NOT FOR PUBLICATION

Department of Crop Science 120/34

FORAGE CROP INVESTIGATIONS - ONTARIO

1968 Report on Field Trials of Varieties and Mixtures

Research Station, Ottawa

Experimental Farm, Kapuskasing

Experimental Farm, Fort William

Kemptville College of Agricultural Technology, Kemptville

New Liskeard College of Agricultural Technology, New Liskeard

Ontario Agricultural College, University of Guelph, Guelph

Ridgetown College of Agricultural Technology, Ridgetown

FORWARD

This report has been prepared by the members of the Ontario Forage Crops Committee. It is intended for the use of members of that committee as well as for others interested in the forage program in Ontario. Copies of this report may be obtained from the chairman of the committee.

Included in this report are data from trials established to evaluate varieties and mixtures. These data should not be considered in most cases, as the complete evaluation of a particular variety or mixture, as only those data summarized by November 1, 1968 are included.

The Ontario Forage Crops Committee is made up of personnel from the Canada Department of Agriculture, Ontario Department of Agriculture and Food, and the University of Guelph. This committee assumes the responsibility for preparing recommendations for farm use in forage varieties and management. The committee also assumes responsibility for coordinating research inforage crop breeding, variety evaluation, and management in Ontario.

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Chairman,
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Ontario Agricultural College,
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CONTENTS

Alfalfa Report

Introduction

A. Tests extant

1966 Seeding: early (Flemish) at Guelph,
standard at Guelph,
pasture at Ottawa.

1967 Seeding: early at Ridgetown, Ottawa, Kapuskasing,
standard at Ridgetown, Ottawa, Kapuskasing
combination of two types at New Liskeard

1968 Seeding: early at Guelph, Fort William
standard at Fort William

B. Varieties under test

Early, foreign

Apex	Mega
CL 40	NK 508
Du Puits	NK 510
Europe	Promor
FD 100	Saranac
Glacier	WL 303
Luciole	WL 305

Standard

Cayuga	Pioneer 522
CL 25 (DeKalb 123)	Pioneer 525
Iroquois	Scout
Multiple-leaf	Titan (RP 25)
Mk II	Vernal
Narragansett	WL 202
Norseman	WL 210

Early, Canadian Strains

BW 1, 3, 9, 13,
OD 25

Standard, Canadian

Beaver	Roamer
Rhizoma	

Others, Canadian

TG 2, Nalfa #1, Nalfa #2, M-53-6

C. Varieties to be considered for licensing:

Apex, FD 100, Europa, Iroquois.

The results for the third cut of a number of tests were received too late for inclusion in the report for those tests. In this supplementary report are given the yields in pounds of dry matter per acre for the third cut, 1968, where applicable.

Varieties are listed in this appendix in the same order as they appear in the test report. Treatment numbers are added where assigned. The L.S.D. and M.R.T. values given are for the seasonal total and not for the last cut.

ALFALFA

Exp. 4008

2	1007
7	820
4	1006
5	1043
6	1054
3	1044
1	1019
L.S.D.	561
Total	

Exp. 4036

8	1886
9	1839
10	1939
1	1608
2	1568
3	1875
4	1722
5	2171
6	1896
7	1842
L.S.D.	N.S.
Total	

Exp. 4037

5	1387
6	1379
7	1424
3	1272
2	1290
1	1370
4	1284
L.S.D.	N.S.
Total	

Exp. 4038

12	1556	abc
9	1705	abcd
10	1604	a
3	1682	ab
4	1666	ab
1	1674	abc
2	1648	abc
7	1530	abcd
5	1116	d
6	1637	bcd
8	1100	d
11	1589	abcd

BIRDSFOOT TREFOIL

4244

4	1579
3	1554
7	1539
1	1691
5	1578
6	1458
2	1535
L.S.D.	N.S.
Total	

4245

1	1015
2	789
3	908
4	968
5	1013
6	946
7	926
L.S.D.	N.S.
Total	

RED CLOVER

4039

	Sept.	Season	
Lakeland	1925	6801	a
Dollard	1399	6433	ab
Ottawa	1508	6217	ab
D.M. - 44	1549	5821	b
Hungariopoli	1828	5784	b
L.S.D.		614	
C.V.		8	

Test 1010 Alfalfa Strain Trial, Flemish, Ridgetown, 1967 Seeding

Yield of D.M. in lbs/acre

1968

		Cut 1 June 20	Cut 2 July 29	Cut 3 Sept. 4	Total	Rank
NK 508	01	4986	3055	2054	10096	5
FD 100	02	4815	3280	2142	10236	4
Europa	03	5390	3522	2354	11266	1
NK 510	04	4965	3422	2213	10600	3
Du Puits	05	4762	3052	2141	9955	7
Saranac	06	5279	3320	2217	10817	2
Mega	07	4647	3052	2196	9894	6
Mean		4978	3243	2188	10409	
C.V.		9	10	7	7	
L.S.D.		506	377	190	866	

Test 1011 Standard Alfalfa Strain Trial, Ridgetown, 1967 Seeding

Yield in D.M. in lbs/acre

1968

		Cut 1 June 20	Cut 2 July 29	Cut 3 Sept. 4	Total	Rank
522	01	6061	3798	2332	12191	8
525	02	6135	3836	2313	12284	7
WL 202	03	6938	3936	2347	13221	1
WL 210	04	6624	3793	2498	12916	2
Norseman	05	6156	3120	1822	11097	10
Scout	06	6137	3845	2457	12439	4
RP 25	07	6476	3589	2257	12322	6
Roamer	08	5893	2799	1671	10363	11
Narragansett	09	6174	3877	2370	12421	5
Iroquois	10	6225	3846	2369	12439	3
TG 2	11	5326	3450	2014	10791	12
Vernal	12	6267	3647	2210	12124	9
Mean		6201	3628	2222	12051	
C.V.		8	6	6	5	
L.S.D.		498	246	148	762	

Test 1012 Flemish Screening Alfalfa Trial, Ridgetown, 1967 Seeding

Yield of D.M. in lbs/acre

1968

		Cut 1 June 20	Cut 2 July 29	Cut 3 Sept. 4	Total	Rank
WL 303	01	5621	3453	2360	11434	2
WL 305	02	5614	3341	2329	11284	4
CL 40	03	4896	3112	2248	10256	9
OD 25	04	5593	3345	2203	11141	5
BW 9	05	5674	3717	2574	11965	1
BW 3	06	4621	3337	2264	10222	10
BW 1	07	5618	3138	2280	11036	6
Du Puits	08	5319	3793	2223	11335	3
Saranac	09	5124	3384	2347	10855	7
Mega	10	5124	3332	2239	10695	8
Mean		5320	3395	2307	11022	
C.V.		12	12	7	10	
L.S.D.		925	570	246	1269	

Exp. 2501 **Alfalfa, Standard Type, Strain Trial, Guelph, 1966 Seeding**

Yield in lb. D.M. per acre

		1967				1968					Mean 1967-1968
		June 21	July 27	Total	Rank	June 17	July 22	Aug. 28	Total	Rank	
Vernal	01	3860	2080	5940	9	3026	2653	1845	7524	8	6732
Cayuga	02	3970	2050	6020	7	3104	2814	2134	8052	2	7036
Pioneer 525	03	4060	2050	6110	5	2804	2631	1885	7320	9	6715
W.L. 202	04	4180	2050	6230	2	2879	2705	1973	7557	7	6894
C.L. 25	05	3860	1950	5810	10	3196	2727	2218	8141	1	6976
M.K. 11	06	4320	2040	6360	1	2907	2752	2184	7843	4	7102
R.P. 25	07	4100	2070	6170	3	2934	2776	2116	7826	5	6998
W.L. 210	08	3860	2200	6060	6	3244	2824	1980	8048	3	7054
Iroquois	09	4020	1980	6000	8	3002	2799	1779	7580	6	6790
Multiple-leaf	10	4100	2050	6150	4	2339	2622	1925	6886	10	6518
Scout (from 2502)		4000	1900	5900		2996	2736	1478	7210		6555
Mean		4033	2052	6085		2943	2730	2004	7677		6881
L.S.D.						853	260	228			
C.V.						20	7	8			

Exp. 2502 **Alfalfa, Early Type, Strain Trial, Guelph, 1966 Seeding**

		1967				1968					Mean
		June 21	July 27	Total	Rank	June 17	July 22	Aug. 28	Total	Rank	1967-1968
Saranac	01	4300	1850	6150	5	3309	2833	1660	7802	2	6976
Scout	02	4000	1900	5900	6	2996	2736	1478	7210	5	6555
W.L. 305	03	3600	2100	5700	7-8	3061	2511	1742	7314	4	6507
Vernal	04	3800	1900	5700	7-8	2982	2615	1362	6959	7	6329
Du Puits	05	4500	2000	6500	2	2924	2612	1644	7180	6	6840
W.L. 303	06	4300	2150	6450	3	3390	2744	1535	7669	3	7060
Apex	07	4500	2150	6650	1	3339	2900	1690	7929	1	7290
C.L. 40	08	4100	2100	6200	4	2677	2497	1454	6628	8	6414
Mean		4138	2019	6156		3085	2681	1571	7337		6747
C.V.						14	10	15			
L.S.D.						549	349	358			

These tests were disturbed by a ditching operation after seeding and the results are accordingly less trustworthy.

Exp. 2507 Alfalfa, Flemish Type, Guelph, 1968 Seeding

Yields in lb. D.M. per acre

1968

		Cut 1 July 26	Rank
Du Puits	01	2856	10
Saranac	02	3166	3
Europe	03	3165	4
FD 100	04	3205	2
NK 508	05	2963	8
NK 510	06	2730	11
Promore	07	3090	5
WL 303	08	2861	9
WL 305	09	3358	1
Apex	10	3075	6
Vernal	11	3076	7
Mean		3050	
C.V.		8	
L.S.D.		292	

Exp. 2508 Alfalfa, Ottawa Strains, Guelph, 1968 Seeding

Yields in lb. D.M. per acre

1968

		Cut 1 July 26	Rank	
BW 1	01	3443	2	ab
BW 3	02	2962	5	c
BW 9	03	2865	7	c
BW 13	04	3444	2	ab
Saranac	05	3709	1	a
Luciole	06	2891	6	c
TG 2	07	3300	4	b
Mean		3231		
C.V.		7		
L.S.D. 5%		344		

Location -- Elora, latitude 43° 30'N
Soil type -- medium clay loam
Design -- randomized complete block, 4 or 6 replicates
Seeding rate -- 12 lb. per acre
Plot size -- 20' x 5'
Cover crop -- none
Fertilizer, preseeding -- 400 lb. 5-20-20
Herbicide, establishment year -- 16 oz. 2,4-DB at 3rd true leaf stage
Fertilizer, harvest years -- 300 lb. 0-20-20 applied after each harvest

Tests 2501, 2502

These tests were badly mauled by ditching operations and some replicates were unusable.

Heavy infestations of dandelions occurred in spite of applications of simazine in the fall of the year. Paraquat treatments applied immediately after harvest were also used. This treatment was also ineffective but only because the paraquat had lost its potency as was demonstrated at a later date.

Tests 2507, 2508

These tests, seeded in 1968 were harvested in late July. By Sept. 1 they had not reached flowering stage and consequently were not harvested again.

Spring Vigor, Ottawa Tests, April 25, 1968

0 -- best, 9 -- worst

Test 4008

Variety	Average
Nalfa #2	1.5
Rhizoma	1.7
Vernal	2.5
Nalfa #1	3.0
Beaver	3.5
DuPuits	4.0
M 53-6	4.5
MEAN	3.0

Test 4037

Variety	Average
Mega	3.0
Saranac	3.5
NK 508	3.7
FD 100	4.0
Europa	4.2
DuPuits	4.2
NK 510	4.3
MEAN	3.8

Test 4036

Variety	Average
Saranac	2.3
WL 303	4.3
OD 25	4.5
DuPuits	4.8
WL 305	4.8
BW 9	5.0
BW 3	5.0
BW 1	5.0
GL 40	5.5
Mega	6.3
MEAN	4.8

Test 4038

Variety	Average
Iroquois	2.0
TG 2	2.5
Pioneer 522	2.7
RP 25	2.7
Narragansett	2.7
Vernal	2.7
WL 202	3.0
Roamer	3.2
Pioneer 525	3.2
Scout	3.3
WL 210	3.7
Norseman	4.0
MEAN	3.0

Exp. 4008 **Alfalfa Pasture Test, Ottawa, 1966 Seeding**

Yield of D.M. in lb. per acre

		1967					1968				
		June 8	July 5	July 27	Total	Rank	Cut 1 July 14	Cut 2 Aug. 1	Total	Rank	Visual Rating Apr. 25
Nalfa #1	2	3274	2166	1209	6649	1	1782	1225	3007	4	3.0
M 53-6	7	3394	2056	1112	6562	2	1352	1077	2429	7	4.5
Rhizoma	4	3183	2224	1028	6435	3	1721	1283	3004	5	1.7
Nalfa #2	5	3059	2173	1129	6361	4	1885	1304	3189	1	1.5
Vernal	6	3226	2079	883	6188	5	1899	1174	3073	3	2.5
Du Puits	3	2844	2323	981	6148	6	1422	1745	3167	2	4.0
Beaver	1	3262	2101	773	6136	7	1502	1194	2696	6	3.5
Mean		3178	2160	1016	6354		1652	1286	2938		
C.V.							15	15	12		
L.S.D.							288	212	389		

Exp. 4036 **Flemish Alfalfa Strain Trial, Ottawa, 1967 Seeding**

Yield of D.M. in lbs/acre

		1967	1968				
		Oct. 11	Cut 1	Cut 2	Total	Rank	Visual Rating Apr. 25
Du Puits	8	1860	1236	2129	3365	5	4.8
Saranac	9	1866	1331	2574	3905	1	2.3
Mega	10	1789	1067	2296	3363	6	6.3
WL 303	1	1607	1347	2394	3741	2	4.3
WL 305	2	1584	1252	2447	3699	3	4.8
CL 40	3	1502	1006	2333	3339	7	5.5
OD 25	4	1821	938	2210	3148	9	4.5
BW 9	5	1773	1096	2212	3308	8	5.0
BW 3	6	1554	851	2156	3006	10	5.0
BW 1	7	1574	959	2413	3372	4	5.0
Mean		1671	1108	2316	3424		
C.V.		11	22	14	14		
L.S.D.		261	219	289	428		

Exp. 4037 Alfalfa Flemish Strain Trial, 1967 Seeding in Pure Stands

Yielding D.M. in lb/acre

		1968				
		Cut 1 June 14	Cut 2 July 29	Total	Rank	Visual Rating Apr. 25
Du Puits	5	2186	2683	4869	5	4.2
Saranac	6	2461	2793	5254	3	3.5
Mega	7	2444	2885	5329	1	3.0
Europa	3	2388	2638	5026	4	4.2
FD - 100	2	1993	2648	4642	7	4.0
NK 508	1	2410	2900	5310	2	3.7
NK 510	4	1840	2809	4649	6	4.3
Mean		2246	2765	5011		
C.V.		16	13	11		
L.S.D.		384	379	626		

Exp. 4038 Hay - Standard Type, Ottawa, 1967 Seeding

Yield in D.M. in lbs/acre

		1968				
		Cut 1 June 14	Cut 2 July 25	Total	Rank	Visual Rating Apr. 25
Vernal	12	2345	2902	5247	4	2.7
Narragansett	9	1896	2980	4876	10	2.7
Iroquois	10	2282	3363	5645	1	2.0
WL 202	3	2333	3093	5226	5	3.0
WL 210	4	2292	3026	5318	2	3.7
Pioneer 522	1	2305	2884	5189	6	2.7
Pioneer 525	2	2138	3121	5259	3	3.2
R.P. 25	7	2145	3038	5183	7	2.7
Norseman	5	2087	2671	4758	11	4.0
Scout	6	1970	2687	4657	12	3.3
Roamer	8	2319	2837	5156	8	3.2
TG - 2	11	2330	2758	5088	9	2.5
Mean		2203	2947	5150		
C.V.		18	15	12		
L.S.D.		326	364	502		

Flemish Provincial Trial, Kapuskasing, 1967 Seeding

	Winter Kill %	Yield of D.M. in lbs/acre 1968 Cut 1 July 17	Cut 2 Sept.19	Total	Rank	Maturity*
Du Puits	33	3630	2360	5990	5	3
Saranac	26	3952	2611	6563	1	5
Mega	40	3675	2446	6121	3	2
Europa	36	3847	2629	6476	2	4
FD - 100	30	3532	2578	6110	4	1
NK 508	30	3849	2084	5933	6	7
NK 510	49	2996	2550	5546	7	6
		3640	2466	6106		
Significance		N.S.	N.S.	N.S.		
C.V.		10.7	12.9	7.7		
L.S.D.				553		

* Maturity 1 earliest, 7 latest.
Fertilization 1968. 0-35-66 lb. PK in the spring and after each cut.

Flemish Screening Trial for Hay, Kapuskasing, 1967 Seeding

	Winter Kill %	Yield of D.M. in lbs/acre 1968 Cut 1 July 23	Cut 2 Sept.18	Total	DMR	Maturity*
Du Puits	40	4442	2346	6787	bcd	4
Saranac	19	5629	3277	8906	a	6
Mega	25	5129	2915	8044	ab	1
WL 303	26	4578	2750	7328	bc	9
WL 305	25	4199	2652	6850	bcd	8
CL 40	66	3261	1926	5462	d	10
OD - 25	45	4068	2303	6371	cd	2
BW 9	35	4774	2788	7477	abc	3
BW 3	48	4380	2147	6527	bcd	7
BW 1	41	4333	2513	6845	bcd	5
C.V.		15	14	14		
L.S.D. - 5%		1000	533			

* 1 - earliest, 10 latest
fertilization 1968
0-35-66 PK applied in the spring and after each cut

Standard Provincial Strain Trial, Kapuskasing, 1967 Seeding

Yield of D.M. in lbs/acre

	Winter Kill %	1968 Cut 1 July 23	1968 Cut 2 Sept.19	Total	DMR	Maturity Rank
Vernal	28	5367	2675	8041	a	1
Narragansett	18	4843	2897	7741	abcd	7
Iroquois	23	4916	2932	7848	abc	2
WL 202	17	5169	2852	8021	ab	5
WL 210	24	4594	2844	7438	abcd	8
Pioneer 522	31	5048	2556	7604	abcd	4
Pioneer 525	22	4846	2864	7710	abcd	3
RP 25	26	5098	2671	7769	abcd	9
Norseman	23	5105	2092	7197	cd	11
Scout	29	4547	2793	7340	bcd	10
Roamer	18	5418	1717	7136	d	12
TG - 2	43	4099	2394	6493	c	6
Mean		4921	2607	7528		
C.V.		8	17	7		
L.S.D.		433	508			

Percent winter injury, Kapuskasing, 1967-8

Av. 6 repetitions		Av. 4 repetitions		Av. 6 repetitions	
NK 510	49%	CL	66	TG 2	43
Mega	40	BW 3	48	Pioneer 522	31
Europa	36	OD 25	45	Scout	29
DuPuits	33	BW 1	41	Vernal	28
FD 100	30	DuPuits	40	RP 25	26
NK 508	30	BW 9	35	WL 210	24
Saranac	26	WL 303	26	Norseman	23
		WL 305	25	Iroquois	23
		Mega	25	525	22
		Saranac	19	Narragansett	18
				Roamer	18
				WL 202	17

Exp. 7027A Alfalfa Strain Trial, Standard Type, Fort William, 1968 Seeding

1968

		Cut 1 Aug. 14	Rank
Vernal	1	1782	6
Mark 11	2	1692	11
Iroquois	3	1868	4
Multileaf	4	1579	12
WL 202	5	2068	1
WL 210	6	1813	5
Pioneer 522	7	1764	8
Pioneer 525	8	1775	7
Titan (RP 25)	9	1917	3
Norseman	10	2049	2
DeKalb 123	11	1711	10
Scout	23	1719	9
Mean		1811	
C.V.		14	
L.S.D.		300	

Exp. 7027B Alfalfa Strain Trial, Flemish Type, Fort William, 1968 Seeding

1968

		Cut 1 Aug. 14	Rank
Du Puits	12	1640	8
Saranac	13	1834	1
Europa	14	1803	4
FD 100	15	1632	9
NK 508	16	1822	3
NK 510	17	1300	11
Promor	18	1684	7
WL 303	19	1789	5
WL 305	20	1826	2
Apex	21	1707	6
Mega	22	1402	10
Mean		1676	
C.V.		14	
L.S.D.		300	

General Information: Exp. No. 7027 - Year 1968.
Fort William

Location	- Fort William, Ontario.
Soil Type	- Sandy loam.
Experimental design	- Randomized block. 6 replicates.
Plot Size	- 5' x 20'.
Size Sample Harvested	- 24" x 18'.
D.M. Sample Size	- 500 grams.
Variety	- 23 varieties.
Fertilizers	- 90# N. - 145# $P2_05$ - 140# K_2o. Spring and fall applications.

Pesticides - dates and rates:
(a) Herbicides - 2,4DB - 18 oz. acid per acre plus 5# Dalapon per acre, July 10, 1968.
(b) Insecticides - Nil
(c) Fungicides - Nil

Seeding date	- May 24, 1968.
Harvest date	- Aug. 14, 1968.
Previous Crop	- Fallow.
Seeding Method	- Broadcast by hand - No companion crop.
Harvest Method	- Plot Forage harvester.

Alfalfa Strain Trial, New Liskeard, 1967 Seeding

	1968 Cut 1 July 10	1968 Cut 2 Aug. 27	Total	Rank
Vernal	7065	3394	10,459	4
Cayuga	6916	3772	10,688	3
Iroquois	7599	3709	11,308	2
Norseman	8598	3166	11,764	1
DuPuits	6355	3722	10,077	7
Saranac	6286	3837	10,123	6
Glacier	6492	3661	10,153	5
Mean	7044	3609	10,653	

IROQUOIS VS. NARRAGANSETT AND VERNAL

YIELD COMPARISON OF IROQUOIS, NARRAGANSETT AND VERNAL FOR FIRST HARVEST YEAR (1968)

Location	RIDGETOWN	OTTAWA	NEW LISKEARD	FORT WILLIAM	KAPUSKASING		MEAN
Year Seeding	1967	1967	1967	1968	1967		
Exp. No.	1011	4038			%		
Year Harvested	1966	1968	1968	1968	Winter Kill	1968	
Iroquois	12,439	5645	11308	1868	23	7848	7822
Narragansett	12,421	4876	-----	1692	18	7741	6683
Vernal	12,124	5247	10459	1782	28	8041	7531

YIELD COMPARISON OF IROQUOIS, MK 11, NARRAGANSETT AND VERNAL FOR NAMED HARVEST YEARS

Location	GUELPH		GUELPH				MEAN
Year Seeding	1966		1960				
Exp. No.	2501						
Year Harvested	1967	1968	1961-63	1964	1965	1961-65	
Iroquois	6000	7580	7614	8015	5617	7294	6958
MK 11	6360	7843	----	----	----	----	7102
Narragansett	-----	-----	7377	7424	3780	6571	6671
Vernal	5940	7524	7500	8144	6206	7370	6945

ALFALFA DATA FROM NEW YORK STATE

A total of 80 trial harvest years of information show the following production advantages of WRN over NARRAGANSETT and VERNAL in tons per acre.

PRODUCTION YEAR					
1	2	3	4	5	
+0.08	+0.27	+0.34	+0.25	+0.23	WRN over VERNAL
+0.07	-0.05	+0.06	+0.23	+0.67	WRN over NARRAGANSETT
35	21	17	8	4	Number of trials used in the comparison

WILT REACTION OF WRN, VERNAL, MK 11 AT OTTAWA

VARIETY	PERCENTAGE RESISTANCE RELATIVE TO VERNAL = 100%	ACTUAL % INFECTION
W.R. Narr.	100	16
Vernal	100	17
MK 11	61	49

Iroquois=Wilt Resistant Narragansett
W.R. Narragansett
NY 66-50

F.D. 100 AND/OR EUROPA VS. DU PUITS

YIELD COMPARISON OF F.D. 100, EUROPA AND DU PUITS

Location	RIDGETOWN			RIDGETOWN		RIDGETOWN	OTTAWA
Year Seeding	1963			1965		1967	1967
Exp. No.				1001		1010	4037
Year Harvested	1964	1965	1966	1966	1967	1968	1968
			Cut 2 & 3				
Europa	----	----	----	10,671	10,833	11,266	5026
F.D. 100	9812	11109	2885	----	----	10,236	4642
Du Puits	9944	11607	3558	10,427	10,607	9,955	4869

YIELD COMPARISON OF F.D. 100, EUROPA AND DUPUITS

Location	KEMPTVILLE		GUELPH	GUELPH	KAPUSKASING		TOTAL MEAN
Year Seeding	1962		1965	1968	1967		
Exp. No.				2507	%		Seasonal totals only
Year Harvested	1963	1964	1966 (Cut 1)	1968 (Cut 1)	Winter Kill	1968	
Europa	8306	8503	4360	3165	36	6476	7762
F.D. 100	8275	8480	----	3205	30	5933	7563
Du Puits	8029	8353	4740	2856	33	5990	7457

APEX (R.P. 33) VS. DU PUITS

YIELD COMPARISON OF APEX AND DU PUITS

Location	KEMPTVILLE			RIDGETOWN		GUELPH	GUELPH		GUELPH	FORT WILLIAM	FORT WILLIAM	MEAN
Year Seeding	1964			1965		1965	1966		1968	1965	1968	Seasonal totals only
Exp. No.	3001			1001		2592	2502		2507	7003	7027	
Year Harvested	1965	1966	1967	1966	1967	1966 (Cut 1)	1967	1968	1968 (Cut1)	1966 (Cut 1)	1968 (Cut 1)	
Apex	9456	5660	9178	11257	11880	4710	6650	7290	3075	3515	1707	8767
Du Puits	10075	6050	8172	10427	10607	4740	6500	6840	2856	3386	1640	8382

BIRDSFOOT TREFOIL

Birdsfoot trefoil strain trials were harvested on a hay management system at eight locations - Ridgetown, Elora, Kapuskasing, Ottawa, New Liskeard, Williamstown, Kemptville, and Fort William in 1968.

Birdsfoot trefoil strain trials were harvested on a pasture management system at six locations in 1968 - Elora, Kemptville, Fort William, Ottawa, Williamstown and Kapuskasing.

Erratic results were obtained between locations with both the hay and pasture management systems. No variety consistently produced superior or inferior yields. With the exception of Elora, all locations tested the varieties Viking, O.A.C. Syn 1 and 2, M.C.H., Wallace, Westriver, Leo and Empire. Elora tested these and twelve other varieties.

Leo would appear to outyield all other varieties slightly, not statistically significant, at most locations for both hay and pasture. M.C.H and O.A.C. Synthetic follow Leo closely. Empire, Viking, Westriver and Wallace would appear to be slightly lower yielding varieties than the first three. However, the 1968 hay and pasture management results would not support these observations with statistically significant differences in yield between varieties.

Geographic location appeared to have little effect either on the yields obtained or area adaptation.

The 1968 results would suggest that perhaps Leo should be reconsidered as a recommended variety. They also suggest that M.C.H. and O.A.C. Synthetic are not dramatic improvements on Empire and Viking.

With the exception of Kemptville, all stands were seeded in 1967. Kemptville stands were seeded in May, 1968 and harvested once in 1968.

Birdsfoot Trefoil Trial for Pasture - Fort William 1968

Variety	YIELD lb. DM/acre			
	Cut 1	Cut 2	Cut 1 + Cut 2	Rank
Leo	1541	1499	3040	1
MCH -66	1416	1584	3000	2
Empire	1433	1544	2977	3
Viking	1038	1499	2537	6
Wallace	1238	1639	2877	4
Westriver	993	1538	2531	7
Syn. 2	902	1767	2669	5

C.V. Cut 1 = 16.57
Cut 2 = 10.76
1 +2 = 8.71

L.S.D. Cut 1 (.05) = 239
(.01) = 322
Cut 2 (.05) = 201
(.01) = 270
Cut 3 (.05) = 288
(.01) = 388

Date of Cutting: Cut 1 - July 2
Cut 2 - Aug. 1

3022 Birdsfoot Trefoil Trial For Pasture - K.C.A.T. 1968 (seeded May '68)

Variety	Yield lb. DM/acre	
	Cut 1	Rank
Viking	1207	5
MCH-67	1550	1
OAC Syn 2	1314	4
Leo	1390	2
Empire	1031	7
Wallace	1136	6
Westriver	1325	3

C.V. = 18.75

L.S.D. (.05) = 356
(.01) = 488

Cutting Date: - July 29

4047 Birdsfoot Trefoil Trial For Pasture - Ottawa 1968

Variety	YIELD lb. DM/acre			
	Cut 1	Cut 2	Cut 1 + Cut 2	Rank
Viking	1563	3188	4751	3
Syn. 2	1492	3550	5042	1
MCH 66	1244	3464	4708	4
Leo	1562	3077	4639	6
Wallace	1731	2905	4636	7
Westriver	1576	3091	4667	5
Empire	1748	3262	5010	2

2506 Birdsfoot Trefoil Strain Trial for Pasture - Elora (1967 seeding)1968 B-3

Variety	YIELD lb. DM / acre Cut 1	Cut 2	Cut 3	Total	Rank
Empire	1511	1418	2966	5895	7
Leo	2220	1258	2771	6249	3
Dawn	1389	1474	2992	5855	8
N.K, Empire 16-126	1548	1419	2961	5928	6
Wallace	1338	1375	2946	5659	9
Westriver	1244	1397	2895	5536	10
P 15456	1513	1483	2953	5949	5
MCH-6,4	1870	1505	2805	6180	4
Royal, Syn 2	1645	1548	3093	6286	2
Viking	2266	1837	2926	7029	1
Leafy C1	2542	1763	2931	7236	
Mean	1735	1498	2931	6164	
C.V.	26	18	9		
L.S.D.	568	335	323		

Cutting Dates: - Cut 1 - June 13
Cut 2 - July 17
Cut 3 - Aug. 26

Birdsfoot Trefoil Pasture Screening Trial - Kapuskasing 1968

Variety	% Winter Killing	Cut 1	Cut 2	Cut 3	Total	5% Test level
O.A.C. Syn.2	20	1739	1080	516	3334	b
MCH-66	16	1806	1215	247	3267	b
Wallace	24	1551	1379	283	3213	b
Westriver	30	1282	1272	538	3092	a
Empire	24	1244	1322	481	3046	b
Leo	28	1736	940	285	2960	b
Viking	25	1316	1216	346	2877	ab
Average		N.S.	2.94^{X}	N.S.		
C.V. %		17.4	37.3	11.0		
L.S.D. 5%		--	213	--		

Type of Soil - Heavy clay Year of seeding - 1967
Number of cuts - 3 July 10
August 12
Fertilization lb/acre 1967 50-26-50 NPK
1968 105-199 PK 1/3 applied early in spring
1/3 applied after first cut
1/3 applied after second cut

Yield - No significant difference between varieties.
If we compare the hay against the pasture tests, the yield of hay trial is about double and there is a significant difference between the varieties.

Winterkilling - Most severe on Westriver and Leo, mainly due to poor drainage of one repetition.

4045 Birdsfoot Trefoil Trial for Pasture - Williamstown 1968 B-4

Variety	YIELD lb. DM/acre			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viling	2975	1448	4422	2
Syn. 2	2857	1491	4348	3
MCH-66	2614	1364	3978	6
Leo	3030	1433	4463	1
Wallace	2815	930	3745	7
Westriver	2728	1426	4154	4
Empire	2808	1262	4070	5

C.V. Cut 1 = 9.94
Cut 2 = 6.52
1 + 2 = 7.55

L.S.D. Cut 1 (.05) = 306
(.01) = 413
Cut 2 (.05) = 950
(.01) =1280
1 + 2 (.05) = 343
(.01) = 462

Date of Cutting: Cut 1 - June 17
Cut 2 - July 22

7021 Birdsfoot Trefoil Trial for Hay - For William 1968

Variety	YIELD lb. DM/acre			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Leo	2469	1826	4295	1
MCH-66	2254	1815	4069	2
Empire	2057	1782	3839	4
Viking	1837	1699	3536	6
Wallace	2255	1795	4050	3
Westriver	1990	1688	3678	5
Syn. 1	1573	1896	3469	7

C.V. Cut 1 = 13.19
Cut 2 = 9.06
Cut 3 = 7.70

L.S.D. Cut 1 (.05) = 321
(.01) = 432
Cut 2 (.05) = 191
(.01) = 257
1 + 2 (.05) = 349
(.01) = 470

Date of Cutting: Cut 1
Cut 2 - Aug. 20

3021 Birdsfoot Trefoil Trial for Hay - K.C.A.T. 1968 (seeded - May '68)

Variety	Yield lb/acre DM	Rank
Viking	1347	4
MCH-67	1833	1
OAC Syn	1575	2
Leo	1445	3
Empire	909	7
Wallace	1058	6
Westriver	1345	5

Birdsfoot Trefoil Trial for Hay - New Liskeard 1968

Variety	Mean	Rank
Viking	4396	5
MCH-66	4206	7
OAC Syn 2	5342	1
Wallace	4726	4
Westriver	4369	6
Leo	5044	2
Empire	5000	3

L.S.D. (.05) = 682 lb/acre Cut - July 10th

Birdsfoot Trefoil Trial for Hay - Kapuskasing - 1968

Variety	Winterkilling %	Cut 1	Date Cut (july)	Cut 2	Rank	Date Cut	Total	5% Level	Maturity[x]
Westriver	5	5287	22	1700	ab	Sept.30	6987	a	3
Viking	20	4132	22	1963	a	"	6095	ab	2
OAC Syn. 1	8	3568	22	1937	a	"	5506	b	1
Wallace	Nil	4662	24	839	c	Oct. 7	5503	b	6
Empire	Nil	4498	24	921	c	"	5419	b	7
Leo	5	3841	24	1202	c	"	5044	b	5
MCH-66	35	3436	24	1293	bc	"	4729	b	4
Average		4203		1408			5611		
"F" Variety		N.S.		10.8[xx]			2.73[x]		
C.V. %		22.2		20.0			16.0		

Type of Soil - Heavy clay
Fertilization lb/acre 1967 50-26-50 NPK
1968 105-199 PK 1/3 applied early in spring
1/3 applied after first cut
1/3 applied after second cut

Year of Seeding - 1967 Number of Cuts - 2
Maturity[x]- Could be divided in three groups - earliest - Number 1, 2, 3
middle - Number 4, 5
latest - Number 6,7

Yield - Westriver outyielded all other varieties followed by Viking. The aftermath yield was higher on Viking.
Winterkilling - Most severe on Viking and MCH-66.

2505 Birdsfoot Trefoil Trial for Hay - Elora 1968

Variety	YIELD lb. DM/acre				
	Cut 1	Cut 2	Cut 3	Cut 1+2+3	Rank
Viking	2060	2639	1385	6084	7
Royal Syn. 2	2357	2558	1209	6124	6
Cornell V 15	1833	2357	1168	5358	16
Cornell V 1	1769	2298	1278	5345	17
Cornell V 2	1911	2445	1226	5582	14
Cornell V 3	1908	2525	1252	5685	11
Cornell V 5	1668	2104	1288	5060	19
Cornell V 7	1959	2367	1278	5604	13
Virginia Syn. 4	1556	2319	1290	5165	18
Virginia Syn. 6	1911	2471	1240	5622	12
Leafy C1	2320	2418	1275	6013	8
MCH-66	2740	3311	851	6902	1
Iowa 3017	2970	3003	760	6733	3
Leo	2762	3235	862	6859	2
S.V. Leo	2697	3094	893	6684	4
Empire	2015	2891	1003	5909	10
Wallace	2098	2995	864	5957	9
N.K. Empire	2082	3051	1075	6208	5
P 15456	1702	2724	976	5402	15
C.V.	15.64	14.03	19.25	8.87	
L.S.D. (.05)	382	431	247	602	
(.01)	506	571	327	798	
Cutting Date	June 13 - 20	July 25-31	Sept. 4		

1013 Birdsfoot Trefoil Trial - Ridgetown 1968

Variety	YIELD lb. DM/acre			
	Cut 1	Cut 2	Cut 1 + 2	Rank
Viking	2729	2319	5048	7
OAC Syn.	3410	2206	5616	5
MCH-66	3468	2878	6346	3
Empire	4438	2442	6880	2
Leo	3962	2931	6893	1
Wallace	4098	1986	6084	4
Westriver	3169	1894	5063	6

C.V. Cut 1 = 10.29
Cut 2 = 6.77
1 + 2 = 7.05

L.S.D. Cut 1 (.05) = 438
(.01) = 590
Cut 2 (.05) = 190
(.01) = 256
Cut 3 (.05) = 498
(.01) = 671

Date of Cutting: Cut 1 - June 21
Cut 2 - July 29

4044 Birdsfoot Trefoil Trial for Hay - Williamstown 1968

Variety	YIELD lb. DM/acre			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viking	3280	2704	5984	2
Syn. 1	3134	2722	5856	5
MCH-66	2920	2818	5738	6
Leo	3126	3196	6232	1
Wallace	3280	2293	5573	7
Westriver	3134	2848	5982	3
Empire	3105	2837	5942	4

C.V. Cut 1 = 9.72
Cut 2 = 15.16
1 + 2 = 8.18

L.S.D. Cut 1 (.05) = 333
(.01) = 448
Cut 2 (.05) = 457
(.01) = 615
1 + 2 (.05) = 527
(.01) = 710

Date of Cutting: Cut 1 - June 17
Cut 2 = Aug. 12

4046 Birdsfoot Trefoil Trial for Hay - Ottawa 1968

Variety	YIELD lb. DM/acre			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viking	1125	2961	4086	1
Syn. 1	917	2837	3754	6
MCH-66	957	2812	3769	5
Leo	1020	3060	4080	2
Wallace	1196	2293	3489	7
Westriver	1143	3890	4033	3
Empire	1183	2837	4020	4

C.V. Cut 1 = 22.77
Cut 2 = 9.24
1 + 2 = 9.04

L.S.D. Cut 1 (.05) = 268
(.01) = 361
Cut 2 (.05) = 284
(.01) = 382
1 + 2 (.05) = 384
(.01) = 517

Date of Cutting: Cut 1 = July 15
Cut 2 - Aug. 12

Red Clover

Results of four red clover trials, two at Ottawa, one each at Fort William and Kapuskasing, are reported. All of these tests had been seeded in 1967.

Four new tests with the same varieties were established in 1968 at the same locations. The varieties tested are: Dollard, Lakeland, Ottawa, Hungaropoli, and OM 44, a mildew-resistant composite from the Ottawa Research Station.

No changes in the recommendations are suggested at present. Dollard is the leading double-cut variety followed by Lakeland and Ottawa. Resistance to powdery mildew in OM 44 is not reflected in higher yields and improved survival.

The tetraploid variety Hungaropoli was the lowest yielding entry in one test at Ottawa and at Fort William but it outyielded all others by a significant amount at Kapuskasing.

Red Clover Provincial Trial

Location: Central Experimental Farm, Agronomy Section, Ottawa.
Date Seeded: May 29, 1967
Plot Size: 5' x 20'
Time of cutting: June 14 and July 25, 1968

Yields, lbs D.M. per acre

Variety	1st cut	2nd cut	Total
Dollard	2985	2049	5034 a
Lakeland	2823	2053	4876 ab
Ottawa	2518	2191	4709 ab
Hungaropoli	2001	1955	3956 c
OM 44	2531	1736	4267 bc
C.V.	14.45%	7.24%	9.93%
S.E.	166	65	203

D.R. Gibson

Red Clover Provincial Trial

Location: Central Exp. Farm, Forage Crops Section, Ottawa
Date Seeded: May 29, 1967
Plot Size: 5' x 20'
Time of cutting: June 18 and Aug. 8, 1968

Yields, lbs D.M. per acre

Variety	1st cut	2nd cut	Total
Dollard	5619	4198	9817 a
Lakeland	5203	4043	9246 a
Ottawa	5036	3989	9025 ab
Hungaropoli	4688	4281	8969 ab
OM 44	4339	3613	7952 b
C.V.			7.92%
S.E.			291

H. Baenziger

Red Clover Provincial Trials

Northern and Northwestern Ontario

Trials seeded in 1967 at Kapuskasing and Fort William, Ontario. At Kapuskasing two cuts, July 17th and Sept. 12th, were harvested in 1968, at Fort William one cut, Aug. 20th, was obtained.

Yields, lbs D.M. per acre

Variety	Kapuskasing 1st cut	2nd cut	Total	Fort William
Dollard	3692	1859	5551 b	1816 b
Lakeland	2580	2723	5303 b	2035 a
Ottawa	2224	2280	4504 c	1842 b
Hungaropoli	2971	3761	6732 a	1568 c
OM 44	2246	2171	4417 c	1689 bc
C.V.	13.8%	15.7%	9.7%	8.07%
S.E.				59

J.E. Comeau
J.M. Wauthy

W.B. Towill

White Clover

Results of one trial at Kemptville C.A.T. are reported. No new seedings were made in 1968. Two seed production trials of these varieties were grown in Western Canada but results are not yet available. No changes in recommendations and no new seedings are planned at the present time.

Exp. No. 3018, K.C.A.T.

Test seeded in 1967, four varieties, six replications, harvested Aug. 2, 1968.

Variety	lbs D.M. per acre
Merit	2435 b
Idaho Common	2501 ab
California Certified	2559 ab
Ottawa Syn. A	2878 a
C.V.	11.8%
S.E.	125

BROMEGRASS

In the southern bromegrass variety situation, seed availability for Ontario is the most important single factor. We have had Saratoga on the recommended list for years and we have never had adequate stocks of seed. The same is true for Redpatch. This fall the seed projection by the Plant Products Division was approximately 445,000 pounds of Saratoga and 245,000 pounds of Redpatch. However, the harvesting conditions in Manitoba will cut deeply into those figures.

In the 1967 report of this Committee, Baylor was considered as a promising variety. Dr. Christie indicates that he was approached to see if this variety could be considered for recommendation. The forage yields of this variety are similar to Saratoga and Redpatch at Ottawa, Fort William and Kapuskasing.

Magna, a southern type variety with a higher seed potential than Redpatch and Saratoga was licensed in 1968. Approximately 1300 pounds of seed was planted in the spring of 1968 for the production of foundation and certified seed. Seed should be available by 1970.

Both these varieties are up for discussion and recommendation by this Committee.

W.R. Childers

Exp. 4018

Bromegrass for Hay
Agronomy Section, Ottawa, 1968

S.No.	Variety or strain	Yield dry matter pounds/acre 1967	1968	2 year average
207	Baylor	7254 a	4189	5722
208	Saratoga	7234 a	3546	5390
209	Redpatch	6930 ab	3477	5204
205	Synthetic # 1	6440 bc	3419	4930
210	Synthetic D-1	6456 bc	2541	4499
201	S. 6324	6433 bc	2470	4452
202	S. 6325	6292 cd	2592	4442
203	S. 6363	6230 cd	2578	4404
204	S. 6733	6161 cd	2412	4287
206	988	5816 d	2671	4244
Mean				4757

Date cut: June 15

Date seeded: May 1966
Fertilizer: Urea 45% N 200 lb/a, 1968

NOTE: Dry weather after first cut limited yields in 1968.

OTTAWA RESEARCH STATION
FORAGE SECTION
BROME SYN.TEST

In D/M pounds per acre

4 reps

Variety	1968 Cut 1	1968 Cut 2	1968 Total	*1967 Total	1966 Total	3 yr. Mean
Syn.A-1	4156ab	2348	6504abc	4548	6491	5848
A-2	4352a	2305	6657ab	4934	6931	6174
A-3	4558a	2459	7017ab	5219	7134	6456
Syn.B-1	4942a	2267	7209ab	5486	6307	6334
B-2	4200ab	2073	6273abc	5065	6915	6084
B-3	4317a	2116	6440abc	4884	7015	6113
Syn.C-1	4737a	2098	6834ab	5387	6834	6352
C-2	4967a	2530	7497a	5664	7504	6888
C-3	4702a	2510	7214ab	5339	7209	6587
Magna	3463 b	1861	5323 c	5203	7370	5965
Syn.2-S-5824	4499a	1871	6119 bc	4886	7204	6153
Saratoga	4819a	2548	7366ab	5821	7660	6949
Lincoln	4852a	2273	7125ab	5669	7431	6742

* 1 cut only

Fertilization: 1968 - 200 pounds 45% nitrogen in spring.
90 pounds 45% nitrogen after first cut.

1967 - 100 pounds 33% nitrogen in spring.

1966 - 200 pounds 33% nitrogen in spring.
100 pounds 33% nitrogen after first cut.

W.R. Childers

KEMPTVILLE

Experiment 3016 - Brome Variety Test 1967

In D/M pounds per acre

Variety	June 4/68 Cut 1	July 29/68 Cut 2	Total	1967 1 cut	2 year mean
Blair	6390	3904	10294	5341	7817
Syn.6733	6147	3336	9483	5489	7486
BSGI(Syn.2)	6191	3365	9555	5528	7541
Br.986	6382	3522	9903	4966	7434
Magna	6187	3369	9556	6343	7949
Redpatch	6280	3451	9731	5170	7450
Br.988	5607	3562	9169	4996	7082
Saratoga	5818	3481	9299	5062	7180
Ott.Syn.D	5592	3547	9139	5532	7335
Carlton	5925	3294	9219	5378	7298
S.E.	575.85	214.47	581.41		
C.V.	16.48	10.67	10.56	18.1	

J.Curtis

KAPUSKASING

BROME VARIETIES

Dry Matter Yield lb./acre

Variety	1st Cut	2nd Cut	Total	1967 Total Yield
S-6733	4863	5243	10,106	7341
Redpatch	4898	5034	9,931	6552
Saratoga	4646	5124	9,770	7239
Baylor	4836	4927	9,763	6759
Syn. D	4746	4803	9,549	
988	4824	4718	9,542	6796
Guelph Syn 2	4614	4886	9,500	6830
1000	4502	4929	9,431	6074
(S-6325) Magna	4280	5011	9,292	6211
S-6324	4840	4397	9,237	6574
S-6363	4685	4813	9,165	6350
Average	4703	4868	9,571	6673
"F" Variety	N.S.	N.S.	N.S.	2.69
C.V.(%)	13.2	10.2	7.3	9.2
L.S.D. (5%)				693

Type of Soil: Heavy clay

Fertilization lb./acre 1966 25-44-83 NPK applied early in spring
1967 100N applied early in spring
66N applied immediately after 1st cut
1968 44P + 83K
266N - half applied in spring and half immediately after 1st cut

Year of seeding - 1966

Number of cuts - 2 June 27 & Aug. 28

The test was uniform and all varieties were fully headed out at the same date. No significant difference between varieties was measured. With heavy application of N fertilizer, it would appear that all varieties have the same yield potential. The aftermath yield of both Saratoga and S-6733 tended to be superior to all varieties in both 1967 and 1968.

J.Wauthy

GUELPH

BROME SYNTHETIC TRIAL

Expt.2644

In D/M pounds per acre

Variety	1968 Cut 1 June 17	1968 Cut 2 Aug. 1	1968 Seasonal Total	1967 Seasonal Total	1966 Seasonal Total	3 Yr. Mean
Syn. A-1	5387	2248	7635	7857	8700	8064
Syn. A-2	5469	2161	7630	7670	7930	7743
Syn. A-3	5804	2329	8133	8084	7960	8059
Syn. B-1	6116	2137	8253	8407	8460	8373
Syn. B-2	5852	2340	8192	8054	8530	8259
Syn. B-3	5888	2269	8157	8016	7850	8008
Syn. C-1	5823	2102	7925	8593	8550	8356
Syn. C-2	5563	2178	7741	7920	8430	8030
Syn. C-3	5636	2199	7835	8214	8470	8173
Lincoln	5578	2068	7646	8625	8640	8304
Saratoga	6061	2393	8454	8584	8310	8449
Magna	5676	2057	7733	7918	8230	7960
S-5824 Syn-2	5847	2115	7962	8028	8310	8100

B.R. Christie

NEW LISKEARD COLLEGE OF AGRICULTURAL TECHNOLOGY

BROME GRASS TEST

Cut: July 3, 1968

Variety	Mean
Saratoga	5663
Redpatch	6774
Guelph SVN2	6503
Blair	6583
Carlton	6045
Magna	6525
Syn D	5811
S 6773	6373
988	6168
986	6279

A.Skepasts

PROVINCIAL BROME GRASS TRIAL

FORT WILLIAM

Experiment 7007

In D/M pounds per acre

Variety	1968 Cut 1 June 25	1968 Cut 2 Aug. 2	1968 Seasonal Total	1967 Seasonal Total	2 Year Mean
S6324	4389a	1814abc	6203abc	6985	6594
Magna	4118ab	1906ab	6023abc	7587	6805
S6323 Syn 2	4409a	1737ab	6146abc	7607	6877
S6733 Syn 1	4222ab	1650 b	5872abc	6915	6394
Guelph Syn2	3716 b	1906ab	5622 c	7311	6467
988	3886ab	1842ab	5727 bc	7142	6435
1000	3956ab	1765ab	5722 bc	7209	6466
Baylor	4509a	1963a	6472a	7741	7107
Saratoga	4323ab	1975a	6298ab	6833	6566
Redpatch	4294ab	1909ab	6203abc	7578	6893
Syn D-1	4445a	1941a	6386a	7309	6848

W.Towill

1968 STATIONS MEAN FOR ONTARIO

Variety	Ottawa			Kemptville			Kapuskasing			Guelph			New Liskeard	Fort William		
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total							
Redpatch	4702	2510	7214	6280	3451	9731	4898	5034	9931	5636	2199	7835	6774	4294	1909	6203
Magna	3463	1861	5323	6187	3369	9556	4280	5011	9292	5676	2057	7733	6525	4118	1906	6023
Saratoga	4819	2548	7366	5818	3481	9299	4646	5124	9770	6061	2393	8454	5663	4323	1975	6298
Baylor							4836	4927	9763					4509	1963	6472

1968 STATIONS MEAN

	Cut 1	Cut 2	Total
Redpatch	*(6) 5426	(5)3006	(6)7948
Magna	(6) 5042	(5)2841	(6)7409
Saratoga	(6) 5222	(5)3104	(6)7808
Baylor	(2) 4672	(2)3445	(2)8118

*(#) number of stations.

ORCHARDGRASS - DACTYLIS GLOMERATA

The orchardgrass variety situation should be considered on the basis of two types - the early maturing varieties which are generally higher yielding and the late maturing varieties which may be better adapted for mixtures with alfalfa and are generally lower yielding in comparison with the early group.

In the early group, Tardus II and Frode are on the recommended list. There has been no inquiry for recommendation of new strains for this group. However, the 1968 tests have shown that three strains from Guelph O.S.G.#7 and O.S.G.#4, also O.S.G.#8 were promising. In the same test at Ottawa, Frode was 5323, almost 1000 lbs. less than the above lines at Guelph. O.S.G.#6 was the highest yielding (1967) strain whereas O.S.G.#8 was second to the last. If these strains are to be adequately tested, the top strains should be placed in a provincial test at 4 locations. None of the Guelph strains have been tested at Fort William.

In the later maturing group, Rideau is the only one recommended at this time.

On the basis of the three year data, page H-1, I will tentatively withdraw the late maturing Ottawa strain, Bumper, from further testing.

Pennlate and Rideau were similar in 1966 whereas in the three year mean, Pennlate has the highest mean value, 5619. The three year means of the other late maturing group were Rideau 5238, Ottawa Strain K, 5106; Guelph O.S.G.5, 4691 and Bumper 4594.

Guelph data, page H-4 in 1968 indicate that severe winter killing occurred. In spite of this, Rideau gave the highest yielding total of 9073. The data from Fort William indicate that Strain K was the highest yielding strain, as shown by the three year mean figures. Data presented in 1967 also indicated superior hardiness for Strain K.

Whether this hardiness is essential for the most southern areas of Ontario is open to discussion. Should we have a recommendation of varieties by areas in Ontario? Mr. Towill suggested in this 1967 report that Strain K should be licensed - we have 960 pounds of breeders seed available.

W.R. Childers

Orchardgrass Strain Test

Ottawa Research Station
Forage Section

Plots: 5' x 20', 5 rows 1 ft apart
Seeded: May 5, 1966

Dry matter in lbs/a.

Entry	1968 Cut 1 June 16	1968 Cut 2	1968 Cut 3	1968 Seasonal Total	1967 Seasonal Total	1966* Seasonal Total	3 yr. Mean
O.G. P-1	4144 a	1900	1312 a	7209	7045	3292 a	5849
Pennlate	3821 a	1892	1265 a	6978	6576	3302 a	5619
O.G. KC	3722 a	1819	862 b	6403	6477	2438 b	5106
Frode	3421 b	2012	1324 a	6757	6462	3470 a	5563
Hercules	3492 ab	1845	1197 a	6533	6299	3412 a	5415
O.S.G.-5	2795 c	1815	666 b	5276	6047	2750 b	4691
Rideau	3583 a	1980	1224 a	6786	5733	3195 a	5238
Bumper	2912 bc	1795	738 b	5445	5677	2661 b	4594
C.V.	14.11	11.07	19.38	3.42	18.26	----	----
S.E.	200.26	85.04	85.01	89.83	483.77	10.47	----

* 1 cut only

W.R. Childers

Expt 5004

Guelph Orchardgrass Variety Test

Ottawa Research Station
Forage Section

Date Seeded: 1965
Plots: 5' x 20'
Fertilization:

DM in lbs/acre

Entries (15)	1968 * Cut 2	1967 Seasonal Total	1966 Seasonal Total	2 yr. Mean
O.S.G.-7	4353	6407 a	7036	6722
O.S.G.-4	3527	6366 a	6700	6533
O.G. P-1	3811	6144 abc	6641	6393
Bumper	3522	5320 d	6367	5844
Wisc. 52	3580	5721 abcd	6266	5994
O.S.G.-1	4034	6382 a	6249	6316
O.S.G.-8	3627	6412 a	6207	6310
O.S.G.-3	3774	6347 a	5943	6145
O.S.G.-5	3809	5559 bcd	5934	5747
Rideau	4138	5255 d	5759	5507
Boone	3858	6271 ab	5689	5980
Frode	3600	5297 d	5349	5323
O.S.G.-6	3686	6019 abcd	5135	5577
Aries	3669	3880 e	----	----
Taurus	4150	5376 cd	----	----
C.V.	14.19	8.4		

* Cut 1 data inconsistent

W.R. Childers

Exp. 3015

Kemptville
Orchardgrass Variety Trial, 1966

Dry Matter in lbs/a.

Entry	May 28/68 Cut 1	June 24/68 Cut 2	1968 Total	1967 Total	2 year Mean
1. Napier	4330	1601	5931	9070	7500
2. Pajberg III	3802	1601	5403	9610	7506
3. Trif. II	3986	1651	5637	9130	7383
4. Va. 58-V-1	4204	1754	5958	9520	7739
5. Bumper	4025	1785	5810	9330	7570
6. Frode	4242	1773	6014	9740	7877
7. Rideau	4126	1705	5831	9750	7790
C.V.	12.28	9.16	7.51		
S.E.	356.26	109.87	307.76		

John Curtis

Exp. 2646 Orchardgrass Strain Trial Guelph

Dry matter in lbs/a.

Entry	1968 Cut 1 June 11	1968 Cut 2 July 17	1968 Cut 3 Sept 3	1968 * Seasonal Total	1967 Seasonal Total
OSG-6	4505	1740	2524	8471	9660
OSG-5	3621	1442	2362	7795	9100
Aries	----	1603	1637	3240	9050
OSG-1	5140	1388	2449	8977	9020
OSG-7	3729	1740	2877	8346	8920
Wisc.52	4828	1247	2337	8412	8870
Boone	4774	1231	2312	8317	8800
OSG-3	4074	1417	2322	7813	8690
OSG-4	3621	1287	2487	7928	8680
Frode	3119	1558	2566	7243	8490
Rideau	4894	1476	2703	9073	8010
OSG-8	4539	1390	2591	8520	7820
Taurus	1944	1543	1821	5308	6620

* data unreliable because of severe winterkilling

Bert Christie

Expt. 7009 Orchardgrass Variety Trials Fort William

Dry matter in lbs/a.

Entry	1968 Cut 1 July 9	1968 Cut 2 Aug 12	1968 Seasonal Total	1967 Seasonal Total	1966 Seasonal Total	3 yr. Mean
Ott. Strain K	3912	1799 ab	5711 a	6249	4090	5350
Frode	2507	1403 b	3909 b	5955	4350	4738
Coxa	3365	1541 b	4906 ab	5663	4470	5013
Tardus II	3122	1435 b	4557 ab	5704	4260	4840
Ottawa 100	3521	2071 a	5591 a	5808	3700	5033
Rideau	3421	1666 ab	5087 ab	5521	3960	4856
Motycka	3437	1723 ab	5161 ab	5480	3810	4817
Pennlate	3360	1514 b	4875 ab	5310	3850	4678
Latar	3365	1683 ab	5063 ab	5256	3800	4706
SE	218.68	159.57	413.66	----	----	
CV	16.06	16.77	14.37	15.1	7.5	

William Towill

Expt. 7028

Orchardgrass Variety Trial

Fort William

Seeded: 1968

Dry matter in lbs/a.

Entries	1968 Cut 1 Aug. 15
Ottawa P-1	2038 a
Rideau	1784 ab
Frode	1774 ab
Ottawa Strain K	1647 abc
N-1-77	1634 abc
Masshardy	1631 abc
Bumper	1516 bcd
O.S.G. 5	1295 cd
Pennlate	1144 d
S.E.	144.16
C.V.	15.54

William Towill

ORCHARDGRASS TEST

1968

NEW LISKEARD, KAPUSKASING, GUELPH, OTTAWA

1. N-1-77 Northrup King
2. Masshardy
3. Bumper
4. Strain K
5. Frode
6. O.S.G.5
7. Rideau
8. Ottawa P-1
9. Pennlate
10. O.S.G.9 at Ottawa only

6 reps, in plots 5' x 20'
seeded at rate of 10 lbs/acre.

W.R. Childers

TIMOTHY DISCUSSION

The production of timothy seed in Canada leaves us in a favourable situation for any new variety to be considered.

There are differences in maturity and aftermath production as well as differences in total dry matter. There may well be a difference in performance in the climatic zones in Ontario.

We have been approached by seed companies to consider recommendation of Barenza and Astra at this meeting. Seed is also available of Bounty and Champ if the Committee desires to consider their recommendation at this time. There should be approximately 10,000 pounds of certified Bounty seed available in 1969 and less than 1,000 pounds of Champ available for 1969.

Astra, Bounty and Champ have been tested at five stations for 12 station years and the data is available for your consideration.

W.R. Childers

Exp. 4019

Timothy for Pasture
Agronomy Section, Ottawa, 1968

Variety or strain	Yield dry matter pounds/acre Cut 1	Cut 2 22 Aug.	Total 1968	2 year Average
Clair	1736	399	2135	3309
Climax	1483	759	2242	3196
Milton	1468	641	2109	3123
Astra	1029	635	1665	2973
Champ	1364	490	1854	2918
Bounty	1075	503	1578	2814
Drummond	886	541	1427	2696
Tiger	838	806	1644	2635
Essex	732	514	1246	2506
Mean	1179	588	1767	2908
Date cut:	June 1	Aug. 22		

Date seeded: May 20, 1966
Fertilizer: Urea 45% N 200 lb/a.

NOTE: Dry weather after first cut in 1968 limited second cut and total yields.

Exp. 4023

Timothy for Pasture
Agronomy Section, Ottawa, 1968

S.No.	Strain	1967	1968	2 year average
341	S. 3-9	5290	2669	3980
342	S. 3-2	5583	2132	3858
340	Champ	5415	2177	3796
345	Climax	5063	2344	3709
343	Heidjemij	4557	2829	3693
346	Drummond	4362	2035	3199
339	Tiger	3951	1759	2855
344	King	3454	1566	2510
Mean		4709	2189	3449
Date cut:			June 3	

Fertilizer: Urea 45% N 200 lb/a, 1968

NOTE: Dry weather after first cut limited yields in 1968.

Exp. 4024

Timothy for Hay
Agronomy Section, Ottawa, 1968

S.No.	Variety or strain	Yield dry matter pounds/acre 1967	1968	Av. 67-68
333	Champ	6173	4199	5186
338	Topaz	5532	4294	4913
337	Climax	5343	3848	4596
330	TM-60-101	4995	3968	4482
329	O. 296	5788	3151	4470
331	TM-60-100	5121	3782	4452
334	Labelle	4790	3625	4208
335	Heidemij	4491	3910	4201
326	Tiger	4644	3500	4072
332	Bounty	4428	3687	4058
327	Pecora	4223	3434	3829
336	Drummond	4539	2984	3762
328	Lofar	4352	3026	3689
Mean		4955	3647	4301

Date cut: June 17

Date seeded: May 7, 1966
Fertilizer: Urea 45% N 200 lb/a, 1968

Exp. 4030

Timothy for Hay
Agronomy Section, Ottawa, 1968

Early maturity group

Variety or strain	Yield dry matter pounds/acre Cut 1	Cut 2	Total	Av. '67, 68.
Milton	4051	1215	5266	5788
Champ	3882	1144	5026	5642
Astra	3618	965	4583	5214
Mean	3851	1108	4958	5548
Date cut	June 15	Sept 24		

Medium maturity group

Climax A	5399	1051	6450	6309
Bounty	4825	1824	6649	6254
Climax	5044	1207	6251	6213
Mean	5089	1361	6450	6259
Date cut	July 2	Sept 24		

Late maturity group

Essex	3535	1121	4656	5495
Drummond	3872	1205	5077	5142
Tiger	3554	1183	4737	5133
Mean	3654	1170	4823	5257
Date cut	July 9	Sept 24		

Date seeded: Aug. 31, 1966
Fertilizer: Urea 45% N 200 lb/a, 1968

Exp. 4031

Timothy for Pasture
Agronomy Section, Ottawa, 1968

Variety or strain	Yield dry matter pounds/acre Cut 1	Cut 2	Total	Av. 1967 1968
Champ	1516	370	1886	3730
Climax F2	1318	862	2180	3693
Bounty	1260	857	2117	3656
Climax	1492	712	2204	3714
Tiger	1137	1330	2467	3562
Drummond	1047	1173	2220	3546
Astra	1425	894	2319	3431
Milton	1359	461	1820	3475
Essex	945	1343	2288	3349
Mean	1278	889	2167	3571
Date cut:	May 28	July 5		

Date seeded: Aug. 31, 1966
Fertilizer: Urea 45% N 200 lb/a, 1968

Exp. 4040

Timothy Provincial Test
Agronomy Section, Ottawa, 1968

S.No.	Variety or strain	Yield dry matter pounds/acre Cut 1
Early maturity		
395	Clair	3561
397	Eau Claire	3385
396	Williamstown	3195
382	TM 60-101	2805
383	Topaz	2760
390	Champ	2731
Mean		3073
Date cut		June 14
Medium maturity		
388	Climax	3616
392	Climax - F2	3467
394	Erecta	3196
385	Cub	3137
389	Bounty	3090
381	TM 60-104	3035
387	Lofar	2982
391	Labelle	2913
Mean		3179
Date cut		July 3
Late maturity		
384	Tiger	2965
386	Panther	2569
393	Heidemij	1785
Mean		2440
Date cut		July 9
	General mean	2897

Expt. 5002-B

Timothy Variety Test

In Dry Matter lbs/A.

Ottawa Research Station
Forage Section

Entry	1968 Cut 1	1968 Cut 2	1968 Seasonal Total	1967* Seasonal Total	1966 Seasonal Total	3 Yr. Mean
Labelle	4141	1360	5501	4296	5895	5231
Bounty	4492	1320	5811	4232	6223	5422
Champ	4544	1359	5904	4549	6053	5502
Wisc. T-1	4121	1296	5417	3745	5374	4845
Astra	4520	1249	5769	4160	5919	5283
Essex	4065	1309	5374	3864	5946	5061
Drummond	4096	1256	5352	3925	5140	4806
Climax	4311	1333	5644	4190	6055	5296
Milton	4211	1373	5584	4404	6129	5372
Clair	4480	1274	5754	4384	6702	5613
SE	155.16	104.64	794.43	-	-	-
CV	8.84	19.52	34.68	8.81	-	-

*1 cut only

W. R. Childers

Expt. 5003-G

Timothy Variety Test

Ottawa Research Station
Forage Section

In Dry Matter lbs/A.

Entry	1968			1967*	1966	3 Yr.
	Cut 1	Cut 2 Aug. 28	Seasonal Total	Seasonal Total	Seasonal Total	Mean
Labelle	4552	1344	5895	4114	5640	5213
Bounty	4279	1172	5451	4023	5631	5035
Champ	4466	1138	5605	4441	5441	5162
Wisc. T-1	4192	1236	5428	3986	4713	4709
Astra	4312	1162	5474	4024	5317	4938
Essex	4214	1244	5458	3652	5719	4943
Drummond	4118	1188	5306	3739	4891	4645
Climax	4615	1383	5997	4482	5712	5397
Milton	4762	1220	5982	4214	5697	5298
Clair	4671	1366	6037	4583	6195	5605
SE	171.87	107.81	220.81	-	-	-
CV	9.53	21.21	9.95	9.74	-	-

*1 cut only

W. R. Childers

Timothy Screening Test

Ottawa Research Station
Forage Section

In Dry Matter lbs/A.

Entry	1968 Cut 1 July 3	1968 Cut 2 Sept. 4	1968 Seasonal Total	1967 Seasonal Total	2 Yr. Mean
Climax	5626a	1124abcd	6749a	7319ab	7034
60-100	5337abc	1382a	6718a	6936abc	6827
60-101	5474ab	1278abc	6751a	7330ab	7041
Labelle	5346abc	1309ab	6654ab	7112ab	6883
Champ	5400ab	1098abcd	6498abc	7399ab	6949
Bounty	5176abc	1235abc	6411abcd	7001abc	6706
O-296	4963bc	1319ab	6281abcd	7486a	6884
Tiger	5100abc	978cd	6077abcd	6334cd	6206
Heidemij	5185abc	889d	6073abcd	6675bcd	6374
Pecora	5121abc	876d	5996bcd	6213d	6105
Drummond	5022bc	806d	5828cd	6193d	6011
Topas	4796c	1010bcd	5805cd	6197d	6001
Lofar	4796c	973cd	5768d	6132d	5900
SE	166.76	97.70	212.25	229.61	
C.V.	8.08	21.79	8.27	8.28	

W. R. Childers

Timothy Pasture Strain Test

Ottawa Research Station
Forage Section

In Dry Matter lbs/A.

Entry	1968 Cut 1	1968 Cut 2 Aug. 30	1968 Seasonal Total	1967 Seasonal Total	2 Yr. Mean
S_3 - 9	5006	1083abc	6090a	6908a	6499
Champ	4416	1076abc	5492ab	6841a	6167
S_3 - 2	4764	1101ab	5864a	6203ab	6034
Climax	4932	1234a	6166a	6800a	6483
Heidemij	4586	993bc	5588ab	6485a	6037
Drummond	4674	1003bc	5672ab	6394a	6033
King	4001	862c	4864b	5105bc	4985
Tiger	4306	1062abc	5369ab	4507c	4938
SE	227.20	68.44	253.21	424.94	
CV	12.13	15.93	11.02	13.81	

W. R. Childers

Expt. 3014 Timothy Variety Test

Kemptville
K.C.A.T.

In Dry Matter lbs/A.

Entry	1968 Cut 1 June 10	1967 Cut 1 July 26	2 Yr. Mean
Clair	6980	3138a	5059
Climax 2	7286	3101a	5194
Climax	6685	3039ab	4862
Labelle	6591	3018ab	4805
Bounty	7278	2973abc	5126
Champ	6601	2940abcd	4770
Erecta	6615	2578bcde	4597
Topas	6731	2548bcde	4645
Heidemij	6874	2497cde	4686
Panther	6020	2350de	4185
Cub	6282	2297e	4290
Lofar	6400	2177e	4289
Tiger	6206	2096e	4651

J. Curtis

Timothy Hay Variety Test — Kapuskasing

1968

In Dry Matter lbs./A.

Entry	1968 Cut 1	1968 Cut 2	1968 Seasonal Total	1967 Seasonal Total	1966 Seasonal Total	1965 Seasonal Total	4 Yr. Mean
Milton	5302	4903	10205	7828 ab	4976	5969	7245
Champ	5492	5130	10622	8015 a	4719	6008	7341
Climax	5447	4872	10319	7828 ab	5449	5403	7250
Wisc. T-1	5271	4747	10018	7222 bcd	5593	5803	7159
Essex	5016	4125	9141	7551 abc	5434	5513	6910
Labelle	4825	4850	9675	7278 bcd	5316	5695	6991
Astra	5071	4390	9461	7314 abcd	5117	5741	6908
Clair	3747	4275	8022	7865 ab	4761	4507	6289
Drummond	4844	3877	8721	6807 d	5104	5204	6459
Climax 2	5129	4691	9820	7314 bcd	4596	4991	6680
Bounty	4798	4831	9629	7011 cd	4721	5605	6602

J. M. Wauthy

Timothy Pasture Variety Test — Kapuskasing

In Dry Matter lbs./A.

Entry	1968 * Cut 1	1968 * Cut 2	1968 * Seasonal Total	1967** Seasonal Total	1966** Seasonal Total	1965 * Seasonal Total
Climax	6197	4893	11090	5918	4273	3793
Heidemij	5376	3901	9279	5620	4214	4078
King	5205	3515	8722	5471	4307	3850
Champ	5718	5543	11262	6234	3804	3548
Ott. P.3	5924	4949	10876	6098	3908	3427
Climax 2	6073	4688	10763	5455	4092	3678
Ott. P.2	5520	5191	10714	5759	3867	3597
Drummond	6439	4038	10480	5630	4070	3373

* 2 cuts only
** 3 cuts

J. M. Wauthy

KAPUSKASING
1968
Timothy Hay Variety Test - Est. 1967
Dry Matter - Yield lb./acre

Variety	1st Cut	Rank	Date Cut	Stage Cut	2nd Cut	Rank	Date Cut	Stage Cut	Total	Significance at 5% level
TM-60-101	6006	4	Jul.23	Full bloom	4494	2	Sep.18	25% bloom	10500	a
Climax	5885	5	" "	25% bloom	4414	4	" "	early bloom	10299	ab
Bounty	5780	7	" "	headed out	4488	3	" "	headed out	10269	ab
Climax F2	5791	6	" "	25% bloom	4240	5	" "	early bloom	10032	abc
Labelle	5756	8	" "	headed out	4103	7	" "	headed out	9858	abcd
Champ	5586	10	" "	full bloom	4194	6	" "	25% bloom	9780	abcde
Tiger	6576	1	" 27	headed out	2984	14	" "	head in boot	9555	bcdef
Lofar	6132	3	" "	" "	3338	12	" "	" " "	9471	bcdef
TM-60-104	5528	12	" 23	" "	3908	8	" "	headed out	9435	bcdef
Heidemij	5546	11	" "	early bloom	3705	9	" "	early bloom	9251	cdef
Panther	6416	2	" 27	headed out	2774	15	" "	head in boot	9190	cdef
Topaz	5674	9	" 23	50% bloom	3308	13	" "	headed	8982	def
Erecta	5358	13	" 23	headed out	3530	11	" "	head in boot	8889	ef
Clair	3902	15	Jun.28	" "	4936	1	Aug.21 Sep.18	early bloom head in boot	8838	ef
Cub	5192	14	Jul.27	" "	3549	10	" "	" " "	8741	f
Average	5675				3864				9539	
F Variety	5.39				16.23				3.99	
C.V.(%)	11.4				9.7				7.3	
L.S.D. (5%)	732				425				788	

Fertilization
1967 - 50-35-66 NPK
1968 - 44P-83K 266N 1/2 Spr. 1/2 after 1st cut

Note: TM60-101, over 5 tons per acre, slightly earlier than Climax
Tiger, very late variety, high 1st cut, poor aftermath
Clair's yield low on account of time of cutting.

J.M. Wauthy

Expt. 2643 Timothy Variety Test Guelph

In Dry Matter lbs/A.

Entry	1968 Cut 1	1968 Cut 2	1968 * Seasonal Total	1967** Seasonal Total	1966** Seasonal Total	3 Yr. Mean
Champ	7256	3409a	10666a	10806	7810	9761
Bounty	7425	3274b	9800ab	10388	8280	9489
Labelle	7345	2356b	9702ab	10609	8050	9454
Wisc. T-1	6657	2381b	9038b	10457	8120	9205
Climax	7175	2459b	9634ab	10173	7630	9146
Essex	7358	2435b	9793ab	10961	8730	9828
Drummond	7001	2193b	9193b	10421	7970	9195
Astra	6987	2433b	9419ab	9905	7180	8835
SE	283.49	257.65	411.45	-	-	
CV	6.87	18.08	7.41	-	6.7	

*2 cuts
**3 cuts

B. R.Christie

Timothy Varieties Cutting Treatment

Ottawa Research Station

Date seeded - May 26, 1967

Fertilizer - 500 lbs/A of 5-20-20 prior to seeding

Fertilizer 1968 - 500 lbs/A of 0-20-20 in April
lbs/A of 33.3% aeroprills

April 23	-	180 lbs 33% N aero.	60 lbs actual
June 19	-	180 "	"
Aug. 6	-	120 "	"
		480 lbs 33% N aero.	160 lbs actual

Cut 1 - Date 1 - Each variety cut indivifually as it reaches the full boot stage.

Date 2 - All varieties are cut at the same time. (Champ reaches the full boot stage)

Cut 2+3 - Date 1 and Date 2 were cut at the same time.

Cut 1

Dates

4493	Date 1	A
4332	" 2	B

Varieties

4593	Bounty)	A
4349	Labelle))	AB
4270	Climax)	B
4117	Champ)	B

Varieties x Dates

Date 1

4901	Bounty)	A	JN17
4595	Labelle))	AB	JN17
4395	Climax))	BC	JN14
4080	Champ)	C	JN11

Date 2

4284	Bounty)	JN 11
4154	Champ)	JN 11
4146	Climax)	JN 11
4104	Labelle)	JN 11

Timothy Varieties Cutting Treatment

Ottawa Research Station

Cut 2 - Date 1 and 2 were both cut on July 30

Varieties

3117	Champ	A
2614	Climax	B
2417	Bounty	BC
2308	Labelle	C

Varieties x Dates

Date 1			Date 2		
3289	Champ	A	2944	Champ	A
2645	Climax	B	2583	Climax	B
2315	Bounty	C	2520	Bounty	B
2216	Labelle	C	2400	Labelle	B

Cut 3 - Dates 1 and 2 were both cut on September 30

Varieties

1961	Champ	A
1481	Bounty	B
1409	Labelle	B
1291	Climax	C

Aftermath Varieties

5077	Champ	A
3905	Climax	B
3898	Bounty	B
3716	Labelle	B

Seasonal Varieties

9194	Champ	A
8491	Bounty	B
8176	Climax	C
8065	Labelle	C

Conclusion:

These data confirm the hypotheses that Champ has superior regrowth potential to other hay timothies, both at the Cut 2 and Cut 3 level as well as being significantly higher yielding in total yield.

L.P. Folkins

1968
FORT WILLIAM
Expt. No.7023 TIMOTHY VARIETAL TRIAL * HAY

In D/M Pounds per Acre

Variety	June 26 Cut 1	Aug.3 Cut 2	Total Yield 1968	Total Yield 1967	Average Yields 1967-68
TM60-104	3377a	579 fg	3956 bc	828	2392
TM60-101	3290ab	896 de	4186 bc	1042	2614
Topaz	3043abc	1236 b	4279 b	1196	2738
Tiger	2530 e	437 g	2967 f	577	1772
Cub	3007abcd	836 de	3843 cd	860	2352
Panther	2591 de	540 fg	3131 ef	590	1861
Lofar	2238 f	582 fg	2820 f	819	1820
Climax	3107abc	931 d	4038 bc	1263	2651
Bounty	3261ab	869 de	4130 bc	939	2535
Champ	2740 cde	1379 b	4119 bc	721	2420
Labelle	3069abc	414 g	3483 de	949	2216
Climax F-2	3298ab	681 ef	3979 bc	913	2446
Heidemij	2945 bcde	1185 bc	4130 bc	963	2547
Erecta	2937 bcde	1000 cd	3937 bc	966	2452
Clair	3082abc	2197a	5279a	810	3045

C.V.=10.16% C.V.=17.26%

Fertilizers 90#N - 145# P_2O_5 - 140# K_2O - spring
fall applications plus 120# N. following the first clipping

Remarks: Poor growing weather at Fort William restricted the production of Timothy in 1968. Heavy rains and high winds in mid June caused severe lodging of all plots, making harvest difficult for many varieties. While lodging was general over much of the test area, TM60-104 exhibited a measure of superiority over all other entries tested.

In the main hay harvest, TM60-104 ranked highest yielding, followed by TM60-101, Bounty and Climax F-2. Labelle, Clair, Climax and Topaz produced equivalent amounts of forage, each outyielding Heidemij and Erecta by a small margin. The performance of Tiger, Cub and Panther was disappointing at Fort William.

The vigourous growing variety Clair excelled in aftermath production with Topaz and Champ ranking of secondary importance. Heidemij produced noteworthy yields in the second cut harvest. In total forage produced in 1968, the varieties Clair and Topaz excelled. Again the Maritime varieties Tiger, Cub, Panther and the entry Lofar performed poorly. Average yields for the year 1967-68 further emphasizes the potential of the varieties Clair, Topaz, and TM 60-101.

W. Towill

1968
FORT WILLIAM
TIMOTHY VARIETAL TRIAL

Expt. No.7005

In D/M Pounds per Acre

Variety	July 3 Cut 1	Aug. 13 Cut 2	Total Yield 1968	Total Yield 1965	Total Yield 1966	Total Yield 1967	Average Yields 1965-6-7-8
0296	3936	2925	6861	1455	3328	6002	4412
Climax	3849	2666	6515	1714	2898	6437	4391
Ott. P-3	3980	2997	6977	1468	3130	6555	4533
Drummond	3919	2940	6859	1580	2592	6087	4280
Astra (T-41)	4065	2836	6901	1629	3041	6222	4448
Essex	4116	2795	6911	1498	2648	6454	4378
T-1 Wis.	3734	2662	6396	1752	2935	6183	4317
Bounty (Ott-7)	4319	2865	7184	1546	2679	6596	4501
Labelle (Ott-1)	4351	2953	7304	1661	3008	6534	4627
Champ (Ott P-1)	4140	2880	7020	1489	3257	6563	4582
	N.S.	N.S.	N.S.				
	C.V.=10.5%	=10.0%	=7.93%				

Fertilizers - 90# N. - 145# P_2O_5 - 140# K_2O - spring and fall applications plus 120# N. following first clipping

Remarks: This trial which was established in 1964, exhibited considerable variability in stand this year following losses due to spring icing and invasion of such hard to control weeds as white clover, couchgrass and chickweed.

Early spring growth of all varieties was delayed due to the below normal temperatures, lack of adequate sunshine and excessive soil moisture. Following a long period of inclement weather from mid to late June, harvesting proceeded on July 3rd, with a later clipping secured in mid August.

Data analysis for individual clippings and total dry matter yield showed varietal difference were non-significant.

For the years 1965-66-67-68, average yields ranged from a low of 4280 pounds dry matter per acre for Drummond, up to 4627 pounds for Labelle. The varieties Champ, Ottawa P-3 and Bounty all produced over 4500 pounds dry matter for the period concerned.

W. Towill

SEED TEST
1968

NEW LISKEARD, GUELPH, OTTAWA

1. Clair
2. Champ
3. Climax
4. Drummond
5. Labelle
6. Bounty
7. Itasca
8. Topas
9. Omnia
10. Barenza
11. Heidemij
12. Kampe II

6 reps - plots 5' x 20'
seeded at rate of 8 lbs/acre.

W.R. Childers

Other Grasses

In 1968 comparative tests of other grasses included: one test of meadow fescue varieties, two of red fescues and six of reed canarygrass.

All the fescue tests were grown at Ottawa and yields in 1968, the second harvest year averaged just over one half ton D.M. making differences between varieties unimportant.

Reed canarygrass yields were more variable ranging from very good at Fort William, Kemptville and New Liskeard to very poor in most Ottawa tests. In general yield differences between varieties were small. Rise yielded slightly less than Frontier in most comparisons.

The variety Frontier should be added to the recommended list replacing the statement: "There are no superior varieties of reed canarygrass available."

No other changes were suggested.

Exp. 4020

Meadow Fescue for Pasture
Agronomy Section, Ottawa, 1968

Seeded: May 20, 1966.
Plot Size: 5.25 ft. X 20 ft. with 6 replicates
Fertilizer: Urea 45% N at 200 lb/a. May 1968

S.No.	Variety or Strain	Yield, dry matter, pounds/acre 1967 Season	1968 Season	2 year Average
226	Sequana	5738	1938	3838
227	Combi	4981	1911	3446
222	S. 215	5079	1717	3398
220	Trader	5421	1361	3391
228	Vertas	5311	1460	3386
223	Ensign	5211	1471	3341
224	Common	5004	1355	3180
221	Mimer	4789	1563	3176
225	R.V.P.	5385	1654	2904
G.M.		5213	1251	3232

Exp. 4016

Red Fescue for Pasture
Agronomy Section, Ottawa, 1968

Seeded: May 20, 1966
Plot Size: 5.25 ft. X 20 ft, with 6 replicates
Fertilizer: Urea 45% N at 200 lb/a.
Stand: 70 to 100% June 9, 1968.

S.No.	Strain	Yield dry matter pounds/acre 1967 Average	1968 Average	2 year Average
180	S. 59	2869 bcd	1703	2286
187	Chewings	2781 cd	1079	1930
190	Rainier	3305 abc	1060	2183
188	Pennlawn	3452 ab	1015	2234
186	Illahee	3264 abc	1005	2135
181	Duraturf	3201 abcd	998	2100
182	Olds	3773 a	982	2378
185	Common	3771 a	948	2360
183	Boreal	3588 a	922	2255
189	Arctared	2644 d	718	1681
184	Ottawa Syn A	2785 cd	619	1700
G.M.		3221	1277	2249

Exp. 4033

Red Fescue for Pasture
Agronomy Section, Ottawa, 1968

Seeded: August 31, 1966
Plot Size: 5.25 ft. X 20 ft. with 6 replicates.
Fertilizer: Urea 45% N. at 200 lb/a. May 1968
Stand: 70 to 80% May 1968

S.No.	Variety or Strain	Yield, dry matter, pounds/acre 1967	1968	2 year aver
253	Boreal	3331	1488	2410
252	Common	1875	1725	1800
255	Late Polyx	2271	778	1525
256	Top "20"	2123	899	1511
257	Rainier	1610	1917	1764
251	Duraturf	1961	438	1200
250	S. 59	1799	489	1144
254	Ottawa Syn A	1238	847	1043
G.M.		2026	1150	1588

Reed Canarygrass for Hay, 1968

Variety or strain	Exp. 3017 Kemptville, Ont. Yield dry matter, pounds/acre Cut 1	Cut 2	Total	New Liskeard, Ont Yield D.M. lb/a. Cut 1
Ottawa Syn F	3615.4	3631.0	7246.3	5736
Ottawa Syn G	3225.4	3869.1	7094.5	5823
S 6982	3376.9	3301.0	6677.8	5299
Frontier	3546.3	2828.1	6374.4	6330
Rise	3209.3	3036.0	6245.4	6341
Mean	3394.7	3333.0	6727.7	5906
L.S.D. (5%)	507.9	N.S.	N.S.	673.8
C.V. %	9.7	13.8	8.5	7.4
Date cut	June 11	Aug. 2		

Exp. 7018

Reed Canarygrass for Pasture, Fort William, Ontario, 1968

Variety or Strain	Yield dry matter pounds/acre Cut 1	Cut 2	Total
Frontier	4465.6	2817.4	7283.0
Rise	4445.4	2827.6	7272.9
S 6982	4001.4	2767.4	6768.9
Ottawa Syn G	3848.1	2658.7	6506.8
Ottawa Syn F	3704.7	3061.2	6765.8
Mean	4093.0	2826.5	6919.5
SE mean (5%)	N.S.	327.0	N.S.
C.V. %	7.34	7.54	6.25
Date cut	July 2	Aug. 9	

Exp. 4012

Reed Canarygrass for Pasture
Agronomy Section, Ottawa, 1968

Seeded: May 7, 1966
Plot Size: 5.25 ft. X 20 ft. with 6 replicates
Fertilizer: Urea 45% N at 200 lb/a.

S.N.	Variety or Strain	Yield, dry matter, pounds/acre 1967 Season	1968 Season	2 year Average
148	Ottawa Syn D	2719	5244	3982
149	Ottawa Syn E	2341	5514	3928
147	Frontier	2212	5507	3860
152	Common	2177	5475	3826
151	Ottawa Syn G	2219	5334	3777
150	Ottawa Syn F	2358	5190	3774
153	Ioreed	2483	4956	3720
Mean		2358	5317	3838

Exp. 4041

Reed Canarygrass for hay
Agronomy Section, Ottawa, 1968

Seeded: May 1967
Plot Size: 5.25 ft. X 20 ft.
Fertilizer: Urea 45% N. at 200 lb/a. May 1968

S.No.	Variety or Strain	Yield dry matter pounds/acre 15 June	24 Sept.	Total
403	Ottawa Syn F	3178	1637	4815
401	Ottawa Syn D	3223	1559	4782
400	Frontier	3139	1586	4725
402	Ottawa Syn E	3068	1484	4552
398	Rise	2973	1499	4472
399	S. 6982	2580	1561	4141
404	Ottawa Syn G	2754	1360	4114
Mean		2988	1527	4514

Exp. 4042

Reed Canarygrass for Pasture
Agronomy Section, Ottawa, 1968

Seeded: May 1967
Plot Size: 5.25 ft. X 20 ft, with 6 replicates
Fertilizer: Urea 45% N. At 200 lb/a, May 1968
Yield: Dry matter in lb/a.
Stand: 80 to 100%, May 1968

S.No.	Variety or strain	Yield dry matter pounds/acre Cut 1 27 May 1968	Cut 2 9 July 1968	Total
411	Ottawa Syn G	1614	768	2382
405	Rise	1396	727	2123
410	Ottawa Syn F	1315	793	2108
406	S. 6982	1328	691	2019
409	Ottawa Syn E	1334	613	1947
407	Frontier	1140	598	1738
408	Ottawa Syn D	1064	597	1661
Mean		1227	684	1911

PROVINCIAL HAY GROWTH TRIAL - R.C.A.T.

1964			1965			1966		
Date of Harvest	Stage at Harvest	Lbs.D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs.D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre
DUPUITS								
May 11	12	2147	May 7	12	1192	May 24	*12	*2431
21	21	3368	17	21	2787	27	12	2879
29	23	4167	27	22	4177	June 3	22	3439
June 9	31	5076	June 4	22	4681	17	23	4815
19	41	5555	14	31	6100	—	-	-
29	51	6437	24	51	7263	July 8	42	4986
July 10	51	6296	July 5	51	6509	21	51	7016
VERNAL								
May 11	12	2154	May 7	12	829	May 24	12	3056
21	21	3312	17	21	2900	27	12	2999
29	22	4641	27	21	4282	June 3	22	3615
June 9	31	5427	June 4	22	4396	17	23	4874
19	34	5623	14	23	6100	—	-	-
29	51	6239	24	42	6626	July 8	42	6183
July 10	51	6132	July 5	51	6165	21	51	6159

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - R.C.A.T.

1964 Harvest Date		Stage	Lbs. D.D.M.	1965 Harvest Date		Stage	Lbs. D.D.M.	1966 Harvest Date		Stage	Lbs. D.D.M.
DUPUITS											
May	11	12	1599	May	7	11	—	May	24	* 12	* 1668
	21	21	2381		17	21	2050		27	12	1857
	29	23	2828		27	22	2894	June	3	22	2328
June	9	31	3147	June	4	22	3232		17	23	2788
	19	41	3330		14	31	4088	—		-	-
	29	51	3657		24	51	4584	July	8	42	2782
July	10	51	3403	July	5	51	3977		21	51	3732
VERNAL											
May	11	12	1642	May	7	12	—	May	24	12	2219
	21	21	2405		17	21	2097		27	12	1997
	29	22	3175		27	21	2826	June	3	22	2494
June	9	31	3430	June	4	22	3024		17	23	2880
	19	34	3422		14	23	4078	—		-	-
	29	51	3528		24	42	4237	July	8	42	3370
July	10	51	3245	July	5	51	3798		21	51	3313

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - R.C.A.T.

1964			1965			1966		
Harvest Date	Stage	Lbs. C.P.	Harvest Date	Stage	Lbs. C.P.	Harvest Date	Stage	Lbs. C.P.
DUPUITS								
May 11	12	570	May 7	11	* —	May 24	* 12	* 681
21	21	747	17	21	758	27	12	748
29	23	771	27	22	919	June 3	22	794
June 9	31	860	June 4	22	941	17	23	886
19	41	870	14	31	1031	—	-	-
29	51	938	24	51	1111	July 8	42	808
July 10	51	864	July 5	51	885	21	51	996
VERNAL								
May 11	12	576	May 7	12	—	May 24	12	853
21	21	724	17	21	835	27	12	783
29	22	875	27	21	976	June 3	22	799
June 9	31	933	June 4	22	897	17	23	931
19	34	912	14	23	1147	—	-	-
29	51	907	24	42	1106	July 8	42	977
July 10	51	839	July 5	51	906	21	51	825

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - R.C.A.T.

1964			1965			1966		
Harvest Date	Stage	% D.D.M.	Harvest Date	Stage	% D.D.M.	Harvest Date	Stage	% D.D.M.
DUPUITS								
May 11	12	74.6	May 7	11	—	May 24	*12	*68.6
21	21	70.7	17	21	73.4	27	12	64.5
29	23	68.0	27	22	69.2	June 3	22	67.7
June 9	31	62.0	June 4	22	69.0	17	23	57.9
19	41	59.6	14	31	67.0	—	-	-
29	51	56.8	24	51	63.1	July 8	42	55.8
July 10	51	54.0	July 5	51	61.2	21	51	53.2
VERNAL								
May 11	12	76.3	May 7	12	—	May 24	12	72.6
21	21	72.7	17	21	72.4	27	12	66.6
29	22	68.4	27	21	66.0	June 3	22	69.0
June 9	31	63.2	June 4	22	68.8	17	23	59.1
19	34	61.0	14	23	66.8	—	—	—
29	51	56.6	24	42	63.8	July 8	42	54.5
July 10	51	53.0	July 5	51	61.6	21	51	53.8

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - R.C.A.T.

1964 Harvest Date	Stage	% C.P.	1965 Harvest Date	Stage	% C.P.	1966 Harvest Date	Stage	% C.P.
DUPUITS								
May 11	12	26.5	May 7	11	* —	May 24	* 12	* 28.0
21	21	22.2	17	21	27.2	27	12	26.0
29	23	18.5	27	22	22.0	June 3	22	23.1
June 9	31	16.9	June 4	22	20.1	17	23	18.4
19	41	15.6	14	31	16.9	—	-	-
29	51	14.5	24	51	15.3	July 8	42	16.2
July 10	51	13.7	July 5	51	13.6	21	51	14.2
VERNAL								
May 11	12	26.7	May 7	12	—	May 24	12	27.9
21	21	21.9	17	21	28.8	27	12	26.1
29	22	18.8	27	21	22.8	June 3	22	22.1
June 9	31	17.1	June 4	22	20.4	17	23	19.1
19	34	16.2	14	23	18.8	—	-	-
29	51	14.6	24	42	16.7	July 8	42	15.8
July 10	51	13.7	July 5	51	14.7	21	51	13.4

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - GUELPH

1964 Harvest Date	Stage	Lbs. D.M.	1966 Harvest Date	Stage	Lbs. D.M.	1967 Harvest Date	Stage	Lbs. D.M.
			DUPUITS					
May 5	12	*809	May 25	12	742	May 19	°12	1451
19	12	2657	June 3	13	1094	29	12	2652
29	21	3516	13	22	2338	June 12	22	4256
June 8	22	4395	24	31	3286	22	31	5637
19	33	4864	July 5	41	5147	July 4	41	6125
July 1	41	4738	14	42	5500	14	41	7270
14	51	4711	25	51	5428	24	41	6845
			VERNAL					
May 11	12	1715	May 25	12	884	May 19	12	1136
22	13	2932	June 3	13	1852	29	12	2470
June 2	21	3964	13	21	3154	June 12	21	4238
16	23	4254	24	23	3845	22	23	5497
26	34	4885	July 5	33	5705	July 4	33	6177
July 7	42	5316	14	42	6577	17	33	7967
20	51	5013	25	42	5690	24	41	6157
			VIKING					
May 12	12	635	June 2	21	417	May 29	13	502
26	22	3064	13	31	1813	June 12	31	2439
June 5	23	4102	24	42	2998	22	31	3717
16	42	4446	July 5	51	4181	July 4	51	3890
26	42	4439	14	51	4764	17	51	4482
July 7	51	5222	26	53	5017	25	51	5132
20	52	4686	Aug. 4	53	4769	Aug. 4	°53	5363
			EMPIRE					
May 19	12	918	June 13	21	1624	June 12	21	1558
29	13	2223	24	23	2943	22	22	3058
June 8	21	3690	July 5	32	4334	July 4	22	3526
19	23	4566	14	42	4976	17	23	4346
July 1	31	4858	26	51	5603	25	31	4762
14	51	5224	Aug. 4	52	4900	Aug. 4	42	5338
20	52	5452	15	53	3977	14	51	5193

°Wide variation within plots
xDo not use analysis on this column
°No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - GUELPH

1964			1966			1967		
Harvest Date	Stage	Lbs. D.D.M.	Harvest Date	Stage	Lbs. D.D.M.	Harvest Date	Stage	Lbs. D.D.M.
			DUPUITS					
May 5	12	*588	May 25	12	°517	May 19	°12	°1194
19	12	1995	June 3	13	854	29	12	2153
29	21	2475	13	22	1658	June 12	22	2975
June 8	22	2955	24	31	2123	22	31	3630
19	33	3074	July 5	41	3150	July 4	41	3651
July 1	41	2756	14	42	3129	14	41	4318
14	51	2555	25	51	3045	24	41	3772
			VERNAL					
May 11	12	1361	May 25	12	671	May 19	12	927
22	13	2196	June 3	13	1472	29	12	2045
June 2	21	2856	13	21	2293	June 12	21	2975
16	23	2763	24	23	2572	22	23	3551
26	34	2978	July 5	33	3543	July 4	33	3768
July 7	42	3077	14	42	3979	17	33	4764
20	51	2678	25	42	3368	24	41	3356
			VIKING					
May 12	12	500	June 2	21	326	May 29	13	401
26	22	2261	13	31	1345	June 12	31	2483
June 5	23	2948	24	42	1967	22	31	2431
16	42	2863	July 5	51	2509	July 4	51	2396
26	42	2856	14	51	2830	17	51	2734
July 7	51	3254	26	53	2935	25	51	2925
20	52	2779	Aug. 4	53	2799	Aug. 4	53	3094
			EMPIRE					
May 19	12	714	June 13	21	1265	June 12	21	1165
29	13	1637	24	23	1978	22	22	2034
June 8	21	2644	July 5	32	2748	July 4	22	2243
19	23	3039	14	42	3070	17	23	2695
July 1	31	3038	26	51	3317	25	31	2795
14	51	3014	Aug. 4	52	2773	Aug. 4	42	3117
20	52	3304	15	53	2140	14	51	2908

[x]Do not use analysis on this column
[o]No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - GUELPH

1964			1966			1967		
Harvest Date	Stage	Lbs. C.P.	Harvest Date	Stage	Lbs. C.P.	Harvest Date	Stage	Lbs. C.P.
DUPUITS								
May 5	12	*263	May 25	12	*205	May 19	°12	°470
19	12	695	June 3	13	272	29	12	756
29	21	744	13	22	472	June 12	22	906
June 8	22	776	24	31	565	22	31	1077
19	33	791	July 5	41	829	July 4	41	1023
July 1	41	687	14	42	781	14	41	1119
14	51	719	25	51	765	24	41	1020
VERNAL								
May 11	12	531	May 25	12	254	May 19	12	366
22	13	808	June 3	13	476	29	12	642
June 2	21	795	13	21	669	June 12	21	898
16	23	747	24	23	665	22	23	1022
26	34	772	July 5	33	884	July 4	33	1038
July 7	42	791	14	42	940	17	33	1275
20	51	732	25	42	779	24	41	911
VIKING								
May 12	12	193	June 2	21	116	May 29	13	145
26	22	700	13	31	419	June 12	31	568
June 5	23	737	24	42	573	22	31	721
16	42	711	July 5	51	627	July 4	51	692
26	42	692	14	51	629	17	51	695
July 7	51	785	26	53	542	25	51	816
20	52	623	Aug. 4	53	505	Aug. 4	53	702
EMPIRE								
May 19	12	245	June 13	21	399	June 12	21	389
29	13	505	24	23	589	22	22	621
June 8	21	686	July 5	32	693	July 4	22	670
19	23	763	14	42	736	17	23	778
July 1	31	766	26	51	745	25	31	814
14	51	760	Aug. 4	52	588	Aug. 4	42	747
20	52	845	15	53	489	14	51	706

[x]Do not use analysis on this column
[o]No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - GUELPH

1964			1966			1967		
Harvest Date	Stage	% D.D.M.	Harvest Date	Stage	% D.D.M.	Harvest Date	Stage	% D.D.M.
				DUPUITS				
May 5	12	*72.7	May 25	12	*69.7	May 19	°12	°82.3
19	12	74.9	June 3	13	78.1	29	12	81.2
29	21	70.3	13	22	70.9	June 12	22	69.9
June 8	22	67.1	24	31	64.6	22	31	64.4
19	33	63.2	July 5	41	61.2	July 4	41	59.6
July 1	41	58.1	14	42	56.9	14	41	59.4
14	51	54.3	25	51	56.1	24	41	55.1
				VERNAL				
May 11	12	79.4	May 25	12	75.9	May 19	12	81.6
22	13	74.9	June 3	13	79.5	29	12	82.8
June 2	21	72.0	13	21	72.7	June 12	21	70.2
16	23	64.9	24	23	66.9	22	23	64.6
26	34	60.9	July 5	33	62.1	July 4	33	61.0
July 7	42	57.9	14	42	60.5	17	33	59.8
20	51	53.5	25	42	59.2	24	41	54.5
				VIKING				
May 12	12	78.8	June 2	21	78.2	May 29	13	79.8
26	22	73.8	13	31	74.2	June 12	31	72.2
June 5	23	71.8	24	42	65.6	22	31	65.4
16	42	64.4	July 5	51	60.0	July 4	51	61.6
26	42	64.4	14	51	59.4	17	51	61.0
July 7	51	62.3	26	53	58.5	25	51	57.0
20	52	59.3	Aug. 4	53	58.7	Aug. 4	53	57.7
				EMPIRE				
May 19	12	78.2	June 13	21	77.9	June 12	21	74.8
29	13	73.8	24	23	67.2	22	22	66.5
June 8	21	71.7	July 5	32	63.4	July 4	22	63.6
19	23	66.5	14	42	61.7	17	23	62.0
July 1	31	62.7	26	51	59.2	25	31	58.7
14	51	57.6	Aug. 4	52	56.6	Aug. 4	42	58.4
20	52	60.6	15	53	53.8	14	51	56.0

[x]Do not use analysis on this column
[o]No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - GUELPH

1964 Harvest Date	Stage	% C.P.	1966 Harvest Date	Stage	% C.P.	1967 Harvest Date	Stage	% C.P.
DUPUITS								
May 5	12	° 32.5	May 25	12	x 27.6	May 19 x	12	x 32.4
19	12	26.1	June 3	13	24.9	29	12	28.5
29	21	21.1	13	22	20.2	June 12	22	21.3
June 8	22	17.6	24	31	17.2	22	31	19.1
19	33	16.2	July 5	41	16.1	July 4	41	16.7
July 1	41	14.5	14	42	14.2	14	41	15.4
14	51	15.2	25	51	14.1	24	41	14.9
VERNAL								
May 11	12	31.0	May 25	12	28.7	May 19	12	32.2
22	13	27.6	June 3	13	25.7	29	12	26.0
June 2	21	20.0	13	21	21.2	June 12	21	21.2
16	23	17.5	24	23	17.3	22	23	18.6
26	34	15.8	July 5	33	15.5	July 4	33	16.8
July 7	42	14.9	14	42	14.3	17	33	16.0
20	51	14.6	25	42	13.7	24	41	14.8
VIKING								
May 12	12	30.6	June 2	21	27.8	May 29	13	29.0
26	22	22.8	13	31	23.1	June 12	31	23.3
June 5	23	17.9	24	42	19.1	22	31	19.4
16	42	16.0	July 5	51	15.0	July 4	51	17.8
26	42	15.6	14	51	13.2	17	51	15.5
July 7	51	15.0	26	53	10.8	25	51	15.9
20	52	13.3	Aug. 4	53	10.6	Aug. 4	53	13.1
EMPIRE								
May 19	12	26.7	June 13	21	24.6	June 12	21	25.0
29	13	22.6	24	23	20.0	22	22	20.3
June 8	21	18.6	July 5	32	16.0	July 4	22	19.0
19	23	16.6	14	42	14.8	17	23	17.9
July 1	31	15.7	26	51	13.3	25	31	17.1
14	51	14.8	Aug. 4	52	12.0	Aug. 4	42	14.0
20	52	15.5	15	53	12.3	14	51	13.6

x No analysis on this column

° Do not use analysis on this column

PROVINCIAL HAY GROWTH TRIAL - K.C.A.T.

1964			1967		
Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre
		DUPUITS			
May 11	12	1650	May 31	*12	3375
21	21	2871	June 8	13	6305
June 1	23	4011	15	22	7267
10	32	4449	27	32	8824
22	41	5573	July 7	41	9316
July 6	42	5220	19	42	9779
14	51	5239	Aug. 1	51	8280
		VERNAL			
May 11	12	1652	May 31	12	2933
21	13	3075	June 8	13	5535
June 1	21	4286	15	21	6623
10	23	4691	27	31	8551
22	41	5463	July 7	34	9186
July 6	42	5162	19	42	9322
14	42	5367	Aug. 1	51	7007
		VIKING			
May 11	21	512	June 8	12	3355
21	23	2059	15	31	4675
June 1	31	3323	27	31	6935
10	34	3859	July 7	33	6731
22	42	4957	19	51	8232
July 6	52	4193	Aug.1	51	6651
14	53	4193	10	52	5298
		EMPIRE			
May 21	12	1285	June 8	12	3648
June 1	21	2977	15	23	5299
10	23	3883	27	23	7397
22	41	4953	July 7	32	8174
July 6	51	4837	19	42	9471
14	51	5427	Aug. 1	51	7489
24	52	4516	10	51	5800

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - K.C.A.T.

1964			1967		
Date of Harvest	Stage at Harvest	Lbs. Whole Plant D.D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs. Whole Plant D.D.M. Per Acre
		DUPUITS			
May 11	12	1169	May 31	*12	*2697
21	21	2103	June 8	13	4634
June 1	23	2769	15	22	4971
10	32	2931	27	32	5524
22	41	3510	July 7	41	5739
July 6	42	2952	19	42	5681
14	51	2786	Aug. 1	51	4537
		VERNAL			
May 11	12	1252	May 31	12	2394
21	13	2276	June 8	13	4157
June 1	21	2990	15	21	4537
10	23	3094	27	31	5404
22	41	3238	July 7	34	5677
July 6	42	2892	19	42	5481
14	42	2997	Aug. 1	51	3826
		VIKING			
May 11	21	375	June 8	12	2540
21	23	1514	15	31	3179
June 1	31	2275	27	31	4320
10	34	2575	July 7	33	4026
22	42	3175	19	51	4808
July 6	52	2491	Aug. 1	51	3698
14	53	2478	10	52	2977
		EMPIRE			
May 21	12	940	June 8	12	2787
June 1	21	2176	15	23	3699
10	23	2655	27	23	4771
22	41	3153	July 7	32	4888
July 6	51	2930	19	42	5540
14	51	3144	Aug. 1	51	4351
24	52	2393	10	51	3335

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - K.C.A.T.

1964			1967		
Date of Harvest	Stage at Harvest	Lbs. Whole Plant C.P. Per Acre	Date of Harvest	Stage at Harvest	Lbs. Whole Plant C.P. Per Acre
		DUPUITS			
May 11	12	440	May 31	*12	* 820
21	21	707	June 8	13	1374
June 1	23	831	15	22	1388
10	32	777	27	32	1438
22	41	873	July 7	41	1360
July 6	42	665	19	42	1379
14	51	748	Aug. 1	51	1027
		VERNAL			
May 11	12	497	May 31	12	777
21	13	800	June 8	13	1184
June 1	21	895	15	21	1245
10	23	840	27	31	1300
22	41	786	July 7	34	1286
July 6	42	673	19	42	1249
14	42	706	Aug. 1	51	799
		VIKING			
May 11	21	154	June 8	12	845
21	23	505	15	31	921
June 1	31	636	27	31	1089
10	34	722	July 7	33	1030
22	42	793	19	51	1128
July 6	52	545	Aug. 1	51	805
14	53	536	10	52	577
		EMPIRE			
May 21	12	314	June 8	12	937
June 1	21	735	15	23	1102
10	23	772	27	23	1361
22	41	872	July 7	32	1357
July 6	51	774	19	42	1392
14	51	840	Aug. 1	51	996
24	52	554	10	51	655

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - K.C.A.T.

1964			1967		
Date of Harvest	Stage at Harvest	% D.D.M. Whole Plant	Date of Harvest	Stage at Harvest	% D.D.M. Whole Plant
		DUPUITS			
May 11	12	71.0	May 31	*12	*79.9
21	21	73.2	June 8	13	73.5
June 1	23	69.1	15	22	68.4
10	32	65.9	27	32	62.6
22	41	62.5	July 7	41	61.6
July 6	42	56.7	19	42	58.1
14	51	53.4	Aug. 1	51	54.8
		VERNAL			
May 11	12	76.2	May 31	12	81.6
21	13	74.2	June 8	13	75.1
June 1	21	69.7	15	21	68.5
10	23	66.1	27	31	63.2
22	41	59.5	July 7	34	61.8
July 6	42	56.2	19	42	58.8
14	42	55.9	Aug. 1	51	54.6
		VIKING			
May 11	21	72.6	June 8	12	75.7
21	23	73.4	15	31	68.0
June 1	31	68.4	27	31	62.3
10	34	66.8	July 7	33	59.8
22	42	64.4	19	51	58.4
July 6	52	59.4	Aug. 1	51	55.6
14	53	58.7	10	52	56.2
		EMPIRE			
May 21	12	73.8	June 8	12	76.4
June 1	21	73.2	15	23	69.8
10	23	68.6	27	23	64.5
22	41	64.0	July 7	32	59.8
July 6	51	60.5	19	42	58.5
14	51	57.9	Aug. 1	51	58.1
24	52	53.1	10	51	57.5

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - K.C.A.T.

1964			1967		
Date of Harvest	Stage at Harvest	% C.P. Whole Plant	Date of Harvest	Stage at Harvest	% C.P. Whole Plant
		DUPUITS			
May 11	12	26.6	May 31	*12	*24.3
21	21	24.6	June 8	13	21.8
June 1	23	20.7	15	22	19.1
10	32	17.4	27	32	16.3
22	41	15.6	July 7	41	14.6
July 6	42	12.7	19	42	14.1
14	51	14.3	Aug. 1	51	12.4
		VERNAL			
May 11	12	30.2	May 31	12	26.5
21	13	26.0	June 8	13	21.4
June 1	21	20.8	15	21	18.8
10	23	17.9	27	31	15.2
22	41	14.4	July 7	34	14.0
July 6	42	13.1	19	42	13.4
14	42	13.0	Aug. 1	51	11.4
		VIKING			
May 11	21	29.7	June 8	12	25.2
21	23	24.2	15	31	19.7
June 1	31	18.9	27	31	15.7
10	34	18.5	July 7	33	15.3
22	42	15.9	19	51	13.7
July 6	52	13.0	Aug. 1	51	12.1
14	53	12.7	10	52	10.9
		EMPIRE			
May 21	12	25.5	June 8	12	25.7
June 1	21	24.7	15	23	20.8
10	23	19.9	27	23	18.4
22	41	17.8	July 7	32	16.6
July 6	51	15.9	19	42	14.7
14	51	15.4	Aug. 1	51	13.3
24	52	12.3	10	51	11.3

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - OTTAWA

1965			1967		
Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre
		DUPUITS			
May 6	11	162	May 17	*12	568
18	21	2424	30	21	1869
28	22	3881	June 5	22	2707
June 4	23	4243	16	23	3595
15	32	4275	26	32	4356
24	42	4197	July 6	34	5320
July 5	52	3950	17	42	5207
		VERNAL			
May 6	11	158	May 17	11	445
18	21	2367	30	13	2003
28	21	3944	June 5	21	3088
June 4	22	5180	16	23	3554
15	31	4788	26	31	4838
24	42	4409	July 6	33	5853
July 5	51	4285	17	42	5358
		VIKING			
May 18	22	729	June 5	23	816
28	31	1744	16	32	2231
June 4	32	3114	26	34	3126
15	42	2622	July 6	51	3909
24	52	3075	17	52	4432
July 5	53	3306	26	53	4579
14	53	3320	Aug. 8	53	3948
		EMPIRE			
May 18	13	273	June 5	21	665
28	21	1737	16	23	1860
June 4	22	2771	26	31	3382
15	32	3569	July 6	41	4605
24	42	3904	17	51	5430
July 5	52	3911	26	52	5434
14	53	4978	Aug. 8	53	5553

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - OTTAWA

1965			1967		
Date of Harvest	Stage at Harvest	Lbs. Whole Plant D.D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs. Whole Plant D.D.M. Per Acre
		DUPUITS			
May 6	11	129	May 17	*12	* 460
18	21	1846	30	21	1497
28	22	2707	June 5	22	2057
June 4	23	3020	16	23	2473
15	32	2901	26	32	2770
24	42	2708	July 6	34	3229
July 5	52	2587	17	42	3036
		VERNAL			
May 6	11	128	May 17	11	361
18	21	1843	30	13	1628
28	21	2865	June 5	21	2365
June 4	22	3744	16	23	2463
15	31	3332	26	31	3101
24	42	2828	July 6	33	3611
July 5	51	2773	17	42	3300
		VIKING			
May 18	22	563	June 5	23	622
28	31	1262	16	32	1492
June 4	32	2201	26	34	1963
15	42	1827	July 6	51	2373
24	52	2138	17	52	2606
July 5	53	2372	26	53	2697
14	53	2287	Aug. 8	53	2238
		EMPIRE			
May 18	13	223	June 5	21	531
28	21	1334	16	23	1345
June 4	22	2125	26	31	2222
15	32	2625	July 6	41	2823
24	42	2818	17	51	3225
July 5	52	2687	26	52	3124
14	53	3379	Aug. 8	53	3198

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - OTTAWA

1965			1967		
Date of Harvest	Stage at Harvest	Lbs. Whole Plant C.P. Per Acre	Date of Harvest	Stage at Harvest	Lbs. Whole Plant C.P. Per Acre
		DUPUITS			
May 6	11	* 60	May 17	*12	*198
18	21	686	30	21	540
28	22	854	June 5	22	669
June 4	23	785	16	23	812
15	32	705	26	32	832
24	42	613	July 6	34	856
July 5	52	537	17	42	823
		VERNAL			
May 6	11	55	May 17	11	150
18	21	719	30	13	573
28	21	943	June 5	21	747
June 4	22	1046	16	23	728
15	31	814	26	31	905
24	42	657	July 6	33	1001
July 5	51	651	17	42	905
		VIKING			
May 18	22	227	June 5	23	210
28	31	380	16	32	455
June 4	32	576	26	34	566
15	42	417	July 6	51	645
24	52	446	17	52	643
July 5	53	466	26	53	636
14	53	448	Aug. 8	53	446
		EMPIRE			
May 18	13	96	June 5	21	190
28	21	488	16	23	435
June 4	22	618	26	31	673
15	32	682	July 6	41	787
24	42	644	17	51	863
July 5	52	614	26	52	739
14	53	856	Aug. 8	53	716

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - OTTAWA

1965			1967		
Date of Harvest	Stage at Harvest	% D.D.M. Whole Plant	Date of Harvest	Stage at Harvest	% D.D.M. Whole Plant
		DUPUITS			
May 6	11	80.3	May 17	*12	*81.5
18	21	76.2	30	21	80.1
28	22	69.8	June 5	22	76.0
June 4	23	71.1	16	23	68.8
15	32	67.9	26	32	63.6
24	42	64.5	July 6	34	60.7
July 5	52	65.5	17	42	58.3
		VERNAL			
May 6	11	81.1	May 17	11	81.1
18	21	77.9	30	13	81.3
28	21	72.7	June 5	21	76.6
June 4	22	72.4	16	23	69.3
15	31	69.6	26	31	64.1
24	42	64.3	July 6	33	61.7
July 5	51	64.8	17	42	61.6
		VIKING			
May 18	22	77.1	June 5	23	76.2
28	31	72.4	16	32	66.9
June 4	32	70.7	26	34	62.8
15	42	69.7	July 6	51	60.7
24	52	69.5	17	52	58.8
July 5	53	71.8	26	53	58.9
14	53	68.8	Aug. 8	53	56.7
		EMPIRE			
May 18	13	81.6	June 5	21	79.9
28	21	76.8	16	23	72.3
June 4	22	76.7	26	31	65.7
15	32	73.6	July 6	41	61.3
24	42	72.3	17	51	59.4
July 5	52	69.1	26	52	57.5
14	53	67.8	Aug. 8	53	57.6

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - OTTAWA

1965			1967		
Date of Harvest	Stage at Harvest	% C.P. Whole Plant	Date of Harvest	Stage at Harvest	% C.P. Whole Plant
		DUPUITS			
May 6	11	*37.4	May 17	*12	*34.8
18	21	28.3	30	21	28.9
28	22	22.0	June 5	22	24.7
June 4	23	18.5	16	23	22.6
15	32	16.5	26	32	19.1
24	42	14.6	July 6	34	16.1
July 5	52	13.6	17	42	15.8
		VERNAL			
May 6	11	35.1	May 17	11	33.7
18	21	30.4	30	13	28.6
28	21	23.9	June 5	21	24.2
June 4	22	20.2	16	23	20.5
15	31	17.0	26	31	18.7
24	42	14.9	July 6	33	17.1
July 5	51	15.2	17	42	16.9
		VIKING			
May 18	22	31.1	June 5	23	25.7
28	31	21.8	16	32	20.4
June 4	32	18.5	26	34	18.1
15	42	15.9	July 6	51	16.5
24	52	14.5	17	52	14.5
July 5	53	14.1	26	53	13.9
14	53	13.5	Aug. 8	53	11.3
		EMPIRE			
May 18	13	35.3	June 5	21	28.6
28	21	28.1	16	23	23.4
June 4	22	22.3	26	31	19.9
15	32	19.1	July 6	41	17.1
24	42	16.5	17	51	15.9
July 5	52	15.7	26	52	13.6
14	53	17.2	Aug. 8	53	12.9

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - FORT WILLIAM

1965			1966			1967		
Harvest Date	Stage	Lbs. D.M.	Harvest Date	Stage	Lbs. D.M.	Harvest Date	Stage	Lbs. D.M.
DUPUITS								
June 4	12	876	June 14	*12	2303	June 16	*12	2037
14	21	1711	27	°23	2998	26	22	2883
24	23	2327	July 5	34	3143	July 6	23	3422
July 5	31	2837	15	42	2991	16	34	2870
15	31	2890	26	51	3212	27	51	3347
26	32	3302	Aug. 10	52	2769	Aug. 10	52	3710
Aug. 6	33	2837	16	53	2743	21	52	3785
VERNAL								
June 4	12	942	June 14	12	2288	June 16	12	1969
14	13	1851	27	23	3170	26	21	2972
24	23	2517	July 5	32	3107	July 6	22	3726
July 5	31	3142	15	41	3274	16	32	3416
15	31	3620	26	51	3553	27	42	3914
26	32	3539	Aug. 10	52	3789	Aug. 10	51	3863
Aug. 6	33	2962	16	53	3015	21	52	4028
VIKING								
June 14	23	1720	June 14	12	2692	June 19	13	908
24	34	2665	27	41	3797	29	32	901
July 5	41	4087	July 5	51	3557	July 10	34	1979
15	52	4800	15	52	4389	19	42	2741
26	52	4896	26	53	4878	31	52	3667
Aug. 6	52	4780	Aug. 10	53	3691	Aug. 10	52	3772
16	53	5503	16	53	4022	21	52	4450
EMPIRE								
June 14	21	1547	June 14	11	1867	June 19	12	1490
24	23	2568	27	23	3290	29	22	2508
July 5	32	3961	July 5	42	3799	July 10	32	3203
15	51	4877	15	51	4528	19	42	4115
26	51	5232	26	52	5314	31	51	4696
Aug. 6	51	5646	Aug. 10	53	4153	Aug. 10	51	5464
16	52	6521	16	53	4517	21	52	6472

* Do not use analysis on this column.

° This figure on I.B.M. is way off.

PROVINCIAL HAY GROWTH TRIAL - FORT WILLIAM

1965			1966			1967		
Harvest Date	Stage	Lbs. D.D.M.	Harvest Date	Stage	Lbs. D.D.M.	Harvest Date	Stage	Lbs. D.D.M.
DUPUITS								
June 4	12	650	June 14	*12	*1697	June 16	*12	*1399
14	21	1253	27	23	1931	26	22	1960
24	23	1560	July 5	34	1864	July 6	23	2211
July 5	31	1779	15	42	1708	16	34	1699
15	31	1649	26	51	1779	27	51	1965
26	32	1795	Aug. 10	52	1371	Aug. 10	52	2181
Aug. 6	33	1481	16	53	1275	21	52	2112
VERNAL								
June 4	12	709	June 14	12	1716	June 16	12	1433
14	13	1343	27	23	2089	26	21	2101
24	23	1689	July 5	32	1908	July 6	22	2507
July 5	31	1939	15	41	1909	16	32	2138
15	31	2169	26	51	2029	27	42	2368
26	32	2015	Aug. 10	52	1439	Aug. 10	51	2202
Aug. 6	33	1606	16	53	1468	21	52	2231
VIKING								
June 14	23	1278	June 14	12	1930	July 19	13	655
24	34	1834	27	41	2384	29	32	600
July 5	41	2709	July 5	51	2123	July 10	34	1282
15	52	3006	15	52	2585	19	42	1719
26	52	3113	26	53	2839	31	52	2244
Aug. 6	52	2911	Aug. 10	53	2023	Aug. 10	52	2316
16	53	3407	16	53	2180	21	52	2608
EMPIRE								
June 14	21	1148	June 14	11	1488	June 19	12	1119
24	23	1780	27	23	2191	29	22	1788
July 5	32	2579	July 5	42	2348	July 10	32	2082
15	51	3048	15	51	2748	19	42	2510
26	51	3279	26	52	3071	31	51	2780
Aug. 6	51	3365	Aug. 10	53	2292	Aug. 10	51	3136
16	52	3886	16	53	2380	21	52	3631

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - FORT WILLIAM

1965 Harvest Date	Stage	Lbs. C.P.	1966 Harvest Date	Stage	Lbs. C.P.	1967 Harvest Date	Stage	Lbs. C.P.
			DUPUITS					
June 4	12	*147	June 14	*12	*426	June 16	*12	*430
14	21	233	27	°23	387	26	22	502
24	23	242	July 5	34	330	July 6	23	510
July 5	31	281	15	42	269	16	34	359
15	31	246	26	51	257	27	51	448
26	32	261	Aug. 10	52	205	Aug. 10	52	523
Aug. 6	33	224	16	53	203	21	52	515
			VERNAL					
June 4	12	162	June 14	12	435	June 16	12	445
14	13	248	27	23	418	26	21	568
24	23	282	July 5	32	342	July 6	22	652
July 5	31	314	15	41	308	16	32	560
15	31	326	26	51	305	27	42	618
26	32	290	Aug. 10	52	220	Aug. 10	51	595
Aug. 6	33	252	16	53	220	21	52	568
			VIKING					
June 14	23	292	June 14	12	530	June 19	13	205
24	34	402	27	41	585	29	32	195
July 5	41	568	July 5	51	487	July 10	34	406
15	52	595	15	52	531	19	42	444
26	52	553	26	53	532	31	52	532
Aug. 6	52	492	Aug. 10	53	339	Aug. 10	52	577
16	53	550	16	53	370	21	52	667
			EMPIRE					
June 14	21	294	June 14	11	439	June 19	12	352
24	23	426	27	23	559	29	22	544
July 5	32	594	July 5	42	539	July 10	32	570
15	51	663	15	51	652	19	42	654
26	51	659	26	52	611	31	51	690
Aug. 6	51	632	Aug. 10	53	448	Aug. 10	51	825
16	52	717	16	53	470	21	52	841

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - FORT WILLIAM

1965			1966			1967		
Harvest Date	Stage	% D.D.M.	Harvest Date	Stage	% D.D.M.	Harvest Date	Stage	% D.D.M.
DUPUITS								
June 4	12	74.3	June 14	*12	*73.7	June 16	*12	*68.7
14	21	73.1	27	°23	64.4	26	22	68.0
24	23	67.0	July 5	34	59.3	July 6	23	64.6
July 5	31	62.7	15	42	57.1	16	34	59.2
15	31	57.1	26	51	55.4	27	51	58.7
26	32	54.4	Aug. 10	52	49.5	Aug. 10	52	58.8
Aug. 6	33	52.4	16	53	46.5	21	52	55.8
VERNAL								
June 4	12	75.4	June 14	12	75.0	June 16	12	72.8
14	13	72.6	27	23	65.9	26	21	70.7
24	23	67.1	July 5	32	61.4	July 6	22	67.3
July 5	31	62.0	15	41	58.3	16	32	62.6
15	31	59.9	26	51	57.1	27	42	60.5
26	32	57.2	Aug. 10	52	51.6	Aug. 10	51	57.0
Aug. 6	33	54.1	16	53	48.7	21	52	55.4
VIKING								
June 14	23	74.3	June 14	12	71.7	June 19	13	72.2
24	34	68.9	27	41	62.8	29	32	66.6
July 5	41	66.3	July 5	51	59.7	July 10	34	64.8
15	52	62.7	15	52	58.9	19	42	62.7
26	52	63.6	26	53	58.2	31	52	61.2
Aug. 6	52	60.9	Aug. 10	53	54.8	Aug. 10	52	61.4
16	53	62.0	16	53	54.2	21	52	58.6
EMPIRE								
June 14	21	74.2	June 14	11	79.7	June 19	12	75.1
24	23	69.3	27	23	66.6	29	22	71.3
July 5	32	65.1	July 5	42	61.8	July 10	32	65.0
15	51	62.5	15	51	60.7	19	42	61.0
26	51	62.7	26	52	57.8	31	51	59.2
Aug. 6	51	59.6	Aug. 10	53	55.2	Aug. 10	51	57.4
16	52	59.6	16	53	52.7	21	52	56.1

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - FORT WILLIAM

1965 Harvest Date	Stage	% C.P.	1966 Harvest Date	Stage	% C.P.	1967 Harvest Date	Stage	% C.P.
DUPUITS								
June 4	12	* 16.8	June 14	* 12	* 18.5	June 16	* 12	* 21.1
14	21	13.6	27	23	12.9	26	22	17.4
24	23	10.4	July 5	34	10.5	July 6	23	14.9
July 5	31	9.9	15	42	9.0	16	34	12.5
15	31	8.5	26	51	8.0	27	51	13.4
26	32	7.9	Aug. 10	52	7.4	Aug. 10	52	14.1
Aug. 6	33	7.9	16	53	7.4	21	52	13.6
VERNAL								
June 4	12	17.2	June 14	12	19.0	June 16	12	22.6
14	13	13.4	27	23	13.2	26	21	19.1
24	23	11.2	July 5	32	11.0	July 6	22	17.5
July 5	31	10.0	15	41	9.4	16	32	16.4
15	31	9.0	26	51	8.6	27	42	15.8
26	32	8.2	Aug. 10	52	7.9	Aug. 10	51	15.4
Aug. 6	33	8.5	16	53	7.3	21	52	14.1
VIKING								
June 14	23	17.0	June 14	12	19.7	June 19	13	22.6
24	34	15.1	27	41	15.4	29	32	21.7
July 5	41	13.9	July 5	51	13.7	July 10	34	20.5
15	52	12.4	15	52	12.1	19	42	16.2
26	52	11.3	26	53	10.9	31	52	14.5
Aug. 6	52	10.3	Aug. 10	53	9.2	Aug. 10	52	15.3
16	53	10.0	16	53	9.2	21	52	15.0
EMPIRE								
June 14	21	19.0	June 14	11	23.5	June 19	12	23.6
24	23	16.6	27	23	17.0	29	22	21.7
July 5	32	15.0	July 5	42	14.2	July 10	32	17.8
15	51	13.6	15	51	14.4	19	42	15.9
26	51	12.6	26	52	11.5	31	51	14.7
Aug. 6	51	11.2	Aug. 10	53	10.8	Aug. 10	51	15.1
16	52	11.0	16	53	10.4	21	52	13.0

* No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - VERNER

1964			1965		
Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre	Date of Harvest	Stage at Harvest	Lbs. D.M. Per Acre
		DUPUITS			
May 20	12	1789	May 26	13	859
30	12	3093	June 4	22	1567
June 9	21	4050	14	23	2553
19	23	4882	24	31	3092
29	41	5852	July 5	34	3527
July 9	42	6383	14	42	3990
18	51	6174	24	51	3750
		VERNAL			
May 20	12	2155	May 26	13	1543
30	12	3594	June 4	21	2276
June 9	21	4658	14	23	3331
19	23	5602	24	31	4114
29	31	6490	July 5	34	4268
July 9	41	6891	14	41	4257
18	51	6951	24	51	3984
		VIKING			
May 20	21	1066	May 26	22	1290
30	22	2300	June 4	22	951
June 9	31	3283	14	31	1748
19	41	4106	24	42	2768
29	51	4706	July 5	51	3194
July 9	51	5278	14	52	3274
18	52	5559	24	52	3580
		EMPIRE			
May 30	12	1259	May 26	12	493
June 9	22	2208	June 4	21	657
19	23	3155	14	23	1338
29	41	4477	24	32	2476
July 9	42	5174	July 5	41	3207
18	51	5767	14	42	3828
29	52	5870	24	51	4700

PROVINCIAL HAY GROWTH TRIAL - VERNER

1964			1965		
Date of Harvest	Stage at Harvest	Lbs. Whole Plant D.D.M. Per Acre	Date of Harvest	Stage at Harvest	LBS. Whole Plant D.D.M. Per Acre
		DUPUITS			
May 20	12	1378	May 26	13	686
30	12	2228	June 4	22	1198
June 9	21	2750	14	23	1762
19	23	3240	24	31	1994
29	41	3426	July 5	34	2219
July 9	42	3711	14	42	2476
18	51	3414	24	51	2170
		VERNAL			
May 20	12	1687	May 26	13	1230
30	12	2684	June 4	21	1760
June 9	21	3242	14	23	2285
19	23	3751	24	31	2624
29	31	3870	July 5	34	2703
July 9	41	4047	14	41	2590
18	51	3880	24	51	2300
		VIKING			
May 20	21	849	May 26	22	978
30	22	1767	June 4	22	714
June 9	31	2365	14	31	1247
19	41	2871	24	42	1845
29	51	2977	July 5	51	2083
July 9	51	3317	14	52	1993
18	52	3457	24	52	2220
		EMPIRE			
May 30	12	1027	May 26	12	403
June 9	22	1695	June 4	21	535
19	23	2315	14	23	1041
29	41	2891	24	32	1727
July 9	42	3202	July 5	41	2076
18	51	3486	14	42	2419
29	52	3425	24	51	2848

PROVINCIAL HAY GROWTH TRIAL - VERNER

1964			1965		
Date of Harvest	Stage at Harvest	Lbs. Whole Plant C.P. Per Acre	Date of Harvest	Stage at Harvest	Lbs. Whole Plant C.P. Per Acre
		DUPUITS			
May 20	12	476	May 26	13	*220
30	12	662	June 4	22	344
June 9	21	738	14	23	480
19	23	855	24	31	507
29	41	883	July 5	34	508
July 9	42	903	14	42	551
18	51	867	24	51	525
		VERNAL			
May 20	12	601	May 26	13	374
30	12	783	June 4	21	521
June 9	21	859	14	23	628
19	23	988	24	31	710
29	31	1034	July 5	34	632
July 9	41	992	14	41	600
18	51	976	24	51	498
		VIKING			
May 20	21	269	May 26	22	235
30	22	465	June 4	22	163
June 9	31	539	14	31	276
19	41	608	24	42	413
29	51	632	July 5	51	425
July 9	51	639	14	52	432
18	52	644	24	52	494
		EMPIRE			
May 30	12	301	May 26	12	113
June 9	22	429	June 4	21	141
19	23	523	14	23	238
29	41	677	24	32	445
July 9	42	633	July 5	41	477
18	51	686	14	42	601
29	52	651	24	51	700

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - VERNER

1964			1965		
Date of Harvest	Stage at Harvest	% D.D.M. Whole Plant	Date of Harvest	Stage at Harvest	% D.D.M. Whole Plant
		DUPUITS			
May 20	12	76.9	May 26	13	79.9
30	12	72.1	June 4	22	76.3
June 9	21	68.0	14	23	69.1
19	23	66.4	24	31	64.5
29	41	58.6	July 5	34	63.0
July 9	42	58.2	14	42	62.0
18	51	55.3	24	51	57.8
		VERNAL			
May 20	12	78.3	May 26	13	79.9
30	12	74.7	June 4	21	77.4
June 9	21	69.7	14	23	68.6
19	23	66.9	24	31	63.8
29	31	59.6	July 5	34	63.4
July 9	41	58.8	14	41	61.0
18	51	55.8	24	51	58.1
		VIKING			
May 20	21	79.6	May 26	22	75.4
30	22	76.9	June 4	22	75.1
June 9	31	72.2	14	31	71.3
19	41	70.0	24	42	66.7
29	51	63.3	July 5	51	65.2
July 9	51	62.9	14	52	60.8
18	52	62.3	24	52	62.1
		EMPIRE			
May 30	12	81.6	May 26	12	81.9
June 9	22	76.8	June 4	21	81.6
19	23	73.5	14	23	77.8
29	41	64.5	24	32	69.7
July 9	42	61.9	July 5	41	64.7
18	51	60.5	14	42	63.1
29	52	58.4	24	51	60.8

PROVINCIAL HAY GROWTH TRIAL - VERNER

1964			1965		
Date of Harvest	Stage at Harvest	% C.P. Whole Plant	Date of Harvest	Stage at Harvest	% C.P. Whole Plant
		DUPUITS			
May 20	12	26.6	May 26	13	*25.6
30	12	21.4	June 4	22	22.0
June 9	21	18.2	14	23	18.8
19	23	17.5	24	31	16.4
29	41	15.1	July 5	34	14.4
July 9	42	14.1	14	42	13.8
18	51	14.0	24	51	14.0
		VERNAL			
May 20	12	27.9	May 26	13	24.2
30	12	21.8	June 4	21	22.9
June 9	21	18.5	14	23	18.9
19	23	17.6	24	31	17.3
29	31	15.9	July 5	34	14.8
July 9	41	14.4	14	41	14.1
18	51	14.0	24	51	12.5
		VIKING			
May 20	21	25.3	May 26	22	18.2
30	22	20.2	June 4	22	17.1
June 9	31	16.4	14	31	15.8
19	41	14.8	24	42	14.9
29	51	13.4	July 5	51	13.3
July 9	51	12.1	14	52	13.2
18	52	11.6	24	52	13.8
		EMPIRE			
May 30	12	24.0	May 26	12	22.9
June 9	22	19.5	June 4	21	21.5
19	23	16.6	14	23	17.8
29	41	15.2	24	32	18.0
July 9	42	12.3	July 5	41	14.9
18	51	12.0	14	42	15.7
29	52	11.1	24	51	14.9

*No analysis on this column

PROVINCIAL HAY GROWTH TRIAL - 1964

Alfred — 1965 Harvest

DUPUITS

Date of harvest		Stage at harvest	Height cms.	Lbs. D.M. Per Acre	% Leaf	Lbs. Leaf Per Acre	% D.D.M.	Lbs. D.D.M. Per Acre	% C.P.	Lbs. C. Per Acr
May	20	12	19	310	67.7	x 105	76.7	242	x 25.0	x 77
	31	22	36	911	61.2	393	72.8	660	20.5	187
June	9	23	48	1679	55.4	782	70.9	1189	17.2	289
	18	32	59	2366	--	-	--	--	--	--
	28	33	72	2974	45.0	1260	62.7	1860	15.3	455
July	8	42	76	3745	37.6	1344	60.6	2270	14.0	524
	19	51	80	4055	38.5	1459	60.2	2441	14.0	568

VERNAL

May	20	12	20	567	70.1	55	77.6	440	23.8	135
	31	22	33	1241	62.7	613	75.1	926	19.6	243
June	9	31	46	1828	56.9	919	71.4	1303	17.4	318
	18	32	57	2439	--	-	--	--	--	--
	28	34	67	3320	48.5	1466	63.5	2106	16.0	531
July	8	42	71	4079	40.2	1552	63.3	2581	14.4	587
	19	51	75	3996	39.1	1464	61.2	2449	14.3	571

Lbs. Leaf per acre calculated on lbs. legume per acre.

x No analysis on this column

1968 WEATHER RECORDS

Temperature		April	May	June	July	August	September	Oct.
Harrow	Max.	59.0	62.5	76.0	79.3	80.0	74.8	62.1
	Min.	40.4	46.3	58.7	62.1	62.2	57.3	45.5
Ridgetown	Max.	57.6	61.1	74.2	78.5	78.4	73.6	61.2
	Min.	38.2	43.7	56.3	60.9	60.4	57.0	45.4
London	Max.	57.3	60.1	73.8	77.8	77.6	72.0	58.9
	Min.	34.1	39.8	51.1	55.8	55.1	53.0	40.9
Guelph	Max.	56.6	58.4	72.6	77.8	76.5	70.7	58.5
	Min.	34.5	40.6	51.1	55.1	55.3	52.7	41.1
Elora	Max.	56.7	58.1	72.5	77.5	76.4	69.9	57.7
	Min.	34.3	40.3	50.4	53.4	54.0	52.0	40.0
Smithfield	Max.	56.9	60.4	67.7	78.1	75.7	70.9	58.4
	Min.	36.0	42.3	52.5	56.8	55.7	51.8	40.3
Kemptville	Max.	59.4	63.8	71.8	80.5	75.7	73.7	58.9
	Min.	36.3	42.2	51.3	56.7	52.8	49.8	41.4
Ottawa	Max.	58.8	64.1	71.8	79.7	74.9	72.8	59.2
	Min.	37.1	43.5	54.0	59.4	55.4	52.9	42.1
New Liskeard	Max.	52.7	61.9	67.8	75.4	71.7	67.6	55.3
	Min.	29.6	38.0	47.6	54.4	49.8	48.4	41.3
Kapuskasing	Max.	45.4	61.0	66.5	69.7	70.1	66.7	50.7
	Min.	25.6	35.0	44.1	50.7	46.5	45.6	37.1
Gore Bay(A)	Max.	51.5	58.1	67.3	72.5	71.5	67.8	56.6
	Min.	32.5	40.5	50.4	54.7	54.3	53.8	43.2
Fort Frances	Max.	49.2	58.5	68.6	74.4	71.9	65.6	52.5
	Min.	29.7	39.5	49.3	53.6	52.6	47.7	37.0
Fort William	Max.	48.5	56.6	65.5	73.7	70.4	64.4	52.5
	Min.	27.5	35.5	45.1	49.8	47.9	46.3	35.1

Precipitation							
Harrow	2.14	6.87	3.94	4.87	1.70	1.39	2.07
Ridgetown	1.81	5.77	3.99	2.46	3.25	1.80	1.94
London	1.84	2.67	5.72	3.63	2.94	4.33	3.60
Guelph	1.44	2.85	3.14	5.73	6.12	3.50	2.44
Elora	1.00	2.15	3.20	3.42	3.20	4.36	2.51
Smithfield	1.13	5.39	4.84	.96	2.61	2.90	3.22
Kemptville	1.13	2.82	4.24	1.98	1.80	3.93	2.98
Ottawa	1.53	2.11	4.86	3.14	2.34	3.63	2.24
New Liskeard	1.26	1.74	5.18	4.33	1.37	5.28	1.94
Kapuskasing	3.56	0.33	5.02	8.02	1.98	4.92	4.86
Gore Bay	2.46	2.49	3.03	1.63	6.82	4.80	2.13
Fort Frances	2.34	1.95	6.95	4.29	4.13	4.73	3.44
Fort William	2.91	3.62	4.83	6.64	3.45	2.69	3.79

DEPARTURE OF 1968 GROWING SEASON FROM NORMAL

Temperatures		April	May	June	July	August	September	Oct.
Harrow	Max.	+3.9	-4.6	-2.0	-3.0	-0.7	+1.5	+0.3
	Min.	+3.7	-1.4	+0.1	-1.0	+0.3	+3.0	+1.7
Ridgetown	Max.	+4.0	-4.2	-3.0	-3.8	-2.0	+1.0	+0.3
	Min.	+2.0	-2.7	-0.5	-0.6	+0.2	+3.1	+1.5
London	Max.	+4.6	-4.9	-1.7	-2.7	-1.3	+1.3	-0.1
	Min.	0.0	-4.3	-3.1	-2.9	-2.5	+2.7	+0.8
Guelph	Max.	+5.3	-5.5	-1.7	-1.5	-1.2	+0.9	+0.6
	Min.	+1.2	-3.0	-2.2	-2.3	-0.7	+3.6	+1.8
Smithfield	Max.	+5.4	-3.0	-5.7	-0.6	-2.1	+2.4	+1.3
	Min.	+3.5	-0.3	-0.7	-1.3	-1.3	+3.1	+2.4
Kemptville	Max.	+7.1	-2.7	-4.6	-0.9	-3.4	+3.8	+1.5
	Min.	+3.5	-1.6	-2.3	-1.2	-2.7	+2.0	+4.4
Ottawa	Max.	+8.5	-1.3	-3.2	-0.2	-3.3	+4.5	+3.3
	Min.	+4.7	-0.2	+0.5	+1.5	-0.2	+4.8	+4.6
New Liskeard	Max.	+5.4	-0.7	-5.2	-2.1	-3.6	+2.5	+1.3
	Min.	+5.3	+1.7	-0.4	+1.2	-0.8	+5.2	+7.0
Kapuskasing	Max.	+2.7	+3.5	-2.8	-4.5	-1.4	+6.2	+2.6
	Min.	+3.5	0.0	-2.5	-1.3	-3.8	+3.2	+4.1
Gore Bay(A)	Max.	+4.5	-1.7	-2.6	-3.3	-3.1	+3.2	+2.7
	Min.	+2.7	-0.5	-0.9	-3.3	-3.5	+3.4	+2.7
Fort Frances	Max.	+0.2	-4.5	-3.6	-3.9	-3.1	+1.2	-0.7
	Min.	+1.3	-1.1	-1.4	-2.7	-1.4	+3.2	+2.2
Fort William	Max.	+2.8	-2.0	-3.0	-1.5	-2.7	+1.4	-0.5
	Min.	+1.6	-0.8	-1.0	-2.0	-3.0	+3.7	+1.9
Precipitation								
Harrow		-0.6	+4.2	+0.8	+2.4	-0.9	-0.9	-0.1
Ridgetown		-1.3	+2.8	+1.2	-0.3	+0.7	-0.7	-0.8
London		-1.4	-0.3	+2.6	+0.1	+0.1	+0.9	+0.7
Guelph		-1.3	-0.3	+0.1	+2.5	+3.1	+0.6	-0.2
Smithfield		-2.7	+2.0	+2.4	-1.6	-0.6	-0.1	0.0
Kemptville		-1.6	-0.1	+1.6	-0.8	-1.1	+0.9	+0.4
Ottawa		-1.2	-0.7	+2.1	-0.1	-1.0	+0.4	-0.4
New Liskeard		-0.2	-0.6	+2.0	+0.8	-2.0	+1.6	-0.7
Kapuskasing		+1.9	-2.2	+2.1	+4.9	-1.1	+1.8	+2.5
Gore Bay		-0.1	0.0	+0.2	-0.6	+4.5	+1.3	-1.0
Fort Frances		+0.3	-0.7	+2.9	+0.5	+0.2	+1.4	+1.5
Fort William		+0.9	+0.8	+1.6	+3.6	+0.1	-0.5	+1.3

(1931-1960)

NORMALS FOR GROWING SEASON MONTHS

Temperature		April	May	June	July	Aug.	Sept.	Oct.
Harrow	Max.	55.1	67.1	78.0	82.3	80.7	73.3	61.8
	Min.	36.7	47.7	58.6	63.1	61.9	54.3	43.8
Ridgetown	Max.	53.6	65.3	77.2	82.3	80.4	72.6	60.9
	Min.	36.2	46.4	56.8	61.5	60.2	53.9	43.9
London	Max.	52.7	65.0	75.5	80.5	78.9	70.7	59.0
	Min.	34.1	44.1	54.2	58.7	57.6	50.3	40.1
Guelph	Max.	51.3	63.9	74.3	79.3	77.7	69.8	57.9
	Min.	33.3	43.6	53.3	57.4	56.0	49.1	39.3
Smithfield	Max.	51.5	63.4	73.4	78.7	77.8	68.5	57.1
	Min.	32.5	42.8	53.2	58.1	57.0	48.7	37.9
Kemptville	Max.	52.3	66.5	76.4	81.4	79.1	69.9	57.4
	Min.	32.8	43.8	53.6	57.9	55.5	47.8	37.0
Ottawa	Max.	50.3	65.4	75.0	79.9	78.2	68.3	55.9
	Min.	32.4	43.7	53.5	57.9	55.6	48.1	37.5
New Liskeard	Max.	47.3	62.6	73.0	77.5	75.3	65.1	54.0
	Min.	24.3	36.3	48.0	53.2	50.6	43.2	34.3
Kapuskasing	Max.	42.7	57.5	69.3	74.2	71.5	60.5	48.1
	Min.	22.1	35.0	46.6	52.0	50.3	42.4	33.0
Gore Bay(A)	Max.	47.0	59.8	69.9	75.8	74.6	64.6	53.9
	Min.	29.8	41.0	51.3	58.0	57.8	50.4	40.5
Fort Frances	Max.	49.0	63.0	72.2	78.3	75.0	64.4	53.2
	Min.	28.4	40.6	50.7	56.3	54.0	44.5	34.8
Fort William	Max.	45.7	58.6	68.5	75.2	73.1	63.0	52.0
	Min.	25.9	36.3	46.1	51.8	50.9	42.6	33.2
Precipitation								
Harrow		2.7	2.7	3.1	2.5	2.6	2.3	2.2
Ridgetown		3.1	3.0	2.8	2.8	2.6	2.5	2.7
London		3.2	3.0	3.1	3.5	2.8	3.4	2.9
Guelph		2.7	3.2	3.0	3.2	3.0	2.9	2.6
Smithfield		3.8	3.4	2.4	2.6	3.2	3.0	3.2
Kemptville		2.7	2.9	2.6	2.8	2.9	3.0	2.6
Ottawa		2.7	2.8	3.1	3.2	3.3	3.2	2.6
New Liskeard		1.5	2.3	3.2	3.5	3.4	3.7	2.6
Kapuskasing		1.7	2.5	2.9	3.1	3.1	3.1	2.4
Gore Bay		2.6	2.5	2.8	2.2	2.3	3.5	3.1
Fort Frances		2.0	2.7	4.1	3.8	3.9	3.3	1.9
Fort William		2.0	2.8	3.2	3.0	3.4	3.2	2.5