.5	12.1	6.7
4. Anthoxanthum odoratum	0.1	0.2	0.4	-	-	-	0.5	0.1	-	0.1	-	0.3	-	0.2
5. Arrhenatherum avenaceum	17.3	40.9	23.4	33.2	25.8	28.9	36.2	34.8	38.1	11.0	44.5	18.7	45.0	34.7
6. Avena flavescens	0.3	1.9	0.7	-	0.1	-	0.8	0.9	0.2	1.5	0.2	0.4	0.5	1.1
7. Avena pubescens	2.3	3.6	3.7	0.8	<	<	1.4	5.0	0.8	11.1	0.8	14.4	9.3	11.6
8. Briza media	-	-	0.5	3.7	1.7	<	0.3	15.3	0.4	0.7	0.2	0.5	<	-
9. Bromus mollis	23.0	5.2	-	-	-	-	-	-	-	-	-	-	-	-
10. Cynosurus cristatus	-	-	3.2	5.0	2.0	7.2	14.2	0.6	4.5	2.2	7.2	1.1	13.6	5.0
11. Dactylis glomerata	0.7	6.2	5.1	0.2	0.2	<	-	9.2	9.5	43.2	11.4	34.5	13.3	27.4
12. Festuca rubra	2.7	5.9	-	-	-	-	-	-	-	-	-	-	-	-
13. Festuca pratensis	-	-	-	-	-	-	-	-	<	0.2	-	-	-	2.3
14. Holcus lanatus	<	-	-	-	-	-	-	0.2	-	-	-	0.1	-	-
15. Lolium perenne	<	0.1	0.8	0.8	0.7	0.7	4.7	2.6	4.5	3.2	1.3	3.1	2.9	2.9
16. Poa pratensis	9.2	2.2	1.0	7.6	0.6	1.6	2.4	2.8	2.4	0.8	3.9	1.5	1.0	1.1
17. Poa trivialis	0.9	1.3	-	-	-	-	-	-	-	-	-	-	-	-
Stalks	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-
Total	85.3	92.3	93.0	93.7	93.0	97.6	92.2	96.0	82.7	94.5	92.6	93.4	93.8	93.4
LEGUMINOSAE														
Number of species	2	1	1	1	1	1	1	1	1	2	1	2	1	3
1. Lathyrus pratensis	3.3	4.0	2.4	0.1	0.9	0.3	2.1	0.9	12.4	4.2	4.0	4.9	3.2	3.6
2. Lotus corniculatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Ononis arvensis	-	-	-	-	-	-	-	-	-	-	-	0.1	-	0.5
4. Trifolium pratense	-	-	-	-	-	-	-	-	-	0.1	-	-	-	0.5
5. Trifolium repens	<	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Vicia sepium	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3.3	4.0	2.4	0.1	0.9	0.3	2.1	0.9	12.4	4.3	4.0	5.0	3.2	4.4
MISCELLANEOUS														
Number of species	9	5	4	4	4	[illegible]	5	4	3	4	5	3	6	3
1 & 2. Ranunculus acris et bulbosus	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-
4. Cerastium vulgatum	<	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Stellaria graminea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7. Agrimonia eupatoria	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-
10. Potentilla reptans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11. Poterium sanguisorba	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13. Anthriscus sylvestris	9.5	1.0	2.4	1.8	4.9	0.8	0.2	0.1	3.9	0.7	0.1	0.6	0.7	0.5
14. Conopodium denudatum	<	-	-	-	-	-	-	0.1	-	-	-	-	-	-
15. Heracleum sphondylium	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-
15. Pimpinella saxifraga	-	-	-	-	<	-	-	-	-	-	-	-	-	-
17. Galium verum	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-
18. Scabiosa arvensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19. Achillea millefolium	0.1	0.1	-	-	-	-	-	-	-	0.2	-	-	-	0.1
20. Centaurea nigra	<	-	<	-	-	-	-	-	-	-	-	-	-	-
22. Hieracium pilosella	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23. Hypochaeris radicata	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24. Leontodon hispidus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25. Senecio jacobaea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26. Taraxacum vulgare	0.7	2.0	1.2	2.6	0.3	0.7	3.2	2.2	0.2	0.2	2.0	0.7	1.1	1.7
27. Tragopogon pratensis	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-
29. Plantago lanceolata	-	-	-	0.1	-	-	1.6	-	-	-	0.1	-	0.1	-
30. Veronica chamaedrys	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31. Ajuga reptans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32. Prunella vulgaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34. Rumex acetosa	0.6	0.5	1.0	1.8	0.9	0.5	0.4	0.8	0.8	0.2	0.8	0.8	0.5	-
35. Luzula campestris	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36. Carex praecox	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mosses	<	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	11.1	5.7	4.6	6.3	6.1	2.0	5.5	3.2	4.9	1.3	3.3	1.5	3.0	2.3

TABLE 4

Botanical analyses

Plots 5^2 & 4^1
Minerals

Plots 14, 16, 17
Nitrate of soda + minerals

<= less than 0.05

TABLE 5.

NUMBER OF SPECIES, AND PERCENTAGE OF EACH SPECIES AND GROUP OF SPECIES.

	AMMONIUM SALTS (400 lb. per acre = 86 lb. N). →																				AMMONIUM SALTS (600 lb. per acre = 129 lb. N).											
	With Mixed Mineral Manure																				With Mixed Mineral Manure											
Manuring	With Potash										Without Potash										As Plot 9							With Silicate of Soda since 1861					
Plot number	9										10										11^1							11^2					
Unlimed or Limed	UNLIMED						LIMED					UNLIMED				LIMED					UNLIMED				LIMED			UNLIMED			LIMED		
Season	1903	1914	1919	1935	1940	1948	1914	1919	1935	1940	1948	1914	1919	1935	1940	1948	1914	1919	1935	1940	1948	1903	1914	1919	1949	1914	1919	1949	1914	1919	1949	1914	1919	1949
GRAMINEAE																																		
Number of species	12	10	9	3	6	5	11	10	10	11	12	9	10	8	7	7	9	8	7	8	7	8	8	7	2	9	9	6	9	9	6	8	7	5
1. Agrostis vulgaris	3.8	18.3	12.5	<	5.3	7.7	2.7	2.3	1.2	2.6	4.3	3.0	4.0	10.3	33.9	51.9	3.1	0.5	1.0	2.1	1.0	1.4	0.5	1.7	-	2.1	0.9	-	0.5	0.7	5.3	0.2	<	-
2. Aira caespitosa	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Alopecurus pratensis	4.1	1.7	0.7	-	0.1	-	17.9	26.0	62.1	55.0	38.1	18.7	20.8	0.2	0.1	0.3	47.1	76.9	55.2	50.3	28.6	28.5	1.1	0.8	0.1	27.3	64.0	82.0	17.6	29.8	0.3	49.7	76.0	37.5
4. Anthoxanthum odoratum	16.2	58.9	5.4	0.1	0.3	0.4	12.8	1.1	2.9	2.4	4.1	49.7	21.1	21.1	31.5	10.3	15.4	1.1	1.9	2.9	1.8	1.0	0.1	<	-	2.1	0.1	-	<	0.1	-	-	-	-
5. Arrhenatherum avenaceum	43.3	8.6	46.9	-	0.9	0.6	39.0	47.3	15.1	21.9	14.7	4.8	26.0	1.4	0.9	5.1	9.3	8.1	1.7	7.7	4.1	23.0	6.6	31.3	-	27.1	15.5	2.3	20.8	45.7	0.8	25.6	16.3	17.5
6. Avena flavescens	0.2	0.1	-	-	-	-	0.2	<	-	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-
7. Avena pubescens	0.1	-	-	-	-	-	-	-	0.1	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8. Briza media	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9. Bromus mollis	<	-	-	-	-	-	0.3	-	1.3	1.0	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Cynosurus cristatus	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11. Dactylis glomerata	5.1	5.1	3.3	-	-	-	6.9	6.8	3.6	4.1	11.6	1.0	1.6	0.1	<	0.3	0.7	1.8	<	0.1	-	0.1	0.2	0.2	-	4.9	5.7	4.9	0.3	2.8	<	11.0	7.3	10.3
12. Festuca rubra	7.5	15.4	3.6	-	0.1	0.1	9.3	5.9	1.7	4.7	4.3	19.2	6.9	2.4	2.1	10.3	15.0	5.2	33.3	26.3	54.5	<	0.1	0.1	-	0.2	<	0.4	<	0.1	0.1	<	<	-
14. Holcus lanatus	3.9	4.1	12.4	99.9	99.3	90.6	2.2	0.8	4.4	2.1	2.5	1.1	11.8	64.4	31.3	21.5	1.5	0.1	-	0.2	0.5	45.6	90.9	64.8	99.7	32.0	11.6	3.5	59.5	20.4	92.8	6.1	<	1.6
15. Lolium perenne	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16. Poa pratensis	11.7	1.8	0.2	-	-	-	7.6	3.5	4.1	2.1	9.4	0.9	0.3	-	-	-	4.4	6.0	6.2	6.2	5.4	0.2	-	-	-	2.7	1.9	5.2	0.7	0.1	-	3.5	0.2	10.7
17. Poa trivialis	<	-	-	-	-	-	-	-	-	0.1	<	-	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stalks	-	0.7	0.1	-	-	-	0.1	0.1	-	-	-	0.3	0.2	-	-	-	5.2	-	-	-	-	-	0.5	-	-	1.1	<	-	0.5	-	-	2.8	-	-
Total	95.9	94.7	85.1	100.0	100.0	99.4	99.0	95.8	96.5	96.2	89.7	98.7	92.5	100.0	99.8	99.7	99.7	99.7	99.3	95.8	93.9	99.8	100.0	98.9	99.8	99.5	99.7	98.3	99.9	99.7	99.3	98.9	99.8	97.6
LEGUMINOSAE																																		
Number of species	1	0	0	0	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1. Lathyrus pratensis	<	-	-	-	-	-	-	0.1	0.1	0.7	3.5	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Trifolium pratense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	0	0	0	0	0	0	0	0.1	0.1	0.7	3.5	0	0	0	<	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																																		
Number of species	7	5	3	0	0	1	3	4	3	4	7	4	1	2	0	1	2	1	2	1	4	2	0	1	1	2	2	2	0	1	1	2	0	3
4. Cerastium vulgatum	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-
5. Stellaria graminea	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	-	0.1	0.1	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-
12a. Epilobium angustifolium	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13. Anthriscus sylvestris	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14. Conopodium denudatum	0.3	0.1	0.1	-	-	-	-	0.1	-	-	0.1	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15. Heracleum sphondylium	0.6	0.6	-	-	-	-	<	0.3	2.8	2.0	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.1	-	-	-	-	0.6	-	0.1
17. Galium verum	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19. Achillea millefolium	0.4	0.1	-	-	-	-	0.3	-	-	-	0.5	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-
20. Centaurea nigra	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3
26. Taraxacum vulgare	-	-	-	-	-	-	-	-	0.6	0.5	3.3	-	-	0.1	-	-	-	-	0.2	-	0.4	-	-	-	-	-	-	0.5	-	-	-	-	-	-
27. Tragopogon pratensis	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29. Plantago lanceolata	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
32. Prunella vulgaris	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34. Rumex acetosa	2.8	4.4	14.9	-	-	-	0.7	3.5	0.2	0.3	1.1	1.1	7.4	0.1	-	0.3	0.2	0.4	0.9	4.3	5.0	0.1	-	1.1	-	0.1	0.1	1.3	-	0.4	0.7	0.4	-	1.1
Total	4.2	5.3	15.1	0	0	0.5	1.0	4.0	3.6	3.0	6.7	1.3	7.4	0.2	0	0.3	0.3	0.4	0.7	4.3	6.2	0.1	0	1.1	0.3	0.4	0.2	1.6	0	0.4	0.7	1.0	0	2.5

TABLE 5

Botanical analyses
Plots 9, 10, 11^1, 11^2
Ammonium salts with
& without minerals

<= less than 0.05

TABLE 6a

NUMBER OF SPECIES AND PERCENTAGE OF EACH SPECIES AND GROUP OF SPECIES

	AMMONIUM SALTS																										
Manuring	Alone = 43 lb N; also F Y M 8 years 1856-63								= 86 lb N with Superphosphate							=86 lb N with Mixed Minerals without Super; after Minerals + Nitrogen, 40 years, 1865-1904.												
Plot number	1								4^2							18											
Unlimed or Limed	UNLIMED				LIMED				UNLIMED				LIMED			UNLIMED					LIGHT LIME			HEAVY LIME		
Season	1914	1919	1939	1948	1914	1919	1939	1948	1903	1914	1919	1949	1914	1919	1949	1914	1919	1923	1928	1948	1923	1928	1948	1923	1928	1948
GRAMINEAE																										
Number of species	10	10	7	6	12	10	11	11	9	10	8	5	8	7	9	11	10	8	10	6	9	11	14	8	10	11
1. Agrostis vulgaris	16.0	18.5	52.5	75.3	12.3	8.5	3.7	1.5	2.0	12.9	4.3	36.2	1.0	0.3	2.2	10.0	17.6	47.9	59.0	76.9	28.3	17.5	3.4	27.2	4.8	1.2
2. Aira caespitosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-
3. Alopecurus pratensis	2.0	1.3	0.1	0.1	4.5	5.9	4.0	2.5	4.6	2.5	1.4	0.7	42.4	76.1	24.3	3.3	5.1	5.1	5.3	0.1	10.3	45.6	2.8	8.3	22.7	3.8
4. Anthoxanthum odoratum	15.0	17.5	0.7	0.2	6.9	7.9	2.4	1.4	23.4	7.7	34.1	10.0	7.6	1.1	1.2	3.6	3.5	19.8	6.9	0.8	2.2	0.5	0.8	2.6	-	-
5. Arrhenetherum avenaceum	0.1	0.4	0.1	-	0.3	1.4	2.2	3.0	1.0	0.3	3.1	-	<	-	2.5	0.1	1.6	0.1	0.4	0.5	2.0	2.9	24.6	2.7	18.1	25.0
6. Avena flavescens	-	0.1	-	-	0.7	0.6	2.2	1.7	-	-	-	-	-	-	-	0.1	-	-	<	-	-	<	-	-	<	-
7. Avena pubescens	0.1	0.2	-	0.2	5.1	7.7	34.8	12.1	-	<	-	-	-	-	0.3	0.1	0.1	-	-	-	0.1	<	3.1	-	<	0.8
9. Bromus mollis	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	0.3	-	-	0.1
10. Cynosurus cristatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11. Dactylis glomerata	9.5	11.3	0.7	3.2	7.0	23.4	13.1	18.3	0.1	1.0	0.6	-	-	0.1	0.3	37.1	34.0	3.2	9.3	1.3	8.0	21.1	35.0	9.7	37.7	48.3
12. Festuca rubra	28.1	14.3	40.9	15.6	25.9	10.6	15.2	15.4	53.5	73.0	47.9	35.3	35.1	7.7	57.4	37.8	4.2	18.3	6.2	8.9	26.4	2.8	6.8	31.1	3.1	2.2
13. Festuca pratensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-
14. Holcus lanatus	7.1	22.4	-	-	5.5	10.0	3.5	5.8	1.1	<	0.3	17.5	0.2	<	0.1	0.9	2.4	0.2	8.2	-	1.3	0.8	0.2	1.5	1.6	-
15. Lolium perenne	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1
16. Poa pratensis	0.6	0.4	0.2	-	3.9	1.8	2.3	1.3	7.7	1.2	0.3	-	12.6	12.8	6.3	0.3	0.4	2.2	0.9	-	6.9	5.4	0.8	4.4	6.3	1.1
17. Poa trivialis	-	-	-	-	-	-	0.2	0.3	0.2	-	-	-	-	-	-	-	-	-	<	-	-	0.2	0.2	-	0.1	0.2
18. Phleum pratense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	-	0.1
Stalks	0.4	-	-	-	0.4	-	-	-	-	0.1	-	-	0.2	-	-	0.1	-	-	-	-	-	-	-	-	-	-
Total	78.9	86.4	95.2	94.6	72.6	77.8	83.6	63.3	93.6	98.7	92.0	99.7	99.1	98.1	94.6	93.4	69.0	96.8	96.2	88.5	85.5	96.8	80.8	87.5	94.4	82.9
LEGUMINOSAE																										
Number of species	0	0	0	0	2	2	3	3	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	2
1. Lathyrus pratensis	-	-	-	-	0.5	0.4	1.5	2.0	-	-	-	-	-	-	-	0.1	-	0.1	-	-	-	-	-	-	0.2	0.5
2. Lotus corniculatus	-	-	-	-	0.2	0.3	0.5	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Trifolium pratense	-	-	-	-	-	-	0.1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1
5. Trifolium repens	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	0.7	0.7	2.1	4.6	-	-	-	-	-	-	-	0.1	-	0.1	-	-	-	-	0.1	-	0.2	0.6
MISCELLANEOUS																										
Number of species	7	5	4	5	9	9	12	14	5	6	2	1	2	3	6	5	5	4	6	3	6	5	11	5	6	6
1. 2. Ranunculus acris et bulbosus	0.1	-	-	-	1.3	2.1	1.1	0.7	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	0.1	-	-	-
4. Cerastium vulgatum	-	-	-	-	0.8	0.9	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Stellaria graminea	-	-	-	-	0.1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1	-	-
5a. Stellaria holostea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	-	-	-	1.9	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Spiraea ulmaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-
13. Anthriscus sylvestris	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14. Conopodium denudatum	0.2	1.2	-	0.1	0.2	1.1	0.1	0.1	-	-	-	-	-	-	-	0.8	4.3	0.3	0.3	-	0.8	0.7	0.3	0.5	0.4	0.1
15. Heracleum sphondylium	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	0.2	0.1	-	-	-	0.6	-	3.1	1.6
16. Pimpinella saxifraga	-	-	-	-	0.1	0.1	0.5	0.4	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-
17. Galium verum	0.2	-	2.1	-	-	-	-	-	4.4	0.4	-	-	0.3	0.2	0.4	-	-	-	-	-	-	-	-	-	-	-
18. Scabiosa arvensis	-	-	-	-	-	-	0.9	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19. Achillea millefolium	0.5	0.2	-	-	0.9	1.7	1.1	1.7	<	0.1	-	-	-	-	0.8	0.2	0.2	-	<	-	0.1	0.1	0.2	-	0.3	-
20. Centaurea nigra	19.2	2.1	0.4	0.7	22.2	4.1	4.7	2.0	1.4	0.1	0.1	-	-	-	-	4.5	1.9	-	<	-	0.2	<	3.5	0.3	0.2	-
23. Hypochaeris radicata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24. Leontodon hispidus	-	-	-	-	-	-	0.1	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-
25. Senecio jacobea	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26. Taraxacum vulgare	-	-	-	-	-	-	0.5	1.0	-	-	-	-	-	-	-	-	-	-	-	0.2	-	<	8.9	-	0.2	10.8
27. Tragopogon pratensis	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	2.6
29. Plantago lanceolata	-	-	-	-	-	-	3.5	19.8	-	-	-	-	-	0.1	0.1	-	-	-	-	-	-	-	3.8	-	-	1.0
30. Veronica chamaedrys	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31. Ajuga reptans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32. Prunella vulgaris	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34. Rumex acetosa	0.6	9.9	2.0	2.5	1.0	11.5	1.7	2.1	0.5	0.5	8.0	0.2	0.5	1.5	3.9	1.1	24.6	2.5	3.2	11.2	13.1	2.4	0.2	11.7	1.0	0.4
34a. Urtica dioica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
35. Luzula campestris	0.3	0.2	0.2	0.1	0.5	0.1	0.1	0.1	<	-	-	-	-	-	-	0.1	0.1	0.1	0.1	-	0.1	-	-	0.1	-	-
36. Carex praecox	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	21.1	13.6	4.7	5.3	27.1	21.8	14.5	32.1	6.3	1.2	8.1	0.2	0.8	1.8	5.4	6.7	31.1	3.1	3.7	11.5	14.4	3.2	19.0	12.7	5.2	16.5

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TABLE 6a
Botanical analyses
Plots 1, 4^2, 18
Ammonium salts
with or without
minerals.

< = less than 0.05

TABLE 6b.

NUMBER OF SPECIES AND PERCENTAGE OF EACH SPECIES AND GROUP OF SPECIES.

	FARMYARD MANURE																													
Manuring	Every fourth year with Fish Guano alternately, after cut wheat straw, minerals and ammonium salts, 1845-1904								Every fourth year, after Super, Sulphate of Potash and Nitrate of Soda, 33 years 1872 - 1904										Every fourth year, with Super, Sulphate of Potash and Nitrate of Soda in other years, after Super and Nitrate of soda, 33 years, 1872-1904											
Plot number	13								19										20											
Unlimed or Limed	UNLIMED				LIMED				UNLIMED					LIGHT LIME			HEAVY LIME			UNLIMED					LIGHT LIME			HEAVY LIME		
Season	1914	1919	1944	1948	1914	1919	1944	1948	1914	1919	1923	1928	1949	1923	1928	1948	1923	1928	1948	1914	1919	1923	1928	1948	1923	1928	1948	1923	1928	1948
GRAMINAE																														
Number of species	10	11	12	9	10	11	9	12	14	13	12	12	12	14	13	13	14	13	12	14	14	13	14	12	12	14	13	13	13	13
1. Agrostis vulgaris	11.8	11.0	8.4	15.7	2.3	3.3	-	0.1	7.6	7.5	14.3	5.8	11.8	14.7	5.1	4.3	10.3	2.4	0.5	4.5	6.6	10.5	4.1	4.1	12.7	4.2	2.5	5.3	1.2	0.1
2. Aira caespitosa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Alopecurus pratensis	16.5	22.2	56.7	31.9	18.3	35.3	5.8	10.4	13.4	22.3	16.1	33.2	6.2	16.1	42.6	25.1	14.6	21.1	16.7	11.1	30.3	29.4	46.2	39.2	16.9	30.6	21.9	25.2	24.1	17.6
4. Anthoxanthum odoratum	4.0	5.2	4.8	6.2	1.5	2.0	0.5	0.3	1.0	4.3	11.6	11.6	7.3	9.4	7.9	1.5	1.3	0.7	-	0.6	1.1	0.3	1.9	1.1	5.7	6.4	1.9	1.2	0.7	0.2
5. Arrhenatherum avenaceum	24.4	17.3	0.9	3.4	40.3	20.5	5.9	25.9	3.7	7.9	8.6	7.9	5.7	1.9	3.5	5.5	7.1	15.9	14.3	4.2	4.6	5.6	11.3	15.1	12.4	8.7	21.7	2.0	3.8	17.4
6. Avena flavescens	0.1	0.1	0.1	-	-	<	-	0.1	8.9	3.2	2.0	3.5	1.7	6.6	3.2	3.0	8.7	6.1	3.1	6.1	2.9	6.1	3.4	4.0	2.7	4.1	1.9	5.3	2.6	3.3
7. Avena pubescens	-	0.1	-	-	-	0.1	-	0.3	1.7	3.3	1.9	3.0	0.9	2.7	2.8	1.9	4.3	11.9	5.4	6.3	10.2	7.7	6.6	0.7	5.3	9.3	3.0	11.7	28.9	6.8
8. Bromus mollis	-	-	0.1	-	0.1	-	0.1	0.1	2.1	0.2	1.0	-	-	0.9	0.1	0.2	1.7	0.3	0.3	4.9	0.2	2.5	<	0.2	2.4	0.3	0.1	2.9	0.2	0.2
10. Cynosurus cristatus	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	<	-	-	<	-	-	-	-
11. Dactylis glomerata	7.6	9.2	6.7	9.1	6.4	10.3	8.6	21.5	12.0	15.8	5.3	9.6	3.3	6.4	11.0	10.9	3.7	9.1	13.6	9.9	12.5	6.0	7.0	14.7	4.1	7.1	14.4	2.7	5.6	14.2
12. Festuca rubra	14.6	5.5	3.6	4.0	10.7	4.7	1.1	0.9	21.0	6.1	13.3	8.1	9.8	14.8	3.7	5.0	16.6	13.9	4.5	22.2	4.4	13.9	5.3	3.7	14.9	6.5	2.8	21.1	9.0	4.8
13. Festuca pratensis	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	0.4	-	-	5.7	-	-	-	-	-	-	-	-	-	-	-
14. Holcus lanatus	14.6	7.2	2.7	2.5	14.4	6.4	1.7	4.4	3.5	2.1	3.4	4.9	1.3	2.1	2.6	1.7	0.2	0.9	-	10.4	6.8	1.9	4.1	1.0	2.4	7.9	5.7	1.9	5.0	1.6
15. Lolium perenne	-	-	<	-	-	-	-	-	0.3	0.4	-	<	-	0.1	0.4	-	0.3	<	0.3	0.3	0.3	0.8	0.4	-	-	0.3	0.1	0.2	0.1	0.8
16. Poa pratensis	0.8	1.7	1.8	0.9	1.1	3.9	1.4	1.8	0.8	0.5	0.6	0.3	0.7	2.0	1.1	0.9	2.2	1.4	1.9	0.5	0.6	2.5	1.4	1.3	1.1	0.7	0.4	2.0	2.9	3.0
17. Poa trivialis	0.1	0.4	0.4	0.1	-	0.2	1.2	1.2	2.4	1.4	0.5	2.0	0.5	1.4	4.6	1.8	1.3	6.0	0.7	2.2	1.1	1.1	1.2	1.3	1.9	3.5	3.9	1.2	3.0	4.3
18. Phleum pratense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stalks	-	-	-	-	0.3	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	1.1	0.1	-	-	-	-	-	-	-	-	-
Total	96.5	79.9	85.7	73.8	95.4	86.7	26.3	67.0	78.7	75.0	78.6	89.9	50.3	79.2	88.6	62.2	72.4	89.7	67.0	84.3	81.7	86.3	92.9	86.4	82.5	89.6	80.3	82.7	87.1	74.3
LEGUMINOSAE																														
Number of species	1	1	1	2	1	1	4	3	4	2	2	2	4	2	2	3	3	3	4	3	1	3	2	3	2	2	3	1	2	3
1. Lathyrus pratensis	0.5	0.1	0.3	0.5	0.9	0.8	30.9	7.9	9.2	6.0	7.3	1.6	13.5	9.3	1.5	7.4	15.5	1.0	7.5	6.4	4.7	1.9	2.6	4.3	9.9	1.8	2.1	5.3	5.1	8.8
2. Lotus corniculatus	-	-	-	-	-	-	0.2	-	0.6	0.1	-	-	1.1	-	-	-	0.5	0.9	1.7	0.1	-	-	-	0.1	-	-	-	-	-	-
4. Trifolium pratense	-	-	-	<	-	-	7.3	2.4	0.1	-	-	-	0.2	-	-	0.1	-	-	0.5	-	-	0.3	-	-	-	-	0.1	-	-	0.2
5. Trifolium repens	-	-	-	-	-	-	2.6	0.3	0.1	-	0.1	0.3	2.7	0.8	0.5	1.0	0.9	2.5	0.7	0.1	-	2.4	0.2	0.6	0.8	1.4	2.8	-	0.2	0.9
Total	0.5	0.1	0.3	0.5	0.9	0.8	41.0	10.6	10.0	6.1	7.4	1.9	17.5	10.1	2.0	8.5	16.9	4.4	10.4	6.6	4.7	4.6	2.8	5.0	10.7	3.2	5.0	5.3	5.3	9.9
MISCELLANEOUS																														
Number of species	6	8	13	12	10	11	12	13	13	14	13	13	13	10	13	12	11	14	8	11	14	11	11	9	9	14	10	13	14	11
1. 2. Ranunculus acris et bulbosus	-	-	-	0.1	-	-	0.9	2.2	1.0	4.8	4.6	1.8	5.7	5.5	2.5	7.9	4.9	1.4	4.0	0.5	2.1	1.9	0.8	1.2	2.6	1.3	1.9	2.1	1.2	1.3
4. Cerastium vulgatum	0.1	0.2	0.3	0.1	0.2	0.7	0.5	0.1	0.4	0.3	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.3	-	0.1	0.3	-	<	-	0.1	0.3	0.3	0.1	0.2	-
5. Stellaria graminea	0.1	0.1	0.2	0.1	-	0.3	-	-	0.1	<	0.1	<	0.2	-	-	-	-	-	-	-	0.1	-	-	-	-	<	-	-	-	-
5a. Stellaria holostea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Potentilla reptans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Spiraea ulmaria	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13. Anthriscus sylvestris	-	0.3	0.2	-	0.7	2.0	2.0	0.7	3.1	0.5	1.6	0.2	-	-	<	-	0.5	0.4	-	2.8	2.5	2.7	0.4	0.6	0.7	0.3	-	3.3	0.3	0.3
14. Conopodium denudatum	0.3	3.2	0.9	0.8	0.9	2.0	-	0.1	0.3	1.7	0.8	0.8	0.3	1.2	0.6	0.4	1.3	0.5	-	0.1	1.5	0.8	-	-	1.3	0.7	-	1.5	0.5	-
15. Heracleum sphondylium	0.3	0.7	0.2	-	0.6	-	-	-	-	-	-	-	1.1	-	<	0.4	0.2	0.5	1.1	-	-	-	0.7	0.1	-	-	0.1	-	0.2	0.2
16. Pimpinella saxifraga	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17. Galium verum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.5	-	-	-	-	-	-	0.2	0.1	0.4
18. Scabiosa arvensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19. Achillea millefolium	0.5	0.4	0.7	4.0	<	0.2	0.2	0.3	1.7	1.4	0.1	0.2	10.2	0.1	0.1	5.2	0.1	0.4	2.3	2.2	1.2	0.7	0.3	0.4	0.3	1.0	1.5	0.2	0.5	2.7
20. Centaurea nigra	-	-	0.3	0.1	0.3	0.3	4.0	0.7	1.9	0.4	0.5	0.3	-	-	-	1.0	-	0.1	1.4	2.6	1.4	0.5	0.3	-	-	<	0.7	1.0	0.2	0.2
23. Hypochaeris radicata	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24. Leontodon hispidus	-	-	-	1.7	-	-	0.9	1.3	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25. Senecio jacobea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26. Taraxacum vulgare	-	-	0.3	1.5	0.1	0.2	6.2	3.2	0.1	0.1	0.4	<	0.6	0.3	0.1	0.6	0.5	0.4	1.1	0.1	0.1	0.2	0.1	0.7	0.8	1.0	1.1	1.2	2.7	2.3
27. Tragopogon pratensis	-	-	-	0.9	-	<	0.5	1.3	-	0.3	0.1	-	-	-	-	0.4	-	<	2.9	-	0.2	0.1	-	3.3	0.2	0.1	1.1	1.3	0.3	3.8
29. Plantago lanceolata	-	-	6.2	14.7	<	0.1	10.3	11.5	0.2	0.2	0.8	0.5	11.8	0.4	-	10.4	1.9	0.5	9.7	0.1	-	0.1	<	0.9	-	0.4	6.2	0.4	0.5	4.1
30. Veronica chamaedrys	-	-	0.5	0.2	<	0.1	0.7	<	0.2	0.2	0.2	0.4	0.2	0.3	0.3	0.7	-	0.1	-	0.3	0.1	0.1	0.3	0.1	-	0.4	0.3	0.1	0.4	0.1
31. Ajuga reptans	-	-	-	-	-	-	0.1	<	-	0.2	-	0.3	0.2	0.2	0.2	-	0.4	0.5	-	-	0.3	-	-	-	-	0.1	-	-	-	-
32. Prunella vulgaris	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34. Rumex acetosa	1.8	15.1	3.9	1.9	0.6	6.3	0.4	0.8	2.1	8.4	4.3	3.5	1.3	2.1	5.1	2.3	0.3	0.7	0.3	0.3	3.3	2.1	1.4	1.5	0.8	1.6	1.4	0.3	0.3	0.5
34a. Urtica dioica	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35. Luzula campestris	-	0.1	<	-	-	-	-	-	0.1	0.1	0.4	0.2	0.2	0.4	<	0.1	0.3	0.1	-	-	<	0.1	<	-	0.1	0.1	-	0.2	<	-
36. Carex praecox	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3.1	20.1	13.9	25.5	3.4	12.2	32.7	22.2	11.5	18.6	14.0	8.4	32.4	10.7	9.4	29.5	10.6	5.9	22.8	9.2	13.6	9.3	4.3	8.8	6.9	7.3	14.9	11.9	7.4	15.9

TABLE 6b.
Botanical analyses.
Plots 13, 19, 20
Farmyard manure.

< = less than 0.05.