

FORAGE CROP INVESTIGATIONS - ONTARIO

1972 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, and is intended for the use of the members and others interested in the forage program in Ontario. Included herein are data from trials established at the seven research stations listed on the cover. Generally, only data collected in 1972 are included, although in some cases, data from previous years are included also. Thus, the data found herein should not be considered as complete.

In 1972, no tests were conducted on the following species: birdsfoot trefoil, clovers, meadow fescue. No promising new varieties in these species were available, so no trials were established in 1971.

Ontario Forage Crops Committee

Chairman - W.R. Childers, Forage Section, Ottawa Research Station
Secretary - H.E. Wright, C.A.T., Kemptville.

1972 Co-ordinators

<u>Name</u>	<u>Species</u>
Dr. H. Baenziger, Forage Crops Section Ottawa Research Station Canada Agriculture, Research Central Experimental Farm, Ottawa, Ontario K1A 0C6	Alfalfa, White & Red Clover
Dr. F.S. Warren, Agronomy Section Ottawa Research Station Canada Agriculture, Research Branch Central Experimental Farm Ottawa, Ontario K1A 0C6	Brome, Miscellaneous grasses (Reed canary, fescue etc.)
Dr. W.R. Childers, Chief, Forage Section Ottawa Research Station Canada Agriculture, Research Branch Central Experimental Farm Ottawa, Ontario K1A 0C6	Orchardgrass
Mr. H.E. Wright Kemptonville College of Agr. Technology Kemptonville, Ontario	Trefoil
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Prof. R.S. Fulkerson,
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Management Studies
Special Species - Sainfoin and
Crown Vetch

Special Species - Kale, Rape

Alfalfa Seedings 1970-1972

Standard

1970

Vernal
Iroquois
Atra 50
Atra 55
DeKalb 123
Weevlcheck
Dominor
K8-607
K0-6
WL 215
WL 216
WL 217

1971

Vernal
Iroquois
Atra 55
Weevlcheck
K8-607
WL 216
WL 217
OR 16
Kane

1972

WL 215
EA-21
Klondike
OR 16
Weevlcheck
WL 202
WL 210
Titan
N7-5
Vernal
Iroquois

Early

Saranac
Promor
Thor
WL 306
Anchor
DeKalb 153
WL 308
Superstan
BW 9
TX 202
MX 82
Team
Tempo
BW 13

Saranac
WL 308
Superstan
BW 9
T3X-405
WL 309
OD 17
Z 9062
Pioneer 530

Saranac
WL 309
EA 91
Americana
Thor
Anchor
OD 17
BW 9

Standard Alfalfa

Ridgetown (1022)

1971 Seeding - 1972 yields lbs/a

	Cut 1	Cut 2	Cut 3	Total	Kg/ha
Vernal	5209	2639	2619	10467	11734
Iroquois	5291	2946	3030	11267	12630
WL 217	4937	2890	3051	10878	12194
Weevlcheck	4761	2977	3038	10776	12080
K8-607	4759	2654	2693	10106	11329
WL 216	4936	2838	2837	10611	11895
Atra 55	5185	3036	2708	10929	12251
OR-16	5099	2802	2686	10587	11868

Ridgetown (1026)

1972 Seeding - 1972 yields

WL 215	3243	3635
EA-21	3178	3562
Klondike	3182	3568
OR-16	3085	3458
Weevlcheck	3106	3482
WL 202	3198	3585
WL 210	3171	3554
Titan	3221	3611
N7-5	3197	3583
Vernal	3264	3659
Iroquois	3174	3558
C.V.	6.98	6.98
LSD	321	360

Early Alfalfa

Ridgetown (1021)

1971 Seeding - 1972 yields lbs/a.

	Cut 1	Cut 2	Cut 3	Total	Kg/ha
Saranac	4781	3214	2895	10890	12208
WL 308	5136	2869	2840	10845	12157
Superstan	5080	3052	2990	11122	12468
T3X-405	4670	3259	3024	10953	12278
Z-9062	5517	2194	1662	9373	10507
Pioneer 530	4847	3319	2991	11157	12507
BW 9	5091	3044	3109	11244	12605
OD 17	5136	3159	3185	11480	12869
WL 309	4929	3086	2805	10820	12129

Ridgetown (1025)

1972 Seeding - 1972 yields

Saranac	3093	3265	6358	7127
WL 309	3061	3326	6387	7160
EA - 91	3334	2587	5921	6637
Americana	3033	3225	6258	7015
Thor	3537	2910	6447	7227
Anchor	3039	2518	5557	6230
OD-17	3365	3297	6612	7468
BW 9	3161	3148	6309	7073
C.V.	11.37	11.55	5.47	5.47
LSD	536	516	578	563

Variety Trials, Thunder Bay

Thunder Bay (7043) 1970 Seeding

Early	1972 Yields lbs/a			1971 Yields	2-Year Means	
	Cut 1	Cut 2	Total		lbs/a	kg/ha
Saranac	3375	2125	5500	6175	5838	6544
Warrior	3912	1983	5895	6050	5973	6696
Anchor	3009	2204	5213	6316	5765	6463
WL 306	3640	2131	5771	5842	5807	6510
Thor	3174	2234	5408	6117	5763	6460
Promor	3246	2116	5362	5935	5649	6333
DeKalb 153	3228	2056	5284	5733	5509	6176
WL 308	3487	2192	5679	6272	5976	6699
Superstan	3590	2185	5775	6302	6039	6770
TX 202	2990	2123	5113	5931	5522	6190
MX 82	3304	2006	5310	5865	5588	6264
BW 9	2830	2219	5049	6159	5604	6282
Tempo	3511	2222	5493	5342	5418	6074

Standard

Iroquois	3247	2135	5382	6335	5859	6568
Vernal	3771	1981	5752	5991	5872	6583
Atra 50	3551	2181	5732	6381	6057	6790
Atra 55	3441	2030	5471	6336	5904	6618
DeKalb 123	3603	2053	5656	5899	5778	6477
Weevilcheck	3920	2093	6013	5609	5811	6514
Dominor	3455	2053	5508	5892	5700	6390
K8-607	3241	1998	5239	5464	5352	6000
WL 216	3388	2045	5433	5851	5642	6325
WL 217	3880	2087	5967	6083	6025	6754
CV	15.87	7.58	10.42			
LSD	621	182	658			

Variety Trials, Thunder Bay

Thunder Bay (7048) 1971 Seeding

1972 Yields lbs/a

<u>Standard</u>	Cut 1	Cut 2	Total	Kg/ha
Vernal	3941	1493	5434	6092
Iroquois	3894	1409	5302	5943
WL 216	3806	1537	5343	5990
WL 217	3956	1364	5320	5964
Weevilcheck	3802	1381	5183	5811
Atra 55	4311	1526	5837	6543
OR16	3842	1519	5361	6009
<u>Early</u>				
Saranac	4338	1631	5969	6691
WL 308	4113	1484	5597	6274
WL 309	4012	1512	5524	6192
Superstan	3882	1560	5442	6101
T3X-405	3941	1562	5503	6169
Z-9062	4266	896	5162	5786
Pioneer 530	4128	1366	5494	6158
BW 9	3779	1403	5182	5809
OD 17	3510	1214	4724	5296
CV	10.46	12.48	8.83	8.83
LSD	535	205	548	614

Variety Trials, Kapuskasing

Kapuskasing (6454)	1970 Seeding			1971	2 Year	Means
	1972 Yields lbs/a			Yields	lbs/a	Kg/ha
	Cut 1	Cut 2	Total			
Iroquois	2709	1959	4668	5265	4967	5568
Vernal	2778	2048	4826	5655	5241	5875
Weevilcheck	2531	2006	4537	5493	5015	5622
Atra 50	2586	1841	4427	5159	4793	5373
Atra 55	2561	1926	4487	- -	- -	- -
DeKalb 123	2165	1493	3658	- -	- -	- -
Dominor	2388	1640	4028	5156	4592	5148
K8-607	2441	1684	4125	4675	4400	4932
KO-6	2396	1460	3856	5361	4609	5167
WL 216	2670	1777	4447	5326	4887	5478
WL 217	2450	1782	4232	5268	4750	5325
CV	16.68	15.09	14.73	11		
LSD	605	388	913	873		
Kapuskasing (6478)						
Saranac	2091	1953	4044	5202	4623	5182
Anchor	2736	2220	4956	5150	5053	5664
WL 306	1941	1884	3825	4798	4312	4834
Thor	2236	2046	4282	5198	4740	5314
Promor	2103	2188	4291	4676	4484	5027
DeKalb 153	1992	1930	3922	5029	4476	5018
Warrior	2223	2120	4343	5041	4692	5260
WL 308	2092	2021	4113	4933	4523	5070
Superstan	2314	1984	4298	5072	4685	5252
TX 202	2032	2082	4114	4996	4555	5106
MX 82	2246	1995	4241	4699	4470	5011
BW 9	2228	2124	4352	5180	4766	5343
Tempo	2205	2108	4313	4682	4498	5042
CV	15.72	13.91	12.14	11		
LSD	494	410	739	860		

Variety Trials, Kapuskasing

Kapuskasing (6455) 1971 Seeding

1972 Yields lbs/a

Standard	Cut 1	Cut 2	Total	Kg/ha
Vernal	2480	2229	4709	5279
Iroquois	2327	2349	4676	5241
WL 216	2242	1965	4207	4715
WL 217	2180	1855	4035	4523
Weevilcheck	2288	2186	4474	5015
Atra 55	2283	2152	4435	4971
OR-16	2473	2198	4671	5237
Kane	-	1365	1365	1530

Early

Saranac	2087	2027	4114	4612
WL 308	2151	1803	3954	4432
WL 309	2103	1817	3920	4394
Superstan	2579	2023	4602	5159
T3X-405	2347	2175	4522	5070
Z-9062	2455	856	3311	3712
Pioneer 530	2715	2536	5251	5886
BW9	2554	1967	4521	5068
OD-17	2576	2506	5082	5697

CV	2616	20.70	21.06	21.06
LSD	669	476	1022	1146

Alfalfa Variety Tests

New Liskeard (8002)

1969 Seeding

	1972 Yields lbs/a			1971 Yields lbs/a	1970 Yields lbs/a	3-Year Mean lbs/a Kg/ha	
	Cut 1	Cut 2	Total				
Aranaac	3554	3031	6585	6719	5625	6310	7074
Vernal	4385	2763	7148	6858	5806	6604	7403
Ladak	3880	2995	6875	6330	5507	6237	6992
Horseman	4090	2566	6656	6937	5560	6384	7156
Beaver	4070	2632	6702	6270	5795	6256	7013
Boamer	3956	2624	6580	6558	5571	6236	6991
Teton	4070	3096	7166	6583	5819	6523	7312
Travois	3914	2782	6696	6339	5591	6209	6969
CV	9.21	13.73	8.18	12	5		
LSD	540	568	8.18	1147	N.S.		

TEST OF ALFALFA STRAINS FOR RESISTANCE TO BACTERIAL WILT

OTTAWA - 1972

The 1972 test included 18 entries most of which are included in the provincial yield trials. The procedures were the same as those used in past years. The degree of disease development was perhaps slightly more severe than in previous tests.

Mean ratings for the 5 replications were as follows:

	<u>1972</u>	<u>1971</u>	<u>1970</u>
Thor	1.57	-	1.33
M. Phoenix	1.57	-	-
OR16	1.62	1.53	1.12
Vernal	1.65	1.49	1.42
Saranac	1.74	1.59	1.56
EA21	1.78	-	-
K8-607	1.81	1.74	1.74
Anchor	1.81	-	-
Iroquois	1.83	1.60	1.64
WL215	1.87	-	1.52
Klondike	1.93	-	-
Bonus	2.01	-	-
WL309	2.03	1.60	-
Americana	2.03	-	-
EA91	2.12	-	-
Superstan	2.16	2.22	1.75
Verneuil	2.81	-	-
Z9062	3.07	2.66	-

The last two entries, Verneuil and Z-9062 are very susceptible to bacterial wilt. The strains Bonus, WL309, Americana and EA91 are not sufficiently resistant to justify province-wide yield testing unless available data indicate that they have superior yield potential. Most of these strains will be included again in the 1973 wilt test to obtain readings in two separate tests.

Summary of Yield Data from Provincial Trials Seeded in 1970 & 1971

1. Standard Alfalfas

Location	Ridgetown		Guelph	Kemptville	Ottawa Pasture	Ottawa Hay	Kapuskasing			Thuder Bay			New Liskeard	Provincial
Year Seeded	1970	1971	1970	1970	1970	1970	1970	1970	1971*	1970	1970	1971*	1970	Mean
Year Harvested	1971	1972	1971	1971	1971	1971	1971	1972	1972	1971	1972	1972	1971	11 station years
<u>Variety</u>														
Weaverlcheck	7924	10776	8665	5889	5126	8409	5493	4537	4474	5609	6013	5183	6852	6845
K8-607	7106	10106	7406	5373	5419	7226	4675	4125		5464	5239		6927	6279
WL 216	7521	10611	8441	6036	5785	6611	5326	4447	4207	5851	5433	5343	7071	6648
WL 217	7807	10878	8524	5459	5373	6984	5268	4232	4035	6083	5967	5320	7015	6690
Vernal	7879	10467	7969	6239	6187	7738	5655	4826	4709	5991	5752	5434	7036	6885
Iroquois	7588	11267	8181	5447	6452	6395	5265	4668	4676	6335	5382	5302	7076	6732

* not included in provincial mean of standard alfalfas

2. Early Alfalfas

WL 308	9326	10845	8995	4547			4933	4113	3954	6272	5679	5597	6764	6457
Superstan	9388	11122	10102	5169			5072	4298	4602	6302	5775	5442	6889	6742
BW 9	9209	11244	9337	4500			5180	4352	4521	6159	5049	5182	6669	6491
Saranac	8779	10890	9620	5005			5202	4044	4114	6175	5500	5969	6893	6581

Exp. 7035

Provincial Alfalfa Test

Fort William

<u>Variety</u>	<u>Cut 1 - I.V.D. (1971)</u>
Saranac	64.1
Du Puits	64.3
Anchor	64.7
WL306	65.7
NK150	63.1
Promor	65.2
DeKalb 153	67.4
Iroquois	65.5
Vernal	66.3
Atra 50	64.7
Atra 55	66.5
De Kalb 123	66.1
Mean	65.3
C.V.	2.3
L.S.D.	N.S.

Exp. 7041

Trefoil Variety Hay

Fort William

<u>Variety</u>	<u>Cut 1 I.V.D. (1971)</u>
Leo	70.4
Empire	69.5
Viking	68.1
Wallace	70.5
Westriver	64.9
MCH - 67	70.4
Maitland	65.0
Mean	68.4
C.V.	1.18
L.S.D.	2.0

Exp. 7026

Red Clover Test

Fort William

Variety

I.V.D.
Cut 1

Dollard
Lakeland
Ottawa
Hungaropoli
OM-44

67.0
66.8
67.4
68.5
70.3

Mean
C.V.
L.S.D.

68.1
2.0
NS

Bromegrass

The recommended list in Publication 296 includes the varieties Baylor, Redpatch, Saratoga and Lincoln. A request has been received to add the variety Magna as a substitute for the better varieties in the event seed of the better varieties is not available. The variety Lincoln is suggested for removal from the list.

For the 1972 seeding, tests were sent out to 7 locations including the varieties Saratoga (Check), Baylor, Syn D, S7830 (New Magna) and Carleton. No uniform tests were sent out in 1971. However, tests were grown at Experimental Farm, Kapuskasing, and University of Guelph. A summary of yield data from the 1972 harvest of these tests is shown in Tables 1 and 2 respectively.

F.S. Warren,,
Coordinator.

8.1.73

Table 1. Bromegrass Variety Trial, Kapuskasing, Ont. 1972

Variety	Cut 1		Cut 2		Total	
	lb/A	KG/HA	lb/A	KG/HA	lb/A	KG/HA
S-6324	3954	4432	3730	4181	7683	8613
S-6325	3264	3659	3401	3813	6666	7472
S-6363	3860	4327	3722	4173	7583	8500
S-6733	3690	4137	3536	3964	7226	8101
BSG-1 (Syn 2)	3641	4082	3643	4084	7284	8165
Brandon 988	3634	4073	3819	4281	7453	8355
Brandon 1000	3559	3990	3780	4237	7339	8227
Baylor	3313	3714	3868	4336	7181	8050
Saratoga	3526	3953	3637	4077	7163	8030
Redpatch	3582	4016	3767	4223	7349	8239
Syn D 1	3250	3644	3544	3972	6794	7616
LSD (5%)	633 lb/A		417 lb/A		899 lb/A	
C.V.	15.3%		918%		10.7%	
J.M. Wauthy						

Table 2. Bromegrass Variety Trial, Guelph 1972

Polar	5510	6177	2868	3215	8378	9392
G3333	4837	5423	2870	3217	7707	8640
Saratoga	6364	7134	2901	3252	9264	10385
Baylor	6768	7587	3462	3881	10230	11468
Camp BPX # 3	5637	6319	2528	2834	8164	9152
LSD (5%)	843 lb/A		547 lb/A		960 lb/A	
C.V.	12.0 %		15.5%		9.1%	
B.R. Christie						

Exp. 7007

Brome Prov. Test, 1971

Fort William

<u>Entry</u>	<u>Cut1 I.V.D.</u>
1. Baylor	72.2
2. Saratoga	73.2
3. Redpatch	71.6
4. Synthetic 0-1	73.8
5. S-6324	72.0
6. S-6325 (Magna)	73.7
7. S-6363	72.4
8. S-6733	74.7
9. Syn-2-S-5824	74.6
10. Brandon 988	75.0
11. Brandon 1000	74.8
Mean	73.5
C.V.	2.0
L.S.D.	(NS)

ORCHARD GRASS

Severe icing conditions in eastern and Southern Ontario wiped out the Ottawa and Kemptville orchard grass tests and differential area killing made the Guelph test invalid for recommendation purposes.

Currently in 296, we have Rideau and Kay in the later maturing group, while Tardus II and Frode are recommended as earlier cultivars.

In 1971, OSG 7 and Hallmark both earlier types were recommended for licensing. Norstern and Majestic of the later maturity group have been licensed in the recommendation of the Ontario Forage Committee. No reports have been received for further action on any of these cultivars, so no summary yields have been prepared.

In the 1971 minutes it was noted that Ott P-1 was similar in yield to the other early varieties OSG 7 and Hallmark. At that time I was not prepared to recommend licensing. Since we have sent considerable seed to Japan for testing, I would now like to ask the Committee to consider recommending this variety for licensing.

The data received in 1972 will be considered. In Table H-2, the early cultivar Napier was highest yielding. In Table 3, there was no significant difference for cultivars. Table H-3A indicates winter killing estimates in this test at Guelph. In Table 4, Lemba, Holstenkamp and Kay, all later maturing cultivars yield best in that order.

At Kapuskasing, Table 5, Ottawa P1, Kall, both early cultivars yielded first and second while Kay was third.

A comparison between cultivars at three locations, 1st cut only showed a variation between 4200 and 4751 mean yields. The early type, Ott P-1 and Napier with 1st and 2nd while Kay ranked 3rd. A comparison between the cultivars at two locations, Table 7, varied from 6061 to 6979. Lemba, Ott P-1 and Napies yielded in that order.

At New Liskeard, Table 8, yields varied from 6457 to 7572, Ott P-1, OSG 7 and Rideau yielded highest in that order.

At Kapuskasing, Table 9, a test seeded in 1970, the yields varied from 4353 to 5748, Bummer, OSG 7 and Kay yielded highest in that order. At New Liskeard, a test seeded in 1970, the yields varied from 6878 - 8017; Hallmark, OSG 7 and Norstern yielded highest in the test.

At Thunder Bay, Table II, yields varied from 6166 to 7811; Hallmark, OSG 5 and Kay yielded highest in that order. At Kapuskasing with two treatments of N, the yields varied from 4043 to 5614; Kay, OSG 7 and Majestic yielded highest in that order. The mean yield difference due to treatment 1 vs. treatment 2 was just over 500 lbs. dry matter.

W.R. Childers

Expt. 1023

ORCHARD GRASS VARIETY TEST

RIDGETOWN, ONTARIO

SEEDED 1971

Yield in dry matter lbs/acre and kg/ha

Name	Cut 1	
	lb/ac	kg/ha
Ottawa P-1	4921 ab	5517
Kay	4763 b	5340
Frode	4918 ab	5513
Rideau	4567 bc	5119
Kall	4899 ab	5491
Unke	4664 bc	5228
Mullus	4433 bc	4970
Elite 99	4525 bc	5073
Lemba	4211 c	4721
Napier	5348 a	5995
Holstenkamp	4512 bc	5058
K8-120 NK	4720 bc	5291
K8-123 NK	4884 ab	5475

Mean	4720.82
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C.V.	8.45
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L.S.D.	460.86
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Expt. 2704

PROVINCIAL ORCHARD GRASS TEST

GUELPH, ONTARIO

SEEDED 1971

Yield in dry matter lbs/acre and kg/ha

Name	Cut 1		Cut 2		TOTAL	
	lb/ac	kg/ha	lb/ac	kg/ha	lb/ac	kg/ha
Ottawa P-1	5111	5729	2937	3293	7512	8421
Kay	4980	5583	2318	2599	7299	8182
Frode	4944	5542	3105	3481	8050	9024
Rideau	5209	5839	2280	2556	7177	8046
Kall	4220	4730	2665	2988	6886	7719
Unke	4667	5231	2813	3154	7480	8385
Mullus	4662	5227	2978	3339	7132	7995
Elite 99	5315	5959	2988	3350	8304	9309
Lemba	5205	5835	2927	3281	8132	9116
Napier	4936	5533	3045	3414	7449	8350
Holstenkamp	4854	5441	2469	2768	7323	8209
K8-120	5337	5983	3106	3481	8443	9465
K8-123	4837	5422	2822	3163	7659	8586
Mean	4944.73		2804.62		7603.98	
C.V.	14.40		8.08		13.06	
L.S.D.	N.S.		N.S.		N.S.	

*This data not to be used for determining provincial variety means.

Exp. 2704 Orchardgrass Provincial Trial
Seeded: 1971

Guelph

<u>Variety</u>	<u>% Winterkill (May 12, 1972)</u>			<u>Date of First Cut (1972)</u>
	<u>Rep 1</u>	<u>Rep 2</u>	<u>Rep 3</u>	
Ottawa P-1	100	0	0	June 12
Kay	40	10	25	June 27
Frode	50	0	0	June 19
Rideau	20	5	0	June 27
Kall	10	0	0	June 14
Unke	10	0	0	June 14
Mullus	10	0	80	June 19
Elite 99	0	0	0	June 19
Lemba	0	0	40	June 19
Napier	5	75	0	June 12
Holstenkamp	10	50	40	June 27
K8-120	75	30	0	June 19
K8-123	60	25	25	June 19

There was some winterkilling in the first three replications of this test. However, it appeared to be related to location rather than to variety. As a result of winter damage the C.V. was rather high for the first cut, and the test is of little value in distinguishing varieties. For the first cut, each variety was cut as close as possible to its anthesis date.

Expt. 7049

PROVINCIAL ORCHARD GRASS TEST

THUNDER BAY, ONTARIO

SEEDED 1971

Yield in dry matter lbs/acre and kg/ha

Name	Cut 1		Cut 2		TOTAL	
	lb/ac	kg/ha	lb/ac	kg/ha	lb/ac	kg/ha
Ottawa P-1	3890 abc	4361	1193	1338	5084	5699
Kay	3993 ab	4476	1331	1492	5324	5969
Frode	3741 bc	4194	1448	1623	5190	5818
Rideau	3713 bc	4163	1450	1625	5164	5788
Kall	3909 abc	4382	1480	1659	5389	6042
Unke	3305 c	3705	1336	1497	4641	5203
Mullus	3504 bc	3927	1405	1575	4909	5503
Elite 99	3502 bc	3926	1360	1524	4863	5451
Napier	3685 bc	4131	1593	1785	5278	5917
Lemba	4483 a	5026	1343	1506	5827	6532
Holstenkamp	4110 a	4608	1649	1848	5760	6457
K8-120	3692 bc	4139	1322	1482	5015	5621
K8-123	3915 abc	4389	1428	1601	5344	5990
Mean	3803.84		1410.96		5214.81	
C.V.	13.17		24.28		13.54	
L.S. D	578.65		N.S.		N.S.	

Expt. 6081

PROVINCIAL ORCHARD GRASS TEST

KAPUSKASING, ONTARIO

SEEDED 1971

Yield in lbs/acre

Name	Cut 1		Cut 2		Total		Variety Mean
	75 N	150 N	75 N	150 N	75 lbs N	150 lbs N	
Ottawa P-1	2080	3268	3190	3510	3270	6778	6024
Kay	2128	3016	3054	3306	5182	6323	5752
Frøde	1747	2074	3128	3417	4875	5491	5183
Rideau	1141	2200	2703	3635	3845	5835	4840
Kall	1924	3052	3119	3616	5044	6668	5856
Unke	2217	2068	3323	3819	5540	5887	5714
Mullus	1234	1742	2880	3288	4114	5030	4572
Elite 99	1397	1779	2993	3037	4389	4817	4603
Lemba	1282	1960	2647	3469	3929	5430	4680
Napier	1788	2405	3101	3769	4890	6174	5532
Holstenkamp	1475	2449	2623	3165	4098	5615	4856
K8-120	1342	1969	2869	3499	4211	5468	4840
K8-123	1784	2168	2865	3030	4649	5198	4924
Total Mean	1657	2319	2961	3428	4618	5747	5183

PROVINCIAL ORCHARD GRASS TEST

H-7

GUELPH AND THUNDER BAY ONTARIO

Yield in dry matter lbs/acre

Name	Cut 1		Cut 2		Totals		Variety Means
	Guelph	Thunder Bay	Guelph	Thunder Bay	Guelph	Thunder Bay	
Ottawa P-1	5111	4219	3300	1193	8411	5413	6912
Kay	4980	4312	2318	1331	7299	5643	6471
Frode	4944	3741	3105	1448	8050	5190	6620
Rideau	5209	3713	2915	1450	8124	5164	6644
Napier	4936	3685	3360	1654	8296	5340	6818
Kall	4923	3909	2665	1480	7589	5389	6489
Unke	4667	3305	2813	1336	7480	4641	6061
Mullus	4662	3503	3259	1405	7922	4909	6415
Elite 99	5315	3502	2988	1360	8304	4863	6583
Lemba	5205	4482	2927	1343	8132	5827	6979
Holstenkamp	4854	4110	2469	1649	7323	5760	6542
H8-120	NK5337	3692	3106	1322	8443	5015	6729
H8-123	NK4837	3915	2822	1428	7659	5344	6501
	4998	3853	2927	1415	7926	5269	6597

NEW LISKEARD, ONTARIO

SEEDED 1969

Yield in dry matter lbs/acre and kg/ha

Name	Cut 1		Cut 2		TOTAL	
	lb/ac	kg/ha	lb/ac	kg/ha	lb/ac	kg/ha
N-1-77	3019 bc	3385	2770	3105	5790 b	6491
Bumper	3011 bc	3375	2749	3081	5760 b	6457
O.G. KC	3474 a	3895	2931	3286	6406 ab	7181
O.S.G. 5	2974 c	3334	2813	3154	5787 b	6488
O.S.G. 7	3414 ab	3827	3252	3645	6666 a	7472
FFR Syn-E Hallm	3329 abc	3732	3063	3434	6392 ab	7166
Rideau	3358 abc	3765	3244	3637	6603 a	7402
O.G. P-1	3700 a	4148	3054	3424	6755 a	7572
Mean	3285.28		2985.00		6270.30	
C.V.	9.67		11.41		8.84	
L.S.D.	327.49		N.S.		649.29	

Expt. 6076

PROVINCIAL ORCHARD GRASS TEST

KAPUSKASING, ONTARIO

SEEDED 1969

Yield in dry matter lbs/acre

Name	Cut 1		Cut 2		Total		Variety Mean
	75 lbs N	150 lbs N	75 lbs N	150 lbs N	75 lbs N	150 lbs N	
Norstern	2030	2027	2581	2730	4613	4758	4685
Bumper	2520	3470	2566	2937	5087	6408	5748
Kay	2022	2701	2754	3117	4776	5819	5297
Majestic	2209	2650	2486	3160	4695	5811	5253
OSG 7	2453	3144	2460	3154	4912	6299	5606
Hallmark	2015	3206	2390	2843	4406	6049	5227
Rideau	1693	1654	2723	2635	4416	4289	4353
Ottawa P-1	1962	1947	2702	2793	4665	4741	4703
Means	2113	2600	2583	2921	4696	5522	5109

Expt. 8503

ORCHARD GRASS VARIETY TEST

NEW LISKEARD, ONTARIO

SEEDED 1970

Yield in dry matter lbs/acre and kg/ha

Name	Cut 1		Cut 2		TOTAL	
	lb/ac	kg/ha	lb/ac	kg/ha	lb/ac	kg/ha
Rideau	3621	4059	3314 bcd	3715	6936 d	7775
O.G. KC	3876	4345	3001 d	3365	6878 d	7710
FFR Syn-E Hallm	4273	4790	3744 ab	4197	8017 a	8987
O.S.G. 7	3876	4345	4014 a	4500	7890 ab	8845
O.S.G. 5	3826	4289	3133 cd	3512	6959 cd	7802
O.G. P-1	4239	4752	3555 abc	3985	7795 abcd	8738
N-1-77	4145	4647	3717 ab	4167	7863 abc	8815
Unke	3749	4203	3815 ab	4277	7565 abcd	8480
Mullus	3660	4103	3541 abc	3970	7201 abcd	8073
Elite 99	3514	3939	3554 abc	3984	7068 bcd	7924
Flaxmere	3652	4094	3965 a	4445	7618 abcd	8540
Lemba	3821	4283	3965 a	4445	7786 abcd	8728
Mean	3854.77		3610.42			
C.V.	11.65		11.30			
L.S.D.	N.S.		471.25			

Expt. 7045

PROVINCIAL ORCHARD GRASS TEST

THUNDER BAY, ONTARIO

SEEDED 1970

Yield in dry matter lbs/acre and kg/ha

Name	Cut 1		Cut 2		TOTAL	
	lb/ac	kg/ha	lb/ac	kg/ha	lb/ac	kg/ha
Rideau	5088 bcd	5703	931 b	1044	6019 bcde	6748
Kay	5535 ab	6205	894 b	1002	6429 abc	7207
Hallmark	5737 a	6431	1230 a	1379	6968 a	7811
O.S.G. 7	5211 abcd	5842	1169 ab	1311	6381 abcd	7153
O.S.G. 5	5461 abc	6121	1221 a	1369	6682 ab	7491
Ottawa P-1	5190 abcd	5819	1101 ab	1234	6292 abcd	7053
N-1-77	5106 bcd	5724	1106 ab	1239	6212 bcd	6964
Unke	4966 bcde	5567	991 ab	1111	5958 cde	6679
Mullus	4824 cde	5408	1094 ab	1227	5919 cde	6635
Elite 99	4494 e	5038	1006 ab	1127	5500 e	6166
Lemba	4710 de	5280	918 b	1029	5629 de	6310
Mean	5120.75		1060.59		6181.34	
C.V.	8.58		19.33		8.70	
L.S.D.	509.59		237.86		624.39	

PROVINCIAL ORCHARD GRASS TEST

Expt. 6080

KAPUSKASING, ONTARIO

H-12

SEEDED 1970

Yield in lbs/acre

Name	Cut 1		Cut 2		Total		Variety Means
	75 lbs. N	150 lbs. N	75 lbs. N	150 lbs. N	75 N	150 N	
Rideau	2283	2523	2345	2956	4629	5479	5054
Kay	2602	3112	2326	3188	4928	6300	5614
Hallmark	2358	2775	2439	2875	4796	5650	5223
O.S.G. 7	2762	3009	2520	2847	5282	5856	5569
Majestic	2369	2848	2453	4779	4821	5627	5224
Ott. P-1	2101	2544	2301	3003	4402	5547	4975
Norstem	2281	2133	2378	3095	4659	5228	4943
Unke	1996	1567	2231	2422	4227	3989	4108
Mullus	1846	1637	2011	2693	3857	4329	4093
Elite 99	1764	1560	2129	2760	3893	4320	4107
Flaxmere	1742	1608	2143	2593	3885	4201	4043
Lemba	1935	1465	2625	2714	4559	4179	4369
Total Mean	2170	2232	2325	2827	4495	5059	4777

Provincial Orchardgrass Trial
I.V.D.

Variety	Fort William Exp. 7045 Cut 1 '71	Guelph		
		Exp 2704 Cut 1 1972	Exp. 2684 Cut 1 1971	Exp. 2696 Cut1 1971
Ottawa Strain K	71.2	63.6	63.0	62.1
Rideau	67.8	62.5	60.3	59.8
N-1-77	69.99		61.0	61.6
OSG-5	71.1		58.3	59.3
OSG-7	71.3		66.3	61.9
Hallmark	68.9		64.8	59.3
Unke	69.6	71.6		60.2
Mullus	67.6	64.7		62.5
Elite 99	67.4	63.7		60.9
Lemba	68.2	64.9		60.5
K8-120	68.5	66.8		
Ottawa P-1		69.3		59.7
Frode		67.1		
Kall		69.5		
Napier		68.4		
Holstenkamp		66.6	64.7	
K8-123		68.4		
Flaxmere				61.3
Bumper			62.4	
Mean	69.2	66.7	62.8	60.8
C.V.	2.0	2.7	-----	-----
LSD	NS	2.1	2.8	2.0

Timothy Variety Trials

November, 1972

There are five varieties of timothy presently recommended in Ontario--Champ, Climax, Itasca, Milton and Toro.

In line with our policy on variety testing, those varieties first seeded in 1970 and included in the 1971 seedings should be considered at this time. Table 1 summarizes the yields obtained from the 1970 seedings over all the locations from which data were obtained. Three of the recommended varieties (Climax, Itasca and Toro) were included in the 1970 seedings. As indicated by data in Table 1, these three are equal in yield. Of the remaining six varieties, the Ontario Forage Crops Committee previously decided against recommending Bounty (1970 minutes), and also decided against supporting for licensing Barenza (1970 minutes) and Kampe II (1971 minutes). The remaining varieties, Vanadis, Musiline and Oakmere are lower yielding than the check variety Climax.

In Table 2, data are presented on the yields of three strains first seeded in 1971. These strains are S3-9, Vallo and N-7-125. These three varieties were be considered for possible action in November 1973.

In summary, it is recommended that: (1) no changes be made in present variety recommendations for timothy; and (2) that the varieties Bounty, Vanadis, Kampe II, Barenza, Musiline and Oakmere be omitted from future tests, since they are not worthy of recommendation.

B.R. Christie,
Co-ordinator.

Table 1

Timothy Varieties Seeded in 1970, Ontario
Yield (lbs. D.M./acre)

<u>Variety</u>	<u>1971</u>		<u>1972</u>		<u>Average, 1971-72</u>	
	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>
Climax	4750	6760	4900	7270	4820	7020
Toro	4610	7130	4460	6960	4540	7040
Itasca	4820	7110	4550	6920	4680	7020
Bounty	4700	6580	4890	6710	4800	6640
Vanadis	4630	6520	4440	6650	4540	6580
Kampe II	4650	6490	4850	7270	4750	6880
Barenza	4790	6480	4380	6280	4580	6380
Melusine	4300	6100	3930	6160	4120	6130
Oakmere	3940	5430	3960	5710	3950	5570
Mean	4580	6510	4480	6660	4530	6580
C.V.	10.0	9.1	12.1	13.2		
L.S.D.	260	300	430	720		

- 1) In 1971, tested at Ridgetown, Guelph, Ottawa, New Liskeard, Kapuskasing and Thunder Bay.
- 2) In 1972, tested at Guelph, Ottawa, Kapuskasing, and Thunder Bay.

Table 2

Timothy Varieties - Seeded in 1971, Ontario
Yield-1972¹⁾

<u>Variety</u>	<u>Cut 1</u>	<u>Total</u>
Climax	5240	7720
Champ	5030	8150
Milton	5200	8060
Vanadis	4750	7170
Musiline	4120	6230
S3-9	5020	8150
Vallo	5160	7850
N-7-125	5340	8380
Mean	4980	7710
C.V. (%)	13.3	10.5
L.S.D.	410	660

- 1) Tested at Ridgetown Guelph Kemptville Ottawa Thunder Bay for 1st cut. Two cuts taken at Guelph Kemptville and Thunder Bay.

Table 3 Exp. 8402

<u>New Liskeard Seeded 1969</u>				
<u>Yield (lbs./acre) 1972</u>				
<u>Variety</u>	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>	<u>Ave. Yield 1970-72</u>
Climax	3700	3610	7310	5500
Bounty	4150	3460	7610	5430
Barenza	3500	2800	6300	4890
Itasca	3440	3500	6940	5160
Kampe II	3670	3180	6850	5050
Toro	3230	3710	6940	5370
Mean	3620	3380	7000	5230
C.V. (%)	10.4	14.1	9.5	
L.S.D. (5%)	450	570	790	

Table 4 Exp. 2697

<u>Guelph Seeded 1970</u>					
<u>Yield 1972 (lbs./acre)</u>					
<u>Variety</u>	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>	<u>Ave. Yield 1971-72</u>	<u>Date Headed</u>
Climax	6620	2600	9220	9720	July 1
Bounty	6590	2400	8990	9430	July 3
Itasca	5840	2880	8720	9850	July 2
Barenza	5860	2090	7950	8680	June 30
Kampe II	6900	2620	9520	9570	June 30
Toro	5780	3170	8350	9540	June 28
Vanadis	5850	2230	8080	8940	June 30
Musiline	4880	2320	7200	8070	June 30
Oakmere	5590	1650	7240	7360	July 10
Mean	5890	2440	8330		
C.V. (%)	15.8	10.0	13.0		
L.S.D. (5%)	1100	280	1270		

Exp. 7044

<u>Thunder Bay Seeded 1970</u>				
<u>Yield 1972 (lbs./acre)</u>				
<u>Variety</u>	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>	<u>Ave. 1971-72</u>
Climax	4860	1610	6470	6400
Bounty	4860	1500	6360	6370
Vanadis	4410	1670	6080	6090
Toro	4770	1740	6510	7010
Kampe II	4570	1580	6150	6260
Barenza	4260	1170	5430	6090
Itasca	4420	1560	5980	6410
Musiline	3830	2050	5880	5930
Oakmere	3730	1050	4780	4870
Mean	4410	1550	5960	
C.V. (%)	9.4	31.1	12.4	
L.S.D. (5%)	480	560	860	

Table 5 Exp. 4104

<u>Ottawa Seeded 1970</u>		
<u>Yield 1972 (lbs./ac.)</u>		
<u>Variety</u>	<u>Cut 1</u>	<u>Ave. 1971-72 (Cut)</u>
Climax	4550	4490
Kampe II	4190	4240
Toro	3970	4000
Oakmere	3300	3820
Itasca	4400	4290
Barenza	4000	4040
Musiline	3910	4060
Vanadis	3980	4280
Bounty	4520	4550
Mean	4090	
C.V. (%)	9.8	
L.S.D. (5%)	470	

Table 6 Exp. 1024

<u>Ridgetown Seeded 1971</u>	
<u>Yield 1972 (lbs./ac)</u>	
<u>Variety</u>	<u>Cut 1</u>
Climax	5590
Champ	5110
S3-9	5020
Vanadis	5091
Musiline	4830
Valto	5540
N7-125	5390
Milton	5520
Mean	5260
C.V. (%)	9.9
L.S.D.	N.S.

Table 7 Exp. 2705

<u>Guelph Seeded 1971</u>			
<u>Yield 1972 (lbs/ac)</u>			
<u>Variety</u>	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>
Climax	6170	2930	9100
Champ	5100	3970	9070
S3-9	4820	3820	8640
Vanadis	5550	2730	8280
Musiline	4860	2020	6880
Vallo	5910	2910	8820
N-7-125	5900	3380	9280
Milton	5880	3450	9330
T-10	5680	2910	8590
Mean	5540	3130	8670
C.V. (%)	8.8	14.5	9.0
L.S.D. (5%)	570	530	900

Table 8 Exp. 3072

Kemptville Seeded 1971
Yield 1972 (lbs./ac)

<u>Variety</u>	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>
Climax	5360	3290	8650
S3-9	5470	4490	9960
Musiline	4730	2880	7610
Essex	6220	4140	10,360
Champ	5660	4070	9730
Vanadis	5410	2260	8670
Climax F-2	6500	3420	9920
Milton	6210	3920	10,130
Mean	5690	3680	9370
C.V. (%)	19.5	12.5	13.7
L.S.D. (5%)	N.S.	670	N.S.

Table 9 Exp 4110

Ottawa Seeded 1971
Yield 1972 (lbs./ac)

<u>Variety</u>	<u>Cut 1</u>
Climax	4610
Champ	4590
S3-9	4930
Vanadis	4020
Musiline	3200
Vallo	4150
N7-123	4340
Milton	4690
59-67	4130
Mean	4290
C.V. (%)	16.1
L.S.D. (5%)	810

Table 10 Exp 7050

Thunder Bay Seeded 1971
Yield 1972 (lbs./ac)

<u>Variety</u>	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>
Climax	3700	1020	4720
Champ	4450	1270	5720
S3-9	3940	1240	5180
Vanadis	3840	990	4830
Musiline	3410	1210	4620
Vallo	3800	1170	4970
N-7-125	4310	1220	5530
Milton	3840	1020	4860
Mean	3910	1140	5050
C.V. (%)	6.1	20.3	7.1
L.S.D. (5%)	280	N.S.	420

Table 11. Exp. 6034. Kapuskasing. Seeded 1970

	<u>Yield - 1972 (lb/ac)</u>					
	<u>Cut 1</u>		<u>Cut 2</u>		<u>Total</u>	
	<u>75 lb N</u>	<u>150 lb N</u>	<u>75 N</u>	<u>150 N</u>	<u>75 N</u>	<u>150 N</u>
Climax	2650	2710	1430	2090	4080	4800
Bounty	2590	2880	1360	2340	3950	5220
Itasca	2750	2980	1260	2520	4010	5500
Barenza	2340	3180	1210	1822	3550	5000
Kampe II	2950	3010	1010	1900	3960	4910
Toro	2280	2880	1360	2560	3640	5440
Vanadis	2650	3190	1140	1980	3790	5170
Musiline	2120	3050	1410	2000	3530	5040
Cakmere	2500	2950	1280	1620	3780	4570
Mean	2540	2980	1270	2090	3810	5070
C.V.	13.2		13.2		11.6	
L.S.D. (5%)	N.S.	N.S.	440	440	N.S.	N.S.

Table 12. Exp. 6027. Kapuskasing. Seeded 1967.

<u>Variety</u>	<u>Yield - 1972 (lb/ac)</u>		
	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>
Climax	2930	2240	5170
Climax F-2	2650	2250	4900
Champ	3030	2640	5670
TM-60-104	2400	2320	4720
TM-60-101	2470	2470	4940
Topaz	2650	1880	4520
Tiger	1960	1570	3530
Cub	1980	1700	3680
Panther	1960	1570	3530
Lofar	1640	1530	3170
Bounty	2550	2300	4850
Labelle	2840	2260	5100
Heidemy	2630	1770	4400
Erecta	3420	1860	5280
Clair	2860	2500	5360
Mean	2530	2060	4590
C.V. (%)	18.2	8.4	11.3
L.S.D. (5%)	530	200	600

Table 13

Exp. 6029
 Kapuskasing Seeded 1969
 Yields-1972 (lbs./ac)

<u>Variety</u>	<u>Cut 1</u>		<u>Cut 2</u>		<u>Total</u>	
	75-N	150-N	75-N	150-N	75-N	150-N
Climax	3120	3410	1940	2750	5060	6160
Bounty	2690	3560	1460	2780	4150	6340
Itasca	3490	4030	1760	2430	5250	6460
Barenza	2710	3560	1140	2020	3850	5580
Kampe II	3280	3520	1310	2140	4590	5660
Toro	2511	3420	2110	2570	4620	5990
Mean	2970	3580	1620	2450	4590	6030
C.V.	10.8		12.1		9.6	
L.S.D.	430	430	300	300	620	620

Provincial Timothy Trial

<u>Variety</u>	Fort William		Guelph	
	Exp. 7044 1971		Exp. 2697 1972	
	<u>Cut 1</u>	<u>I.V.D.</u>	<u>Cut 1</u>	<u>I.V.D.</u>
Climax		73.0		62.1
Bounty		74.4		61.8
Itasca		74.5		60.9
Barenza		75.9		63.2
Kampe II		75.0		62.1
Toro		73.8		60.1
Vanadis		74.4		62.7
Musiline		75.3		61.7
Oakmere		75.6		64.6
Mean		74.6		62.1
C.V.		2.3		2.4
L.S.D.		N.S.		1.8

Other Grasses

The only "other grasses" included in Publication 296 recently has been Reed Canarygrass. Probably the only reasons for continuing to list this grass are its potential for forage production and its special adaptation to poorly drained areas. At present only the variety Frontier is recommended. A request has been received for adding the variety Rise to the recommended list. In previous tests this variety has performed as well as, or better than the check variety.

No uniform tests were in progress in 1972. However, other tests were harvested at Nedelec, P.Q, (C.D.A. Experimental Farm, Kapuskasing) and Thunder Bay. Yields from these tests are reported in Tables 1 and 2 respectively.

F.S. Warren,
Coordinator.

8.1.73

Table 1. Reed Canarygrass, Nedelec, P.Q. 1972

Variety	Cut 1		Cut 2		Total	
	lb/A	KG/HA	lb/A	KG/HA	lb/A	KG/HA
Frontier	5674	6361	4814	5396	10488	11757
Ottawa G	5551	6223	5594	6271	11145	12494
Grove	5260	5896	5227	5859	10487	11756
S-7358	5551	6222	5069	5683	10620	11905
Castor	5888	6600	4907	5500	10794	12101
BL-662	5961	6682	4570	5123	10531	11805
BL-663	5678	6365	4510	5055	10188	11420
LSD (5%)	770 lb/A		764 lb/A		1268 lb/A	
C.V.	9.2%		10.4%		8.1%	

J.M. Wauthy, Kapuskasing

Table 2. Reed Canarygrass, Thunder Bay, Ont. 1972

Variety	Cut 1		Cut 2		Total	
	lb/A	KG/HA	lb/A	KG/HA	lb/A	KG/HA
Rise	6897	7731	1128	1376	8124	9107
Grove	6271	7029	1104	1237	7374	8267
Frontier	6689	7498	1311	1470	8000	8968
Syn - G	6165	6911	1093	1225	7257	8135
S-6982	5737	6431	810	908	6547	7340
LSD (5%)	844 lb/A		284 lb/A		1066 lb/A	
C.V.	11.0%		21.2%		11.8%	

W.B. Towill

Exp. 7040

Reed Canary Test

Fort William

Variety

Cut 1 I.V.D.
(1971)

Frontier

63.1

S-6982

63.1

Ottawa Syn.G.

61.6

Rise

59.0

Grove

61.6

Mean

61.7

C.V.

5.1

L.S.D.

NS