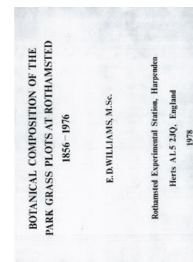


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Botanical Composition of the Park Grass Plots at Rothamsted 1856-1976



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Tables

Rothamsted Research

Rothamsted Research (1978) *Tables ; Botanical Composition Of The Park Grass Plots At Rothamsted 1856-1976*, pp 18L - 61 - DOI: <https://doi.org/10.23637/ERADOC-1-156>

TABLE 1a

Amounts of fertilisers applied to the Park Grass plots

Nitrogen, applied in spring.

N_1 , N_2 or N_3 , ammonium sulphate supplying 48, 96 or 144 kg N ha⁻¹
 N_1^* , or N_2^* , sodium nitrate supplying 48 or 96 kg N ha⁻¹

PKNaMgSi, applied in winter.

P 35kg P ha⁻¹ as powdered (recently granular) superphosphate
 K 225 kg K ha⁻¹ as potassium sulphate (50% K₂O)
 Na 15 kg Na ha⁻¹ as sodium sulphate (14% Na)
 Mg 11 kg Mg ha⁻¹ as magnesium sulphate (10% Mg)
 Si 450 kg ha⁻¹ of water-soluble powdered sodium silicate to plot 11² only.

Plot 20 in years when FYM not applied
 30 kg N, 15 kg P and 45 kg K ha⁻¹

Organic, applied every fourth year

FYM 35 t ha⁻¹ farm yard manure (bullocks) (1973, 1977)
 Fish meal (about 6.5% N) to supply 63 kg N ha⁻¹ (1975, 1979) (about 950 kg meal ha⁻¹)

TABLE 1b

Plot treatments, starting dates and early treatments for all the Park Grass Plots

Plot number	Present Treatment	Starting Date	Treatment in early years where different from present
No nitrogen group			
2	Unmanured	1863	FYM 1856-62
3	Unmanured	1856	
12	Unmanured	1856	
4 ¹	P	1859	Sawdust 1856-58
8	PNaMg	1863	PKNaMg, + sawdust 1856-61
7	PKNaMg	1856	
15	PKNaMg	1876	N ₂ * 1858-1875
Ammonium N group			
1	N ₁	1864	N ₁ and FYM 1856-63
4 ²	N ₂ P	1859	Sawdust 1856-58
10	N ₂ PNaMg	1863	N ₂ PKNaMg 1856-61 Sawdust 1856-62
18	N ₂ KNaMg	1905	NPKNaMgSi 1865-1905
9	N ₂ PKNaMg	1856	
11 ¹	N ₃ PKNaMg	1882	N ₄ PKNaMg 1856-81 except 1859-61 N ₂ PKNaMg
11 ²	N ₃ PKNaMgSi	1882	
Nitrate - N group			
17	N ₁ *	1858	
16	N ₁ * PKNaMg	1858	P omitted 1866 and 1867
14	N ₂ * PKNaMg	1858	
Organic			
13	FYM + fish meal	1905	N ₂ PKNaMg 1856-1904 and straw until 1897
19	FYM	1905	N ₁ PK 1872-1904
20	FYM + NPK	1905	N ₁ PK 1872-1904

18R

TABLE 2

Details of liming on Park Grass plots

(1) Old (Main) liming scheme, started 1903

Southern halves of all plots 1-13 (except 5/1, 5/2, 6 and 12) and 16 received 2.24 t CaO ha⁻¹ as ground lime in 1903, 1907 and 1915 and every fourth year between 1920 and 1964. Plots 14, 15 and 17 came into this scheme in 1920.

(2) Scheme to test two laboratory methods for estimating lime requirement of soils, started 1920

Plots 18, 19 and 20 divided into 3 in 1920. One third received no lime, another third, light and the other heavy rate of liming every fourth year since then.

Rates in t CaO ha⁻¹ are

Plot	Light	Heavy
18	4.43	7.61
19	0.64	3.53
20	0.64	3.11

(3) New liming scheme, started 1965

Eventual aim is to have pHs 7, 6, 5 and 4 for 4 sub plots (*a*, *b*, *c* and *d*) within each plot. Limed half-plot split into *a* and *b* and unlimed into *c* and *d*.

(a) First phase 1965-1968

Ground chalk applied to some of the *b* and *c* sub-plots receiving ammonium sulphate. Amounts in t ha⁻¹ as follows.

Plot	sub-plot	
	<i>b</i>	<i>c</i>
1	—	12.4
4 ²	3.7	22.4
9	7.5	17.6
10	3.7	20.0
11 ¹	24.9	20.0
11 ²	15.1	20.0
13	—	3.7
18	—	10.0

pH of sub-plot *a* maintained at 1965 pH level by liming every fourth year; no lime applied to sub-plot *d*.

(b) Second phase, starting 1976

Lime applied to raise pH of all *a* sub-plots to 7 where they start less than thi

TABLE 3

The pHs of all sub-plots on Park Grass during 1974-77 (supplied by A.E. Johnston)

Plot	a ⁽¹⁾	b	c	d ⁽²⁾
1	6.6	5.9 ⁽³⁾	4.3 ⁽⁴⁾	4.1
2	7.1	6.7 ⁽³⁾	5.2 ⁽³⁾	5.2
3	7.1	6.5 ⁽³⁾	5.1 ⁽³⁾	5.3
4/1	6.9	6.6 ⁽³⁾	5.4 ⁽³⁾	5.3
4/2	5.8	5.9 ⁽⁴⁾	4.0 ⁽⁴⁾	3.9
6	6.3	6.5 ⁽³⁾		
7	6.6	6.3 ⁽³⁾	5.2 ⁽³⁾	4.8
8	6.9	6.8 ⁽³⁾	5.2 ⁽³⁾	5.2
9	5.0	5.6 ⁽⁴⁾	4.2 ⁽⁴⁾	3.9
10	5.5	5.8 ⁽⁴⁾	4.2 ⁽⁴⁾	3.9
11 ¹	4.3	4.4 ⁽⁴⁾	4.4 ⁽⁴⁾	3.7
11 ²	5.1	5.5 ⁽⁴⁾	4.2 ⁽⁴⁾	3.8
12	5.3	6.0 ⁽³⁾	5.2 ⁽³⁾	5.2
13	6.9	6.2 ⁽³⁾	5.0 ⁽⁴⁾	4.9
14	7.0	6.7 ⁽³⁾	5.8 ⁽³⁾	5.8
15	6.3	6.5 ⁽³⁾	5.0 ⁽³⁾	4.7
16	6.8	6.5 ⁽³⁾	5.3 ⁽³⁾	5.2
17	7.2	7.0 ⁽³⁾	5.6 ⁽³⁾	5.9
18	6.8	6.7 ⁽³⁾	4.4 ⁽³⁾	3.9 18/2 7.6 ⁽³⁾
	Unlined	Low Lime	High Lime	
19	5.3 ⁽³⁾	6.1 ⁽³⁾	6.7 ⁽³⁾	
20	5.5 ⁽³⁾	6.0 ⁽³⁾	6.9 ⁽³⁾	

(1) Sampled in 1975 (all *a* sub-plots) (2) Sampled in 1976 (all *d* sub-plots)

(3) Sampled in 1977 (4) Sampled in 1974

TABLE 4 Specific and Common names of species whose generic name only is given in the text and tables

Grasses		Other species	
Agrostis tenuis (A. vulgaris)	Common Bent	Achillea millefolium	Yarrow
Alopecurus pratensis	Meadow Foxtail	Anthriscus sylvestris	Cow Parsley
Anthoxanthum odoratum	Sweet Vernal-grass	(Chaeophyllum sylvestre)	
Arrhenatherum elatius	False Oat-grass	Carex caryophyllaea	Spring-sedge
(A. avenaceum, Avena elatior)		(C. praecox)	
Briza media	Quaking-grass	Centaurea nigra	Common Knapweed
Bromus mollis	Soft-brome	Cerastium holosteoides	Common Mouse-ear
Cynosurus cristatus	Crested Dog's tail	(C. vulgatum)	
Dactylis glomerata	Cock's-foot	Chamaenerion angustifolium	Rosebay Willowherb
Deschampsia caespitosa	Tufted Hair-grass	(Epilobium angustifolium)	
(Aira caespitosa)		Conopodium majus	Pignut
Festuca pratensis	Meadow Fescue	(C. denudatum)	
Festuca rubra	Red Fescue	Galium verum	Lady's Bedstraw
(Festuca ovina)		Heracleum sphondylium	Hogweed
Helictotrichon pubescens	Downy Oat-grass	Hieracium pilosella	Mouse-ear Hawkweed
(Avena pubescens)		Hypochaeris radicata	Cat's-ear
Holcus lanatus	Yorkshire-fog	Knautia arvensis	Field Scabious
Lolium perenne	Perennial Rye-grass	(Scabiosa arvensis)	
Poa pratensis	Smooth Meadow-grass	Leontodon hispidus	Rough Hawkbit
Poa trivialis	Rough Meadow-grass	Linum catharticum	Fairy Flax
Trisetum flavescens	Yellow Oat-grass	Luzula campestris	Field Wood-rush
(Avena flavescens)		Pimpinella saxifraga	Burnet-saxifrage
		Plantago lanceolata	Ribwort Plantain
		Potentilla reptans	Creeping Cinquefoil
		Poterium sanguisorba	Salad Burnet
		Ranunculus acris	Meadow Buttercup
		Rumex acetosa	Common Sorrel
		Taraxacum officinale	Dandelion
		(T. vulgare)	
		Tragopogon pratensis	Goat's-beard
		Veronica chamaedrys	Germander Speedwell
Legumes			
Lathyrus pratensis	Meadow Vetchling		
Lotus corniculatus	Common Bird's-foot-trefoil		
Ononis repens	Common Restharrow		
(O. arvensis)			
Trifolium pratense	Red Clover		
Trifolium repens	White Clover		

Names in parenthesis are older Latin ones used in previous publications. *Festuca ovina*, of early publications, has now been more correctly identified as *Festuca rubra*.

TABLE 5 Relationship between abundance scores (F° - F^{++}) of visual surveys and the % contribution of species to yield estimated by botanical analysis of hay samples

	Abundance Score	Year					
		1947		1948		1949	
		Range	Mean	Range	Mean	Range	Mean
All species	F°	t - 69	6	t - 20	3	t - 22	5
	F	t - 81	8	t - 54	4	t - 82	4
	F^{+}	2 - 21	8	s - 45	9	t - 99	15
	F^{++}	s - 52	21	6 - 91	23	5 - 57	14
Grasses	F°	s - 69	11	t - 16	4	1 - 22	7
	F	s - 81	14	t - 54	6	t - 82	6
	F^{+}	4 - 21	9	s - 45	15	4 - 99	29
	F^{++}	14 - 52	33	6 - 91	32	57	57
Legumes	F°	t - t	t	t - 13	2	1 - 12	6
	F	s - 7	3	t - 16	3	2 - 10	5
	F^{+}	4 - 7	6	2 - 11	5	2 - 13	6
	F^{++}	6 - 11	8	6 - 6	6	5 - 5	5
Others	F°	1 - 6	2	t - 20	2	t - 8	2
	F	t - 13	3	t - 13	1	t - 10	1
	F^{+}	2 - 8	5	t - 13	5	t - 10	4
	F^{++}	s - 10	5	6 - 15	10	7 - 14	10

t = trace, 0.1% or less, s = small amount, 0.2-0.5%. In 1947 visual survey preceded the hay harvest by 3 days and in 1948 and 1949 by about 13 days.

TABLE 6 Comparison of number of species detected by visual surveys and hay analyses in 1947, 1948 and 1949. (mean of all plots analysed)

	Visual survey	Hay analyses	Hay analyses + O.S.
1947	13	21	25
1948	14	23	28
1949	14	21	27

O.S. = odd species whose presence was noted during analysis of hay but whose contribution was too small to be quantified.

21L

Notes on Tables 7-45

The following tables give details of the botanical composition of all Park Grass plots throughout the duration of the experiment. They have been compiled from data in Lawes & Gilbert (1859), Lawes, Gilbert & Masters (1882), Brenchley and Warington (1958), Rothamsted Annual Reports until 1939, Numerical Results of the Field Experiments at Rothamsted since then and the present (1973-76) analyses. However, to minimise errors in reproduction, reference has also been made to original papers where possible and the tables include results for some years not previously published.

The data are necessarily condensed both to reduce the bulk of the tables, and also since it is questionable whether the accuracy of the sampling method justifies presentation of minor components to many decimal places. The tables were assembled primarily to enable the major changes with time in botanical composition within plots to be traced for the present paper but should also serve as a source of information for future reference. In the tables of complete analyses the species are listed in alphabetical order within three main groups, grasses, legumes (where they occur) and other species and the following abbreviations are used throughout: t = trace, 0.1% or less; s = small amount 0.2-0.5% inclusive. Care should be taken in interpreting differences between species which are evidently minor constituents of the herbage: little emphasis should be placed on a difference in one category in one season and it should be borne in mind that at this level the difference within a category may sometimes be larger than between categories. It is important therefore that comparisons of minor components should take account of the data for a number of years. Only species which have contributed at least 0.5% on at least one occasion are included in the tables so that the number of species listed should not be taken as an absolute measure of the number occurring on a plot.

Tables 38-45 give details of the botanical composition of plots analysed during 1973-76. To maintain continuity with the past records results are given to one decimal place but contributions of less than 0.05% are denoted by t. Because results were originally calculated to three decimal places, the totals shown may not agree exactly with the sums of individual species. Since the plots differ greatly in total yield the results are also presented as amounts of the different species per unit area of land.

TABLE 7a Percentage Grasses (G), Legumes (L) and Other Species (O) on the Park Grass Plots

Plot Treatment	Plots not receiving nitrogen																																					
	1858 '62	'67	'71	'72	'74	'75	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	1902 '03	'04	'05	'06	'07	'08	'09	'10	'11	'12		
U	G 76	71	66	79	69	73	69	66	71	67	70	64	79	71	78	73	72	68	56	65	73	51	53	48	47	57	34	52	42	39	46	52	56	65	67	46	41	
	L 5	8	5	9	10	12	12	9	15	10	4	3	8	4	10	12	20	15	13	12	3	9	3	3	9	6	7	8	13	9	8	6	13	6	3	4	5	
	O 16	21	29	16	22	17	19	22	20	18	20	32	19	21	19	17	16	13	28	31	23	24	40	44	48	44	37	58	40	45	52	46	42	32	29	30	50	54
3 -	G 59	54	53	66	44	45	47	52	73	60	63	47	61	50	71	54	34	48	61	66	58	47	45	57	29	38	53	47	48	54	61	53	46	53	53	64	61	
	L 9	6	5	9	5	6	5	10	5	5	8	5	6	2	6	7	9	10	7	3	5	10	10	8	4	7	10	12	8	8	5	12	14	11	7	7	4	
	O 32	36	42	25	50	49	48	38	22	35	31	40	34	44	26	40	59	43	29	27	39	37	43	45	35	67	55	37	41	44	37	34	35	40	36	40	29	35
L	G 59	63																																				
	L 8	8																																				
	O 33	27																																				
U	G 72	63	80	72	74	81	83	81	84	87	76	82	80	78	68	69	66	64	64	73	72	60	61	65	65	76	29	43										
	L 19	9	3	8	7	5	5	4	5	3	2	1	5	2	7	7	6	10	11	3	3	5	4	6	8	5	22	19										
	O 9	28	17	20	21	14	11	15	11	11	22	17	15	20	24	24	27	26	25	23	25	35	35	29	28	18	49	38										
8 PNaMg	G 50	35	35	45	44	45	50	51	30	30	63	53	69	48	38	46	49	56	44	57	34	46	42	47	40	47	35	32	27	51	53	56						
	L 11	11	12	15	20	13	9	5	16	11	8	3	6	10	17	11	25	15	11	14	25	12	7	14	17	17	17	16	9	7	9	7	9					
	O 39	53	53	40	36	41	46	40	65	54	26	36	23	49	56	42	54	33	31	28	55	40	32	41	53	39	48	51	57	40	40	35						
L	G 53	40	45	51	51	49	64	38	41	63	68	51	71	59	55	57	63	59	69	54	56	55	59	65	48	47	33	33	33	60	53	64						
	L 19	19	17	17	20	17	5	9	8	14	9	22	8	5	6	8	14	9	18	14	7	15	24	14	10	20	20	24	24	10	11	10	10	10	10	10	19	
	O 28	41	38	32	29	34	31	53	51	23	21	27	21	37	39	33	29	28	23	17	39	29	21	22	25	32	33	43	43	30	36	26						
U	G 72	65	59	72	46	74	83	81	74	75	80	72	86	69	76	61	52	53	64	59	54	58	52	45	37	71	20	42	62	49	48	53	56	52	71	65	46	
	L 23	25	13	16	40	13	9	10	14	14	8	7	5	20	7	31	37	35	23	19	26	20	31	22	45	58	55	33	18	23	22	29	29	30	10	10	19	
	O 2	11	28	12	11	13	8	9	12	11	11	20	9	10	17	8	10	11	13	21	20	22	17	21	10	6	12	24	25	20	28	30	17	15	18	19	24	35
L	G 71	72	54	70	71	71	59	43	66	61	53	37	75	82	63	57	33	51	77	69	44	42	59	51	74	56	74	63	64	71	52	61	65	71	57	48	40	
	L 21	20	37	26	18	16	20	44	22	30	40	52	1	5	25	34	57	43	9	14	44	41	31	10	21	22	14	26	11	17	34	20	15	9	25	22	47	
	O 8	8	9	4	11	13	21	13	12	9	7	11	24	14	12	9	10	6	14	17	12	1	10	18	16	23	9	12	11	25	12	13	19	20	18	30	13	
U = Unlimited; L = Limited																																						

U = Unlimited; L = Limited

Plots receiving nitrogen as ammonium sulphate

[illegible]

U = unlimed, L = limed, LL = low lime, HL = high lime (see Table 2)

TABLE 7b (continued) Percentage Grasses (G), Legumes (L) and Other Species (O) on the Park Grass Plots

Plot Treatment	Plots receiving nitrogen as ammonium sulphate																																				
	1862	'67	'72	'77	1902	'14	'15	'17	'18	'19	'20	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48	'73											
U	G	85	83	95	93	98	98	98	88	92	99	100	100	100	100	100	100	100	100	100	100	100	100	100	99	100	100										
	L	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t											
	O	14	17	5	7	2	1	2	7	12	7	1	t	t	t	t	t	t	t	t	t	t	t	t	t	t											
10 N ₂ PKNaMg																																					
	G																																				
	L																																				
L	G																																				
	L																																				
	O																																				
9 N ₂ PKNaMg																																					
	G																																				
	L																																				
11 ¹ N ₃ PKNaMg																																					
	G																																				
	L																																				
11 ² N ₃ PKNaMgSi																																					
	G																																				
	L																																				

*Between 1932 and 1935 inclusive grasses made up almost 100% of the herbage

U = unlimited L = limited

TABLE 7c Percentage Grasses (G), Legumes (L) and Other Species (O) on the Park Grass Plots

		Plots receiving nitrogen as sodium nitrate																																					
Plot	Treatment	1862	'67	'72	'77	'78	1902	'03	'14	'15	'19	'20	'21	'23	'25	'27	'29	'31	'33	'47	'49	'75																	
17 N ₁	U	G	81	76	73	76	76	44	56	68	51	58	62	65	65	75	76	61	80	71	70	71	63																
		L	s	1	1	1	1	3	3	1	1	s	s	t	t	t	t	s	t	t	t	t	t																
		O	18	24	25	23	23	53	41	30	48	41	37	34	34	25	24	39	19	28	30	29	36																

U = unlimited L = limited

TABLE 7d Percentage Grasses (G), Legumes (L) and Other Species (O) on the Park Grass Plots

Plot	Treatment	Plots receiving organic manure																																		
		1862 '67	'72	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	1902 '05	'06	'07	'08	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
13 FYM + fishmeal	U	G 90	86	94	93	91	85	82	91	96	95	96	80	86	74	76	74	91																		
		L s	s	1	-	2	s	-	s	-	s	-	t	s	s	1	s	2																		
		O 10	14	5	6	7	14	18	9	4	5	3	20	14	26	24	23	26	7																	
	L	G					95						87	26	36	62	67	67																		
19 FYM	L	O					1						1	41	37	8	7	11																		
							4						12	32	27	30	25	22																		
	U	1872 '75	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	1902 '05	'06	'07	'08	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
		G 89	84	77	81	83	85	85	92	80	91	91	81	74	81	84	77	87	83	81	81	74	89	52	64	60	69	60	81	76	78	80	79	69	74	69
20 FYM NPK	L	O 2	8	11	9	7	7	2	3	12	2	5	14	18	10	5	12	3	8	6	8	21	4	30	18	14	23	26	7	5	5	8	10	20	19	21
		O 8	8	12	10	10	7	12	5	8	7	4	5	7	10	11	11	9	8	13	10	4	7	18	18	26	9	13	12	18	16	12	11	11	6	10
	U	1920 '21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48							
		G 76	89	86	78	67	83	85	90	90	84	87	89	88	87	84	81	84	84	68	65	81	82	76	75	62	52	56	51	50						
LL	L	15	5	7	7	20	4	2	1	2	9	7	3	1	2	4	7	5	5	13	20	7	6	2	8	8	16	11	17	17						
		O 8	6	7	14	13	13	8	8	7	6	8	11	11	12	11	11	10	18	14	12	12	20	17	30	31	33	32	32							
	U	1920 '21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48							
		G 71	92	88	79	66	76	84	88	89	84	87	89	88	87	84	81	84	68	65	81	82	78	75	62	52	56	51	50							
HL	L	19	2	6	10	20	3	1	2	2	9	7	3	1	2	4	7	5	5	13	20	7	6	2	8	8	16	11	17	17						
		O 10	5	6	11	13	21	14	10	9	7	6	8	11	11	12	11	11	10	18	14	12	12	20	17	30	31	33	32	32						
	U	1920 '21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48							
		G 85	92	86	72	69	85	90	88	90	77	80	88	91	92	91	88	89	85	76	73	87	90	95	79	77	70	54	60	67						
U	L	9	4	7	17	21	1	1	3	4	16	13	3	2	3	1	5	6	6	8	19	7	4	s	9	5	15	18	13	10						
		O 6	4	7	11	9	14	8	9	6	6	7	9	7	5	8	6	5	9	17	8	6	5	5	12	18	15	28	26	23						
	U	1872 '75	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'92	'93	'94	'95	1902 '05	'06	'07	'08	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	
		G 87	80	74	86	81	89	76	89	88	86	83	82	78	73	73	80	81	79	80	85	95	65	63	69	72	64	79	80	63	76	84	77	82	66	78
20 FYM	L	2	9	13	4	5	3	1	1	4	7	9	12	12	9	3	8	4	7	9	10	2	15	23	10	17	26	7	8	7	7	6	12	12	25	
		O 11	10	12	10	4	8	22	10	8	7	8	6	10	17	23	12	15	14	10	5	3	20	14	21	11	11	14	12	30	16	9	11	6	9	12
	U	1920 '21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48							
		G 87	90	91	88	65	69	88	93	93	81	84	85	89	89	91	90	90	80	84	83	86	67	91	88	65	72	69	86							
LL	L	4	4	1	2	23	10	4	2	3	12	10	4	2	2	4	3		6	9	6	6	3	2	3	18	6	8	5							
		O 9	6	8	9	11	21	8	5	4	6	6	11	9	9	7	6	6	13	7	10	8	30	6	9	16	22	23	9							
	U	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48						
		G 79	91	87	82	71	77	91	94	90	83	66	87	91	75	94	89	92	87	83	65	85	82	82	90	84	65	75	70	80						
HL	L	15	5	8	11	17	2	1	1	3	9	24	4	2	10	1	5	2	2	7	23	5	4	1	1	12	5	4	5							
		O 6	4	5	7	12	21	8	5	7	8	10	9	7	15	5	6	6	10	10	11	10	14	18	8	15	22	19	25	15						
	U	20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46	'47	'48						
		G 86	90	86	83	58	63	88	89	87	72	73	81	82	86	80	80	70	63	68	79	90	87	84	78	57	61	52	74							
HL	L	5	4	5	5	30	4	3	3	5	18	10	9	7	3	8	11	9	9	16	7	2	1	1	3	13	11	10	10							
		O 9	6	10	12	12	32	9	8	7	9	17	10	12	10	12	9	20	27	16	14	7	12	15	19	29	27	37	16							
	U																																			

U = unlimited L = limited LL = low lime HL = high lime (see Table 2)

U = unlimed L = limed LL = low lime HL = high lime (see Table 2)

TABLE 8 Botanical Composition (% contribution to hay weight) of PLOT 3, UNMANURED, UNLIMITED

	Year															
	1858	'62	'67	'72	'77	1903	'14	'19	'21	'22	'23	'24	'25	'26	'36	'37
Agrostis	7	11	9	16	13	s	13	8	25	24	21	19	19	18	14	12
Alopecurus		4	6	s	s	1	s	s	1	3	s	5	1	2	1	2
Anthoxanthum	5	4	9	5	5	1	3	7	4	1	4	4	7	3	3	10
Arrhenatherum	6	t	s	t	t	t	t	s	s	s	t	t	s	t	t	s
Briza	2	2	1	6	7	20	4	2	1	1	5	s	2	1	3	3
Cynosurus	1	s	t	1	1	s	t	s	s	t	t	s	t	s	t	t
Dactylis		2	2	1	1	1	4	8	12	8	4	4	7	5	3	5
Festuca rubra	8	13	15	22	22	17	25	7	13	13	20	11	11	7	13	14
Helictotrichon		10	3	3	3	5	4	4	3	3	4	4	6	4	5	4
Holcus	17	5	8	4	12	5	3	9	11	3	4	2	8	7	2	5
Lolium	17	6	4	2	4	t	t	t	t	t	t	t	t	t	t	t
Poa trivialis		1	1	s	1	t	1	1	1	2	1	s	s	1	1	s
Trisetum		2	2	3	1	1	1	1	1	2	1	1	s	1	1	1
Lathyrus	2	1	1	1	2	2	s	1	1	1	1	2	2	1	1	1
Lotus	2	2	2	6	4	4	3	2	3	3	3	4	2	3	7	5
Trifolium pratense	1	4	2	2	2	1	2	2	s	s	1	1	1	1	2	1
Achillea	1	1	1	2	2	3	1	2	1	1	1	2	1	1	2	1
Carex		s	1	1	s	1	1	s	1	s	2	2	1	1	s	1
Centaurea		s	1	2	1	4	9	6	4	7	2	10	3	3	3	2
Cerastium		s	s	1	1	1	s	1	t	s	s	s	s	t	s	t
Conopodium		1	3	3	2	1	s	5	s	2	2	2	3	5	2	2
Knautia									s	s	2	2	s	1	4	5
Leontodon		t	1	1	1	6	18	7	2	4	3	6	3	5	14	2
Luzula	t	2	4	3	2	s	s	t	s	s	3	s	s	t	1	1
Pimpinella		1	3	1	1	s	1	1	t	s	s	1	s	1	1	s
Plantago	11	7	11	3	3	2	3	19	8	11	11	11	15	17	6	9
Poterium		s	s	s	1	14	2	6	4	5	4	5	4	6	9	8
Ranunculus	s	5	2	3	3	2	s	s	t	t	t	t	t	t	t	s
Rumex	1	1	2	2	2	2	s	2	1	1	1	1	1	2	s	1
Veronica		s	s	t	s	1	t	t	t	t	s	s	s	s	s	s

TABLE 9 Botanical Composition (%) of PLOT 2, UNMANURED

	Year						LIMED		
	UNLIMED						1914	'19	'49
	1862	'67	'72	'77	1914	'19	'49		
Agrostis	3	5	11	18	8	8	10		
Alopecurus	3	2	6	3	2	1	10		
Anthoxanthum	s	3	7	7	4	9	1		
Arrhenatherum	2	s	s	t	s	1	s		
Briza		t	s	1	6	3	2		
Bromus	18	16	4	s					
Cynosurus	t	s	1	1	s	1			
Dactylis	4	6	3	3	4	11	8		
Festuca rubra	s	5	10	11	26	5	15		
Helictotrichon	3	4	10	8	5	5	3		
Holcus	2	11	7	11	4	11	3		
Lolium	1	4	3	5	s	s	t		
Poa pratensis	2	4	2	1	s	s	t		
Poa trivialis	28	16	3	2					
Trisetum	6	6	12	3	1	1	s		
Lathyrus	1	1	4	5	1	1	2		
Lotus		t	s	s	4	3	9		
Trifolium pratense	s	s	s	1	1	1	4		
Trifolium repens	1	1	s	s	t	t	t		
Achillea	2	1	3	2	1	1	2		
Centaurea	t	1	1	1	7	5	1		
Cerastium	t	t	1	s	s	1	s		
Conopodium	3	3	1	1	s	4	3		
Galium									
Knautia			t	t	s	s	2		
Leontodon		t	t	t	16	3	12		
Linum									
Luzula	t	s	s	1	s	t	s		
Pimpinella	s	s	s	1	s	1	t		
Plantago	2	3	1	4	5	21	6		
Ranunculus	3	1	1	4	s	s	1		
Rumex	12	3	2	2	s	1	1		
Veronica	s	2	1	1	t	t	t		

This plot received farmyard manure during 1856-63

TABLE 10 Botanical Composition (%) of PLOT 12, UNMANURED, UNLIMED

	Year								
	1862	'67	'72	'77	1914	'19	'49		
Agrostis	9	5	11	13	8				
Alopecurus	3	3	3	1	1				
Anthoxanthum	4	8	7	5	3				
Arrhenatherum	1	1	2	1	1				
Briza	1	2	4	4	10				
Dactylis	3	3	2	3	4				
Festuca pratensis	10	4	2	3					
Festuca rubra	7	12	16	21	33				
Helictotrichon	10	6	5	3	2				
Holcus	5	6	4	10	3				
Lolium	4	3	2	2	t				
Poa pratensis	1	1	1	s	s				
Poa trivialis	3	2	1	1	t				
Trisetum	2	2	2	s	1				
Lathyrus	2	2	2	2	1				
Lotus	2	4	5	3	4				
Trifolium pratense	2	3	2	2	2				
Trifolium repens	s	2	1	t	t				
Achillea	1	1	4	3	1				
Carex	s	1	1	1	2				
Centaurea	1	t	3	2	5				
Cerastium	s	1	3	1	s				
Conopodium	2	5	2	3	s				
Knautia	t	t	t	t	s				
Leontodon	t	t	t	t	6				
Luzula	1	3	3	1	s				
Plantago	8	8	s	1	5				
Ranunculus	3	2	3	6	t				
Rumex	3	4	3	2	s				

This plot, unlike all others, was not split for liming

TABLE 11 Botanical Composition (%) of PLOT 3, UNMANURED, LINED

	Year																
	1914	'19	'21	'22	'23	'24	'25	'26	'36	'37	'38	'39	'40	'47	'48	'75	'76
Agrostis	3	1	2	4	3	3	2	2	3	1	s	1	2	1	1	2	2
Alopecurus	1	1	5	3	7	9	4	3	2	5	1	3	7	3	6	1	1
Anthoxanthum	1	3	1	s	1	s	s	s	s	1	s	s	1	3	1	6	2
Arrhenatherum	s	s	s	1	t	t	s	s	s	s	1	s	1	t	t	s	s
Briza	10	9	8	5	7	2	10	11	5	5	2	5	1	4	1	2	2
Dactylis	3	7	8	8	3	4	6	8	3	4	4	3	4	3	3	2	2
Festuca rubra	23	5	13	10	18	9	8	6	7	8	2	5	8	3	4	14	12
Helictotrichon	14	19	18	11	18	17	32	19	12	16	20	16	18	13	13	8	5
Holcus	4	8	9	2	3	2	5	6	3	5	2	2	3	5	2	4	2
Poa pratensis	2	2	1	2	2	2	3	2	4	3	1	1	2	2	2	1	1
Poa trivialis	t	t	t	t	t	t	t	s	1	3	s	s	1	1	s	s	t
Trisetum	1	3	3	4	2	2	2	3	5	3	2	2	2	2	1	1	1
Lathyrus	3	1	2	3	2	6	2	2	1	1	1	2	2	2	2	2	1
Lotus	3	2	7	3	5	5	2	4	10	10	4	11	14	5	7	3	4
Trifolium pratense	2	2	1	1	3	3	1	1	5	4	4	5	7	7	6	7	5
Trifolium repens			t		s	s	t	t	s			s	s	s	1	s	t
Achillea	1	2	1	1	1	2	1	1	1	s	s	1	1	s	1	1	1
Carex	1	s	s	s	1	1	s	s	t	t	t	t	t	t		3	1
Centaurea	11	6	5	21	4	9	3	4	3	1	1	1	s	s	2	1	1
Cerastium	1	1	t	s	1	s	s	s	s	s	t	s	t	s	s	s	s
Conopodium	t	1	t	s	s	s	s	1	s	s	s	s	t	1	t	s	t
Knautia	1	2	1	2	1	6	2	3	10	7	3	4	4	2	2	s	1
Leontodon	4	1	1	1	2	1	s	2	4	2	12	9	7	9	12	12	19
Luzula	s	s	t	t	1	1	t	s	s	1	s	s	1	s	s	2	1
Pimpinella	1	t	s	s	1	1	s	1	1	s	s	1	1	s	s	s	1
Plantago	4	12	9	8	7	5	7	9	5	6	17	8	5	6	13	10	15
Poterium	3	3	2	4	3	4	2	4	9	5	13	13	4	13	12	12	17
Ranunculus	1	3	s	s	1	2	2	2	1	4	5	3	2	9	3	2	1
Rumex	1	4	1	1	s	1	1	4	1	s	2	1	s	2	1	t	t
Veronica	t	t	t	t	s	t	s	t	1	1	t	s	1	s	s	t	t

TABLE 12 Botanical Composition (%) of PLOT 4¹, P

	Year									
	UNLIMED					LIMED				
	'67	'72	'77	1903	'14	'19	'49	1914	'19	'49
1862										
Agrostis	7	6	14	10	t	1	1	2	s	s
Alopecurus	1	2	1	1	s	t	2	1	1	2
Anthoxanthum	4	7	5	5	2	4	3	1	2	1
Arrhenatherum	t	s	t	t	t	s	1	t	t	t
Briza	1	s	2	11	2	2	1	3	3	2
Dactylis	2	1	1	1	5	11	7	2	6	5
Festuca rubra	10	17	16	9	22	5	9	23	5	4
Helictotrichon	9	5	4	10	10	14	5	13	20	18
Holcus	12	9	19	5	9	10	7	7	7	4
Lolium	9	5	3	t	t	s	s	1	2	2
Poa pratensis	1	s	s	1	1	1	1	1	2	2
Poa trivialis	5	6	4	1	1	1	s	s	1	2
Trisetum	4	4	6	3	2	3	1	2	4	3
Lathyrus	s	1	4	5	2	2	3	11	5	7
Lotus	s	1	4	7	1	1	4	2	4	8
Ononis			t		s	s	2			
Trifolium pratense	1	s	t	3	3	t	2	5	1	5
Trifolium repens	1	t	s	3	1	t	s	s	2	2
Achillea	1	2	5	2	2	2	4	1	2	3
Centaurea	s	s	1	5	9	8	2	8	6	3
Cerastium	s	1	1	1	1	1	s	1	s	
Conopodium	1	2	1	s		s	1	1	s	
Knautia			t	s	s		s	1	1	2
Leontodon	1	1	1	15	13		11	7	2	6
Luzula	1	2	4	1	s	s	1	1	s	s
Pimpinella	1	3	1	s			t	s	s	s
Plantago	6	10	3	2	7	18	8	4	11	10
Poterium	t	1	t	8	1	1	1	t	t	2
Ranunculus	6	1	4	1	s	2	4	1	5	2
Rumex	4	5	3	1	1	10	6	1	6	2

P has been applied since 1859, Sawdust between 1856-58

TABLE 13 Botanical Composition (%) of PLOT 7, PK Na Mg, UNLIMITED

	Year																						
	1858	'62	'67	'72	'77	1903	'14	'19	'21	'22	'23	'24	'25	'35	'36	'37	'38	'39	'40	'47	'48	'75	'76
Agrostis	11	7	6	12	12	3	7	5	12	19	15	14	11	8	6	12	7	7	3	5	4	29	31
Alopecurus		s	1	1	s	4	2	2	1	1	2	2	1	3	1	1	5	1	6	4	8	7	3
Anthoxanthum	1	3	4	3	3	1	4	4	5	2	4	1	2	2	4	5	1	1	3	7	4	11	5
Arrhenatherum	9	2	t	s	1	1	1	3	1	1	1	2	5	s	2	3	5	1	3	4	2	s	1
Briza	1	t	t	t	t	t	2	t	t	t	t	t	t	t	t								
Bromus		1	1	t	t	1	2	t	t	t							t		s		s	t	
Dactylis		3	5	2	4	5	10	22	14	12	10	12	34	6	13	16	23	22	26	21	16	5	3
Festuca pratensis		s	1	t	1	s	s												s		s		
Festuca rubra	6	14	11	15	27	8	32	7	18	24	28	11	9	20	10	7	2	8	6	4	5	15	23
Helictotrichon	14	4	2	2	2	4	3	3	3	2	3	1	1	2	2	1	1	2	2	1	1	t	s
Holcus	12	5	12	3	13	3	3	4	12	4	2	1	6	3	4	10	3	1	6	2	3	7	6
Lolium	23	3	2	1	3	t	s			t	t	t			t								s
Poa pratensis		1	1	2	2	2	1	1	1	2	2	2	1	1	2	1	1	s	1	2	2	3	1
Poa trivialis		4	4	2	2	1	s	s	t	t	t	t	t	t	t	s	t		s	s	s	s	
Trisetum		4	5	4	4	7	2	1	2	2	1	1	1	s	1	1	1	s	1	1	1		
Lathyrus	4	13	7	37	12	22	11	7	8	12	9	29	6	31	16	11	11	29	9	11	11	5	7
Lotus	s	1	1	s	t	s	1	s	1	1	1	1	t	3	5	2	2	2	3	s	s	t	1
Trifolium pratense	18	7	5	1	2	6	5	1	3	s	6	3	s	3	10	7	14	5	5	4	5	4	5
Trifolium repens		3	s	2	t	4	1	1	1	t	s	s	t	1	s	s	s	4	3	2	3	1	s
Achillea	s	2	3	5	1	9	2	6	4	2	1	3	2	2	3	1	2	3	1	8	14	1	1
Centaurea		t	1	s	t	1	7	2	3	6	1	s	2	5	8	2	8	4	3	7	4	2	1
Cerastium		t	t	t	t	s	s	t	3			t											
Conopodium		2	9	1	2	2	1	9	1	1	2	3	3	s	2	3	s	1	2	4	1	1	2
Heracleum		s	t	1	2	2	s	4	1	3	2	3	4	2	4	4	2	1	5	1	1	s	t
Luzula		1	1	2	s	s	s	s	s	s	1	s	s	1	s	s	t	s	1	t	s	1	1
Pimpinella		1	1	s	s	s				t	t												
Plantago		s	1	t	t	t	1	1	1	2	4	4	3	3	3	2	3	2	1	5	7	7	7
Ranunculus		1	s	s	s	3	1	2	s	t	1	1	1	s	s	1	1	1	1	1	1	s	t
Rumex		2	9	1	7	4	s	11	3	2	2	3	4	1	2	7	5	1	6	2	2	s	s
Spiraea						1	1	2	3	1	2	1	1	t	1	1	3	1	2	t	s	s	1
Taraxacum		s	t						t	t	t	t	t	t	t	t	t	t	t	t	s	s	1
Veronica	s	s	s	1	s	1			t	t	t	t	t	t	t	t	t	t	t	t	t	t	t

TABLE 14 Botanical Composition (%) of PLOT 7, PK Na Mg, LIMED

	Year															
	1914	'19	'21	'22	'23	'24	'25	'35	'36	'37	'38	'39	'40	'47	'48	'75
Agrostis	4	2	5	5	5	1	2	1	s	s	t	t	s	t	s	s
Alopecurus	10	15	12	11	7	10	9	11	8	17	11	16	23	16	13	5
Anthoxanthum	1	s	1	t	1	s	t	1	s	t	t	t	t	s	s	1
Arrhenatherum	2	3	5	4	3	4	27	6	6	17	17	11	11	19	12	31
Bromus	16	1	3	5	8	t	t	3	1	t	s	2	7	s	2	1
Dactylis	12	19	12	10	5	10	23	11	11	17	22	19	14	21	13	3
Festuca rubra	13	5	10	13	10	2	3	5	3	2	1	3	1	1	1	s
Helictotrichon	4	9	12	5	6	5	8	9	4	3	2	6	3	4	5	s
Holcus	2	2	2	2	1	s	1	s	2	1	s	1	1	1	1	2
Poa pratensis	1	2	2	3	3	2	1	4	2	1	s	1	1	1	1	1
Poa trivialis	2	1	1	s	s	s	1	4	9	12	1	6	9	2	1	1
Trisetum	4	1	1	2	2	2	s	3	3	3	1	2	2	2	2	1
Lathyrus	16	20	21	29	37	51	1	24	16	2	8	13	6	5	16	14
Lotus	t	t	t	t	t	t	1	t	t	t	t	t	t	t	t	t
Trifolium pratense	3	t	t	s	1	t	t	2	4	4	8	1	2	t	s	8
Trifolium repens	1	1	1	t	3	t	t	6	11	4	4	8	6	4	6	s
Achillea	1	1	s	s	s	1	1	1	1	s	s	s	t	s	1	t
Anthriscus			s	s	s	1	1	1	4	t	s	s	t	1	s	1
Centaurea	3	1	1	1	1	1	1	1	4	t	3	1	t	1	s	t
Conopodium	s	4	1	1	1	1	s	t	s	s	t	s	t	t	t	t
Heracleum	s	2	5	2	1	5	12	3	6	4	5	1	4	5	4	7
Knautia	1	1	1	s	s	s	t	t	t	t	1	1	2	2	s	s
Plantago	s	s	1	1	s	s	s	1	1	s	1	1	s	2	s	3
Ranunculus	1	4	1	s	2	1	2	s	s	3	3	1	1	3	2	8
Rumex	s	7	s	t	s	1	5	1	1	4	3	1	1	3	s	2
Taraxacum	t	t	1	1	s	s	1	1	1	4	8	2	3	2	2	9
Tragopogon	s	2	1	2	s	s	t	t	2	t	1	1	t	3	3	3

TABLE 15 Botanical Composition (%) of PLOT 15, P K Na Mg

	Year															
	UNLIMED								LIMED							
	1862	'67	'72	'77	1903	'14	'19	'21	'23	'25	'27	'29	'31	'33	'49	
Agrostis	8	7	8	13	3	12	11	15	13	17	12	12	20	17	3	
Alopecurus	7	6	2	7	10	14	30	8	8	10	9	9	18	11	19	
Anthoxanthum	22	2	4	4	2	3	3	5	4	3	4	1	5	8	2	
Arrhenatherum	t	t	t	t	s	s	1	3	1	1	9	1	6	11	1	
Bromus	2	6	4	2	3	3	t	t	t	t	t	t	s	1	1	
Dactylis	2	s	t	s	s	2	5	5	3	10	16	6	7	12	8	
Festuca rubra	14	12	35	21	15	14	7	22	21	8	8	17	11	9	7	
Helictotrichon	3	1	2	3	4	2	2	3	2	2	3	3	3	4	1	
Holcus	8	12	5	15	2	6	6	11	2	10	12	2	7	4	1	
Poa pratensis	t	t	s	t	2	s	1	1	1	1	1	1	1	1	s	
Poa trivialis	6	24	8	6	1	s	s	t	t	t	t	t	t	t	s	
Lolium	7	3	4	7	t	s	t	t	t	t	t	t	t	t	s	
Trisetum	4	4	4	3	5	2	1	2	1	1	1	1	1	1	s	
Lathyrus	t	t	t	1	16	28	5	8	15	4	5	16	5	8	22	
Trifolium pratense	s	t	t	s	6	s	t	t	t	1	1	3	t	s	2	
Trifolium repens	t	t	t	t	7	2	t	s	s	t	s	3	3	1	3	
Achillea	2	1	3	1	10	4	5	3	2	7	6	16	8	1	10	
Centaurea	s	3	3	1	1	1	1	1	s	1	s	1	t	s	8	
Cerastium	1	4	9	1	1	t	t	t	t	t	t	t	1	t	1	
Conopodium	1	s	s	1	1	s	4	1	2	3	2	1	s	1	1	
Galium	t	1	1	s	1	s	s	1	t	t	s	s	t	t	t	
Luzula	t	s	s	s	1	s	s	1	4	s	s	s	1	1	t	
Plantago	7	5	s	1	s	s	4	7	13	15	6	6	2	4	10	
Ranunculus	2	s	s	s	6	1	3	s	1	3	1	1	t	s	s	
Rumex	7	7	2	6	2	s	7	1	2	3	1	s	s	2	1	
Taraxacum	1	t	t	t	t	s	1	t	1	s	1	1	s	s	t	

This plot has received PK Na Mg since 1876, between 1858 and 1875 96 kg N ha⁻¹ was applied as sodium nitrate annually

TABLE 16 Botanical Composition (%) of PLOT 8, P Na Mg, UNLIMITED

	Year														
	1862	'67	'72	'77	1903	'14	'19	'35	'36	'37	'38	'39	'40	'41	'47
Agrostis	10	4	9	12	1	8	4	9	7	4	3	6	4	2	4
Alopecurus	s	1	s	1	s	s	1	1	s	s	s	s	1	s	4
Anthoxanthum	4	7	8	8	1	4	5	3	3	7	2	1	2	3	3
Arrhenatherum	4	3	4	3	4	3	8	7	8	10	15	11	5	5	2
Briza	t	t	1	1	6	1	s	s	s	s	s	s	t	s	t
Dactylis	3	1	1	1	1	4	4	3	3	1	3	4	4	3	13
Festuca rubra	7	18	24	20	9	25	7	18	12	10	3	9	12	24	5
Festuca pratensis	2	s	s	s	t	-	-	-	-	-	s	-	t	-	s
Helictotrichon	13	3	4	2	8	5	3	6	5	5	2	3	4	4	2
Holcus	4	10	5	18	6	8	11	6	3	15	2	6	8	4	7
Lolium	6	3	2	8	t	s	s	1	1	t	t	s	s	s	t
Poa pratensis	2	1	2	1	1	1	1	1	s	1	s	1	1	1	s
Poa trivialis	5	3	2	3	t	s	1	1	s	1	t	1	1	s	s
Trisetum	5	3	7	2	4	2	1	2	2	2	1	2	2	1	t
Lathyrus	9	7	4	2	4	3	4	s	s	s	t	2	s	1	s
Lotus	s	1	3	1	12	2	1	4	5	4	2	4	6	3	1
Trifolium pratense	8	1	s	s	1	5	5	6	19	10	9	8	18	6	3
Trifolium repens	3	t	s	t	1	t	t	t	s	s	t	s	1	2	1
Achillea	1	5	10	3	3	3	5	4	3	1	2	4	3	6	4
Centaurea	s	s	s	1	7	9	5	3	5	2	5	4	3	2	1
Cerastium	t	t	s	s	1	1	s	s	s	t	t	s	s	1	s
Conopodium	2	7	2	1	1	t	3	t	1	1	s	1	1	1	1
Galium	t	s	s	t	s	s	t	1	1	s	s	s	s	1	s
Knautia	t	t	t	s	2	1	1	2	4	3	1	2	1	1	1
Leontodon					1	1	1	6	3	1	4	4	2	3	5
Luzula	1	2	3	s	s	s	s	1	1	1	t	s	3	2	s
Pimpinella	1	2	1	1	1	t	s	1	s	s	s	s	s	s	t
Plantago	1	1	s	s	6	9	18	13	9	10	33	13	11	19	15
Ranunculus	1	1	1	2	11	s	2	1	1	4	4	2	3	1	10
Rumex	2	8	2	6	2	s	7	1	1	3	3	7	4	2	6

Also received K 1856-61 and Sawdust 1856-62

TABLE 17 Botanical Composition (%) of PLOT 8, P Na Mg, LIMED

	Year												
	1914	'19	'35	'36	'37	'38	'39	'40	'41	'47	'48	'75	
Agrostis	5	2	2	2	1	1	1	1	1	1	1	4	
Alopecurus	1	1	3	2	2	s	1	3	1	3	3	1	
Anthoxanthum	3	1	s	1	1	s	1	1	1	6	1	13	
Arrhenatherum	4	18	14	12	26	24	12	9	8	8	15	6	
Briza	9	2	1	2	1	1	1	1	1	2	1	2	
Dactylis	3	5	5	4	7	6	5	5	5	6	6	1	
Festuca rubra	21	6	9	6	5	1	5	7	9	1	2	12	
Festuca pratensis													
Helictotrichon	9	12	15	16	11	12	16	15	20	17	11	12	
Holcus	7	5	5	2	4	2	3	4	2	4	2	6	
Lolium	t	t	t	1	1	s	s	s	t				
Poa pratensis	1	2	1	2	1	1	1	1	2	2	1	1	
Poa trivialis	1	1	2	4	4	s	1	3	3	2	1	1	
Trisetum	3	2	5	5	5	3	4	3	2	2	2	1	
Lathyrus	2	5	1	s	s	t	1	s	1	1	1	t	
Lotus	2	2	3	6	3	1	5	6	5	2	6	2	
Trifolium pratense	5	1	5	12	11	5	9	17	8	7	3	8	
Achillea	1	2	1	1	s	1	1	1	1	1	4	2	
Centaurea	9	4	5	3	2	3	5	2	3	1	2	2	
Cerastium	1	1	1	1	s	t	s	t	1	s	s	1	
Knautia	1	4	6	8	3	3	3	5	6	5	4	s	
Leontodon	s	s	4	1	t	3	3	2	1	3	6	6	
Luzula	s	s	s	s	s	t	s	1	s	s	t	2	
Pimpinella	s	t	1	s	s	s	1	s	s	s	s	s	
Plantago	5	8	8	5	5	18	11	7	10	9	13	9	
Ranunculus	1	5	s	1	3	2	1	1	1	4	2	2	
Rumex	s	8	1	s	2	7	2	1	1	3	2	s	

TABLE 18 Botanical Composition (%) of PLOT 1, N₁

	Year																		
	UNLIMED									LIMED									
	1858	'62	'67	'72	'77	1914	'19	'39	'40	'47	'48	'73	1914	'19	'39	'40	'47	'48	
Agrostis	1	1	6	21	23	16	18	52	24	76	75	84	12	8	4	3	1	1	
Alopecurus	s	s	2	3	2	2	1	s	s	s	t	84	4	6	4	4	1	2	
Anthoxanthum	1	t	1	6	14	15	17	1	1	s	s	11	7	8	2	6	6	1	
Arrhenatherum	17	1	1	2	2	t	s	t	t	s			s	1	2	1	4	3	
Bromus		22	10	4	1														
Dactylis		16	6	3	4	9	11	1	s	2	3		7	23	13	12	16	18	
Festuca rubra		1	6	6	11	28	14	41	72	14	16	3	26	11	15	19	6	15	
Helictotrichon		s	2	3	2	t	s			s			5	8	35	28	27	12	
Holcus	25	4	11	14	17	7	22		t				5	10	3	3	6	6	
Lolium	15	1	3	2	2														
Poa pratensis	10	1	7	7	1	1	s	s	s				4	2	2	2	1	1	
Poa trivialis		32	22	4	3														
Trisetum		4	7	6	1		t						1	1	2	2	1	2	
Lathyrus	1	t	1	s	s								s	s	1	2	2	2	
Lotus													s	s	s	1	1	2	
Achillea	2	1	3	5	1	s	s						1	2	1	2	s	2	
Centaurea			s	1	s	19	2	s	1	s	1		22	4	5	1	1	2	
Cerastium													1	1	s	t	s	1	
Conopodium	1		2	s	1	s	1	2		t			s	1	t	t	s	t	
Galium						s													
Knautia															1		1	2	
Leontodon															t	t	1	1	
Luzula			t	t	t	s	s	s	s										
Plantago	8	s	s	t	s					1					3	7	11	20	
Potentilla		t			t					s	2	1							
Ranunculus	2	1	s	1	1	t							1	2	1	1	1	1	
Rumex	3	6	6	9	10	1	10	2	1	6	2		1	11	2	3	8	2	
Taraxacum															s	s	s	1	

This plot also received farmyard manure during 1856-63

TABLE 19 Botanical Composition (%) of PLOT 18, N₂ K Na Mg, UNLIMITED

	Year													
	1914	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48	'73
Agrostis	10	17	43	51	43	48	72	63	47	75	59	75	77	83
Alopecurus	3	5	6	3	10	5	5	4	6	4	5	2	t	
Anthoxanthum	4	3	6	8	3	20	4	3	4	3	7	4	1	17
Arrhenatherum	t	2	s	1	1	t	s	1	2	2	s	s	s	
Dactylis	37	34	16	12	12	3	4	7	11	9	9		1	
Festuca rubra	38	4	14	11	9	18	5	6	3	3	6	12	9	s
Holcus	1	2	1	4	1	s	s	1	3	2	8	s		t
Poa pratensis	s	s	1	1	1	2	1	s	1	1	1			
Centaurea	4	2	2	2	9		s	2		s	t			
Conopodium	1	4	s	s	2	s	1	s	s	t	s			
Heracleum			s	s	4	s	4	1	1	s	t			
Luzula		t	t	t		t	1	s		t	t			
Rumex	1	24	9	6	4	2	2	10	21	1	3	6	11	

Received NPK Na Mg Si 1865-1904

TABLE 20 Botanical Composition (%) of PLOT 18, N₂ K Na Mg at two rates of lime

	Year																					
	LIGHT LIMING											HEAVY LIMING										
	1920	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48	1920	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48
Agrostis	44	41	36	28	37	36	17	22	17	2	3	35	42	31	27	26	14	11	10	5	1	1
Alopecurus	4	5	25	10	23	14	25	22	46	3	3	6	5	17	8	22	14	25	19	23	3	4
Anthoxanthum	7	4	1	2	t	t	t	t	s	2	1	5	4	1	3	t	t	t	t	t	t	t
Arrhenatherum	1	2	2	2	2	7	9	10	3	10	25	s	2	3	3	10	1	11	19	18	10	25
Bromus		s								s	s			1						t	t	t
Dactylis	8	22	7	8	13	21	30	32	21	12	35	16	13	8	10	19	53	37	40	38	36	48
Festuca rubra	5	6	10	26	5	5	2	3	3	10	7	12	7	12	31	4	5	2	3	3	5	2
Helictotrichon	t		s	t		t	s	t	t	1	3			1	t	t	t	1	s	t	1	1
Holcus	8	3	2	1	s	s	1	3	1	s	s	2	5	1	1	t	s	2	2	2	s	1
Poa pratensis	2	2	3	7	5	4	4	3	5	1	1	1	3	4	4	5	4	3	4	6	1	1
Poa trivialis							t	t	s	1	s	t		s					t	t	s	s
Trisetum	s	1						t	t					1	t	t				t		
Lathyrus						t				t		t		1	t	s	s	t	t	s	1	s
Achillea	s	t	s	t	s	t	s	1	t	t												
Centaurea	2	2	4	s	1	t	s	s	t	10	3	2	2	s	s	1	1	t		s	1	
Cerastium										1	t											
Conopodium	1	s	2	1	2	t	s	s	1	t	s	s	1	2	s	3	s	t	t	s		t
Galium												1	t	2	t	t	t	t	t		s	
Heracleum						s	t	t		1	1	1	t	s	t	t	1	s	1	3	2	2
Plantago						t	t	t		17	4			s			t			4	1	
Rumex	15	1	6	13	10	11	9	1	2	s	s	18	14	8	12	9	5	5	1	1	1	s
Taraxacum						t	s		t	23	9			s		t		s		s	23	11
Tragopogon					t					1	1			t							3	3

Received NPK Na Mg Si 1865-1904

Ground lime applied every fourth year starting 1920

Light = 4.43 t CaO ha⁻¹ and Heavy = 7.61 t CaO ha⁻¹

TABLE 21 Botanical Composition (%) of PLOT 4², N₂ P

	Year															
	UNLIMED								LIMED							
	1862	'67	'72	'77	1903	'14	'19	'47	'49	'73	1914	'19	'47	'49	'74	
Agrostis	19	14	21	24	2	13	4	69	36	24	1	s	2	2	7	
Alopecurus	1	15	4	2	5	2	1	s	1	1	42	76	32	24	6	
Anthoxanthum	2	5	1	2	23	8	34	14	10	76	8	1	5	1	7	
Arrhenatherum	2	s	2	1	1	s	3				t	t	2	2	s	
Dactylis	2	s	s	2	t	1	1					t	t	s		
Festuca rubra	7	26	49	55	53	73	48	10	35		35	8	30	57	53	
Helictotrichon	7	4	s	t		t								s	1	
Holcus	16	10	2	6	1	t	s	5	17		s	t	1	t	2	
Lolium	6	1	1	s												
Poa pratensis	1	4	5	2	8	1	s				13	13	5	6	19	
Poa trivialis	8	2	2	s	s											
Achillea	2	1	2	s	t	t							s	1	s	
Centaurea	t	s	1	1	1	t	t									
Conopodium	1	3	s	t												
Galium	t	s	1	1	4	s					s	s	1	s	s	
Ranunculus	2	t	t										1	t	s	
Rumex	13	8	7	3	s	s	8	1	s		s	1	21	4	2	

N₂ P has been applied since 1859, Sawdust 1856-58

TABLE 22 Botanical Composition (%) of PLOT 10, N₂ P Na Mg, UNLIMED

	Year														
	1862	'67	'72	'77	1914	'19	'35	'36	'37	'38	'39	'40	'47	'48	'73
Agrostis	9	9	14	16	3	4	10	4	11	10	30	34	31	52	31
Alopecurus	2	3	10	16	19	21	s	t	1	s	t	t	s	s	t
Anthoxanthum	1	5	3	6	50	21	21	19	33	14	44	31	52	10	69
Arrhenatherum	t	12	13	10	5	26	1	1	2	3	1	1	5	5	t
Bromus	2	1	2	1											
Dactylis	12	5	3	5	1	2	t	t	t	t	t	t	t	s	
Festuca pratensis	1	s	t	t											
Festuca rubra	4	15	20	26	19	7	2	1	1	t	1	2	3	10	t
Helictotrichon	11	2	s	s											
Holcus	9	8	4	5	1	12	64	75	51	73	24	31	7	22	t
Lolium	3	2	1	s											
Poa pratensis	4	15	20	6	1	s	s	t					t		t
Poa trivialis	10	3	1	s											
Trisetum	10	2	1	s											
Achillea	1	2	1	t											
Conopodium	2	2	t	t											
Rumex	10	13	4	6	1	7	t	t	t				1	s	t

Also received K 1856-61 and Sawdust 1856-62

TABLE 23 Botanical Composition (%) of PLOT 10, N₂ P Na Mg, LIMED

	Year												
	1914	'19	'35	'36	'37	'38	'39	'40	'47	'48	'74		
Agrostis	3	s	1	2	1	2	1	2	2	1	2		
Alopecurus	47	77	55	49	62	51	64	50	25	29	8		
Anthoxanthum	15	1	2	4	2	1	1	3	11	2	16		
Arrhenatherum	9	8	2	2	6	6	3	8	3	4	20		
Dactylis	1	2	t	t	s	s	t	t	1				
Festuca rubra	15	5	33	31	20	28	22	26	44	54	39		
Holcus	1	t	t	t	t	1	s	s	1	s	4		
Poa pratensis	4	6	6	12	5	5	6	6	3	3	6		
Achillea									s	1	s		
Galium									1				
Plantago							s		s	t	2		
Rumex	s	s	s	1	3	5	2	4	8	5	1		
Taraxacum			s			s	s	s	s	s	2		

TABLE 24 Botanical Composition (%) of PLOT 9, N₂ PK Na Mg, UNLIMITED

	Year																		
	1858	'62	'67	'72	'77	1903	'14	'19	'21	'22	'23	'24	'25	'26	'27	'28	'31	'36	'37
Agrostis	6	13	13	15	12	4	18	12	27	16	23	31	17	25	14	8	12	t	s
Alopecurus	s	t	3	1	4	4	2	1	1	14	s	s	1	t	s	s	s	t	s
Anthoxanthum	t	1	4	2	3	16	39	5	25	8	43	22	13	16	11	10	s	t	s
Arrhenatherum	5	2	11	13	13	43	9	47	4	11	8	22	20	6	3	4	2	t	t
Bromus	4	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Dactylis	1	6	5	12	14	5	5	3	1	4	1	t	s	s	s	s	1	s	s
Festuca pratensis	1	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Festuca rubra	2	5	18	9	22	7	15	4	10	11	12	8	4	1	1	1	7	t	t
Helictotrichon	10	1	s	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Holcus	37	12	10	8	10	4	4	12	30	32	12	14	40	51	69	76	76	99	97
Lolium	32	4	1	1	s	t	t	t	s	2	s	s	t	t	t	t	t	t	t
Poa pratensis	11	13	23	18	12	1	1	s	s	2	s	s	t	t	t	t	t	t	t
Poa trivialis	9	2	1	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Trisetum	9	4	5	1	s	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Achillea	s	2	2	1	t	s	t	t	t	t	t	t	t	t	t	t	t	t	t
Conopodium	3	9	1	1	s	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Epilobium																			
Heracleum																			
Rumex	1	5	11	5	4	3	4	15	1	s	s	s	2	s	s	t	t	t	t

In 1930, and 1932-1935 inclusive, *Holcus* made up 100% of the herbageTABLE 25 Botanical Composition (%) of PLOT 9, N₂ PK Na Mg, LIMITED

	Year																		
	1914	'19	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37
Agrostis	3	2	4	4	2	3	2	3	3	3	5	3	2	5	3	5	1	2	s
Alopecurus	18	26	22	28	28	45	42	24	38	54	40	57	47	35	26	50	62	58	50
Anthoxanthum	13	1	2	s	1	s	1	1	1	3	2	1	1	4	4	3	3	4	3
Arrhenatherum	39	47	43	31	36	32	45	50	39	18	18	21	34	39	51	23	15	16	30
Bromus	s			s	s							t	s	1	1	3	1	1	1
Dactylis	7	7	5	8	2	2	4	8	6	2	7	2	4	4	2	6	4	3	9
Festuca rubra	9	6	8	5	13	3	2	3	3	8	15	7	2	1	5	3	2	3	1
Holcus	2	1	2	1	s	s	s	3	2	s	3	s	1	4	5	s	4	3	3
Poa pratensis	8	6	9	22	16	12	3	6	6	9	10	7	6	4	3	5	4	5	1
Poa trivialis														t	t	t	t	t	s
Lathyrus	t		s	s		t	t	t	s		t	t	t	s	s	1	t	t	2
Anthriscus																			
Heracleum	t	s	1	t	t				t	s		s	s	s	s	1	3	3	s
Rumex	1	3	2	t	s	s	s	1	s	s	t	t	s	1	2	s	s	s	1
Taraxacum			s			s	t	t	s				s	s	s	s	1	t	s

41.

TABLE 26 Botanical Composition (%) of PLOT 11¹, N₃ P K Na Mg

	Year															
	UNLIMED								LIMED							
	1858	'62	'67	'72	'77	1903	'14	'19	'47	'49	'73	1914	'19	'47	'49	'74
Agrostis	4	13	19	14	29	1	s	2	4			2	1	1		
Alopecurus		3	13	12	10	28	1	1	1	t		27	64	79	82	30
Anthoxanthum		t	t	1	s	1	t	t	1		5	2	t	1		
Arrhenatherum	3	1	5	10	15	23	7	31	s			27	15	3	2	38
Bromus		1	t	t												
Dactylis	20	24	39	39	17	t	s	s				5	6	2	5	2
Festuca pratensis		2														
Festuca rubra		1	s	s	4	t	t	t	s			s	t	t	s	
Helictotrichon		2	t													
Holcus	26	10	3	10	20	46	91	65	81	100	95	32	12	8	3	22
Lolium	12	1	t	t	t											
Poa pratensis		9	13	10	1	s						3	2	4	5	2
Poa trivialis		13	t	t	s											1
Trisetum		5	s	t	t											
Achillea		1	t													
Anthriscus																1
Conopodium		2	2	t	t											
Epilobium									12	s						
Heracleum					s							s	t			1
Rumex		7	4	1	2	t		1				t	t	s	1	3
Taraxacum														2	s	1

This plot received N₄ (192 kg N ha⁻¹) between 1856 and 1881 except during 1859-61 when it received N₂ (96 kg N ha⁻¹)

TABLE 27 Botanical Composition (%) of PLOT 11², N₃ P K Na Mg Si

	Year															
	UNLIMED								LIMED							
	1862	'67	'72	'77	1914	'19	'47	'49	'73	1914	'19	'47	'49	'74		
Agrostis	19	24	10	17	s	1	44	5	2	s	t	s				
Alopecurus	1	6	23	20	18	30	1	s		49	76	70	57	29		
Anthoxanthum	1	t	s	s	t	t	t		s			t		s		
Arrhenatherum	6	5	13	21	21	46	13	1		25	16	11	17	50		
Bromus	1	t	t													
Dactylis	23	38	27	13	s	3		t		11	7	8	10	1		
Festuca pratensis	2	t														
Festuca rubra	1	2	s	3	t	t	s	t		t	t			t		
Helictotrichon	1	t														
Holcus	7	5	11	19	59	20	41	93	98	6	t	2	2	11		
Lolium	1	s	s													
Poa pratensis	5	10	12	4	1	t	t			3	s	6	11	1		
Poa trivialis	17	1	1	t								t		3		
Trisetum	3	2	s	t												
Anthriscus																
Conopodium	1	1	t	t										1		
Heracleum				s						1		s	t	1		
Rumex	4	4	1	1		s	1	1		s		t	1	2		
Taraxacum												1	1	1		

Plot 11 was split into 11¹ and 11² in 1862 after which 11² received Si.

Like 11¹ this plot received N₄ (192 kg N ha⁻¹) between 1856 and 1881 except during 1859-61 when it received N₂ (96 kg ha⁻¹)

TABLE 28 Botanical Composition (%) of PLOT 17, N₁*, UNLIMITED

	Year															
	1862	'67	'72	'77	1903	'14	'19	'21	'23	'25	'27	'29	'31	'33	'49	'75
Agrostis	11	7	11	18	2	12	6	6	9	3	5	3	4	5	1	6
Alopecurus	24	22	16	13	10	14	13	12	13	14	14	18	18	14	14	24
Anthoxanthum	2	2	4	5	11	5	7	9	7	7	10	3	5	10	9	14
Arrhenatherum	1	s	s	t	s	s	s	t	t	t	s	t	s	t	t	
Briza	t	t	s	1	2	1	s	s	s	t	s	t	s	s	1	
Bromus	s	2	1	s	s	t			t				1	t		
Dactylis	2	1	1	1	1	6	8	5	7	28	24	19	23	18	25	5
Festuca rubra	9	11	18	12	13	14	4	12	18	6	5	6	8	7	9	8
Helictotrichon	4	1	4	4	9	4	5	4	3	2	3	2	3	2	2	s
Holcus	8	8	6	11	5	7	11	16	3	10	12	9	15	14	9	3
Lolium	5	3	3	7	s	1	1	s	1	1	t	s	1	s	1	2
Poa pratensis	t	s	t	t	s	t	s	s	1	s	s	s	t	t		
Poa trivialis	5	12	3	2	1	t	s	s	1	1	t	t	s	1	1	s
Trisetum	1	3	5	2	2	1	1	1	1	s	s	s	s	s		
Lotus	t	t	1	1	2	s	s				t	t	s			
Achillea	2	1	3	1	3	1	1	t	s	s	s	s	1	1	1	s
Carex	t	t	t	1	1	t	s	s	1	t	s	s	s	1	2	t
Centaurea	4	4	10	3	11	8	9	2	1	2	2	8	6	5	5	1
Cerastium	s	1	3	s		s	s	s	s	s	s	1	s	s	t	t
Conopodium	1	2	1	1	1	1	1	t	s	1	s	t	t	s	s	t
Leontodon	t	t	t	s	4	4	3	1	2	1	2	4	2	1	4	4
Luzula	t	s	s	1	1	s	t	s	1	s	s	s	s	s		s
Plantago	4	5	2	8	11	14	24	29	27	17	16	23	8	16	14	24
Ranunculus	2	1	1	2	4	1	1	s	s	1	s	s	t	s	s	4
Rumex	4	7	2	3	2	s	1	t	s	1	1	1	s	2	s	1
Taraxacum	t	t	t	t	1	t	s	s	s	s	t	s	s	s	1	1

*nitrogen as sodium nitrate

TABLE 29 Botanical Composition (%) of PLOT 17, N₁*, LIMED†

	Year											
	1921	'23	'25	'27	'29	'31	'33	'49	'75			
Agrostis	5	4	2	4	1	t	s	1	2			
Alopecurus	10	10	13	14	12	12	9	7	8			
Anthoxanthum	3	3	1	3	s	1	s	1	5			
Arrhenatherum	1	s	t	2	t	1	2	2	1			
Briza	1	s	s	s	1	1	1	1	4			
Bromus		s		t	t	t	t	1				
Dactylis	11	4	15	7	8	10	11	21	11			
Festuca rubra	22	35	22	21	27	28	29	22	13			
Festuca pratensis												
Helictotrichon	7	10	16	17	18	16	10	20	17			
Holcus	13	3	6	10	2	4	6	2	4			
Lolium	1	t	s	1	1	1	2	2	7			
Poa trivialis	s	1	1	1	s	1	2	1	t			
Trisetum	2	1	1	2	1	2	3	1	s			
Lotus	1	1	s	1	2	3	2	3	1			
Trifolium pratense		t			t			t	2			
Achillea	s	1	1	1	2	2	1	1	1			
Carex	s	1	t	t	t			t				
Centaurea	4	1	2	2	3	2	s	1	1			
Cerastium	t	1	s	1	1	2	s	t	s			
Conopodium	s	1	1	s	s	t	t	t	t			
Gallium		t	t	1		t			s			
Heracleum	s	s	s		t	t		s	1			
Leontodon	2	1	1	t	3	2	1	2	5			
Pimpinella		t	t	t	t	t			1			
Plantago	18	16	11	8	15	8	17	6	12			
Ranunculus	s	s	2	s	s	s	s	2	s			
Rumex	s	s	1	2	1	1	1	1	s			
Taraxacum	t	s	1	s	1	s	s	1	s			

*Nitrogen as sodium nitrate

†Liming began in 1920

TABLE 30 Botanical Composition (%) of PLOT 16, N₁ * P K Na Mg

		Year												LIMED		
		UNLIMED												1914	1919	'75
		1862	'67	'72	'77	1914	'19	'49	'75	1914	1919	'49	'75			
Agrostis	12	14	12	15	5	1	2	1								
Alopecurus	1	8	12	12	26	51	22	29	26	36	11	4				
Anthoxanthum	1	2	1	2	3	2	4	6	t	t	s	1				
Arrhenatherum	t		s	t	3	3	22	38	1	3	19	42				
Bromus	2	3	2	1	8		s		3	t	1	t				
Dactylis	2	3	4	5	10	20	10	8	9	19	13	3				
Festuca rubra	11	10	10	17	8	2	6	1	31	11	14	3				
Helictotrichon	1	2	1	3	5	3	6	1	14	18	15	1				
Holcus	10	12	5	13	1	2	1	3	1	s		s				
Poa pratensis	t	t	s	s	1	1	s	t	s	s	s	t				
Poa trivialis	7	9	6	5	t	s	t	1	2	s	s	3				
Lolium	6	6	3	4			t	s								
Trisetum	18	15	19	7	4	1	1	t	3	1	1	t				
Lathyrus	t	1	7	9	15	1	12	2	1	1	8	5				
Trifolium pratense	2	1	s	t	1		s	s	s		1	2				
Trifolium repens					s		s	t	1		s	1				
Achillea	2	2	3	2	3	3	4	t	3	1	1	t				
Anthriscus			t	t	t	1			1	3	1	3				
Centaurea	t	1	s	1	t				1	s						
Conopodium	4	5	4	s	t	s	1	t								
Heracleum								t								
Plantago	1	1	t	s	3	2	6	3	s	1	5	2				
Ranunculus	6	s	1	1	s	s	s	5	1	1	s	3				
Rumex	5	6	1	2	t	1	s	1	s	1	s	1				
Taraxacum	s	t		1	1	7	1	1								
Tragopogon	t	t	t	t	t		1	1	s	t	1					

*N as sodium nitrate

TABLE 31 Botanical Composition (%) of PLOT 14, N₂* P K Na Mg, UNLIMITED

	Year																							
	1862	'67	'72	'77	1903	'14	'19	'20	'21	'22	'23	'24	'25	'35	'36	'37	'38	'39	'40	'41	'47	'48	'75	'76
Agrostis	s	1	s	1	t	1	s	t	s	s	t	s	s	t	t				t	t	s	1		
Alopecurus	s	3	4	20	29	23	53	48	35	58	42	44	36	62	47	45	45	53	49	59	28	32	37	38
Anthoxanthum	s	t	t	t	t	s	s	t												s	1	s	t	
Arrhenatherum	3			s	17	41	23	37	48	25	33	39	40	26	33	39	37	31	31	29	37	36	37	46
Bromus	18	18	42	8	23	5	3	5	1	5	4			2	4			t	t	t	s	1	t	
Dactylis	10	7	3	12	1	6	3	5	5	3	5	3	7	2	5	3	6	6	6	7	14	14	3	2
Festuca rubra	1	2	s	s	3	6	5	t	t	s	s	t	t	s	t	t	t	s	t	t				
Helictotrichon	1	1	s	s	2	4	4	s	2	1	1	s	s	t	t	t		1	1	t	s	1		
Holcus	7	7	4	13	t	t	t	t				t	t		1	t		s			1			
Lolium	14	9	5	3																				
Poa pratensis	1	1	3	4	9	2	1	s	1	1	1	1	s	1	2	s	s	1	s	1	4	5	s	1
Poa trivialis	22	33	25	22	1	1	1	7	5	3	8	2	2	1	3	5	5	3	10	1	s	2	5	2
Trisetum	5	7	6	3	s	2	1	t	s	s		t		1			t					s	s	
Lathyrus	t	s	1	1	3	4	2		t	s	t	s	s	1	1	s	1	2	1	s	3	2	1	2
Achillea	s	s	s	1	t	t	t				t	t												t
Anthriscus	1	1	4	5	9	1	2		t	1	2	6	10	5	3	4	2	1	1	1	5	s	8	2
Conopodium	2	2	1	s	t						t	t	t											
Plantago	s										t	t						t			1	2		
Ranunculus	1	t	t		s	t	t				t	t												t
Rumex	7	1	1	4	1	s	1	1	1	s	2	1	2	1	1	3	2	1	1	s	2	s	1	1
Taraxacum	s	s	s	1	1	2	1	1	2	2	3	2	2	s	s	s	s	t	1	1	3	3	4	3

*Nitrogen as sodium nitrate

*Nitrogen as sodium nitrate

TABLE 32 Botanical Composition (%) of PLOT 14, N₂ * P K Na Mg, LIMED†

	Year															
	1920	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35
Agrostis	s	1	1	1	1	s	s	t								
Alopecurus	53	33	42	24	29	19	14	22	20	19	16	24	18	23	10	12
Anthoxanthum	1			t	t	t	t									
Arrhenatherum	30	41	25	35	40	54	58	38	51	45	57	48	52	44	44	45
Bromus	s	1	6	15		t		s	s	t		s	t	s		
Dactylis	3	2	2	1	1	3	6	4	5	3	3	4	6	7	11	14
Festuca rubra	2	5	5	9	7	t	3	9	3	2	4	5	5	11	9	13
Helictotrichon	1	4	2	5	3	t	1	1	1	s	s	1	1	1	4	5
Poa pratensis	2	2	5	3	2	1	1	5	4	1	1	2	1	1	3	3
Poa trivialis	4	3	3	3	2	7	11	2	7	13	6	7	10	4	s	1
Trisetum	s	1	s	1	s	t	s	s	t	s	1		t	s	t	s
Lathyrus	1	3	1	1	6	t	1	12	2	s	2	6	1	4	13	3
Trifolium pratense																
Anthriscus	1	t	s	t	2	12	1	4	6	14	6	1	2	t	1	1
Heracleum																
Ranunculus	1	s	t	1	s	1	1	1	s	1	1	1	1	1	t	t
Rumex	2	1	6	2	6	3	2	s	t	s	1	s	1	2	3	1
Taraxacum																

A separate analysis was often made of the parts of the plot in the sun or in the shade.

Where this was done figures for 'Sun' only are given here.

*Nitrogen as sodium nitrate

†Liming began in 1920

TABLE 33 Botanical Composition (%) of PLOT 13, farmyard manure and fish meal alternating at 2-year intervals, since 1905

	Year														
	UNLIMED							LIMED							
	1914	'19	'44	'45	'46	'47	'48	'74	1914	'19	'44	'45	'46	'47	'48
Agrostis	12	11	8	6	8	11	16	32	2	3	6	7	9	14	10
Alopecurus	18	22	57	46	32	28	32	16	18	35	6	7	9	14	10
Anthoxanthum	4	5	5	5	15	14	6	9	1	2	s	s	1	1	s
Arrhenatherum	22	17	1	2	1	2	3	7	40	20	6	7	11	14	26
Dactylis	8	9	7	6	7	10	9	2	6	10	9	8	27	24	21
Festuca rubra	15	5	4	3	6	4	4	3	11	5	1	2	1	1	1
Helictotrichon	t					t				t		s	s	1	s
Holcus	15	7	3	4	6	6	2	20	14	6	2	2	5	5	4
Poa pratensis	1	2	1	1	t	1	1	1	1	4	1	2	1	2	2
Poa trivialis	t	s	s	t	t	s	t	s		s	1	8	6	5	1
Lathyrus	s	t	s	s	s	1	s	s	1	1	31	27	4	6	8
Trifolium pratense					t	t	t	2			7	6	2	1	2
Trifolium repens											3	4	1		s
Achillea	s	s	1	s	3	4	4	1	t	s	s	s	s	s	s
Anthriscus	s	s	s						1	2	2	s	s	s	1
Centaurea			s		1	1	t	s	s	s	4	s	s	2	1
Cerastium	t	s	s	t	t	t	t		s	1	s	s	t	t	t
Conopodium	s	3	1	2	1	2	1	1	1	2		s	s	t	t
Heracleum	s	1	s	1											
Leontodon															
Plantago				s	s	s	2				1	1	1	1	1
Ranunculus			6	12	14	10	15	2	t	t	16	14	19	11	11
Rumex	2	15	4	6	t	1	t	1			1	2	1	2	2
Stellaria	t	t	s	1	1	s	2		1	6	s	1	1	2	1
Taraxacum			s	1	1	s	t		s						
Tragopogon						1	1	1	t	s	6	4	4	5	3
Veronica			s	s	1	1	s		t	t	s	2	1	s	1

This plot received N₂ P K Na Mg between 1950 and 1952

This plot received N₂ P K Na Mg between 1856 and 1904 (and Straw until 1897)

TABLE 34 Botanical Composition (%) of PLOT 19, FYM (once every four years, since 1905)
UNLIMITED

	Year															
	1914	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48			
Agrostis	8	7	18	22	13	14	13	11	9	5	6	8	12			
Alopecurus	13	22	16	13	22	16	17	16	29	26	33	13	6			
Anthoxanthum	1	4	5	10	4	11	4	9	8	9	12	9	7			
Arrhenatherum	4	8	1	8	11	8	11	18	12	18	8	10	6			
Bromus	2	s	t	1	2	1	t	9	14	17	10	4	3			
Dactylis	12	16	11	5	5	5	7	9	14	17	10	4	3			
Festuca pratensis												2	1			
Festuca rubra	21	6	12	12	18	13	8	8	4	6	8	5	10			
Helictotrichon	2	3	3	4	2	2	1	2	2	3	3	s	1			
Holcus	3	2	2	5	1	3	1	6	4	3	5	3	1			
Poa pratensis	1	s	1	s	1	1	s	s	s	s	s	s	1			
Poa trivialis	2	1	1	2	s	s	s	1	2	s	2	s	s			
Trisetum	9	3	5	5	7	2	4	1	1	2	3	1	2			
Lathyrus	9	6	12	5	7	7	9	4	2	1	2	9	13			
Lotus	1	t			t	t	t	s	t	t	t	t	1			
Trifolium repens	t	t	3	s	t	t	t	t	t	t	s	1	3			
Achillea	2	1	2	t	t	s	t	t	t	t	s	t	6			
Anthriscus	3	s		s	t	2	1	1	s	1	t	t				
Centaurea	2	s	t	2	s	s	2	2	s	s	s	s				
Conopodium	s	2	s	s	1	1	2	1	1	1	1	1	s			
Heracleum																
Plantago	s	s	s	s	1	1	1	s	t	1	s	s	16			
Ranunculus	1	5	3	s	1	1	4	4	5	2	1	2	6			
Rumex	2	8	1	2	2	2	4	2	4	7	2	3	2			
Taraxacum	t	t		s	1	1	s	1	s	t	t	t	1			

This plot received N₁ (as sodium nitrate) and PK between 1872 and 1904

TABLE 35 Botanical Composition (%) of PLOT 19, FYM (once every four years since 1905)

	Year																					
	LIGHT LIMING*						HEAVY LIMING*															
	1920	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48	1920	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48
Agrostis	15	18	16	15	18	9	9	5	5	3	4	15	14	10	10	8	3	2	2	2	t	s
Alopecurus	15	20	20	16	16	22	30	28	43	18	25	22	16	19	24	27	24	27	17	21	20	17
Anthoxanthum	4	8	2	9	7	5	8	9	8	3	1	2	3	1	1	1	1	1	s	1	t	
Arrhenatherum	4	s	2	2	1	3	6	6	3	6	5	5	14	5	7	8	15	21	22	16	14	14
Bromus	s	s		1					t	s	s	t	1	1	2	t	t	t	s	t	s	s
Dactylis	9	16	15	6	4	21	15	26	11	4	11	9	9	12	4	5	18	16	17	9	4	14
Festuca pratensis																						
Festuca rubra	12	10	15	15	10	5	3	3	4	2	5	15	15	15	16	13	7	4	11	14	3	4
Helictotrichon	4	2	1	3	2	3	3	4	3	2	2	5	5	3	4	6	7	7	11	12	3	5
Holcus	2	6	2	2	2	2	2	2	3	2	2	2	1	s	s	1	2	1	1	1	s	
Poa pratensis	s	1	2	2	1	1	1	1	1	1	1	2	1	2	2	3	2	2	1	1	1	2
Poa trivialis	s	2	1	1	1	3	6	1	5	1	2	2	2	s	1	1	3	6	5	6	1	1
Trisetum	4	8	10	7	4	1	1	3	3	s	3	5	10	18	9	7	2	2	4	6	2	3
Lathyrus	18	2	6	9	18	3	1	1	1	10	7	8	3	7	15	20	1	1	1	1	13	7
Lotus												s	t	s	s	s	t	t	1	1	3	2
Trifolium pratense	s								t	1	t								t	t	t	s
Trifolium repens	s	s	t	1	2	t	s	1	s	3	1	1	1	t	1	1	t	t	1	2	1	1
Achillea	1	s	t	t	s	t	s	s	t	5	5	1	s	s	t	s	t	t	s	s	2	2
Anthriscus		s	t	t	s	1	s	s	t	s		t	s	t	s	s	2	1	1	s	t	
Centaurea	3	t	s		1	t	t	t		1	1	t	s	t	t	t	s	s	t	2	1	
Cerastium	1	t	t	s	1	t	s	t	s	s	t	s	t	t	s	t	t	t	t	s	t	
Conopodium	s	1	1	1	2	1	1	1	1	s	s	s	1	2	1	2	1	1	1	s	s	
Heracleum									t	1	1	s	t	s	s	s	s	t	s	2	s	1
Plantago	s	s	s	s	t	t	t	s	t	14	10	s	t	s	2	s	1	s	1	s	16	10
Ranunculus	2	1	1	5	7	11	4	3	2	10	8	1	1	1	5	3	5	2	2	1	2	4
Rumex	1	2	2	2	1	7	6	4	5	4	2	1	s	s	s	s	2	3	1	1	s	s
Taraxacum	s	t	s	s	s	t	t	t	t	2	1	1	s	s	s	s	2	2	s	s	2	1
Tragopogon												s	s	s	t	t	t	t	t	t	1	3
Veronica	s	s	t	s	s	t	s	s	s	2	1											

This plot received N₁ (as sodium nitrate) and PK between 1872 and 1904

*Ground Lime applied every fourth year, starting 1920

Light = 0.64 t CaO ha⁻¹ and Heavy = 3.53 t CaO ha⁻¹

TABLE 36 Botanical Composition (%) of PLOT 20, FYM every fourth year since 1905 with NPK in other years, UNLIMED

	Year															
	1914	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'46	'48		
Agrostis	4	6	11	13	10	10	15	14	9	4	4	5	3	4		
Alopecurus	11	30	27	19	23	29	16	17	27	30	46	34	34	39		
Anthoxanthum	1	1	1	1	s	s	s	1	1	1	2	1	1	1		
Arrhenatherum	4	5	6	10	7	5	6	9	18	25	11	9	10	15		
Bromus	5	s	s	s	2	2	t	t	t	t	t	t	t	s		
Dactylis	10	12	10	6	9	6	6	10	11	15	7	9	10	15		
Festuca rubra	22	4	10	9	16	14	8	4	3	3	5	6	5	4		
Helictotrichon	6	10	11	12	8	8	5	6	6	5	7	8	3	1		
Holcus	10	7	3	10	3	2	2	4	6	7	4	2	3	1		
Lolium	s	s	s	s	s	1	s	t	t	t	s	s	t	t		
Poa pratensis	s	1	2	1	3	2	1	10	2	1	1	1	1	1		
Poa trivialis	2	1	2	1	s	1	s	s	2	s	1	1	1	1		
Trisetum	6	3	5	7	9	6	5	1	1	3	3	4	1	4		
Lathyrus	6	5	4	3	1	2	12	10	3	2	3	7	5	4		
Trifolium pratense						s	1			t		s				
Trifolium repens	t	t	1	s	t	s	1	t	s	t	s	5	t	1		
Achillea	2	1	3	1	2	s	1	2	1	s	s	1	2	s		
Anthriscus	3	2	1	s	1	3	1	5	1	1	s	s	1	s		
Centaurea	3	1	2	1	1	s	2	6	s	t	s	s				
Conopodium	t	1	t	1	2	1	1	1	1	1	1	1	s			
Plantago	t	t	s	s	s	t	t	s	s	t	t	s	3	1		
Ranunculus	s	2	1	1	1	2	3	4	2	s	1	1	5	1		
Rumex	s	3	1	1	1	2	1	2	3	2	1	1	5	1		
Taraxacum	t	t	t	t	t	s	s	s	s	t	t	s	1	1		
Tragopogon	t	s	t	t	t	t	s	t	t	t	t	s	4	3		
Veronica	s	s	t	t	t	t	t	t	t	t	s	s	1	t		

Received P and N and K (as potassium nitrate) between 1872 and 1904

TABLE 37 Botanical Composition (%) of PLOT 20, FYM every fourth year with NPK in other years

	LIGHT LIMING*											HEAVY LIMING*										
	Year											Year										
	1920	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48	1920	'21	'22	'23	'24	'25	'26	'27	'28	'46	'48
Agrostis	15	10	11	13	9	3	5	3	4	1	2	6	5	5	5	4	3	4	2	1	t	t
Alopecurus	22	22	24	17	27	15	21	19	31	18	22	30	31	33	25	21	19	26	23	24	13	18
Anthoxanthum	2	6	1	6	1	2	4	3	6	3	2	1	2	s	1	s	s	1	1	1	1	s
Arrhenatherum	2	9	5	12	10	33	24	31	19	27	22	2	4	3	2	s	4	8	7	4	15	17
Bromus	s	1	2	2	t	t	t	t	s	s	t	s	1	3	3	2	t	t	t	s	s	s
Dactylis	8	9	11	4	5	13	14	18	7	8	14	9	9	9	3	5	9	13	14	6	4	14
Festuca rubra	10	9	13	15	6	1	3	3	6	4	3	10	7	13	21	10	4	5	5	9	9	5
Helictotrichon	10	8	5	5	5	3	7	8	9	4	3	14	19	7	12	10	16	16	24	29	9	7
Holcus	5	10	4	2	2	4	6	7	8	3	6	7	8	3	2	1	5	8	7	5	1	2
Poa pratensis	s	s	1	1	1	s	1	s	1	s	s	1	1	3	2	2	1	2	2	3	1	3
Poa trivialis	2	2	s	2	1	1	4	1	3	4	4	1	1	1	s	1	s	1	4	1	3	4
Trisetum	3	3	7	3	3	1	1	2	4	2	2	4	5	7	5	3	1	1	3	3	3	3
Lathyrus	15	5	8	10	17	2	1	t	2	5	2	5	4	4	5	30	4	3	3	5	7	9
Trifolium repens	s	t	t	1	t	t	t	t	1	1	3	t	t	t	t	t	t	t	t	s	3	3
Achillea	1	t	s	s	1	s	s	1	1	2	2	1	s	s	s	s	s	1	1	s	4	3
Anthriscus	t	t	s	1	1	6	1	s	s	3	t	1	1	2	3	2	8	1	1	s	1	s
Centaurea	1	t	t	t	t	t	t	1	t	2	1	3	s	s	1	s	2	1	1	s	3	s
Conopodium	s	s	1	1	1	1	s	1	1	1	1	t	s	1	2	1	2	1	s	1	t	s
Plantago	t	s	s	t	t	1	s	s	s	7	6	t	t	t	s	t	s	s	s	s	6	4
Ranunculus	s	1	1	3	4	3	2	s	1	1	2	1	1	1	2	2	9	2	1	1	2	1
Rumex	1	1	1	1	1	5	3	s	2	2	1	1	1	1	1	1	2	1	s	s	2	s
Taraxacum	t	s	s	1	2	3	1	s	1	3	1	t	1	1	1	2	6	1	1	3	3	2
Tragopogon	1	s	s	s	1	1	1	t	t	s	1	s	s	s	1	1	3	1	1	s	3	4
Veronica	t	t	t	t	t	t	s	s	s	s	s	t	t	t	t	t	t	t	t	s	3	s

Received P and N and K (as potassium nitrate) between 1872 and 1904

*Ground lime applied every fourth year, starting 1920

Light = 0.64 t CaO ha⁻¹ and Heavy = 3.11 t CaO ha⁻¹

TABLE 38 Effects of Lime applied between 1965 and 1968 on the Botanical Composition (% Contribution to Hay Weight) in June 1973 of Sub-plots c (pH being raised to 5) compared to that of Sub-plots d (permanently Unlimed, pH 4)

	1 (N ₁)		18 (N ₂ KNaMg)		4 ² (N ₂ P)		9 (N ₂ PKNaMg)		10 (N ₂ PNaMg)		11 ¹ (N ₃ PKNaMg)		11 ² (N ₃ PKNaMgSi)		13 (FYM + fish meal)*	
	d	c	d	c	d	c	d	c	d	c	d	c	d	c	d	c
Agrostis	84.4	19.6	82.7	51.8	23.9	21.0	14.7	11.3	30.7	36.0					32.3	18.8
Alopecurus							0.1	0.8	t	0.1					16.1	15.3
Anthoxanthum	11.1	9.5	17.2	23.0	76.1	4.9	71.7	11.1	69.0	7.8	5.1	9.1	0.3	t	9.4	5.7
Arrhenatherum				1.6			2.7		t	0.1		30.0			7.0	27.8
Bromus				t			0.1									
Dactylis				0.5						1.4		6.3			2.2	2.7
Deschampsia										0.2						
Festuca rubra	2.9	48.7	0.1	14.1	t	55.9		3.6	0.1	24.1		2.0			3.2	0.7
Helictotrichon						0.2							4.1			
Holcus		1.3	t	0.8		2.7	13.5	44.3	0.1	21.2	94.9	36.7	98.1	30.9	20.3	13.8
Poa pratensis		2.5		1.5		12.2		16.1	0.1	7.4		11.7		13.4	0.1	0.1
Poa trivialis		0.1				2.9		0.6		0.2		3.4		7.8	0.3	1.3
Lolium															0.2	t
Trisetum																
Total	98.4	81.7	100.0	93.3	100.0	99.8	100.0	90.6	99.9	98.5	100.0	99.3	100.0	98.4	91.1	86.1
Lathyrus		0.5		t				3.5							0.2	5.4
Trifolium pratense		1.2		0.2				t				0.3			1.9	3.7
Total		1.6		0.3				3.5				t			2.1	9.1
Achillea		0.2		0.3						0.3					1.2	0.3
Anthriscus								0.6						0.8	0.3	0.3
Centaurea		1.5		0.4											0.2	0.1
Cerastium		2.4		0.9										0.2		t
Conopodium				0.1											0.9	0.9
Heracleum				0.7				2.7						0.3	1.1	0.1
Hypochaeris		0.9														
Leontodon		0.1		t												
Linum		0.2														
Luzula		1.1		t												
Pimpinella	1.0														0.1	t
Plantago		0.7													1.8	0.9
Potentilla		4.8		0.2		t										
Poterium	0.6															
Ranunculus		0.3														
Rumex		1.0								0.1					0.7	1.8
Taraxacum		2.7		2.5		t		0.6	t					0.2		
Tragopogon		0.7		0.9		0.2		2.1		1.0		0.4		0.1	0.7	0.2
Total	1.6	16.7		6.5		0.2		5.9	t	1.4		0.7		1.6	6.7	4.7

*Analysed in 1974, t = <0.05%

Table 39 Effects of Lime applied between 1965 and 1968 on the amounts (t ha^{-1}) of different species in June 1973 on Sub-plots c (pH being raised to 5) compared to that on Sub-plots d (permanently Unlimed, pH approximately 4)

	1 (N ₁)		18 (N ₂ KNaMg)		4 ² (N ₂ P)		9 (N ₂ PKNaMg)		10 (N ₂ PNaMg)		11 ¹ (N ₃ PKNaMg)		11 ² (N ₃ PKNaMgSi)		13 (FYM + fish meal)*	
	d	c	d	c	d	c	d	c	d	c	d	c	d	c	d	c
Agrostis	0.51	0.41	0.94	1.68	0.62	0.80	0.66	0.83	0.96	1.67			0.11	0.14	1.18	0.80
Alopecurus							t	0.06	t	0.01				0.64	0.59	0.66
Anthoxanthum	0.06	0.20	0.20	0.75	1.96	0.19	3.21	0.82	2.15	0.36	0.24	0.73	0.02	t	0.34	0.24
Arrhenatherum				0.05			0.01	0.20	t	0.01		2.41		2.36	0.26	1.19
Bromus				t				0.01								
Dactylis				0.01						0.07		0.50		0.50	0.08	0.12
Deschampsia										0.01						
Festuca rubra			t	0.46	t	2.14	0.26		t	1.12		0.16		0.35	0.12	0.03
Helictotrichon	0.01	1.02				0.01										
Holcus			t	0.03		0.10	0.60	3.25	t	0.98	4.41	2.94	6.91	2.66	0.74	0.59
Lolium															0.01	
Poa pratensis				0.05		0.47	1.18	0.05	t	0.34		0.94		1.15	0.01	0.03
Poa trivialis		t				0.11	0.05			0.01		0.27		0.68	0.01	t
Trisetum																
Total	0.58	1.71	1.14	3.03	2.58	3.82	4.47	6.66	3.11	4.58	4.65	7.95	7.04	8.48	3.34	3.66
Lathyrus	0.01			t			0.26								0.01	0.23
Trifolium pratense	0.02			0.01											0.07	0.16
Total	0.03			0.01			0.26								0.08	0.39
Achillea	0.01			0.01						0.01					0.04	0.01
Anthriscus								0.05				0.02		0.07	0.01	0.01
Centaurea	0.03			0.01								t			0.01	t
Cerastium	0.05			0.03										0.02	t	t
Conopodium				t											0.03	0.04
Heracleum				0.02			0.20							0.03	0.04	t
Hypochaeris	0.02															
Leontodon	t			t												
Linum		t														
Luzula	t			t											t	t
Pimpinella																
Plantago	0.01															
Potentilla	0.10			0.01		t									0.07	0.04
Poterium	t															
Poterium	0.01															
Ranunculus	0.02			0.08						t					0.03	0.08
Rumex	0.06			0.03		t	0.04	0.15	t	0.05		t		0.02	0.03	t
Taraxacum	0.02			0.01		0.01	0.15				0.03	0.03		0.01		
Tragopogon																
Total	t	0.35		0.20		0.01	0.44	0.44	t	0.06		0.05		0.15	0.25	0.18
Total yield	0.59	2.09	1.14	3.25	2.58	3.83	4.48	7.36	3.11	4.64	4.65	8.00	7.04	8.63	3.67	4.23

* Based on 1974 analysis, $t \leq 0.005 \text{ t ha}^{-1}$

TABLE 40 Effects of Lime applied between 1965 and 1968 on the Botanical Composition (%) in June 1974 of Sub-plots *b* (pH being raised to 6) compared to that of Sub-plots *a* (Limed once every Four Years under the old Liming Scheme)

	4 ² (N ₂ P)		9 (N ₂ PKNaMg)		10 (N ₂ PNaMg)		11 ¹ (N ₃ PKNaMg)		11 ² (N ₃ PKNaMgSi)	
	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>
Agrostis	6.9	6.9			2.2	3.4				
Alopecurus	5.7	7.0	15.3	8.1	7.6	6.9	29.6	17.0	28.7	0.2
Anthoxanthum	7.0	9.6	0.2	1.5	16.3	17.9			0.2	15.2
Arrhenatherum	0.5		53.4	50.7	19.6	22.3	38.3	63.9	50.3	60.8
Bromus			t							
Dactylis	t		1.9	4.3			2.3	2.0	1.3	4.8
Festuca rubra	53.1	40.9	0.1	1.5	38.9	36.6		0.1	0.1	
Helictotrichon	0.8	11.7	0.7	1.5		0.7				
Holcus	2.2	1.5	6.5	5.6	3.9	6.8	21.8	7.1	10.6	2.8
Poa pratensis	19.5	15.8	2.4	1.3	5.8	2.5	2.0	2.9	1.2	1.8
Poa trivialis			1.5	t			0.9	0.6	3.0	10.1
Trisetum				0.5						
Total	95.8	93.3	82.1	75.0	94.3	97.1	94.9	93.6	95.4	95.8
Lathyrus			11.0	15.6	0.2		0.1	t	0.2	t
Trifolium pratense				0.4						
Total			11.0	16.0	0.2		0.1	t	0.2	t
Achillea	0.3	0.5	t		0.2	0.2			0.6	2.0
Anthriscus			0.5	2.8		t	0.5	0.5		
Cerastium			t			t				
Conopodium				t		t				
Galium	0.3	0.5			0.1	0.2				
Heracleum			4.0	3.3			0.9	1.1	1.4	1.7
Hypochaeris	0.5									
Pimpinella	t	0.4								
Plantago	0.3	1.2			1.9	0.4				
Poterium	t									
Ranunculus	0.2				0.1	0.1				
Rumex	2.2	4.0	0.5	0.4	0.9	0.4				
Taraxacum	0.3	0.1	1.9	2.4	2.3	1.5	2.6	2.9	1.8	0.3
Total	4.2	6.7	6.9	9.0	5.5	2.9	5.0	6.4	4.4	4.2

t = < 0.05%

TABLE 41 Effects of Lime applied between 1965 and 1968 on the amounts ($t\ ha^{-1}$) of different species in June 1974 on sub-plots *b* (pH being raised to 6) compared to that on sub-plots *a* (Limed once every Four Years under the old Liming Scheme)

	$4^2\ (N_2P)$		$9\ (N_2PKNaMg)$		$10\ (N_2PNaMg)$		$11^1\ (N_3PKNaMg)$		$11^2\ (N_3PKNaMgSi)$	
	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>
Agrostis	0.19	0.19			0.08	0.12				
Alopecurus	0.16	0.20	1.01	0.51	0.28	0.23	1.98	1.02	2.09	0.01
Anthoxanthum	0.19	0.28	0.01	0.10	0.60	0.61			0.01	1.19
Arrhenatherum	0.01		3.52	3.21	0.73	0.76	2.56	3.85	3.67	4.75
Bromus			t							
Dactylis	t		0.12	0.27			0.16	0.12	0.09	0.37
Festuca rubra	1.48	1.17	0.01	0.09	1.45	1.24		t	0.01	
Helictotrichon	0.02	0.33	0.05	0.10						
Holcus	0.06	0.04	0.43	0.36	0.14	0.23	1.46	0.43	0.77	0.22
Poa pratensis	0.54	0.45	0.16	0.08	0.22	0.09	0.14	0.17	0.09	0.14
Poa trivialis			0.10	t			0.06	0.04	0.22	0.79
Trisetum				0.03						
Total	2.67	2.68	5.41	4.75	3.51	3.30	6.34	5.64	6.95	7.48
Lathyrus			0.73	0.99	0.01		t	t	0.01	t
Trifolium pratense				0.02						
Total	-	-	0.73	1.01	0.01	-	t	t	0.01	t
Achillea	0.01	0.02	t		0.01	0.01				
Anthriscus			0.03	0.18		t	0.03	0.03	0.04	0.16
Cerastium			t			t				
Conopodium				t		t				
Galium	0.01	0.01			t	0.01				
Heracleum			0.26	0.21			0.06	0.07	0.10	0.14
Hypochaeris	0.01									
Pimpinella	t	0.01								
Plantago	0.01	0.03			0.07	0.01				
Poterium	t									
Ranunculus	0.01				t	t				
Rumex	0.06	0.12	0.03	0.03	0.03	0.01	0.18	0.18	0.13	0.02
Taraxacum	0.01	t	0.13	0.15	0.09	0.05	0.06	0.12	0.04	0.01
Total	0.12	0.19	0.45	0.57	0.21	0.10	0.33	0.39	0.32	0.33
Total yield	2.79	2.87	6.59	6.33	3.72	3.40	6.68	6.03	7.29	7.81

t = < 0.005 t/ha

TABLE 42 Botanical Composition (%) of Unlimed (U) and Limed (L) halves of Plots 3, 7, 8, 14, 16 and 17 in June 1975

	3 (Unmanured)		7 (PKNaMg)		8 (PNaMg)		17 (N ₁ *)		16 (N ₁ *PKNaMg)		14 (N ₂ *PKNaMg)	
	U	L	U	L	U	L	U	L	U	L	U	L
Agrostis	15.5	2.3	29.0	0.4	4.6	4.0	6.1	1.9	1.0	4.3	36.8	13.4
Alopecurus	2.5	1.0	7.3	5.2	2.8	1.0	24.4	7.9	28.8	1.1	0.3	t
Anthoxanthum	7.2	6.5	11.3	1.1	9.6	13.1	14.2	5.3	6.1	42.4	37.0	39.8
Arrhenatherum	0.2	0.2	0.4	30.8	2.0	6.1	0.3	0.8	37.6	0.1	1.3	2.4
Briza	1.0	2.0	t	0.9	0.1	1.6	0.2	3.9	0.1	0.1	2.7	1.4
Bromus	2.2	0.1	5.0	3.0	1.9	1.5	5.0	11.0	7.8	3.1	3.4	2.7
Cynosurus	33.2	13.6	14.7	0.3	15.6	11.7	7.8	13.4	1.0	0.2	2.0	4.2
Dactylis	0.3	8.5	0.1	0.3	0.3	3.6	0.3	16.7	0.6	1.5	0.4	4.2
Festuca pratensis	1.5	4.3	6.5	2.5	16.7	5.6	2.7	3.0	3.0	0.4	0.4	0.4
Helictotrichon	0.2	0.9	1.3	0.6	0.2	0.9	0.2	t	0.1	t	0.4	0.4
Poa pratensis	0.2	0.4	0.2	1.1	0.4	1.2	0.2	0.1	0.8	3.1	4.6	5.6
Poa trivialis	0.1	1.0	0.1	0.8	1.0	0.1	2.0	7.4	0.2	t	0.2	0.2
Lolium	0.1	1.0	0.1	0.8	0.1	1.4	t	0.2	t	t	0.2	0.2
Trisetum	64.0	43.0	75.9	47.8	55.6	63.8	63.5	72.4	87.1	59.7	83.5	71.8
Total												
Lathyrus	0.5	1.7	5.4	14.0	0.3	0.1	0.1	1.1	1.8	4.9	1.5	8.4
Lotus	2.5	3.0	0.1	7.7	1.1	2.0	0.1	1.0	0.2	2.1	0.9	0.9
Trifolium pratense	3.3	7.2	3.9	7.6	7.2	7.6	0.1	2.0	0.2	0.6	0.1	0.1
Trifolium repens	0.2	0.3	1.2	0.5	0.8	0.4	0.1	0.1	t	0.5	0.1	t
Total	6.6	12.2	10.6	22.2	9.4	10.1	0.1	3.1	2.0	7.6	1.5	9.3
Achillea	1.3	1.3	0.7	t	0.9	1.6	0.4	1.1	0.1	0.1	8.3	4.7
Anthriscus	0.1	2.7	2.5	0.3	2.3	1.7	0.1	1.2	0.1	0.5	0.1	t
Ajuga	1.5	1.2	1.1	0.1	0.2	0.8	0.1	0.4	0.1	18.1	0.1	1.5
Carex	0.3	0.2	0.3	0.1	0.5	0.2	t	0.7	0.1	0.1	0.1	1.5
Centaurea	0.2	0.2	0.3	7.2	0.3	0.4	0.1	0.4	0.1	0.1	0.1	1.5
Cerastium	0.2	0.2	0.3	7.2	0.3	0.4	0.1	0.4	0.1	0.1	0.1	1.5
Conopodium	0.2	0.2	0.3	7.2	0.3	0.4	0.1	0.4	0.1	0.1	0.1	1.5
Galium	0.1	0.3	0.3	7.2	0.3	0.4	0.1	0.4	0.1	0.1	0.1	1.5
Heracleum	0.1	0.3	0.3	7.2	0.3	0.4	0.1	0.4	0.1	0.1	0.1	1.5
Hypochaeris	0.4	0.3	0.3	7.2	0.3	0.4	0.1	0.4	0.1	0.1	0.1	1.5
Knautia	10.0	12.2	1.2	0.3	1.0	6.2	4.4	5.4	0.1	0.1	0.1	1.5
Leontodon	1.4	2.2	1.2	0.3	8.3	6.2	4.4	5.4	0.1	0.1	0.1	1.5
Linum	0.3	0.4	0.3	0.3	2.9	2.2	0.3	0.7	0.1	0.1	0.1	1.5
Luzula	6.1	10.3	6.7	3.3	16.2	9.5	23.9	12.4	2.9	1.6	0.7	4.0
Pimpinella	0.7	1.6	0.2	7.7	1.9	2.5	3.7	0.3	5.3	3.2	0.7	4.0
Plantago	0.1	0.1	0.2	1.9	0.1	0.3	0.9	0.3	1.0	1.4	1.5	0.8
Potentilla	0.1	0.3	0.4	8.8	0.6	0.4	0.9	0.4	1.4	4.8	4.5	7.9
Ranunculus	0.1	0.3	0.4	8.8	0.6	0.4	0.9	0.4	1.4	4.8	4.5	7.9
Rumex	0.1	0.3	0.4	8.8	0.6	0.4	0.9	0.4	1.4	4.8	4.5	7.9
Taraxacum	0.1	0.3	0.4	8.8	0.6	0.4	0.9	0.4	1.4	4.8	4.5	7.9
Tragopogon	0.1	0.3	0.4	8.8	0.6	0.4	0.9	0.4	1.4	4.8	4.5	7.9
Veronica	0.1	0.3	0.4	8.8	0.6	0.4	0.9	0.4	1.4	4.8	4.5	7.9
Total	29.3	44.8	13.5	30.0	35.0	26.1	36.4	24.5	10.9	32.7	15.0	18.9

* = N as sodium nitrate t = < 0.05%

TABLE 43 The amounts (t ha^{-1}) of different species in the Unlimed (U) and Limed (L) halves of Plots 3, 7, 8, 14, 16 and 17 in June 1975

	3 (Unmanured)		7 (PKNaMg)		8 (PNaMg)		17 (N ₁ *)		16 (N ₁ *PKNaMg)		14 (N ₂ *PKNaMg)	
	U	L	U	L	U	L	U	L	U	L	U	L
Agrostis	0.13	0.04	0.94	0.02	0.13	0.09	0.13	0.04	0.04	0.04	1.77	0.58
Alopecurus	0.02	0.02	0.24	0.25	0.08	0.02	0.52	0.19	1.26	0.01	0.01	t
Anthoxanthum	0.06	0.11	0.36	0.05	0.27	0.30	0.30	0.12	0.27	0.05	1.77	1.74
Arrhenatherum	t	t	0.01	1.51	0.06	0.14	0.01	0.02	1.64	1.95	t	t
Briza	0.01	0.03	0.01	0.04	t	0.04	0.01	0.09	t	t	0.06	0.11
Bromus	0.01	0.03	t	0.04	t	0.04	t	0.09	t	t	0.06	0.11
Cynosurus	0.02	0.03	0.16	0.15	0.05	0.04	0.10	0.26	0.34	0.14	0.13	0.06
Dactylis	0.27	0.21	0.48	0.02	0.44	0.27	0.17	0.31	0.04	0.16	0.13	0.12
Festuca rubra	t	t	t	0.03	0.01	0.08	0.01	0.08	0.01	0.01	0.01	0.09
Festuca pratensis	t	0.14	t	0.02	0.01	0.27	0.01	0.39	0.03	0.07	0.02	0.18
Helictotrichon	0.01	0.07	0.21	0.12	0.47	0.13	0.06	0.09	0.13	0.02	0.02	0.01
Holcus	t	0.01	0.04	0.03	0.01	0.02	0.04	0.17	0.01	t	0.02	0.01
Lolium	t	0.01	0.04	0.03	0.01	0.02	t	t	t	t	0.02	0.24
Poa pratensis	t	0.01	0.01	0.05	0.01	0.03	t	t	0.03	0.14	0.22	0.01
Poa trivialis	t	0.02	0.04	0.04	t	0.03	t	t	t	t	0.01	0.01
Trisetum	t	0.02	0.04	0.04	t	0.03	t	t	t	t	0.01	0.01
Total	0.52	0.70	2.46	2.34	1.55	1.46	1.34	1.70	3.81	2.75	4.00	3.13
Lathyrus	t	0.03	0.17	0.68	0.01	t	t	0.02	0.08	0.22	0.07	0.37
Lotus	0.02	0.05	t	0.05	0.03	0.05	t	0.02	0.08	0.22	0.07	0.37
Trifolium pratense	0.03	0.12	0.13	0.38	0.20	0.17	t	0.05	0.01	0.10	0.04	0.04
Trifolium repens	t	t	0.04	0.02	0.02	0.01	t	t	t	0.03	0.07	0.41
Total	0.05	0.20	0.34	1.09	0.26	0.23	t	0.07	0.09	0.35	0.07	0.41
Achillea	0.01	0.02	0.02	t	0.02	0.04	0.01	0.03	0.01	t	0.40	0.20
Anthriscus	t	0.04	0.08	0.02	0.06	0.04	t	0.03	0.01	0.14	0.40	0.20
Ajuga	t	0.04	0.08	0.02	0.06	0.04	t	0.03	0.01	0.14	0.40	0.20
Carex	0.01	0.02	0.08	0.02	0.01	0.02	0.03	0.03	0.01	0.02	0.01	0.01
Centaurea	t	t	0.04	0.01	0.02	0.01	t	t	t	0.02	0.01	0.01
Cerastium	t	t	0.04	0.01	0.02	0.01	t	t	t	0.02	0.01	0.01
Conopodium	t	t	0.01	0.35	0.01	0.02	t	0.02	0.01	0.83	t	0.06
Galium	t	t	0.01	0.35	0.01	0.02	t	0.02	0.01	0.83	t	0.06
Heracleum	t	t	0.01	0.35	0.01	0.02	t	0.02	0.01	0.83	t	0.06
Hypochaeris	t	t	0.01	0.35	0.01	0.02	t	0.02	0.01	0.83	t	0.06
Knautia	t	t	0.01	0.35	0.01	0.02	t	0.02	0.01	0.83	t	0.06
Leontodon	0.08	0.20	0.08	0.02	0.23	0.14	0.09	0.13	0.01	0.14	0.40	0.20
Linum	0.01	0.03	0.04	0.01	0.08	0.05	0.01	0.02	0.01	0.14	0.40	0.20
Luzula	t	0.01	0.04	0.01	0.08	0.05	0.01	0.02	0.01	0.14	0.40	0.20
Pimpinella	0.05	0.17	0.22	0.16	0.45	0.22	0.51	0.29	0.13	0.07	0.03	0.17
Plantago	0.06	0.20	0.22	0.16	0.45	0.22	0.51	0.29	0.13	0.07	0.03	0.17
Poterium	t	0.02	0.01	0.38	0.05	0.06	0.08	0.01	0.23	0.15	0.03	0.17
Ranunculus	t	0.02	0.01	0.38	0.05	0.06	0.08	0.01	0.23	0.15	0.03	0.17
Rumex	t	0.02	0.01	0.38	0.05	0.06	0.08	0.01	0.23	0.15	0.03	0.17
Taraxacum	t	0.02	0.01	0.38	0.05	0.06	0.08	0.01	0.23	0.15	0.03	0.17
Tragopogon	t	0.02	0.01	0.38	0.05	0.06	0.08	0.01	0.23	0.15	0.03	0.17
Veronica	t	0.02	0.01	0.38	0.05	0.06	0.08	0.01	0.23	0.15	0.03	0.17
Total	0.24	0.73	0.44	1.47	0.98	0.60	0.77	0.58	0.48	1.50	0.72	0.82
Total yield	0.81	1.63	3.24	4.90	2.79	2.28	2.12	2.35	4.38	4.60	4.80	4.36

* = N as sodium nitrate t = < 0.005 t ha⁻¹

TABLE 44 Botanical Composition (%) of Unlimed (U) and Limed (L) Halves of Plots 3, 7 and 14 and of Sub-Plots a, b and c of Plot 9 in June 1976

	3 (Unmanured)		7 (PKNaMg)		14 (N ₂ *PKNaMg)		9 (N ₂ PKNaMg)		
	U	L	U	L ^P	U	L	a ⁺	b	c
Agrostis	23.3	1.6	31.1		38.5	9.8	11.2	t	3.5
Alopecurus	0.3	0.9	2.7	E	0.1	0.5	0.2	11.1	2.1
Anthoxanthum	2.0	2.5	4.7	J	46.5	53.6	41.3	2.6	2.3
Arrhenatherum	t	0.3	0.7	A	0.1			33.9	9.6
Briza	0.6	2.2		I					
Bromus		t				0.5		t	0.1
Cynosurus	0.9	1.6	3.2	B	2.5	2.3	6.8	4.7	0.1
Dactylis	32.3	12.0	22.7			5.4	0.1	1.1	2.1
Festuca rubra	0.4	4.6	0.2	G		1.2	t	0.9	
Helictotrichon	0.9	1.8	6.4	H	0.1	0.1	4.8	6.2	60.6
Holcus	0.7	0.7	0.2			0.2			
Lolium	0.2	0.9	1.5	F	0.9	4.8	1.3	5.9	11.9
Poa pratensis	t	0.1	0.2	C	2.3	3.8	1.9	0.2	0.9
Poa trivialis	t	1.1	t	D	0.2	0.3	0.1		
Trisetum									
Total	61.1	30.6	73.6	40.0	91.3	82.5	67.8	66.7	93.2
Lathyrus	0.4	1.3	6.9	A	2.0	7.4	17.9	21.1	3.9
Lotus	1.4	3.9	1.0						
Trifolium pratense	2.1	4.9	4.6	B		0.2		0.6	0.4
Trifolium repens	0.2	t	0.3	C		0.4			
Total	4.1	10.1	12.7	47.1	2.0	8.0	17.9	21.8	4.3
Achillea	0.8	1.2	1.2	H	0.1	t	t	0.6	t
Anthriscus					2.5	2.9	1.1		t
Carex	1.1	1.3							
Centaurea	1.3	1.4	0.7						
Cerastium	t	0.5	t	F			t	t	t
Conopodium	0.4		2.2	G		0.1	t	0.3	t
Galium	0.1								
Geranium			0.1	B	t	1.2	9.3	4.9	0.2
Hieracium	0.1	t							
Hypochaeris	1.6		0.3						
Knautia	0.2	0.9							
Leontodon	14.3	18.7	0.3						
Linum		t							
Luzula	1.1	0.8	0.6						
Pimpinella	0.8	0.9							
Plantago	6.7	14.6	6.8	D		0.1			
Poterium	5.6	16.7							
Ranunculus	0.5	1.2	0.1	C	0.1	1.1	0.8	1.5	0.2
Rumex	t	0.1	0.2	E	0.6	0.1	2.9	4.1	1.9
Taraxacum	0.2	0.2	0.6	A	3.3	3.9			
Tragopogon	0.1	0.5							
Veronica	t								
Total	34.8	59.3	13.7	12.9	6.7	9.4	14.3	11.5	2.4

* = N as sodium nitrate

^P = Plot 7L was only partially analysed and species within the tree main groups were ranked for relative abundance, A being the most abundant in each group.
⁺ = Under the new liming scheme the pH of sub-plots a will be raised to 7, 9a received 14 t ground chalk ha⁻¹ in January 1976.
t = < 0.05%

TABLE 45 The amounts ($t\ ha^{-1}$) of different species on the Unlimed (U) and Limed (L) halves of Plots 3, 7 and 14 and of Sub-plots a, b and c of Plot 9 in June 1976

	3 (Unmanured)		7 (PKNaMg)		14 (N_2 *PKNaMg)		9 (N_2 *PKNaMg)		
	U	L	U	L ^P	U	L	a	b	c
Agrostis	0.23	0.02	0.76						
Alopecurus	t	0.01	0.06		1.87	0.41	0.65	t	0.16
Anthoxanthum	0.02	0.03	0.11		t	0.02	0.01	0.62	0.09
Arrhenatherum	t	t	0.02		2.26	2.25	2.41	1.88	0.10
Briza	0.01	0.03							0.43
Bromus					t	0.02		t	t
Cynosurus	0.01	0.02	0.08				0.39	0.26	t
Dactylis	0.32	0.16	0.56		0.12	0.10	t	0.06	0.09
Festuca rubra	t	0.06	t			0.05	t	0.05	t
Helictotrichon	0.01	0.02	0.16		0.01	t	0.28	0.34	2.72
Holcus	t	0.01	t			0.01			
Lolium	0.01	0.01	0.04		0.04	0.20	0.08	0.33	0.53
Poa pratensis	t	0.01	t		0.11	0.16	0.11	0.01	0.04
Poa trivialis	t	0.01	t		0.01	0.01	0.01		
Trisetum	t		t						
Total	0.61	0.42	1.80	2.03	4.44	3.47	3.95	3.71	4.18
Lathyrus	t	0.02	0.17		0.10	0.31	1.04	1.17	0.18
Lotus	0.01	0.05	0.02						
Trifolium pratense	0.02	0.07	0.11			0.01		0.03	0.02
Trifolium repens	t	t	0.01			0.02			
Total	0.04	0.14	0.31	2.39	0.10	0.34	1.04	1.21	0.20
Achillea		0.02	0.03		t	t	t	0.03	t
Anthriscus					0.12	0.12	0.06		t
Carex	0.01	0.02							
Centaurea	0.01	0.02	0.02						
Cerastium	t	0.01	t			t	t	t	t
Conopodium	t	t	0.05			t	t	0.02	t
Gallium	t								
Heracleum	t	t	t		t	0.05	0.54	0.27	0.01
Hieracium	t								
Hypochaeris	0.02	t	0.01						
Knautia	t	0.01							
Leontodon	0.14	0.25	t						
Linum	t	t							
Luzula	0.01	0.01	0.01						
Pimpinella	0.01	0.01	0.01						
Plantago	0.07	0.20	0.17			t			
Poterium	0.06	0.23							
Ranunculus	t	0.02	t		0.01	0.05			
Rumex	t	t	0.01		0.03	t	0.05	0.08	0.01
Taraxacum	t	t	0.01		0.16	0.17	0.17	0.23	0.08
Tragopogon	t	0.01							
Veronica	t								
Total	0.35	0.80	0.32	0.65	0.32	0.40	0.83	0.64	0.11
Total yield	1.00	1.36	2.43	5.07	4.86	4.21	5.82	5.56	4.49

*N as sodium nitrate, P = partial analysis only, grasses, legumes and other species separated