

B. E. Swarley

NOT FOR PUBLICATION

Department of Crop Science $\frac{120}{34}$

FORAGE CROP INVESTIGATIONS - ONTARIO

1969 Report on Field Trials of Varieties and Mixtures



Research Station, Ottawa

Experimental Farm, Kapuskasing

Experimental Farm, Thunder Bay

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

FOREWORD

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 at the seven research stations listed on the cover. Where appropriate, some data from previous years are included. However, in most cases, all data on a particular variety, mixture or management practice are not included and so the data should not be considered as complete.

The Ontario Forage Crops Committee is made up of personnel from the Canada Department of Agriculture, Ontario Department of Agriculture and Food, the University of Guelph, and representatives of the Canadian Seed Trade Association and the Canadian Seed Growers Association. This committee assumes the responsibility for preparing recommendations for farm use in forage varieties and management. In addition, the committee assumes responsibility for co-ordinating research on forage crops in Ontario.

The committee has prepared a booklet entitled "Variety Testing Procedures" which may be obtained from the chairman.

B.R. Christie, Chairman,
Ontario Forage Crops Committee,
c/o Department of Crop Science,
Ontario Agricultural College,
University of Guelph,
Guelph, Ontario.

RECOMMENDED FORAGE VARIETIES

The following varieties were recommended for the first time in Ontario at the 1969 meeting of the Ontario Forage Crops Recommendation Committee:

Titan alfalfa, Champ timothy, Baylor bromegrass.

The Committee also expressed support for the following varieties of which seed in commercial quantities is not yet available:

Maitland birdsfoot trefoil, Hungaropoli red clover, Strain K orchardgrass.

RECOMMENDED VARIETIES FOR 1970

<u>Alfalfa</u>	<u>Birdsfoot Trefoil</u>	<u>Red Clover</u>	<u>White Clover</u>
Alfa	Empire	Dollard	Merit
Du Puits	Leo	Lakeland	
Glacier	Viking	Ottawa	
Iroquois			
Narragansett			
Saranac			
Titan			
Vernal			
<u>Bromegrass</u>	<u>Orchardgrass</u>	<u>Timothy</u>	<u>Reed Canarygrass</u>
Baylor	Frode	Champ	Frontier
Redpatch	Rideau	Climax	
Saratoga	Tardus II		

CONTENTS

Sequence of Material

Alfalfa

Birdsfoot Trefoil

Red Clover

Bromegrass

Orchardgrass

Timothy

Fescues, Reed Canarygrass

Farm Trials

Climatic Data for Testing Sites

TABLE OF CONTENTS

	<u>PAGE</u>
Summary - Standard Type Alfalfa, 1969.....	1
- Early Type Alfalfa, 1969.....	2
Alfalfa Hardiness Test.....	3
Ridgetown - Alfalfa Strain Trial Flemish (Test 1010).....	4
- Flemish Screening Alfalfa Trial (Test 1012).....	4
- Standard Alfalfa Strain Trial (Test 1011).....	5
Ottawa - Alfalfa Standard Type (Test 4038).....	5
- Flemish Alfalfa Strain Trial (Test 4036).....	6
- Alfalfa Flemish Strain Trial (Test 4037).....	7
Kapuskasing - Standard Provincial Strain Trial (Test 6451).....	8
- Flemish Screening Trial For Hay (Test 6476).....	9
Fort William - Alfalfa Strain Trial, Standard Type (Test 7027A).....	10
- Alfalfa Strain Trial, Flemish Type (Test 7027B).....	11
Guelph - Alfalfa Early Type Strain Trial (Test 2531).....	12
- Alfalfa Standard Type Strain Trial (Test 2532).....	12
- Alfalfa Late Type Strain Trial (Test 2533).....	12
- Alfalfa, Teweles Hybrid Strain Trial (Test 2534).....	12
Kapuskasing - Alfalfa Standard Type Strain Trial (Test 6452).....	13
- Alfalfa Flemish Type Provincial Trail (Test 6477).....	13
Fort William - Alfalfa Standard Type Strain Trial (Test 7035A).....	14
- Alfalfa Early Type Strain Trial (Test 7035B).....	14
New Liskeard - Alfalfa Strain Trial (Test 8001).....	15
New Seedings, 1969.....	16
Fall Dormancy Ratings of New Varieties.....	16

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The 1969 Alfalfa Report

prepared for

The Field Crops Recommendation Committee for Ontario

convened at Guelph, Ontario, November, 1969

In this report are data gathered from the following locations:

Ridgetown - 42.26N	81.54W	New Liskeard - 47.30N	79.40W
Guelph - 43.33N	80.15W	Fort William - 48.23N	89.15W
Kemptville- 45.01N	75.39W	Kapuskasing - 49.25N	82.26W
Ottawa - 45.25N	75.42W		

Yield data were collected in 1969 from all seven stations, fall dormancy data from Ottawa and Guelph. During the period 1965-1969, the following varieties were evaluated:

Pioneer 522, Pioneer 525, WL 202, WL 210, Scout, Titan, NK 508, NK 510, WL 303, WL 305, CL 40. Of these, Titan was approved for recommendation and licensing.

In 1969, for the first time a representative from the Canadian Seed Trade and one from the Canadian Seed Growers Association were present at our deliberations and were given a vote on motions regarding recommendations.

In 1969, a new testing program was initiated. Varieties are to be seeded on two consecutive years at all locations and yield data are to be collected on the first year's seeding for two years and on the second year's seeding for one year. Fall dormancy readings are to be taken on special nurseries in the seeding year and these, it is hoped, will provide an index of winter hardiness. Wilt data are to be collected annually. From the three features - yield potential, winter-hardiness, and wilt reaction - it is hoped to complete the evaluation of a variety within a period of two and a half years.

Full detail of the operations of the Committee including the choice of varieties to be tested, the testing program, the decision-making on recommendations and licensing, may be obtained by writing to Dr. B.R. Christie, Crop Science Department, University of Guelph.

Standard Type Alfalfa - Summary, 1969

		Ridge- town 1965	Guelph 1965	Guelph 1966	Ridge- town 1967	Ottawa 1967	Kapus- kasing 1967	Fort William 1968	Mean Excluding 1965 data	Fall Dormancy	Wilt Reaction
Test Period No. of Entries		2 yr. 5	1 cut 9	2 yr. 11	2 yr. 12	2 yr. 12	2 yr. 12	1 yr. 12			
Pioneer 522	Rank Yield			(6627)	8 11149	6 7235	10 6870	4 6440	7665	= Saranac	R
Pioneer 525	Rank Yield		4 4490	9 6715	7 11266	3 7355	6 7230	9 6196	7752	= Saranac	R
WL 202	Rank Yield	3 11214	1 4680	6 6894	2 12034	4 7337	3 7424	2 6668	8071	= Iroquois	R
WL 210	Rank Yield			2 7054	1 12041	2 7436	9 6987	10 6183	7940	= Saranac	R
Scout	Rank Yield			10 6555	4 11438	10 7050	8 7055	11 6154	7650	= Saranac	MR
Titan, R.P.25	Rank Yield			4 6998	6 11312	8 7138	4 7298	5 6432	7838	= Iroquois	VR
Iroquois	Rank Yield			7 6790	3 11801	1 7530	2 7652	1 6762	8107		VR
Vernal	Rank Yield	5 10944	2 4610	8 6732	9 11059	7 7170	5 7240	3 6627	7766		VR
Saranac, mean	Yield			6976	10803	7737	7223	6819	7910		VR

Early Type Alfalfa - Summary, 1969

		Ridge- town 1967	Ridge- town 1967	Ottawa 1967	Ottawa 1967	Kapus- kasing 1967	Kapus- kasing 1967	Ft. William 1968	% of Saranac in Correspond- ing Tests	Wilt Reaction
Test Period	No. of Entries	2 yr. 7	2 yr. 10	2 yr. 7	2 yr. 10	1 yr. 7	2 yr. 10	1 yr. 11	2 yr. group	1 or 2 yr.
N.K. 508	Rank Yield	2 9852		7 6831		6 5933		1 7029	92	94
N.K. 510	Rank Yield	3 9622		5 6841		7 5546		7 6771	91	91
W.L. 303	Rank Yield		3 10845		1 6305		4 7136	5 6821	98	98
W.L. 305	Rank Yield		5 10689		6 5848		5 6901	11 6612	94	95
CL. 40	Rank Yield		8 10046		8 5720		10 5216		85	
B.W. 1	Rank Yield		6 10442		7 5843		7 6689		93	
B.W. 3	Rank Yield		7 10197		9 5592		8 6316		89	
B.W. 9	Rank Yield		1 11382		5 5877		3 7562		100	
Saranac	Rank Yield	1 10723	2 10883	1 7420	2 6055	1 6563	1 7883	6 6809	100	VR
DuPuits	Rank Yield	-- 9119		4 6925	3 5950	5 5990	9 6139	10 6674		S

For fall dormancy rating, see appropriate table on hardiness.

ALFALFA HARDINESS TEST

Mean height of fall regrowth in inches

OTTAWA

Variety	Height
WL 306	7.7
Promor	7.7
NK 510	7.7
WL 303	7.7
De Kalb 153	7.7
Du Puits	7.5
Atra 55	7.5
Atra 50	7.2
WL 210	7.2
WL 305	7.2
De Kalb 123	7.2
Scout	7.2
Pioneer 522	7.0
NK 150	7.0
RP 38	6.5
Pioneer 525	6.2
Iroquois	6.2
Titan	6.2
Saranac	6.2
WL 202	6.0
NK 508	6.0
Glacier	5.5
Vernal	5.5
Beaver	4.7
Norseman	4.7

Clipped Sept. 8
Measured Oct. 24

GUELPH

Variety	Height
Du Puits	7.7
WL 306	7.1
Promor	6.3
NK 150	6.1
RP 38	6.1
Scout	6.0
Pioneer 525	5.8
Saranac	5.8
WL 303	5.8
NK 510	5.8
WL 210	5.7
WL 305	5.6
Atra 55	5.4
Pioneer 522	5.3
De Kalb 153	5.2
Glacier	5.2
FFR	5.2
NK 508	5.2
WL 202	5.1
Iroquois	5.0
Atra 50	4.9
Titan	4.8
De Kalb 123	4.7
Vernal	4.5
Beaver	4.0
Roamer	3.5
Norseman	3.3

Clipped Sept. 2
Measured Oct. 15

Test 1010

Alfalfa Strain Trial, Flemish, Ridgetown, 1967 Seeding

Yield in Lb. D.M. per acre												
1968							1969					Mean
		Cut 1	Cut 2	Cut 3	Total	R	Cut 1	Cut 2	Cut 3	Total	R	1968-69
		June	July	Sept.		a	June	July	Sept.		a	
		20	29	4		n	25	23	2		n	
						k					k	
NK 508	01	4986	3055	2054	10096	5	4970	2452	2186	9608	2	9852
FD 100	02	4815	3280	2142	10236	4	4699*	--	--	--	7	--
Europa	03	5390	3522	2354	11266	1	5152*	1860*	--	--	6	--
NK 510	04	4965	3422	2213	10600	3	4978	2068	1598	8644	3	9622
DuPuits	05	4762	3052	2141	9955	7	5080	1862	1340	8282	4	9119
Saranac	06	5279	3320	2217	10817	2	5488	2685	2456	10629	1	10723
Mega	07	4647	3052	2196	9894	6	5120*	2161	--	--	5	--
Mean		4978	3243	2188	10409		5070	2181	1895	9291		9850
C.V. %		9	10	7	7		7.7	13.8	13.6			
L.S.D. @ 5%		506	377	190	866		N.S.	550	317			
@ 1%								--	438			

*Stand very thin

Test 1012

Flemish Screening Alfalfa Trial, Ridgetown, 1967 Seeding

Yield in lb. D.M. per acre												
1968							1969					Mean
		Cut 1	Cut 2	Cut 3	Total	R	Cut 1	Cut 2	Cut 3	Total	R	1968-69
		June	July	Sept.		a	June	July	Sept.		a	
		20	29	4		n	25	22	2		n	
						k					k	
WL 303	01	5621	3453	2360	11434	2	5352	2441	2462	10255	4	10845
WL 305	02	5614	3341	2329	11284	4	4932	2563	2598	10093	6	10689
CL 40	03	4896	3112	2248	10256	9	4967	2352	2517	9836	8	10046
OD 25	04	5593	3345	2203	11141	5	5286	2586	2434	10306	3	10724
BW 9	05	5674	3717	2574	11965	1	5331	2861	2607	10799	2	11382
BW 3	06	4621	3337	2264	10222	10	5016	2562	2593	10171	5	10197
BW 1	07	5618	3138	2280	11036	6	5576	2146	2125	9847	7	10442
DuPuits	08	5319	3793	2223	11335	3	--	--	1588*	---	10	---
Saranac	09	5124	3384	2347	10855	7	5656	2608	2646	10910	1	10883
Mega	10	5124	3332	2239	10695	8	--	--	1730*	---	9	---
Mean		5320	3395	2307	11022		5265	2515	2498**	10277		10650
C.V. %		12	12	7	10		8.5	7.4	9.1			
L.S.D. @ 5%		925	570	246	1269		N.S.	274	309			
@1%								374	417			

*Stand very thin

**Average of 8 lines

Test
1011

Standard Alfalfa Strain Trial, Ridgetown, 1967 Seeding

Yield in lb. D.M. per acre

		1968					1969					Means 1968-69	
		Cut 1 June 20	Cut 2 July 29	Cut 3 Sept. 4	Total	R a n k	Cut 1 June 25	Cut 2 July 23	Cut 3 Sept. 2	Season Total	R a n k		R a n k
522	01	6061	3798	2332	12191	8	4876	2784	2446	10106	9	11149	8
525	02	6135	3836	2313	12284	7	5115	2740	2393	10248	8	11266	7
WL 202	03	6938	3936	2347	13221	1	5554	2783	2510	10847	3	12034	2
WL 210	04	6624	3793	2498	12916	2	5786	2820	2560	11166	1	12041	1
Norseman	05	6156	3120	1822	11097	10	4708	2167*	2170*	9045	11	10071	11
Scout	06	6137	3845	2457	12439	4	5125	2837	2474	10436	5	11438	4
RP 25	07	6476	3589	2257	12322	6	5089	2768	2445	10302	7	11312	6
Roamer	08	5893	2799	1671	10363	11	4340	1906*	2100*	8346	12	9355	12
Narragan- sett	09	6174	3877	2370	12421	5	5205	2727	2468	10400	6	11411	5
Iroquois	10	6225	3846	2369	12439	3	5642	2987	2533	11162	2	11801	3
TG 2	11	5326	3450	2014	10791	12	5433	2661	2492	10586	4	10689	10
Vernal	12	6267	3647	2210	12124	9	4977	2711	2305	9993	10	11059	9
Mean		6201	3628	2222	12051		5154	2638	2408	10220		11136	
C.V. %		8	6	6	5		7.2	7.0	5.3				
L.S.D. @ 5%		498	246	148	762		473	214	147				
@ 1%							630	285	196				

*Stand thin

Test
4038

Alfalfa Standard Type, Ottawa 1967 Seeding

Yield D.M. lb. per acre

		1968					1969					Mean 1968-69	
		Cut 1 June 14	Cut 2 July 25	Cut 3 Sept. 4	Total	R a n k	Cut 1 July 1	Cut 2 Aug. 2	Cut 3 Sept. 2	Total	R a n k		R a n k
Vernal	12	2345	2902	1556	6803	6	4160	2318	1054	7532	9	7170	7
Narragan- sett	9	1896	2980	1705	6581	9	4291	2360	1317	7969	1	7275	5
Iroquois	10	2282	3363	1604	7249	1	4039	2546	1226	7812	3	7530	1
WL 202	3	2333	3093	1682	7108	2	4111	2366	1088	7566	7-8	7337	4
WL 210	4	2292	3026	1666	6984	3	4170	2423	1294	7888	2	7436	2
Pioneer 525	1	2305	2884	1674	6863	5	3834	2552	1220	7606	5-6	7235	6
Pioneer 525	2	2138	3121	1648	6907	4	4339	2289	1174	7802	4	7355	3
RP 25	7	2145	3038	1530	6713	7	4322	2246	994	7563	7-8	7138	8
Norseman	5	2087	2671	1116	5854	12	3641	1852	738	6232	12	6043	12
Scout	6	1970	2687	1637	6494	10	3829	2446	1330	7606	5-6	7050	10
Roamer	8	2319	2837	1100	6256	11	3733	1780	740	6254	11	6255	11
TG-2	11	2330	2758	1589	6677	8	4190	2285	1033	7509	10	7093	9
Mean		2203	2947	1542	6707		4055	2289	1101	7445		7076	
C.V. %		18	15				13.6	9.8	11.5	8.6			
L.S.D. @ 5%		326	364				N.S.	258	146	738			

Test 4036

FLEMISH ALFALFA STRAIN TRIAL, OTTAWA

1967 Seeding

Yield of D.M. in lbs/acre

		1967	Cut 1	1968	Cut 2	Cut 3			Visual	Cut 1	Cut 2	Cut 3			1968 - 69
		Oct. 11	June 14	July 25	Sept.	Total	Rank	Apr. 25	July 2	Aug. 2	Sept. 2	Total	Rank	Mean	Rank
Du Puits	8	1860	1236	2129	1886	5251	6	4.8	2971	2306	1371	6648	2	5950	3
Saranac	9	1866	1331	2574	1839	5744	1	2.3	2836	2214	1316	6367	6	6055	2
Mega	10	1789	1067	2296	1939	5302	3	6.3	3001	2168	1381	6551	3	5926	4
WL 303	1	1607	1347	2394	1608	5349	4	4.3	3442	2464	1355	7261	1	6305	1
WL 305	2	1584	1252	2447	1568	5267	5	4.8	2890	2340	1198	6429	5	5848	6
CL 40	3	1502	1006	2333	1875	5214	7	5.5	2989	2155	1081	6226	9	5720	8
OD 25	4	1821	938	2210	1722	4870	9	4.5	2819	2178	1055	6052	10	5461	10
BW 9	5	1773	1096	2212	2171	5479	2	5.0	2680	2255	1338	6275	8	5877	5
BW 3	6	1554	851	2156	1896	4903	10	5.0	3008	2087	1186	6281	7	5592	9
BW 1	7	1574	959	2413	1842	5214	7	5.0	3075	2204	1192	6472	4	5843	7
Mean		1671	1108	2316	1835	5259			2971	2238	1248	6456		5858	
C.V. %		11	22	14					17.3	11.1	10.2	8.3			
L.S.D. @ 5%		251	219	289					N.S.	N.S.	184	N.S.			

TEST 4037

ALFALFA FLEMISH STRAIN TRIAL, OTTAWA1967 SeedingYield of D.M. in lbs/acre

		1968					Visual	1969			1968 - 69			
		Cut 1	Cut 2	Cut 3	Total	Rank	Rating	Cut 1	Cut 2	Cut 3	Total	Rank	Mean	Rank
		June 14	July 25	Sept.			Apr. 25	July 1	Aug. 7	Sept. 2				
Du Puits	5	2186	2133	1387	6256	5	4.2	3674	2529	1390	7594	5	6925	4
Saranac	6	2461	2793	1379	6633	3	3.5	4137	2730	1339	8207	1	7420	1
Mega	7	2444	2885	1424	6753	1	3.0	3946	2561	1435	7942	2	7347	2
Europa	3	2388	2638	1272	6298	4	4.2	3777	2543	1283	7604	4	6951	3
FD - 100	2	1993	2648	1290	5931	7	4.0	3602	2639	1305	7551	6	6742	6
NK 508	1	2410	2900	1370	6680	2	3.7	3315	2450	1216	6982	7	6831	7
NK 510	4	1840	2809	1284	5933	6	4.3	3733	2808	1207	7749	3	6841	5
Mean		2246	2765	1344	6355			3741	2609	1311	7662		7009	
C.V. %		16	13					11.8	13.0	8.9	8.2			
L.S.D. @ 5%		384	379					N.S.	N.S.	138	N.S.			

Test 6451

STANDARD PROVINCIAL STRAIN TRIAL - KAPUSKASING

1967 Seeding

	<u>Yield of DM in lbs./acre</u>			<u>Total</u>	<u>Maturity</u>		<u>1969</u>		<u>Total</u>	<u>MRT</u>	<u>Rank</u>	<u>Mean</u> <u>1968-69</u>	<u>Rank</u>
	<u>Winter</u>	<u>Cut 1</u>	<u>Cut 2</u>				<u>Cut 1</u>	<u>Cut 2</u>					
	<u>Kill %</u>	<u>July 23</u>	<u>Sept. 19</u>		<u>MRT</u>	<u>Rank</u>	<u>July 29</u>	<u>Sept. 29</u>					
Vernal	28	5367	2675	8041	a	1	3944	2494	6438	cd	9	7240	5
Narragansett	18	4843	2897	7741	abcd	7	4887	2691	7578	a	2	7660	1
Iroquois	23	4916	2932	7848	abc	2	4691	2764	7455	ab	3	7652	2
WL202	17	5169	2852	8021	ab	5	4111	2716	6827	bc	4	7424	3
WL210	24	4594	2844	7438	abcd	8	3878	2658	6535	cd	8	6987	9
Pioneer 522	31	5048	2556	7604	abcd	4	3603	2533	6136	cd	11	6870	10
Pioneer 525	22	4846	2864	7710	abcd	3	3960	2788	6749	bcd	7	7230	6
RP25	26	5098	2671	7769	abcd	9	4097	2729	6826	bc	5	7298	4
Norseman	23	5105	2092	7197	cd	11	3842	2489	6331	cd	10	6764	11
Scout	29	4547	2793	7340	bcd	10	4035	2734	6769	bcd	6	7055	8
Roamer	18	5418	1717	7136	d	12	3837	2177	6014	d	12	6575	12
JG-2	43	4099	2394	6493	e	6	4909	2850	7759	a	1	7126	7
Mean		4921	2607	7528			4149	2635	6785			7156	
C.V.		8	17	7			9.8	9.2	8.5				
ISD		433	508				469	280	664				

Test 6476

FLEMISH SCREENING TRIAL FOR HAY - KAPUSKASING

1967 Seeding

	Yield of DM in lbs./acre												Mean	Rank
	1968			Total	Rank	DMR	Maturity*	1969			Rank	MRT	1968-69	
	Winter Kill %	Cut 1 July 23	Cut 2 Sept. 18					Cut 1	Cut 2	Total				
DuPuits	40	4442	2346	6787	7	bcd	4	3201	2289	5491	9	cd	6139	9
Sarnac	19	5629	3277	8906	1	a	6	4111	2748	6859	6	abc	7883	1
Mega	25	5129	2915	8044	2	ab	1	4240	3036	7276	2	ab	7660	2
WL303	26	4578	2750	7328	4	bc	9	4281	2663	6943	5	abc	7136	4
WL305	25	4199	2652	6850	5	bcd	8	4133	2819	6951	4	abc	6901	5
C140	66	3261	1926	5462	10	d	10	2876	2094	4970	10	d	5216	10
OD-25	45	4068	2303	6371	9	cd	2	3973	3049	7022	3	abc	6697	6
BW9	35	4774	2788	7477	3	abc	3	4761	2885	7647	1	a	7562	3
BW3	48	4380	2147	6527	8	bcd	7	3599	2507	6105	8	bcd	6316	8
IWL	41	4333	2513	6845	6	bcd	5	3993	2539	6532	7	abc	6689	7
Mean		4479	2562	7060				3917	2663	6580			6820	
C.V.		15	14	14				12.5	9.2	9.4				
LSD-5%		1000	533					N.S.	557	1400				

* 1-earliest, 10 latest

Fertilization 1968

0-35-66 PK applied in the Spring and after each cut

Exper 7027A

ALFALFA STRAIN TRIAL, STANDARD TYPE, FORT WILLIAM

1968 Seeding

Yield of D.M. in lbs/Acre

		1968 Cut 1 Aug. 14	Rank	Cut 1 July 10	1969 Cut 2 Aug. 6	Cut 3 Sept. 10	Total	MRT	Rank
Vernal	1	1782	6	4036	1512	1079	6627	ab	3
Mark II	2	1692	11	4018	1393	982	6392	ab	6
Iroquois	3	1808	4	3939	1654	1169	6762	a	1
Multileaf	4	1579	12	3585	1510	1278	6374	ab	7
WL 202	5	2068	1	3977	1634	1057	6668	ab	2
WL 210	6	1813	5	3469	1448	1265	6183	bc	10
Pioneer 522	7	1754	8	3899	1397	1144	6440	ab	4
Pioneer 525	8	1775	7	3612	1508	1075	6196	bc	9
Titan (RP 25)	9	1917	3	3935	1549	948	6432	ab	5
Norseman	10	2049	2	4086	957	752	5794	c	12
DeKalb 123	11	1711	10	3906	1426	1025	6357	ab	8
Scout	23	1719	9	3664	1375	1114	6154	bc	11
Mean		1611		3844	1447	1074	6365		
C.V. %		14		9.3	7.9	14.5	6.3		
L.S.D. @ 5%		300		NS	144	192	476		

Exper. 7027B

ALFALFA STRAIN TRIAL, FLEMISH TYPE, FORT WILLIAM

1968 Seeding

Yield of D.M. in lbs/acre

	1968			1969					
	Cut 1			Cut 1		Cut 3	Total	MRT	Rank
	Aug. 14	Rank		July 10	Aug. 6	Sept. 10			
Du Puits	12	1640	8	3646	1782	1245	6674	a	10
Saranac	13	1834	1	3657	1861	1290	6809	a	6
Europa	14	1803	4	3818	1658	1240	6715	a	9
FD 100	15	1632	9	3523	1742	1453	6717	a	8
NK 508	16	1822	3	3976	1781	1271	7029	a	1
NK 510	17	1300	11	3847	1683	1241	6771	a	7
Promor	18	1684	7	3872	1715	1357	6944	a	4
WL 303	19	1789	5	3959	1677	1185	6821	a	5
WL 305	20	1826	2	3859	1626	1127	6612	a	11
Apex	21	1707	6	3963	1860	1144	6967	a	3
Mega	22	1402	10	3908	1808	1279	6995	a	2
Mean		1676		3821	1745	1257	6823		
C.V.		14		9.3	7.9	14.5	6.3		
L.S.D.		300		N.S	144	192	476		

Test
2531 Alfalfa, Early Type, Strain Trial, Guelph,
1969 Seeding
Yield of D.M. in Lb. Per Acre

1969								
			Cut 1		Cut 2		Total	
			Aug 7	Rank	M.R.T.	Oct 29	Rank	1969 Rank
DeKalb 153	01	2075	7	b		518	7	2593 7
Promor	02	2670	1	a		789	3	3459 2
N.K. 150	03	2515	5	a		785	4	3300 4
W.L. 306	04	2357	6	a		704	5	3061 6
R.P. 38	05	2557	3	a		703	6	3260 5
DuPuits	06	2552	4	a		858	1	3410 3
Saranac	07	2620	2	a		855	2	3475 1
Mean		2368				744		
C.V. %		10.0				12.95		
L.S.D. @ 5%		293				114		

Test
2532 Alfalfa Standard Type, Strain Trial, Guelph,
1969 Seeding
Yield of D.M. in Lb. Per Acre

1969								
			Cut 1		Cut 2		Total	
			Aug 7	Rank	M.R.T.	Oct 29	Rank	1969 Rank
DeKalb	01	2375	5	b		480	6	2855 6
520=ATRA 50	2	2438	4	ab		556	4	2994 5
ATRA 55	03	2518	3	ab		670	3	3188 2
Vernal	04	2596	2	a		503	5	3099 3
Iroquois	05	2616	1	a		700	1	3316 1
F.F.C.	06	2341	6	b		681	2	3022 4
Mean		2481				598		
C.V. %		6.8				12.5		
L.S.D. @ 5%		202				89		

Test
2533 Alfalfa, Late Type, Strain Trial, Guelph,
1969 Seeding
Yield of D.M. in Lb. Per Acre

1969				
		Cut 1		M.R.T.
		Aug 7	Rank	
Beaver	01	2575	2	a
Ladak	02	2477	7	a
Norseman	03	2514	5	a
Roamer	04	2548	3	a
Teton	05	2491	6	a
Travois	06	2525	4	a
Vernal	07	2627	1	a
Mean		2537		
C.V. %		9.73		
L.S.D. @ 5%		291		

Test
2534 Alfalfa, Teweles Hybrid, Strain Trial, Guelph,
1969 Seeding
Yield of D.M. in Lb. Per Acre

1969				
		Cut 1		M.R.T.
		Aug 7	Rank	
T1	01	2594	3	bc
Saranac	02	2704	2	ab
T5	03	2356	8	c
T6	04	2580	4	bc
T2	05	2852	1	a
T3	06	2498	5	bc
T4	07	2486	6	bc
Vernal	08	2449	7	bc
Mean		2565		
C.V. %		8.1		
L.S.D. @ 5%		242		

Test 6452

ALFALFA STANDARD TYPE STRAIN TRIAL, KAPUSKASING

Seeded 1969

Yield of D.M. in lbs/acre

	1969		
	Cut 1		
	Sept. 4	Rank	MRT
DeKalb 123	2101	3	a
520 - ATRA 50	2121	2	a
ATRA 55	1996	5	a
Vernal	2085	4	a
Iroquois	2205	1	a
Mean	2102		
C.V. %	8.9		
L.S.D. @ 5%	N.S		

Test 6477

ALFALFA FLEMISH TYPE PROVINCIAL TRIAL, KAPUSKASING

Seeded 1969

	1969		
	Cut 1		
	Sept. 4	Rank	MRT
DeKalb	2036	7	a
Promor	2263	2	a
NK 150	2114	6	a
WL 306	2179	4	a
RP 38	2177	5	a
Du Puits	2241	3	a
Saranac	2300	1	a
Mean	2187		
C.V. %	8.3		
L.S.D. @ 5%	N.S.		

Test 7035A

ALFALFA. STANDARD TYPE. STRAIN TRIAL. FORT WILLIAM

Seeded, 1969

		<u>Yield of D.M. in lbs./acre</u>		
		<u>1969</u>		
		<u>Cut 1</u>	<u>MRT</u>	<u>Rank</u>
		<u>Sept. 11</u>		
DeKalb 123	1	1243	a	4
Atra 50 = 520	2	1349	a	2
Atra 55	3	1234	a	5
Vernal	4	1362	a	1
Iroquois	5	1291	a	3
Mean		1296		
C.V. %		19.1		
L.S.D. @ 5%		N.S.		

Test 7035B

ALFALFA. EARLY TYPE. STRAIN TRIAL. FORT WILLIAM

Seeded, 1969

		<u>1969</u>		
		<u>Cut 1</u>	<u>MRT</u>	<u>Rank</u>
		<u>Sept. 11</u>		
DeKalb 153	6	1149	a	6
Promor	7	1288	a	4
N.K. 150	8	1317	a	1
W.L. 306	9	1144	a	7
RP 38	10	1293	a	3
DuPuits	11	1298	a	2
Saranac	12	1218	a	5
Mean		1244		
C.V. %		19.1		
L.S.D. @ 5%		N.S.		

Test 8001

ALFALFA STRAIN TRIAL, NEW LISKEARD

1967 Seeding

		1968				1969				Mean		
		Cut 1	Cut 2	Total	Rank	Cut 1	Cut 2	Total	MRT	Rank	1968-69	Rank
		July 10	Aug. 27			July 8	Aug. 14					
Vernal	4	7065	3394	10459	4	3351	2268	5619	b	6	8039	4
Cayuga	6	6916	3772	10688	3	3484	2723	6207	a	1	8448	2
Iroquois	2	7599	3709	11308	2	3220	2829	6048	ab	3	8678	1
Norseman	1	8598	3166	11764	1	3410	-	-		-		
DuPuits	3	6355	3722	10077	7	3327	2806	6133	c	2	8105	3
Saranac	5	6286	3837	10123	6	3931	2752	5683	c	5	7903	6
Glacier	7	6492	3661	10153	5	3010	2706	5716	c	4	7935	5
Mean		7044	3609	10653		3247	2681	5901				
C.V. %						12.8	10.9	6.3				
L.S.D. @5%						N.S.	N.S.	N.S.				

NEW SEEDINGS, 1969

Standard	Early	Late	Teweles hybrids
De Kalb 123	De Kalb 153	Beaver	T1
Atra 50	Promor	Ladak	T2
Atra 55	NK 150	Norseman	T3
Vernal	WL 306	Roamer	T4
Iroquois	RP 38	Teton	T5
(FFC)	Du Puits	Travois	T6
	Saranac	Vernal	Saranac
			Vernal
Ridgetown	Ridgetown		
Guelph	Guelph	Guelph	Guelph
Kemptville	Kemptville		Ottawa(demonstration)
Ottawa	Ottawa		
Kapuskasing	Kapuskasing		
Fort William	Fort William		

FALL DORMANCY RATINGS* OF NEW VARIETIES

Standard Type

De Kalb 123 - same dormancy as Vernal, Iroquois, or slightly less.

Atra 50=520 - same dormancy as Vernal, Iroquois, or less.

Atra 55 - less fall dormancy than Vernal, Iroquois.

Early Type

De Kalb 153 - intermediate; less fall growth than Saranac but more than Iroquois at Guelph, more fall growth than Saranac at Ottawa.

Promor - fall growth equal to that of Du Puits, more than Saranac.

NK 150 - equal to Saranac in fall growth, less than Du Puits.

WL 306 - fall growth equal to that of Du Puits, more than Saranac.

RP 38 - equal to Saranac in fall growth, less than Du Puits.

*See dormancy rating table in this report.

BIRDSFOOT TREFOIL

Birdsfoot trefoil strain trials were harvested on a hay management at Ridgetown, New Liskeard, Kapuskasing and Kemptville in 1969 and at Ridgetown, Elora, Kapuskasing, Ottawa, New Liskeard, Williamstown, Kemptville and Fort William in 1968.

The strain trials were harvested under a pasture management at Kapuskasing and Kemptville in 1969 and at Elora, Kemptville, Fort William, Ottawa, Williamstown and Kapuskasing in 1968.

In eight pasture management trials conducted over the two years, no one variety consistently outyielded the checks of Empire and Viking. Several trends were evident in the hay management trials. Leo would appear to yield slightly more than either Viking or Empire. This is further evidence to substantiate the 1968 decision to recommend Leo.

Wallace and Westriver are slightly lower yielding than Viking or Empire - particularly in Southern Ontario. I would recommend that Wallace and Westriver be removed from any new tests in Southern Ontario. They would appear to have some possible merit in Northern Ontario.

Of twelve hay trials in 1968 and 1969, O.A.C. Syn (Maitland) outyielded Empire and Viking significantly in only the cut 2 of 1969 trials at Ridgetown and Kemptville. In all other tests, Maitland was inferior to or just equal to Empire and Viking. These results would not justify placing Maitland on the recommended list for 1970.

MCH-66 results are very similar to those of Maitland.

In conclusion, the 1968 and 1969 test results would indicate that Leo, Empire and Viking should continue to be the only recommended varieties of birdsfoot trefoil in Ontario for 1970.

Carl E. Moore,
Birdsfoot Trefoil Co-ordinator.

1969 Birdsfoot Trefoil Variety Test for Pasture - Kapuskasing

Variety	Cut 1 lb. D.M. per acre	Cut 2	Total	Rank
O.A.C. Syn 2	1356	2012	3368	1
Viking	1337	1669	3006	3
MCH 66	1288 3	1765 1	3053	2
Wallace	1185	1721	2906	4
Westriver	1059	1367	2426	7
Leo	1221	1685	2905	5
Empire	1179	1465	2644	6
Average	1232	1669	2901	
C.V. =	13%	9%	7%	
L.S.D. (.05)	238	230	286	
(.01)	326	315	392	

Harvested: July 18, August 12, 1969

Winter KillingAverage 4 reps

Westriver	72%
Empire	71
Leo	70
Wallace	69
OAC Syn	51
Viking	51
MCH 66	47

1969 Birdsfoot Trefoil Pasture Test - Kemptville

Variety	Cut 1 lb. D.M. per acre	Cut 2	Total	Rank
Viking	3132	3148	5280	3
MCH 67	2804	2075	4879	7
O.A.C. Syn 2	3195	2153	5348	1
Leo	2847	2278	5125	5
Empire	2559	2735	5294	2
Wallace	2650	2592	5242	4
Westriver	2867	2140	5007	6
Average	2865	2303	5168	
C.V. =	7.5%	20.7%	10.1%	
L.S.D. (.05)	320	707	774	
(.01)	438	968	1061	

Seeded: May, 1968

Harvested: June 12, July 23, 1969

Variety	Y I E L D l b . D M / a c r e			Rank
	Cut 1	Cut 2	Cut 1 + Cut 2	
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	1530	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 1 & 2 (.05) = 288
 (.01) = 388

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

maif 5
 uik 6

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

Maif 4
 VIK 5

4047 Birdsfoot Trefoil Trial For Pasture - Ottawa 1968

Variety	Y I E L D l b . D M / a c c r e			Rank
	Cut 1	Cut 2	Cut 1 + Cut 2	
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

C.V. Cut 1 = 13.71
 Cut 2 = 8.51
 1 + 2 = 7.23

L.S.D. Cut 1 (.05) = 233
 (.01) = 314
 Cut 2 (.05) = 299
 (.01) = 403
 1 + 2 (.05) = 377
 (.01) = 508

Date of Cutting: Cut 1 - June 15
 Cut 2 - July 25

MAIT 1
 VIK 3

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

Variety	Y I E L D 1 b . D M / acre			Total	Rank
	Cut 1	Cut 2	Cut 3		
Empire	1511	1418	2966	5895	7
Leo	2220	1258	2771	6249	3
Dawn	1389	1474	2992	5855	8
N.K, Empire	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 Cl	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	26	1736	940	285	2961	b
Viking	25	1316	1216	346	2877	ab
Average		N.S.	2.94 ²	N.S.	3114	

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.

1969 Birdsfoot Trefoil Variety Test for Hay - New Liskeard

Variety	Cut 1 lb. D.M. per acre	Cut 2	Total	Rank
Viking	3801	3165	6966	4 — V 1 R
MCH 66	<u>3819</u>	<u>2738</u>	<u>6557</u>	<u>7</u>
O.A.C. Syn 2	3586	3120	6706	5 — m
Wallace	4404	3129	7533	1
Westriver	3922	2655	6577	6
Leo	3969	3010	6979	3
Empire	4097	3214	7311	2
Average	3942	3005	6947	

C.V. =	11%	18%	10%
L.S.C. (.05)	652	809	1072
(.01)	893	1108	1468

Harvested: July 7, September 3, 1969

1969 Birdsfoot Trefoil Variety Test for Hay - Kapuskasing

Variety	Cut 1 lb. D.M. per acre	Cut 2	Total	Rank
O.A.C. Syn 2	2222	2363	4584	7 — m
Viking	2408	2266	4674	6 —
MCH 66	<u>2707</u>	<u>2331</u>	5038	<u>5</u> — 5 1/2
Westriver	2864	2433	5297	2
Wallace	2947	2343	5290	3
Empire	2952	2461	5413	1
Leo	2801	2265	5066	4
Average	2700	2352	5052	

C.V. =	13%	11%	10%
L.S.D. (.05)	525	386	723
(.01)	720	528	991

Harvested: July , September 24, 1969.

Maturity: Based on scale, 1 to 5 where 1 is earliest and 5 is latest

Westriver	1	Leo	3
O.A.C. Syn 1	1	Wallace	4
Viking	1 —	Empire	5
MCH 66	<u>2</u>		

Winter Killing

O.A.C. Syn 1
Viking
Westriver
Leo
Empire
Wallace
MCH 66

Average 4 reps

61% →
57
55
54
54
46
<u>40</u>

1969 Birdsfoot Trefoil Variety Test - Ridgetown lb. D.M. per acre

Variety	June 25	Bloom %	July 22	Bloom %	Total*	Rank
Viking	4077	29	1307	27	5384	3
O.A.C. Syn	4157	31	1458	26	5615	1
MCA-66	3998	11	1171	2	5169	4
Empire	4522	2	645	2	5167	5
Leo	4432	7	1151	2	5583	2
Wallace	4010	10	636	4	4646	7
Westriver	3560	27	1605	43	5165	6

C.V. =	10.1%	8.8%
L.S.D. (.05)	541	131
(.01)	-----	178

* The regrowth after the second cut was somewhat slow and weedy and therefore was discarded.

Seeded: 1967

1969 Birdsfoot Trefoil Hay Test - Kemptville

Variety	Cut 1 lb. D.M. per acre	Cut 2	Total	Rank
Viking	3830	1901	5731	4
MCH 67	4559	1473	6032	3
O.A.C. Syn 2	3752	2463	6215	1
Leo	3967	2149	6116	2
Empire	4022	1364	5386	6
Wallace	3774	1143	4917	7
Westriver	3610	1983	5593	5
Average	3930	1782	5712	

C.V.	10.9%	15.6%	8.3%
L.S.D. (.05)	639	414	708
(.01)	876	567	970

Seeded: May, 1968

Harvested: June 27, August 10, 1969

Variety

Variety	Y I E L D l b . D M / a c r e			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viking	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 - Fort 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	1686	3676	5
Syn. 1	1573	1696	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

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

1 + 2 (.05) = 349
(.01) = 470

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	<u>1</u>
OAC Syn	1575	2 - m
Leo	1445	3
Empire	909	7
Wallace	1050	6
Westriver	1345	5

C.V. = 12.05%
Cutting Date: July 29

L.S.D. (.05) = 243
(.01) = 333

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		

2 V
3 M

"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	Y I E L D l b . D M / a c r e				Rank
	Cut 1	Cut 2	Cut 3	Cut 1+2+3	
Viking	2060	2639	1385	6084	7
Royal Syn. 2	2357	2553	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 Cl	2320	2418	1275	6013	8
MCH-66	2740	3311	851	6902	1
Iowa - <i>Cornell?</i>	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 - Ridgertown 1968

Variety	Y I E L D l b . D M / a c r e			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viking	2729	2319	5048	7
OAC Syn.	3410	2206	5616	5
MCH-66	3468	2678	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	L.S.D. Cut 1 (.05) = 438
Cut 2 = 6.77	(.01) = 590
1 + 2 = 7.05	Cut 2 (.05) = 190
	(.01) = 256
Date of Cutting: Cut 1 - June 21	Cut 3 (.05) = 498
Cut 2 - July 29	(.01) = 671

4044 Birdsfoot Trefoil Trial for Hay - Williamstown 1968

Variety	Y I E L D 1 b . D M / a c r e			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viking	3280	2704	5984	2
Syn. 1	3134	2722	5856	5
MCH-66	2920	2813	5733	6
Leo	3126	3196	6232	<u>1</u>
Wallace	3280	2293	5573	7
Westriver	3134	2848	5982	3
Empire	3105	2837	5942	4

C.V. Cut 1 = 9.72	L.S.D. Cut 1 (.05) = 333
Cut 2 = 15.16	(.01) = 448
1 + 2 = 8.12	Cut 2 (.05) = 457
	(.01) = 615
Date of Cutting: Cut 1 - June 17	1 + 2 (.05) = 527
Cut 2 = Aug. 12	(.01) = 710

4046 Birdsfoot Trefoil Trial for Hay - Ottawa 1968

Variety	Y I E L D 1 b . D M / a c r e			Rank
	Cut 1	Cut 2	Cut 1 + 2	
Viking	1125	2961	4086	1
Syn. 1	917	2837	3754	6
MCH-66	957	2812	3769	<u>5</u>
Leo	1020	3060	4080	2
Wallace	1196	2293	3489	7
Westriver	1143	3090	4033	3
Empire	1183	2837	4020	4

C.V. Cut 1 = 22.77	L.S.D. Cut 1 (.05) = 263
Cut 2 = 9.24	(.01) = 361
1 + 2 = 9.04	Cut 2 (.05) = 284
	(.01) = 382
Date of Cutting: Cut 1 = July 15	1 + 2 (.05) = 384
Cut 2 = Aug. 12	(.01) = 517

RED CLOVER

H. Baenziger

Two years of testing of the varieties Dollard, Ottawa, Lakeland, OM44 and the tetraploid variety Hungaropoli have been completed at Fort William, Kapuskasing and Ottawa.

At Fort William and Kapuskasing, Hungaropoli was the highest yielding variety. Differences between this variety and the early double cut varieties were significant in 1968 and 1969 at Kapuskasing.

In the Ottawa tests, yields were not as consistent from year to year. In 1968, Hungaropoli suffered severe mildew infection and it was one of the least productive varieties. In 1969 mildew did not appear in the test and this variety was the highest yielding entry.

RECOMMENDATIONS

The Committee should consider including the variety Ottawa among the recommended early double cut varieties. Information from the seed trade indicates that there is probably more seed of Ottawa Red Clover available for sale than there is of Dollard and Lakeland.

Hungaropoli is not a licensed variety at present. The Committee might support a request for licensing, if such a request is made and recommend this variety specifically for northern Ontario.

OTTAWA RESEARCH STATION 1969

FORAGE CROPS SECTION

6 REPLICATES, 2 CUTS

Variety	1st cut	2nd cut	Total
Hungaropoli	5706	2001	7707
Ottawa	4961	2117	7078
Dollard	5411	1511	6922
Lakeland	4993	1823	6816
OM44	4657	1944	6601
C.V.			10.1%
F.			n.s.

AGRONOMY SECTION 1969

1 cut on 1967 seeding

Dollard	3509
Hungaropoli	3420
Ottawa	3276
Lakeland	3171
OM44	3047

R. Gibson

NOTE: The data sheets from this test reached the coordinator while in hospital, hence no C.V. and test of significance. I guess from computer output that differences are not significant.

SUMMARY

RED CLOVER TEST 1968 and 1969

OTTAWA TESTS

FORAGE SECTION AGRONOMY SECTION

Variety	1968	1969	1968	3 Test Mean
Dollard	9817a	6922	5034a	7258
Ottawa	9025ab	7078	4709ab	6937
Lakeland	9246a	6816	4876ab	6979
Hungaropoli	8969ab	7704	3956 c	6876
OM44	7952 b	6601	4267 bc	6273

Variety	1969 Ft. William	1969 Kapusk.	1968	3 Test Mean	6 Test Mean
Dollard	6931	4306 c	5551 b	5596	6427
Ottawa	7107	4308 c	4504 c	5306	6122
Lakeland	6931	4580 bc	5303 b	5605	6292
Hungaropoli	7308	5765a	6732a	6602	6739
OM44	7034	5286ab	4417 c	5579	5926

FORT WILLIAM, 1969

6 replicates, 3 cuts, July 8, Aug. 6, Sept. 9

	1st Cut	2nd Cut	3rd Cut	Total
Hungaropoli	4490	1634	1184	7308
Ottawa	4038	1744	1325	7107
OM44	4129	1611	1295	7034
Lakeland	4002	1523	1406	6931
Dollard	4020	1538	1374	6931
C.V.	12.4%	7.7%	8.1%	6.6%
F.	N.S.	*	*	N.S.

W.Towill

KAPUSKASING, 1969

2 cuts, data from 3 replicates analysed because of flooding damage in rep 4.

	1st Cut	2nd Cut	Total
Hungaropoli	2502	3264	5765a
OM44	2533	2753	5286ab
Lakeland	2169	2410	4580 bc
Ottawa	1817	2491	4308 c
Dollard	2103	2203	4306 c
C.V.	12.4%	10.7%	9.9%
F.	*	*	*

J.M. Wauthy
G. Lahaie

BROME GRASS

The southern brome grass group yield the highest in the main brome-alfalfa area. A lack of seed of these types has been the rule over the last ten years.

In 1969, there were 200 acres of Baylor, 200 acres of Magna, 900 acres of Redpatch and 1700 acres of Saratoga, field inspected in western Canada. This means a short supply of seed again.

There are only four tests of brome grass reported in 1969.

In Table F₁, Br.SX-No.1 and Blair are in the top group. Redpatch, Saratoga, Lincoln and Syn.D are in the 2nd group. Magna is low in the 2nd cut but is higher than Carlton.

In table F₂ at Kapuskasing, Baylor, S-6733, Guelph, Syn.2, Saratoga and Redpatch all gave over 9000 lbs in the 3 year mean. Magna is in the last place.

In table F₃ at New Liskeard, there were only small differences in yield in the 2 year means. S-6733, Redpatch, Blair and Magna were the top four varieties.

In table F₄, the three year means were quite similar with a variation of 6,200 - 6,900. Saratoga, Baylor, S-6323 and Redpatch were the highest four lines.

RECOMMENDATIONS

In the minutes of the 1969 meeting, we recommended Baylor for licensing. I propose that Baylor should be added to the list of brome in #296.

S-6733, a northern type brome, looks good in the northern stations. However, it is well down the list at Guelph.

GUELPH, ONT.
BROME PERFORMANCE TRIAL
Planted 1968
6 Rep. Test
Yield in lbs/acre 1969

Variety	Cut 1 Mean	Cut 2 Mean	Total
Br.Sx. - No.1	7903ab	3274ab	11177a
Blair	8023a	3069abcd	11092a
Lincoln	7588abcd	3063abcd	10651ab
Baylor	7796abc	2765 cd	10561ab
Redpatch	7324abcde	3196abc	10520ab
Saratoga	7131 bcde	3351a	10482ab
Ott.Syn. D1	7161 bcde	2994abcd	10155abc
Br.Sx.-No.2	6997 cde	2938abcd	9935 bc
6363	6677 ef	3220ab	9897 bc
Magna	7012 cde	2652 d	9664 bc
BSG-1(Syn.2)	6547 ef	3110abc	9657 bc
6733	6716 def	2877 bcd	9594 bc
Carlton	6057 f	3236ab	9294 c
S.E.	268.12	131.45	322.91
C.V.	9.19	10.53	7.75

KAPUSKASING, ONT.

BROME VARIETY TRIAL

Yield in dry matter lbs./acre

Variety	1969		Total	1968	1967	3 Yr.
	Cut 1	Cut 2		Total	Total	Mean
Baylor	7212	4206	11418	9763	6759	9313
Guelph Syn. 2	7153	4151	11303	9500	6830	9211
Ottawa Syn. D-1	6916	4018	10934	9549	----	10242
Brandon 1000	6860	3953	10813	9431	6074	8773
Redpatch	6617	4082	10699	9931	6552	9061
S-6324	6858	3734	10592	9237	6574	8801
Brandon 988	6543	3963	10506	9542	6796	8948
S-6733	6499	4000	10499	10106	7341	9315
Magna	6494	3945	10439	9292	6211	8647
S-6363	6629	3709	10338	9165	6350	8618
Saratoga	6323	3975	10298	9770	7239	9102

NEW LISKEARD, ONT.

BROME VARIETY TRIAL

Yield in dry matter lbs./acre

Variety	1969 1 cut	1968 1 cut	2 Yr. Mean
S-6733	5696a	6373	6035
Carlton	5587a	6045	5816
Brandon 988	5537a	6168	5853
Saratoga	5494a	5663	5579
Blair	5354ab	6583	5969
Magna	5295ab	6525	5910
Redpatch	5228ab	6774	6001
Ott. Syn. D.	4975 b	5811	5393
Brandon 986	4934 b	6279	5607
Guelph Syn. 2	4886 b	6503	5695
S.E.	148.54		
C.V.	6.87		

Cut	July 3/69
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FORT WILLIAM, ONT.

BROME GRASS PROVINCIAL HAY TEST

Yield in dry matter lbs./acre

Variety	1969			1968	1967	3 Yr.
	Cut 1	Cut 2	Total	Total	Total	Mean
Brandon 988	4587a	1840	6427a	5727 bc	7142	6432
S-6324	4461ab	1695	6156ab	6203abc	6985	6448
Brandon 1000	4290abc	1844	6134ab	5722 bc	7209	6355
Magna	4397ab	1712	6110abc	6023abc	7587	6573
Redpatch	4297ab	1799	6096abc	6203abc	7578	6626
S-6323 Syn. 2	4190abcd	1874	6064abc	6146abc	7607	6605
S-6733 Syn. 1	4190abcd	1764	5954abc	5872abc	6915	6247
Ottawa Syn. D.	4052 bcd	1765	5817 bc	6386a	7309	6504
Baylor	4065 bcd	1739	5804 bc	6472a	7741	6672
Saratoga	3839 cd	1870	5709 bc	6298ab	6833	6880
B.L.G. Svn. 2	3823 d	1781	5605 c	5622 c	7311	6179
S.E.	141.30		158.95			
C.V.	8.24		6.50			

ORCHARDGRASS

There is a considerable difference of opinion as to the use of orchardgrass in Ontario. There is, however, 500,000 lbs of orchardgrass imported into this country, mainly from Europe. Two medium early varieties, Frode and Tardus II are on the recommended list. One late variety (10 days) Rideau, is also on the recommended list. Seed has been scarce but a new area in Cardistan, Alberta has 220 acres in Rideau. At Listowell, one farmer harvested 6,000 lbs of seed from 30 acres. The hope is that we can get Canadian varieties increased by our farmers.

In 1969, we have yield data from 4 areas; Ottawa, Kapuskasing, Fort William and Guelph. At Guelph, severe icing conditions limited the harvesting to two replicates only.

In Table H₁, Strain K, N-1-77 and Pennlate were the top three varieties. Rideau was the lowest yielding variety in the test. OSG-9 only occurred in 3 reps. Bumper, OSG-5 and Masshardy were similar. N1-77 is a new late variety put in test by the Northrup King Company.

In Table H₂ the four-year means showed Pennlate, KC and Rideau as the top three yielders of the late group. Bumper and OSG5 were low and yielded similarly.

In Table H₃ from Fort William, of the late varieties, Bumper, Masshardy and Strain K were the top 3. Rideau was slightly lower than Strain K. The varieties N1-77 and OSG5 were the two lowest yielding in the test.

In Table H₄ at Kapuskasing, there were no significant differences. The five late varieties yielded below the OSG7, FFRE and Ott.P-1 which are early varieties.

In Table H₅ the data was recorded from 2 replicates only. N1-77 was in the top group, followed by Pennlate, Masshardy and Rideau.

In Table H₆ a seed production test was set up in Oregon which is a seed production area. Dr. Frakes commented that the stand was very poor, particularly so for the Canadian material. It can be readily seen that the early varieties are the highest yielding for seed. Pennlate is the best of the late orchardgrass group.

RECOMMENDATIONS

In the minutes of the 1968 meeting, Strain K was considered for licensing with most of the impetus coming from Mr. Towill at Fort William.

In Table 1, the percent winterkilling of all strains appears in the last column. It is favourable to Strain K. It is in first place in the three year means, considerably higher than Rideau but only slightly higher than Pennlate. In the column, percent grass, it is also highest.

In Table 2, Strain K is 500 lbs DM higher than Rideau and well above all the late varieties.

We have 1200 lbs of breeder seed plus 700 lbs of foundation seed available for seed increase. At Ottawa we have had yields of from 350-400 lbs of seed per acre in the last three years. The possible licensing of this variety is up for discussion.

Pennlate, produced in the U.S.A. is also similar in yielding ability. Masshardy from the U.S.A. is an extremely low seed producer according to yield data supplied from Oregon.

OTTAWA, ONT.

FORAGE SECTION

ORCHARD GRASS HAY TEST 1969

Yield in dry matter lbs./acre

Variety	Cut 1 Mean	Cut 2 Mean	Total
N-1-77	4057	1958	6015
Masshardy	3766	1734	5500
Bumper	3982	1688	5670
Ott. KC	4670	1711	6381
Frode	3553	1884	5437
O.S.G.-5	3945	1644	5589
Rideau	3505	1708	5213
Ott. P-1	3751	1772	5523
Pennlate	4143	1767	5910
O.S.G.-9	3612	1807	5419

OTTAWA, ONT.

FORAGE SECTION

ORCHARD GRASS STRAIN TEST

Yield in dry matter lbs./acre

Variety		1969 Seasonal Total	1968 Seasonal Total	1967 Seasonal Total	1966 Seasonal Total	4 Yr. Mean
Strain K.C. L		4124	6403	6477	2438	4860
Bumper	L	3059	5445	5677	2661	4210
Ottawa P-1	E	3902	7209	7045	3292	5362
Rideau	L	3541	6786	5733	3195	4814
Frode	E	4103	6757	6462	3470	5198
O.S.G.5	L	2912	5276	6047	2750	4246
Pennlate	L	3591	6978	6576	3302	5112
Hercules	E	3412	6533	6299	3412	4914

FORT WILLIAM, ONT.

ORCHARDGRASS VARIETY TRIAL

Yield in dry matter lbs./acre

Varieties		1969		Mean	1968	2 Year
		Cut 1	Cut 2		1 Cut Only	Total
Bumper	L	4411a	2162a	6573a	1516 bcd	8089
Pennlate	L	4361a	2174a	6535a	1144 d	7679
Masshardy	L	4241a	2135a	6376ab	1631abc	8007
Strain K	L	4399a	1798 b	6197abc	1647abc	7844
O.S.G.5	L	4209a	1896 b	6105abc	1295 cd	7400
Ottawa P-1	E	3841 b	2244a	6084abc	2038a	8122
Rideau	L	3808 b	2135a	5943 bc	1784ab	7727
Frode	E	3644 b	2296a	5940 bc	1774ab	7714
N-1-77	L	4235a	1598 c	5832 c	1634abc	7466
S.E.		118.06	66.98	155.11	144.16	
C.V.		7.00	3.27	6.15	15.54	

KAPUSKASING, ONT.
ONTARIO ORCHARDGRASS HAY TRIAL
Yield in dry matter lbs./acre

Variety	1969		Mean
	Treatment 1	Treatment 2	
O.S.G.7	2823	2965	2894
F.F.R. Syn. E.	2524	3004	2764
Ott. P-1	2624	2770	2697
N-1-77	2498	2737	2617
Rideau	2321	2866	2594
O.S.G.-5	2199	2883	2541
Strain K	2303	2707	2505
Bumper	2165	2810	2487
C.V.	7.73		
L.S.D.	859.54		

Treatment 1 75 lbs. N
Treatment 2 150 lbs. N

GUELPH, ONT.

ORCHARDGRASS PERFORMANCE TRIAL

2 Reps. Only

Yield in lbs./acre 1969

Variety	Cut 1	
	Mean	
N-177 Northrup King	5754a	
Pennlate	5262ab	
Masshardy	5053ab	
Rideau	5035ab	
OSG5	4965abc	
Strain k	4905abc	
Bumper	4210 bcd	
Ott. P-1	3931 cd	
Frode	3823 d	
Chantemille	2254 e	
Clatsop	2189 e	
S.E.	313.23	
C.V.	12.58	

OREGON STATE UNIVERSITY
ORCHARDGRASS VARIETY TRIAL 1969

Field 3 Range 9 Hyslop Farm

Seed yield in grams per 20' row

Variety	Rep 1	Rep 2	Rep 3	Rep 4	Sum	$\bar{X}$	
* 1. Bumper	66	57	96	94	313	78.25	late
* 2. Strain K	134	256	136	160	686	171.50	late
3. Frode	304	258	234	166	962	240.50	early
* 4. Rideau	183	201	374	157	915	228.75	late
* 5. Ontario #5	45	60	85	126	316	79.00	late
6. Syn E	423	374	500	427	1724	431.00	
7. Tardus II	337	343	323	255	1528	314.50	early
8. Potomac	288	253	378	390	1309	327.25	early
9. Latar	255	136	267	266	924	231.00	late
10. Boone	314	327	438	400	1479	369.75	early
11. Pennlate	265	250	290	309	1114	278.50	late
12. Frode (Oreg.)	260	248	452	262	1222	305.50	early
13. Akaroa	266	307	318	337	1228	307.00	early
	3140	3070	3891	3349	13,450		

* The Canadian varieties had a poor stand and did poorly.

A N O V

	df	SS	MS	F
Rep	3	31,889.00	10,629.67	3.66*
Treat.	12	517,053.77	43,087.81	14.83**
R x T	36	104,575.00	2,904.86	
Total	51	653,517.77		

S = 5389
CV = 20.84%
S $\bar{X}$ = 26.95

Table 1

Orchardgrass Variety Test
and Vernal Alfalfa (Hay)
Fort William, Ont.

Variety	Lbs.DM/A		Lbs.DM/A			Av.Yld. 1965-66 -1967	Per cent Grass 1967	Per cent Winterskill 1967
	1965 Total	1966 Total	1967 Cut 1	1967 Cut 2	1967 Total			
Coxa (E)	2133	3710	970	834	1804	2549	44.2	29.2
Latar	2268	3490	1151	557	1708	2489	60.2	21.7
Motycka	1955	3180	879	737	1616	2250	39.2	29.2
Pennlate	2357	4060	1147	944	2091	2836	50.8	27.5
Frode (E)	2010	3310	856	880	1736	2352	46.7	30.0
Rideau	2169	3760	1249	755	2004	2644	52.5	21.7
Tarus II (E)	2088	3410	985	934	1919	2472	44.2	30.0
Ott. 100	2116	3750	1456	1218	2674	2847	40.8	31.7
Ott.StrK	2580	3840	1856	697	2553	2991	65.8	9.2

1967- Cut 1 at .05% level = 165.8 lbs.

C.V. = 17.66%

The 3-year average yields 1965-66-67 clearly show the superiority of Ottawa Strain K, Ottawa 100, Pennlate and Rideau over most other entries in the test. It is recommended early consideration be given to the naming and licensing of Ottawa Strain K for recommendation as a variety worthy of inclusion in specific cropping programs in northwest Ontario.

B. Towill

Orchardgrass Variety TrialFort William, Ont.Dry matter in lbs/a.

Entry	1968			1967	1966	3 yr. Mean
	Cut 1 July 9	Cut 2 Aug 12	Seasonal Total	Seasonal Total	Seasonal Total	
Ott. Strain K	3912	1799 ab	5711 a	6249	4090	5350
Frode (E)	2507	1403 b	3909 b	5955	4350	4738
Coxa (E)	3365	1541 b	4906 ab	5663	4470	5013
Tardus II (E)	3122	1435 b	4557 ab	5704	4260	4840
Ottawa 200	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	

Remarks:

Extreme low temperatures and lack of adequate snow cover during the winter of 1967-68 seriously reduced most stands of orchardgrass under test at Fort William. While many of the varieties winter killed to the extent of 30-40 percent, such was not the case for Ottawa-200 or Ottawa-Strain K. Both of these varieties exhibited superior winter hardiness with stands of 60% reported prior to initial clipping on July 9. Motycka exhibited superior winter survival to Frode and Pennlate in this test year.

A dull, cool, wet spring inhibited plant growth throughout May and early June. As a result of winter injury and poor growing conditions, weeds made headway even though all plots were sprayed with 2,4-DB at a rate of 18.0 oz. acid per acre on June 5.

Analysis of dry matter yields showed that there was a significant difference in varietal performance in 1968. Ottawa-Strain K and Ottawa-200 were superior to all other entries, with the latter demonstrating exceptional aftermath potential.

W. Towill

TIMOTHY DATA REPORTED IN 1969

The yields of pure timothy stands are again dominated by the high yields obtained at Kapuskasing, where high nitrogen fertilization plus adequate rainfall and cool summer conditions led to yields of 5 tons per acre.

At Ottawa, conditions for plant growth were bad due to a late spring and cool conditions. This was followed by droughty conditions in July and August with little or no regrowth. In most tests only one cut was realized.

Climax timothy is the only variety on the recommended list in #296. The export of timothy seed to the U.S.A. has been reduced in the last several years but a brisk trade in OECD varieties have been grown under contract and sold to European companies taking part in the scheme.

We have timothy data from all Stations except Ridgetown, New Liskeard and Kemptville in 1969.

On page I₁, Champ, Climax and Topas are in the top group. Champ is in the top group because of its high aftermath production. The two new varieties, Landsberser and Spath also have a tendency for a high yield of aftermath.

On page I₂, Milton, Champ and Climax gave the highest yields in the 5th year of the test. There is a range of 1/2 ton of dry matter between the top and the lowest 2 varieties in the test.

On page I₃, Champ and P₂ and P₃, which are derivatives of Champ, yielded well, particularly for aftermath. In the 5-year mean, however, Climax yielded similarly. The varieties King and Heidemij which topped the test in 1966 are low on the 5-year average.

On Page I₄, Climax and Climax F₂, which has since been discarded, led the test. Bounty was a close third. The Cornell strain, TM60-101 yielded well. Champ and Labelle were also in the 10,000 lb group. Clair, Topas and Lofar, which we will be considering later, are well down the list.

On Page I₅, these yields were obtained in the year of establishment and there were no significant differences.

On Page I₆, Clair timothy yielded in first place in 1968 and 1969 at Fort William. It was followed by Climax and TM60-101 and Topas. In this test, the yield of Champ was down in 9th place.

On page I₇, in this test, TM60-101 and Climax and Labelle were the top 3 varieties. With one cut in 1969, Champ was almost 1000 lbs less than TM60-101, whereas in 1967 in 2 cuts, it was in first place. Lofar and Topas were low in this test. In the test on page I₈, the total yields of all the varieties were similar except for King which was the lowest.

In the test on page I₉, also at Ottawa, Champ and S₃-9, S₃-2 were the top 3 for yield. Significant differences were noted in 1969. The overall yields were low in the test which was only cut once. In the test on page I₁₀, the 3-year means show Champ in first place with Topas a close second. Drummond, Lofar and Pecora yielded lowest over the 3 years.

cont'd

In the test I₁₁, the total yields are only 1 1/2 tons per acre. Tiger, Bounty and Astra were the top 3, whereas Champ, Climax A and Milton were in last place.

In the test on page I₁₂, the yields are relatively low and the early varieties were cut 3 weeks before the late ones. The total yield is affected as no final cut was made for seasonal growth. Climax and Climax A were top and Topas yielded well considering it was cut early on June 16.

In the test on page I₁₃, the early cut lines, Milton, Champ and Astra were at the bottom of the test. Climax, Climax A and Bounty were the top yielders.

RECOMMENDATIONS

In the minutes of the 1968 meeting, Champ was considered for recommendation. After considerable discussion, it was deferred until more seed was available for sale to Ontario farmers. In 1969, 10,000 lbs of Champ were sold in Ontario and it is predicted that between 350 and 400,000 lbs are available. It should be described as an early, high aftermath timothy for hay or pasture mixtures.

We have data on a long list of new varieties, mostly European in origin, for which we have screening data from some locations. By studying these tests, some varieties can be eliminated due to poor yields. Such varieties are Lofar, Panther, Pecora, Cub, Erecta, Tiger, King and Heidemij. Another group have been in the top 5 at some stations. These should be brought together for a provincial trial at all locations: Barenze, Topas, TM60-101, Labelle, Milton, Clair and Kampe II.

It is impossible to produce a meaningful summary when there is such a wide divergence in yield at the various locations in the province.

GUELPH, ONT.

TIMOTHY PERFORMANCE TEST

Planted 1968

6 reps.

Yield in lbs/acre 1969

Variety	Cut 1 Mean	Cut 2 Mean	Total
Champ	6111ab	2571a	8683a
Climax	6523a	2131 b	8654a
Topas	6418a	1945 bc	8364a
Landsberser	6052abc	2162 b	8215ab
Spath	5903abc	2124 b	8028abc
Labelle	6120ab	1878 c	7998abc
Bounty	5995abc	1848 c	7843abc
Barenza	5603 bc	1804 c	7407 bc
Drummond	5407 c	1864 c	7271 c
S.E.	218.46	73.5	265.33
C.V.	8.89	8.84	8.07

KAPUSKASING, ONT.

TIMOTHY HAY VARIETY TEST

Yield in dry matter lbs/acre

Variety	1969		Total	Seasonal				5 Yr. Mean
	Cut 1	Cut 2		1968 Total	1967 Total	1966 Total	1965 Total	
Milton	6682a	3960ab	10642a	10205	7828	4976	5969	7924
Climax	6131ab	3702abc	9834ab	10319	7828	5449	5403	7767
Champ	5643 bc	4169a	9812ab	10622	8015	4719	6008	7835
Wisc.T-1	6006abc	3466 bc	9472 bc	10018	7222	5593	5803	7622
Climax Check	5913abc	3544 bc	9457 bc	9820	7314	4596	4991	7236
Labelle	5122 cd	3790abc	8912 bcd	9675	7278	5316	5695	7375
Bounty	5380 bc	3196 c	8576 cde	9629	7011	4721	5605	7108
Astra	5058 cd	3232 c	8290 de	9461	7314	5117	5741	7185
Essex	4302 d	3385 bc	7687 e	9141	7551	5434	5513	7065
Drummond	5751abc	3207 c	8958 bcd	8721	6807	5104	5204	6959
Glair	5034 cd	3886ab	8920 bcd	8022	7865	4761	4507	6815

J.M. Wauthy

KAPUSKASING, ONT.
TIMOTHY PASTURE VARIETY TEST

Yield in dry matter lbs/acre

Variety	1969		*	Seasonal				5 Yr. Mean
	Cut 1	Cut 2		1968* Total	1967** Total	1966** Total	1965* Total	
Ott.P2	5331	4646ab	9977a	10714	5759	3867	3597	6783
Champ	4599	4875a	9474ab	11262	6234	3804	3548	6784
Ott.P3	4770	4354 bc	9125ab	10876	6098	3908	3427	6687
Climax Check	4899	3972 c	8871ab	10763	5455	4092	3678	6572
Climax	4697	3944 c	8641 bc	11090	5918	4273	3793	6743
Drummond	5082	3253 d	8335 bcd	10480	5630	4070	3373	6378
King	4555	3012 d	7567 cd	8722	5471	4307	3850	5985
Heidemij	4435	2906 d	7341 d	9279	5620	4214	4078	6106

* 2 cuts only
** 3 cuts

J.M.Wauthy

KAPUSKASING, ONT.

TIMOTHY HAY VARIETY TEST

Planted 1967

6 Rep. Test

Yield in lbs/acre 1969

Variety	1969			1968			2 Yr. Mean
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total	
Climax F2	6533a	5023a	11556a	5791	4240	1031abc	10793
Climax	6671a	4519 b	11190ab	5885	4414	10299ab	10744
Bounty	6502a	4484 b	10986abc	5780	4488	10268ab	10627
Erecta	6697a	4195 bc	10892abc	5358	3530	8888 ef	9890
TM60-101	6619a	3936 cd	10555 bcd	6006	4494	10500a	10527
TM60-104	6553a	3828 cd	10381 bcd	5528	3908	9435 bcdef	9908
Clair	5867ab	4490 b	10357 bcd	3902	4936	8838 ef	9597
Champ	6256a	3990 cd	10246 bcd	5586	4194	9780abcde	10013
Labelle	6507a	3705 cd	10212 bcd	5756	4103	9859abcd	10035
Heidemij	6332a	3852 cd	10184 bcd	5546	3705	9251 cdef	9717
Topaz	6077a	3913 cd	9990 cde	5674	3308	8982 def	9486
Panther	6080a	3732 cd	9812 de	6416	2774	9190 cdef	9501
Cub	5928ab	3675 de	9603 de	5192	3549	8741 f	9172
Tiger	5990ab	3158 f	9148 ef	6576	2984	9560 bcdef	9354
Lofar	5244 b	3247 ef	8491 f	6132	3338	9470 bcdef	8980
S.E.	261.38	154.95	306.31				
C.V.	12.18	9.53	7.33	11.4	9.7	7.3	

KAPUSKASING, ONT.

ONTARIO TIMOTHY HAY TRIAL

Seeded in 1969

Yield in dry matter lbs./acre 1969

Variety	Cut 1
Climax	3204
Itasca	3087
Kampe II	3052
L-84	2900
Bounty	2723
Barenza	2649

FORT WILLIAM

TIMOTHY HAY VARIETY TEST

Yield in dry matter lbs./acre

Variety	1969		Total	1968		1967		3 Yr. Total
	Cut 1	Cut 2		Total	Yield	Total	Yield	
Clair	3275abc	2126a	5401a	5279a		810		11490
Erecta	3616a	1738 bcd	5354a	3937 bc		966		10257
TM60-101	3477ab	1793 bc	5269ab	4186 bc		1042		10497
Climax F ₂	3602a	1647 bcd	5249ab	3979 bc		913		10141
Climax	3449ab	1773 bcd	5222abc	4038 bc		1263		10523
Labelle	3510ab	1560 bcde	5070abcd	3423 de		949		9442
Topas	3140 bc	1830 b	4970abcd	4279 b		1196		10445
Heidemij	3263abc	1694 bcd	4956abcd	4130 bc		963		10049
Bounty	3336abc	1595 bcde	4931abcd	4130 bc		939		10000
Champ	3277abc	1507 cde	4784 bcd	4119 bc		721		9624
Cub	3231abc	1550 bcde	4781 bcd	3843 cd		860		9484
TM60-104	3246abc	1484 de	4730 cd	3956 bc		828		9514
Tiger	3146 bc	1512 cde	4658 d	2967 f		577		8202
Panther	2981 cd	1582 bcde	4563 d	3131 ef		590		8284
Lofar	2676 d	1307 e	3983 e	2820 f		819		7622
S.E.	134.74	89.93	154.13					
C.V.	10.06	42.25	7.66					

OTTAWA RESEARCH STATION

FORAGE SECTION

TIMOTHY SCREENING TEST

Yield in drv matter lbs./acre

Variety	1969* Cut 1	1968** Seasonal Total	1967** Seasonal Total	3 Yr. Total
TM60-101	4999a	6751a	7330ab	19080
Climax	4560 b	6749a	7319ab	18628
TM60-100	4551 b	6718a	6936abc	18205
Drummond	4515 b	5828 cd	6193 d	16536
Labelle	4500 b	6654ab	7112ab	18266
Bounty	4402 bc	6411abcd	7001abc	17814
Topas	4313 bc	5805 cd	6197 d	16315
Pecora	4298 bc	5996 bcd	6213 d	16507
O-296	4246 bc	6281abcd	7486a	18013
Heidenij	4133 bc	6073abcd	6675 bcd	16881
Champ	4008 c	6498abc	7399ab	17905
Lofar	3990 c	5768 d	6132 d	15890
Tiger	3951 c	6077abcd	6334 cd	16362
S.E.	139.03	212.25	229.61	
C.V.	7.84	8.27	8.28	

* 1 cut only

** 2 cuts

FORAGE SECTION

TIMOTHY PASTURE STRAIN TEST

Yield in dry matter lbs./acre

Variety	1969 Cut 1	1968 Seasonal Total	1967 Seasonal Total	3 Yr. Total
Climax	4204a	6166a	6800a	17170
S ₃ -2	4034ab	5864a	6203ab	16101
Drummond	3999ab	5672ab	6394a	16065
Tiger	3961abc	5369ab	6507a	15837
Heidemij	3894abc	5588ab	6485a	15967
Champ	3756 bc	5492ab	6841a	16089
S ₃ -9	3596 c	6090a	6908a	16594
King	3205 d	4864 b	5105 bc	13174
S.E.	125.04	253.21	424.94	
C.V.	7.99	11.02	13.81	

AGRONOMY SECTION, OTTAWA, 1969

TIMOTHY for PASTURE

Yield dry matter lbs./acre

Strain	1969	1968	1967	3 Yr. Mean
S ₃ -9	2465a	2669	5290	3475
Champ	2454a	2177	5415	3349
Heidemij	2366ab	2829	4557	3251
S ₃ -2	2272ab	2132	5583	3329
Climax	2144 bc	2344	5063	3184
Drummond	1904 cd	2035	4362	2767
Tiger	1783 d	1759	3951	2498
King	1531 e	1566	3454	2184
S.E.	85.91			
C.V.	9.95			

Date cut	June 6	June 3
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AGRONOMY SECTION 1969

TIMOTHY for HAY

Yield in dry matter lbs./acre

Variety or Strain	1969	1968	1967	3 Yr. Mean
O-296	3991a	3151	5788	4310
Champ	3817ab	4199	6173	4730
TM60-100	3766ab	3782	5121	4223
Topaz	3759ab	4294	5532	4528
Bounty	3599ab	3687	4428	3905
Climax	3596ab	3848	5343	4262
Tiger	3572ab	3500	4644	3905
TM60-101	3520abc	3968	4995	4161
Heidemij	3469abc	3910	4491	4123
Labelle	3414 bc	3625	4790	3943
Drummond	3344 bc	2984	4539	3622
Lofar	3037 c	3026	4352	3472
Pecora	3007 c	3434	4223	3555
S.E.	163.56			
C.V.	9.27			
Date cut	June 19	June 17		

AGRONOMY SECTION, OTTAWA 1969

TIMOTHY for PASTURE

Yield dry matter lbs./acre

Variety or Strain	Cut 1	1969 Cut 2	Total	1968 Total	2 Yr. Mean
Tiger	2151abc	1540a	3690	2467	3079
Bounty	2518a	1061 b	3580	2117	2849
Astra	2433a	1091 b	3524	2319	2922
Drummond	1971 bc	1416a	3387	2220	2804
Essex	1937 c	1450a	3387	2288	2838
Climax	2363ab	911 b	3274	2204	2739
Champ	2366ab	894 b	3260	1886	2573
Climax "A"	2221abc	1027 b	3248	2180	2714
Milton	2206abc	739 b	2945	1820	2383
S.E.	126.86	111.09	211.03		
C.V.	13.86	24.17	15.35		

June 2/69 July 14/69

OTTAWA, ONT.

AGRONOMY SECTION, 1969

TIMOTHY PROVINCIAL TEST

Yield in dry matter lbs./acre

Variety	1969	Date Cut	1968	2 Yr. Mean
TM60-101	4929a	June 16	2805	3867
Tiger	4808ab	July 8	2965	3886
Topaz	4783abc	June 16	2760	3771
Panther	4745abc	July 8	2569	3657
TM60-104	4634abcd	June 27	3035	3834
Williamstown	4542abcd	June 16	3195	3868
Climax	4411abcd	June 27	3616	4013
Climax "A"	4351 bcde	June 27	3467	3909
Champ	4349 bcde	June 16	2731	3540
Labelle	4321 bcde	June 27	2913	3617
Bounty	4219 cdef	June 27	3090	3654
Lofar	4184 cdef	June 27	2982	3583
Erecta	4094 def	June 27	3196	3645
Cub	3938 ef	June 27	3137	3537
Eau Claire	3771 f	June 16	3385	3578
Clair	3705 f	June 16	3561	3633
Heidemij	3031 g	July 8	1785	2408
S.E.	173.12			
C.V.	9.90			

One cut only taken in each year.

AGRONOMY SECTION 1969

TIMOTHY FOR HAY

Yield in dry matter lbs./acre

Variety	1969	Date Cut	1968 Total	2 Year Total
Drummond	5266a	July 8	5077	10343
Essex	5070a	July 8	4656	9726
Tiger	4991a	July 8	4737	9728
Climax	4991a	June 27	6251	11242
Climax "A"	4739 b	June 27	6450	11189
Bounty	4550 b	June 27	6649	11199
Milton	3791 c	June 17	5266	9057
Champ	3525 cd	June 17	5026	8551
Astra	3424 d	June 17	4583	8007
S.E.	114.92			
C.V.	6.28			

1969 1 cut only
1968 2 cuts

KAPUSKASING
1968

Table 1

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	Jul.27	headed out	2984	14	"	head in boot	9555	bcdef
Lofar	6132	3	"	"	3338	12	"	"	9471	bcdef
TM-60-104	5528	12	Jul.23	"	3908	8	"	headed out	9435	bcdef
Heidemij	5546	11	"	early bloom	3705	9	"	early bloom	9251	cdef
Panther	6416	2	Jul.27	headed out	2774	15	"	head in boot	9190	cdef
Topaz	5674	9	Jul.23	50% bloom	3308	13	"	headed	8982	def
Erecta	5358	13	"	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.(%)	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, yield low on account of time of cutting.

Table 2

GUELPH

Experiment 2640 Timothy Screening Trial

In D/M pounds per acre

Variety	Date cut	1966			Total	Date cut	1967			Total	2 Yr. Total
		Cut 1	Cut 2				Cut 1	Aug. 25 Cut 2			
0296	June 20	7270	1070		8340	July 6	8171	2371		10542	18882
Lofar	" 30	7400	560		7960	" 12	6359	1203		7562	15522
Barenga	" 22	7330	570		7900	" 6	8149	1306		9455	17355
TM-60-101	" 28	6930	690		7620	" 10	7822	1929		9751	17371
Astra	" 26	6860	730		7590	" 10	6375	1523		7898	15488
Kampe II	" 22	6910	660		7570	" 6	8270	1416		9686	17256
Vanadis	" 22	6730	740		7470	" 6	7636	1672		9308	16778
S-352	" 22	6810	600		7410	" 6	7177	1664		8841	16251
Erecta	" 29	6630	640		7270	" 10	6664	1448		8112	15382
TM-60-100	" 28	6870	390		7260	" 10	7797	1672		9469	16729
TM-60-104	" 26	6570	540		7110	" 10	6836	1665		8501	15611
Heidemij	" 24	6770	220		6990	" 6	8132	1618		9750	16740
TM-60-103	" 30	6680	300		6980	" 12	7229	1436		8665	15645
Omnia	" 26	6410	500		6910	" 6	7577	1189		8766	15676
TM-60-102	" 26	6150	530		6680	" 10	8641	1870		10511	17191
Combi	July 10	5850	680		6530	" 27	8065	382		8447	14977
King	" 8	5870	630		6500	" 27	7151	289		7440	13940
TM-59-50	June 28	5980	460		6440	" 10	7554	1302		8856	15296
WT. 59	" 24	5730	520		6250	" 10	6181	1407		7588	13838
Sceempter	July 4	5470	710		6180	" 27	7931	243		8174	14354
Climax	June 24	5560	500		6060	" 10	7539	1932		9471	15531
L.S.D.		480	150		470		1007	215		980.76	
C.V.		17.8			7.3		13.44	15.3		11.02	

OTTAWA, 1968
AGRONOMY SECTION
TIMOTHY FOR HAY

S.No.	Variety or strain	Yield dry matter 1967	pounds/acre 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

Table 4

OTTAWA, ONT.
 FORAGE
 TIMOTHY SCREENING TEST
 In Dry Matter lbs/A.

Entry	1968			Seasonal Total	2 Yr. Mean
	Cut 1 July 3	Cut 2 Sept. 4	Seasonal Total		
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
Heidemi.j	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	
CV	8.08	21.79	8.27	8.28	

W.R. Childers

KEMPTVILLE, ONT.

K.C.A.T.

TIMOTHY VARIETY TEST

In Dry Matter lbs/A.

Entry	1968	1967	2 Yr. Mean
	Cut 1 June 10	Cut 1 July 26	
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

FORT WILLIAM 1968

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% 17.26%

Fertilizers 90#N - 145# P₂O₅ - 140# K₂O - spring
 Fall applications plus 120# N following 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 F₂. 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 vigorous 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.

Other Grasses

Reed canarygrass - Seven varieties and strains were included in a uniform test grown at 5 locations in Ontario 1968-69. Forage yields varied widely between locations but differences between varieties at any location were generally unimportant. The 12 test-year mean showed a range of only 262 lb/a. D.M.

The strain Ott. Syn. F has been named Grove and a license will be requested. Grove is 7 to 10 days later in maturity than Frontier. It is quite leafy and responds well to high fertility levels. It is considered that it may have a place in intensive production programs where duration of stand is important. Some 400 lb. of breeder seed is available for distribution. A decision on recommendation could be held over until seed supplies are more plentiful.

No new material is available for testing and no further tests are planned at this time. Seed can be provided for anyone wishing to conduct tests.

Red fescue - One variety test was grown at Ottawa and 3 year's data are available. Yields are low and the species is considered useful only for turf. The strain tested as Top 20 has been named Durlawn and appears likely to gain acceptance as a lawn species. No field crop recommendation is involved.

F.S. Warren
Coordinator

Reed canarygrass - Forage yield of variety tests at Agronomy Section,
Ottawa Research Station, 1968-69.

Experiment No. Harvest year	1968	<u>4041</u> 1969	1968	<u>4042</u> 1969	Mean 4 tests years
Variety	DM lb/a		DM lb/a		
Frontier	4725	3291	1738	3138	3223
Grove	4815	3346	2108	3108	3344
Ott. Syn. G	4114	2932	2382	3051	3120
Rise	4472	3061	2123	3055	3178
S 6982	4141	3110	2019	2902	3043
Ott. Syn. E	4552	2973	1947	3273	3186
Ott. Syn. D	4782	3346	1661	3101	3223
Mean	4514	3151	1911	3090	3188
L.S.D. 5%	759	N.S.	225	100.5	
C.V. %	11.0	7.01	15.0	4.36	

D.R. Gibson

Reed canarygrass • Forage yield of variety tests at Fort William and Kemptville, 1968-69.

Expt. No.	7018	7018	3017	3017	
Location	Fort William		Kemptville		
Year	1968	1969	1968	1969	4 test-
Variety	D.M. lb/a.		D.M. lb/a.		years
Frontier	7283	6608	6374	6377	6661
Grove	6766	6415	7246	7102	6882
Ott. Syn. G	6507	6722	7094	7825	7037
Rise	7273	7221	6245	7315	7014
S 6982	6769	6439	6678	7858	6936
Mean	6919	6681	6728	7295	6906
L.S.D. 5%	N.S.	N.S.	N.S.	N.S.	
C.V. %	6.25	6.43	8.5	12.2	

W.B. Towill

J.D. Curtis

Reed canarygrass - Forage yield of variety tests at Kapuskasing and New Liskeard 1968-69, and general mean of 12 test years.

Expt. No.	6051	---	8301	8302	Mean	12 test
Location	Kapuskasing		New Liskeard		4 test	years
Year	1969	1968	1969	1969	years	mean
Variety						
Frontier	3225	6330	6091	6050	5424	5103
Grove	3033	5736	6057	6032	5215	5147
Ott. Syn. G.	3231	5823	5711	6072	5209	5122
Rise	3174	6341	6217	6268	5500	5230
S 6982	3082	5299	6172	5146	4925	4968
Mean	3149	5906	6050	5822	5255	5114
L.S.D. 5%	N.S.	674	N.S.	N.S.		
C.V. %	16.7	7.4	8.5	16.1		

J.M. Wauthy

A.V. Skepasts

Red fescue - Forage yield of variety test at Agronomy Section, Ottawa
Research Station 1967-69.

Variety	Yield D.M. lb/a.			3 year Mean
	1967	1968	1969	
Boreal	3331	1488	2939	2586
Common	1875	1725	2992	2197
Late Poly X	2271	778	2327	1792
Durlawn	2123	899	2424	1815
Rainier	1610	1917	2848	2125
Duraturf	1961	438	2191	1530
S 59	1799	489	2237	1508
Ott. Syn. A	1238	847	2181	1422
Mean	2026	1150	2517	1872
L.S.D. 5%	173	213	251	
C.V. %	15.2	16.0	8.5	

D.R. Gibson

1969 FARM FORAGE TRIALS, ONTARIO
LEGUMES

Alfalfa Trials 1966 seeding Saranac Check

1. Saranac, Vernal: No difference in winter hardiness, but Saranac preferred because of slightly earlier growth and higher volume of regrowth.
2. Saranac, Apex, Dupuits: Saranac preferred because of winter hardiness and tolerance of poor drainage. Apex was classed as least desirable in all cases.

1968 seeding Iroquois Check

3. Iroquois, Vernal:
 - 4 of 9 reporting could see no difference
 - 2 reported Iroquois as being leafier
 - 2 reported Iroquois as more winterhardy than Vernal
 - 1 reported 50% winterkill or Iroquois compared with none of Vernal

Trefoil trials 1964 seeding Leo check

1. Leo, Empire and Viking:
 - Leo preferred over Empire and Viking on winterhardiness, drainage tolerance, and early growth.

1968 seeding

2. Leo, Empire:
 - No great differences noted by co-operators reporting.
3. Leo, Empire, Wallace:
 - 2 of 5 reporting Wallace the same maturity as Leo
 - 1 of 5 reporting Wallace earlier than Leo
 - 2 reporting no apparent differences
 - 1 reporting Leo as more tolerant of poor drainage than Empire or Wallace

SUMMARY - On a farmer's evaluation, Saranac has proved very satisfactory on almost every location. Iroquois compares favourably with Vernal in fine texture, yield and maturity and in some locations shows some apparent tolerance of poor drainage. Leo has been consistently preferred by farmers because of its tolerance of poor drainage. No practical difference between Saratoga, Red Patch and Magna. Climax continues to be the preferred timothy on almost every farm.

1969 WEATHER RECORDS

Average Daily Maximum and Minimum Temperatures For Each
Month During the 1969 Growing Season

Temperature (°F)		April	May	June	July	Aug.	Sept.	Oct.
Harrow	Max.	66.7	66.5	70.7	78.9	81.2	71.0	58.7
	Min.	38.2	46.8	55.6	63.1	62.3	55.3	43.3
Ridgetown	Max.	55.2	64.4	69.6	78.4	81.1	70.9	58.1
	Min.	37.3	45.8	54.1	62.0	61.6	54.8	43.2
London	Max.	55.9	65.1	70.8	79.0	82.6	72.0	56.5
	Min.	33.9	40.4	50.3	58.6	56.3	49.2	37.7
Guelph	Max.	53.7	63.1	70.6	78.5	80.8	70.0	55.5
	Min.	34.3	41.7	51.4	56.9	56.1	48.8	38.5
Elora	Max.	52.6	63.4	70.0	77.6	80.3	69.5	55.4
	Min.	34.2	41.4	50.3	55.8	54.8	48.2	36.5
Smithfield	Max.	54.4	62.3	70.7	77.0	78.7	69.6	55.9
	Min.	34.0	40.9	51.3	57.5	59.0	49.4	38.6
Kemptville	Max.	52.2	62.7	72.6	79.3	80.5	68.0	55.7
	Min.	33.9	41.7	53.6	58.5	59.0	48.9	36.3
Ottawa	Max.	50.9	62.1	72.8	78.5	80.1	66.8	53.9
	Min.	33.8	41.2	54.0	58.2	60.0	49.4	38.3
New Liskeard	Max.	45.7	59.3	67.9	75.7	77.2	63.3	47.3
	Min.	23.0	37.4	46.1	53.1	55.5	42.5	34.7
Kapuskasing	Max.	42.5	55.3	62.8	73.8	74.6	58.1	42.6
	Min.	21.3	33.4	42.2	50.1	53.4	39.6	29.2
Gore Bay (A)	Max.	47.5	57.0	64.2	75.2	78.1	65.6	50.7
	Min.	30.8	39.4	47.1	57.2	60.2	48.7	39.8
Fort Frances	Max.	54.7	61.8	63.9	75.8	78.9	64.5	44.1
	Min.	31.6	40.0	43.3	53.5	56.9	46.2	31.9
Fort William	Max.	50.4	58.5	62.2	75.0	78.8	63.5	46.4
	Min.	28.5	33.7	40.5	50.5	54.5	42.5	29.4

1969 WEATHER RECORDS

Departure of 1969 Growing Season From Normal

Precipitation (In.)	April	May	June	July	Aug.	Sept.	Oct.
Harrow	+1.9	+2.8	+0.8	+6.2	-0.1	+0.1	0.0
Ridgetown	+1.4	+3.3	+0.6	+2.1	-1.3	-1.0	-0.6
London	+0.8	+1.2	+0.2	-1.4	-2.0	-2.3	+0.7
Guelph	+1.2	+0.3	-1.0	-0.7	-0.8	-2.3	+0.3
Smithfield	-1.1	+1.2	+0.6	+3.9	-1.6	-2.1	-1.0
Kemptville	+1.8	+0.6	+1.4	-0.6	-1.6	-0.5	-0.5
Ottawa	+2.0	+0.8	0.0	+0.7	-0.7	-2.1	-0.9
New Liskeard	-0.5	-0.2	+1.5	+0.7	-1.7	-0.4	+3.1
Kapuskasing	0.0	0.0	+0.7	+3.2	+2.5	+0.5	+2.2
Gore Bay (A)	+0.5	-0.7	+1.2	-0.3	-1.4	-1.2	+2.3
Fort Frances	-0.5	0.0	-0.8	+1.2	-1.4	-1.3	+1.7
Fort William	-0.6	-0.3	-0.9	-1.4	-1.3	-0.9	-0.9

1969 WEATHER RECORDS

Monthly Total Precipitation for 1969 Growing Season

Precipitation (In.)	April	May	June	July	Aug.	Sept.	Oct.
Harrow	4.6	5.5	3.8	8.7	2.5	2.4	2.2
Ridgetown	4.5	6.3	3.3	4.9	1.4	1.5	2.1
London	4.0	4.3	3.4	2.0	0.8	1.0	3.6
Guelph	3.9	3.5	2.0	2.5	2.2	0.6	2.9
Elora	4.1	3.6	1.8	3.7	1.4	0.5	3.1
Smithfield	2.7	4.5	3.0	6.4	1.6	0.9	2.2
Kemptville	4.5	3.5	4.1	2.2	1.3	2.6	2.1
Ottawa	4.7	3.5	3.0	3.9	2.6	1.1	1.7
New Liskeard	1.0	2.1	4.7	4.2	1.7	3.3	5.7
Kapuskasing	1.6	2.5	3.6	6.3	5.6	3.6	4.6
Gore Bay (A)	3.5	1.6	3.7	2.1	0.7	2.0	5.4
Fort Frances	1.5	2.7	3.3	5.0	2.5	2.0	3.6
Fort William	1.4	2.5	2.3	1.6	2.1	2.3	1.6

1969 WEATHER RECORDS

Departure of 1969 Growing Season From Normal

Temperature (°F)		April	May	June	July	Aug.	Sept.	Oct.
Harrow	Max.	+1.6	-0.6	-7.3	-3.4	+0.5	-2.3	-3.1
	Min.	+1.5	-0.9	-3.0	0.0	+0.4	+1.0	-0.5
Ridgetown	Max.	+1.6	-0.9	-7.6	-3.9	+0.7	-1.7	-2.8
	Min.	+1.1	-0.6	-2.7	+0.5	+1.4	+0.9	-0.7
London	Max.	+3.2	+0.1	-4.7	-1.5	+3.7	+1.3	-2.5
	Min.	-0.2	-3.7	-3.9	-0.1	-1.3	-1.1	-2.4
Guelph	Max.	+2.4	-0.8	-3.7	-0.8	+3.1	+0.2	-2.4
	Min.	+1.0	-1.9	-1.9	-0.5	+0.1	-0.3	-0.8
Smithfield	Max.	+2.9	-1.1	-2.7	-1.7	+0.9	+1.1	-1.2
	Min.	+1.5	-1.9	-1.9	-0.6	+2.0	+0.7	+0.7
Kemptonville	Max.	-0.1	-3.8	-3.8	-2.1	-1.4	+1.9	-1.7
	Min.	+1.1	-2.1	0.0	+0.6	+3.5	+1.1	-0.7
Ottawa	Max.	+0.6	-3.3	-2.2	-1.4	+1.9	-1.5	-2.0
	Min.	+1.4	-2.5	+0.5	+0.3	+4.4	+1.3	+0.8
New Liskeard	Max.	-1.6	-3.3	-5.1	-1.8	+1.9	-1.8	-6.7
	Min.	-1.3	+1.1	-1.9	-0.1	+4.9	-0.7	+0.4
Kapuskasing	Max.	-0.6	-2.3	-6.6	-0.8	+2.6	-1.8	-5.5
	Min.	-0.2	-1.4	-4.0	-1.7	+3.8	-2.3	-3.8
Gore Bay (A)	Max.	+0.5	-2.8	-5.7	-0.6	+3.5	+1.0	-3.2
	Min.	+1.0	-1.6	-4.2	-0.8	+2.4	-1.7	-0.7
Fort Frances	Max.	+5.7	-1.2	-8.3	-2.5	+3.9	+0.1	-9.1
	Min.	+3.2	-0.6	-7.4	-2.8	+2.9	+1.7	-2.9
Fort William	Max.	+4.7	-0.1	-6.3	-0.2	+5.7	+0.5	-5.6
	Min.	+2.6	-2.6	-5.6	-1.3	+3.6	-0.1	-3.8