

FORAGE CROP INVESTIGATIONS - ONTARIO

1974 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

Ontario Alfalfa Trials

Cultivars under test and test locations:

- 1972 seedings:
- a. Early cultivars: Saranac, Angus, Thor, Anchor, EA91, WL309, BW9, Americana
 - b. Medium cultivars: Vernal, Iroquois, Weevlcheck, Titan, WL202, WL210, Algonquin, WL215, EA21, Klondike, N7-5.
 - c. Test locations: Ridgetown, Guelph, Ottawa, New Liskeard, Kapuskasing, Thunder Bay.
- 1973 seedings:
- a. Early Cultivars: Saranac, Angus, Thor, Anchor, EA91, RP103(Citation), Nuggett
 - b. Medium cultivars: Vernal, Iroquois, Weevlcheck, Tital WL202, WL210, Algonquin, 520, WL215, N7-5, Aztec, Valor, Kodiak.
 - c. Test locations: Ridgetown, New Liskeard, Ottawa (winter-killed 1973/74)
- 1974 seedings:
- a. Early cultivars: Saranac, Angus, Thor, Anchor, RP103 (Citation), Nuggett, 530, WL311, Maris Phoenix, 131, K1-7, K1-10, CW5, Pacer, Saranac AR, Honeoye.
 - b. Medium cultivars: Vernal, Iroquois, Weevlcheck, Titan WL202, WL210, 520, Algonquin, Aztec, Valor, Kodiak, Klondike, Polar 1, K3-11, Agate, Ramsey, WL318 (originally entered as WL218).
 - c. Test locations: Guelph, Kemptville, Thunder Bay, Ottawa.

Standard Alfalfa Tests

1972 seedings, 1974 yields, 2-year means (kg/ha)

Ridgetown (1026)

	Cut 1	Cut 2	Cut 3	Total 1974	2-year mean
Algonquin	5858	3803	3353	13014	11276
EA21	5738	3971	3267	12976	11190
Klondike	5820	4051	3143	13014	11219
N7-5	6049	3703	3108	12860	11200
Iroquois	5715	4004	3267	12986	11229
Vernal	5818	3833	3012	12663	11074
Weevlcheck	5731	3937	3138	12806	11394
WL215	5654	3986	3102	12742	11209
Titan	5905	3939	3065	12909	11098
WL202	5845	3951	3016	12812	11065
WL210	5828	3867	3103	12798	11245
L.S.D. (5%)	482	407	415	816	
C.V.	5.75	7.20%	9.15%	4.39%	
F	N.S.	N.S.	N.S.	N.S.	

Guelph (2541)

Algonquin	3406	1682	-	5088	6059
EA21	3399	1518	-	4917	6106
Klondike	3442	1614	-	5056	6207
N7-5	3485	1460	-	4945	5912
Iroquois	3352	1643	-	4995	6194
Vernal	3324	1244	-	4568	5606
Weevlcheck	3483	1310	-	4793	5866
WL215	3430	1422	-	4852	5805
Titan	3384	1224	-	4608	5741
WL202	3529	1378	-	4907	5797
WL210	3388	1530	-	4918	5911
L.S.D. (5%)	279	329		448	
C.V.	5.65%	15.65		6.36%	
F	N.S.	N.S.		N.S.	

New Liskeard (8004)

	Cut 1	Cut 2	Total 1974	2-year mean
Algonquin	4492	584	5076	5963
EA21	5251	561	5812	6417
Klondike	4271	666	4937	5757
N7-5	4155	600	4755	5470
Iroquois	4679	744	5423	6062
Vernal	4766	557	5323	6012
Weevlcheck	3900	581	4481	5132
WL215	4605	608	5213	5797
Titan	4471	556	5027	5734
WL202	4992	557	5548	5906
WL210	4217	637	4854	5371
L.S.D. (5%)	1081	155	1022	
C.V.	16.54%	17.72%	13.79%	
F	N.S.	N.S.	N.S.	

Kapuskasing (6456)

Algonquin	2834	1403	4237	5009
EA21	3224	1526	4750	5321
Klondike	2882	1301	4183	5557
N7-5	4526	1582	6108	6339
Iroquois	4133	1627	5760	6663
Vernal	2760	1515	4275	4927
Weevlcheck	4075	1659	5734	6275
WL215	1760	1173	2933	4458
Titan	2670	1571	4241	4683
WL202	3796	1567	5313	5625
WL210	3483	1549	5032	5543
L.S.D. (5%)	1538	337	1788	
C.V.	32.41%	15.62%	25.92%	
F	*	N.S.	*	

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C.V.	32.41%	15.62%	25.92%	
F	*	N.S.	*	

Thunder Bay (7065)

	Cut 1	Cut 2	Total 1974	2-year mean
Algonquin	2256	985	3241	4710
EA21	1852	492	2344	4240
Klondike	2150	769	2919	4638
N7-5	2397	376	2773	4224
Iroquois	2271	968	3239	4785
Vernal	2090	505	2595	4193
Weevlcheck	2525	472	2997	4346
WL215	2195	564	2759	4429
Titan	2262	405	2667	4108
WL202	1978	503	2481	4127
WL210	2020	381	2401	3991
L.S.D. (5%)	304	196	403	
C.V.	12.01%	28.90%	12.54%	
F	**	**	**	

Summary, Standard Alfalfa, 1972 Seeding

	Ridgetown (1026) 2-yr. mean	Guelph (2541) 2-yr. mean	Ottawa 1973	New Liskeard (8004) 2-yr. mean	Kapuskasing (6456) 2-yr. mean	Thunder Bay (7065) 2-yr. mean
Algonquin	11276	6059	8155	5963	5009	4710
EA21	11190	6106	6799	6417	5321	4240
Klondike	11219	6207	7526	5757	5557	4638
N7-5	11200	5912	7160	5470	6339	4224
Iroquois	11229	6194	8017	6062	6663	4785
Vernal	11074	5606	7171	6012	4927	4193
Weevlcheck	11394	5866	7124	5132	6275	4346
WL215	11209	5805	7252	5797	4458	4429
Titan	11098	5741	6468	5734	4683	4108
WL202	11065	5797	7390	5906	5625	4127
WL210	11245	5911	7636	5371	5543	3991

Mean yield for southern stations (5 station yrs.)		Mean yield for northern stations with 1974 Kap. without 1974 Kap.* data(6 stn.yrs.) data (5 stn.yrs.)		Provincial Means 11 station 10 station* years years	
Algonquin	8565	5227	5425	6896	6995
EA21	8278	5326	5441	6802	6860
Klondike	8475	5317	5544	6896	7010
N7-5	8277	5344	5191	6811	6734
Iroquois	8573	5836	5852	7205	7213
Vernal	8106	5044	5198	6575	6652
Weevlcheck	8329	5251	5154	6790	6742
WL215	8256	4894	5287	6575	6772
Titan	8029	4842	4962	6436	6496
WL202	8223	5219	5200	6721	6712
WL210	8389	4968	4956	6679	6673

* These means do not include the 1974 Kapuskasing data due to high C.V. values.

Summary Early Alfalfa, 1972 Seedings

	Ridgetown(1025) 2-year mean	Guelph(2540) 2-year mean	Ottawa 1973	New Liskeard 2-year mean	Kapuskasing 2-year mean	Thunder Bay 2-year mean
Saranac	11393	6243	7059	5101	5033	3824
Anchor	11260	6155	7548	5396	5602	4054
Thor	11885	6301	8552	5380	4657	4006
BW9	11565	6123	6874	5399	5298	3985
Angus	11769	6262	7574	5534	5138	3984
WL309	11454	5657	7222	5494	4449	3760
EA91	11499	6094	7024	5056	4645	4573
Americana	10826	5836	6968	5180	4809	3822

	Mean yield for southern station (5 station yrs.)	Mean yield for northern stations (6 statn. yrs.)	(5 statn yrs.)*	Provincial Mean (11 statn.yrs.)	(10 statn. yrs.)*
Saranac	8466	4652	4700	6386	6583
Anchor	8476	5017	5000	6589	6738
Thor	8985	4681	4926	6637	6955
BW9	8448	4894	4946	6509	6697
Angus	8754	4885	5117	6644	6936
WL309	8232	4567	4854	6233	6543
EA91	8442	4425	4694	6250	6568
Americana	8058	4604	4720	6174	6389

*These means do not include Kapuskasing data due to high C.V. values.

New Liskeard (8004)

	Cut 1	Cut 2	Total 1974	2-year mean
Saranac	3980	214	4194	5101
Anchor	4330	216	4546	5396
Thor	3814	208	4022	5380
BW9	4592	198	4790	5399
Angus	4686	191	4877	5534
WL309	4796	222	5018	5494
EA91	4112	216	4328	5056
Americana	4097	204	4301	5180
L.S.D. (5%)	1045	29	1042	
C.V.	16.5%	9.52%	15.71%	
F.	N.S.	N.S.	N.S.	

Kapuskasing (6480)

Saranac	2640	1474	4114	5033
Anchor	3248	1854	5102	5602
Thor	2004	1449	3453	4657
BW9	3023	1610	4633	5298
Angus	2421	1304	3725	5138
WL309	1967	1269	3236	4449
EA91	1772	1303	3075	4645
Americana	2654	1366	4020	4809
L.S.D. (5%)	1167	409	1530	
C.V.	32.18%	19.15%	26.54%	
F.	N.S.	N.S.	N.S.	

Thunder Bay 7057)

Saranac	2295	686	2981	3824
Anchor	2207	749	2956	4054
Thor	2267	742	3009	4006
BW9	2470	758	3228	3985
Angus	2465	714	3179	3984
WL309	2397	630	3027	3760
EA91	2263	594	2857	3573
Americana	2323	692	3015	3822
L.S.D. (5%)	172	154	245	
C.V.	6.27%	18.85%	6.90%	
F	*	N.S.	N.S.	

New Liskeard (8005)

Early Varieties

	Cut 1	Cut 2	Total 1974
Saranac	5331	2713	8044
Anchor	5020	2588	7608
Thor	4368	2691	7059
Angus	4871	2356	7227
EA 91	5199	2437	7636
Nuggett	4372	2334	6706
Citation (RP103)	4727	2425	7152

Standard Varieties

Algonquin	4178	2387	6565
EA 21	5488	2476	7964
N7-5	5096	2437	7533
Aztec	4278	2432	6710
Kodiak	4731	2363	7094
Valor	5380	2435	7815
Iroquois	5180	2623	7803
Vernal	4371	2547	6918
Weevilcheck	4521	2374	6895
520	4990	2381	7371
WL-215	5563	2315	7878
Titan	4288	2348	6636
WL-202	4454	2173	6626
WL-210	4752	2104	6856
LSD(5%)	1470	260	1507
C.V.	21.57%	7.58%	14.72%
F	N.S.	**	N.S.

Summary Early Alfalfa, 1972 Seedings

	Ridgetown(1025) 2-year mean	Guelph(2540) 2-year mean	Ottawa 1973	New Liskeard 2-year mean	Kapuskasing 2-year mean	Thunder Bay 2-year mean
Saranac	11393	6243	7059	5101	5033	3824
Anchor	11260	6155	7548	5396	5602	4054
Thor	11885	6301	8552	5380	4657	4006
BW9	11565	6123	6874	5399	5298	3985
Angus	11769	6262	7574	5534	5138	3984
WL309	11454	5657	7222	5494	4449	3760
EA91	11499	6094	7024	5056	4645	4573
Americana	10826	5836	6968	5180	4809	3822

	Mean yield for southern station (5 station yrs.)	Mean yield for northern stations (6 statn. yrs.)	Mean yield for northern stations (5 statn yrs.)*(11 statn.yrs.)	Provincial Mean (10 statn. yrs.)*
Saranac	8466	4652	4700	6386
Anchor	8476	5017	5000	6589
Thor	8985	4681	4926	6637
BW9	8448	4894	4946	6509
Angus	8754	4885	5117	6644
WL309	8232	4567	4854	6233
EA91	8442	4425	4694	6250
Americana	8058	4604	4720	6174
				6583
				6738
				6955
				6697
				6936
				6543
				6568
				6389

*These means do not include Kapuskasing data due to high C.V. values.

1973 Alfalfa Trials

Ridgetown

Early varieties (1031)

	Cut 1	Cut 2	Cut 3	Total 1974
Saranac	5418	3878	2720	12016
Anchor	5048	3732	2771	11551
Thor	5567	4026	2758	12351
Angus	5293	3602	2767	11661
EA91	5411	3838	2806	12055
Nuggett	5284	3651	2440	11375
Citation (RP103)	5629	3259	2757	11645
LSD(5%)	647	662	352	927
C.V.	8.10%	12.00%	8.73%	5.29%
F	N.S.	N.S.	N.S.	N.S.

Standard Varieties (1030)

Algonquin	5735	3585	2908	12228
EA-21	5612	3762	2811	12185
N7-5	5838	3418	2795	12051
Aztec	5378	3779	2895	12052
Kodiac	6169	3714	2970	12853
Valor	5858	3745	2932	12535
Iroquois	5327	3774	2861	11962
Vernal	5675	3530	2477	11682
Weevlcheck	5889	3834	2817	12540
520	5704	3740	2861	12305
WL-215	5462	3559	2585	11606
Titan	5735	3568	2616	11919
WL-202	5856	3729	2751	12336
WL-210	5912	3799	2928	12639
LSD(5%)	466	206	421	771
C.V.	5.70%	3.91%	10.52%	4.42%
F	N.S.	**	N.S.	N.S.

New Liskeard (8005)

Early Varieties

	Cut 1	Cut 2	Total 1974
Saranac	5331	2713	8044
Anchor	5020	2588	7608
Thor	4368	2691	7059
Angus	4871	2356	7227
EA 91	5199	2437	7636
Nuggett	4372	2334	6706
Citation (RP103)	4727	2425	7152

Standard Varieties

Algonquin	4178	2387	6565
EA 21	5488	2476	7964
N7-5	5096	2437	7533
Aztec	4278	2432	6710
Kodiac	4731	2363	7094
Valor	5380	2435	7815
Iroquois	5180	2623	7803
Vernal	4371	2547	6918
Weevlcheck	4521	2374	6895
520	4990	2381	7371
WL-215	5563	2315	7878
Titan	4288	2348	6636
WL-202	4454	2173	6626
WL-210	4752	2104	6856
LSD(5%)	1470	260	1507
C.V.	21.57%	7.58%	14.72%
F	N.S.	**	N.S.

1974 Test of Alfalfa Cultivars for Resistance to Bacterial Wilt

The test included 30 entries representing licensed cultivars and experimental strains. Each entry was replicated five times (5 pots) with 15 plants per replicate. In some cases delayed germination led to somewhat more than 75 plants for the 5 replicates.

Cormacks procedure of inoculation and rating was used with the exception that dead plants were not included in the evaluation. The reason for this is the fact that at the time of rating it is not possible to determine whether bacterial wilt or other factors caused death because the roots are usually too severely decayed. The summary therefore includes simply the number of plants available for rating, the numbers in categories 1 to 4, and the mean rating based on these categories.

The majority of cultivars and experimentals have satisfactory levels of wilt resistance. When considering support for licensing, the committee should take into account both the ratings of cultivars as well as the number of plants available for rating.

Cultivars	Total No. plants	No. plants Rating				Mean
		1	2	3	4	
WL215	66	22	24	19	1	2.16
EA21	76	46	28	2	0	1.41
EA91	66	35	20	8	3	1.53
N7-5	75	38	30	7	0	1.58
Aztec	69	38	22	7	2	1.60
Valor	73	37	25	10	1	1.65
Kodiak	74	38	35	1	0	1.50
Klondike	70	39	25	6	0	1.51
RP103	76	43	22	8	3	1.64
Nuggett	79	39	31	8	1	1.65
530	59	27	21	11	0	1.75
WL318	75	46	21	7	1	1.50
Polar-1	66	38	20	6	2	1.64
K3-11	71	29	27	15	0	1.82
Agate	72	47	20	3	2	1.46
Ramsey	73	48	23	2	0	1.37
WL311	70	44	24	1	1	1.42
131	59	23	17	13	6	2.18
K1-7	75	44	22	9	0	1.54
K1-10	71	43	20	7	1	1.53
CW5	65	27	28	5	5	1.79
Pacer	53	19	21	8	5	2.14
Saranac AR	74	44	21	8	1	1.55
Honeoye	67	42	19	6	0	1.46
Saranac	71	39	24	7	1	1.58
Saranac (Found.)	74	46	20	8	0	1.50
Vernal	60	37	17	3	3	1.53
Iroquois	58	35	18	2	3	1.62
Angus	70	51	18	1	0	1.30
Algonquin	70	37	19	11	3	1.76

C.V. - 11.74%

L.S.D. - .39

Summary of all available data on WL 309 Alfalfa

Location	Ridgetown					Guelph		Mean	Ottawa	Mean
Year seeded	1971	1972	1972			1972			1972	southern
Year harvested	1972	1973	1973	1974	Mean	1973	1974		1973	stations
WL 309	12129	10160	9907	13000	11299	6920	4393	5657	7222	9104
Saranac	12208	9815	9658	13127	11202	7677	4809	6243	7059	9193
Angus	12869	10259	10459	13079	11667	7708	4815	6262	7574	9538

Location	Kapuskasing					Thunder Bay			Mean	New Liskeard		Mean	Mean	Provincial
Year seeded	1971	1972	1972			1971	1972	1972		1972	1973	1974	northern	Mean
Year	1972	1973	1973	1974	Mean	1972	1973	1973	1974	1973	1974	1974	stations	Mean
WL 309	4394	3495	5661	3236	4197	6192	5394	4492	3027	4776	5970	5018	5494	6506
Saranac	4612	3924	5951	4114	4650	6691	5489	4666	2981	4957	6007	4194	5101	6646
Angus	5697	4115	6551	3725	5022	5296	5420	4789	3179	4671	6190	4877	5534	6859

Comparisons of WL 215, EA-21, N7-5, Vernal and Algonquin Alfalfa

Location	Ridgetown				Guelph		Ottawa	Mean	New Liskeard			Kapuskasing		Thunder Bay	Mean	Mean	Provincial
Year seeded	1972	1973	1973	Mean	1972	1973	1972	southern	1972	1973	1974	1972	1973	1972	1973	northern	Mean
Year harvested	1973	1974	1974		1973	1974	1973	stations	1973	1974	1974	1973	1974	1973	1974	stations	Mean
WL 215	9675	12742	11606	11341	6757	4852	5805	7252	8814	6380	5213	7878	6490	5982	2933	4458	7068
EA 21	9404	12976	12185	11522	7294	4917	6106	6799	8929	7021	5812	7964	6932	5891	4750	5321	7316
M7 5	9540	12860	12051	11484	6878	4945	5912	7160	8906	6184	4755	7533	6157	6570	6108	6339	7282
Vernal	9485	12663	11682	11277	6643	4568	5606	7171	8702	6700	5323	6918	6314	5579	4275	4927	7007
Algonquin	9537	13014	12228	11593	7030	5080	6055	8155	9174	6849	5076	6565	6163	5781	4237	5009	7296

Comparison of EA-91, Saranac and Angus Alfalfa

Location	Ridgetown				Guelph		Ottawa	Mean	New Liskeard			Kapuskasing		Thunder Bay	Mean	Mean	Provincial
Year seeded	1972	1973	1973	Mean	1972	1973	1972	southern	1972	1973	1974	1972	1973	1972	1973	northern	Mean
Year harvested	1973	1974	1974		1973	1974	1973	stations	1973	1974	1974	1973	1974	1973	1974	stations	Mean
EA 91	10472	12525	12055	11684	7144	5043	6094	7024	9044	5783	4328	7636	5916	6215	3075	4645	6804
Saranac	9658	13127	12016	11600	7677	4809	6243	7059	9058	6007	4194	8044	6082	5951	4114	5033	6946
Angus	10459	13079	11661	11735	7708	4815	6262	7574	9217	6190	4877	7227	6098	6551	3725	5138	7065

Provincial Red Clover Tests
1972 Seedings, 1974 Yields, 2 year Means (kg/ha)

Guelph (2542, 2543)

Early Varieties

	Cut 1	Cut 2	Total 1974	2 year Mean
Ottawa	3568	1162	4730	4961
Hungaropoli	3313	863	4176	4585
N7-130	3417	746	4163	4613
N7-131	3781	1069	4850	4906
Ottawa 4n	3167	658	3825	4403
LSD(5%)	660	215	696	
C.V.	12.41	15.49%	10.38%	
F	N.S.	**	*	

Late varieties (1 cut only)

Altaswede	3815	-		4266
Rea	3648	-		3987
Bora	3769	-		4068
Krano	3683	-		4040
Britta	3297	-		3739
Tripo	3308	-		3760
Hera	3408	-		3812
LSD	648			
C.V.	12.26			
F	N.S.			

Kapuskasing (6553)

Early Varieties

	Cut 1	Cut 2	Total 1974	2 year Mean
Ottawa	1199	1698	2897	3521
Hungaropoli	2225	1627	3852	4496
N7-130	2032	1085	3117	4237
N7-131	1428	1449	2877	3715
Ottawa 4n	1791	1230	3021	4073

Late Varieties

Altaswede	3700	446	4146	4828
Rea	1394	950	2344	3656
Bora	2662	761	3423	4977
Krano	2700	714	3414	4738
Britta	2766	686	3452	4508
Tripo	3430	670	4100	4635
Hera	2340	791	3131	4086
LSD(5%)	944	289	883	
C.V.	28.40%	19.87%	18.47%	
F	**	**	**	

Thunder Bay (7063)

Early Varieties

	Cut 1	Cut 2	Total 1974	2 year Mean
Ottawa	1046	713	1759	2592
Hungaropoli	1563	568	2131	3656
N7-130	1906	912	2818	3603
N7-131	1554	928	2482	3360
Ottawa 4n	1808	862	2670	3571

Late varieties

Altaswede	2555	631	3186	4142
Rea	1640	295	1935	3269
Bora	2139	226	2365	3495
Krano	1647	97	1744	3184
Britta	1961	320	2281	3334
Tripo	2102	152	2254	3943
Hera	2748	376	3124	4159
LSD(5%)	559	343	672	
C.V.	20.52%	46.92%	19.45%	
F	**	**	**	

New Liskeard (9001) (1 cut only)

Early Varieties

	1974	1973	2 year Mean
Ottawa	3777	4049	3913
Hungaropoli	3387	4256	3822
N7-130	3468	3741	3605
N7-131	3889	3277	3583
Ottawa 4n	3558	3976	3767

Late varieties

Altaswede	3651	3956	3804
Rea	3366	3421	3394
Bora	3219	3574	3397
Krano	3545	3918	3732
Britta	3824	4202	4013
Tripo	3316	4065	3691
Hera	3619	3989	3804
LSD(5%)	842		
C.V.	16.44%	15.71%	
F	N.S.	N.S.	

Thunder Bay (7066)

Early Varieties

	Cut 1	Cut 2	Total
Ottawa	3881	1328	5209
Hungaropoli	4183	1066	5249
N7-130	4328	915	5243
N7-131	4022	1023	5045
Ottawa 4n	4134	910	5044

Late varieties

Altaswede	5208	307	5515
Rea	4035	586	4621
Bora	5025	322	5347
Krano	5008	345	5353
Britta	4753	418	5171
Tripo	4809	447	5256
Hera	4808	571	5379
LSD(5%)	727	148	733
C.V.	11.16%	14.92%	9.76%
F •	**	**	N.S.

Summary, 1973 Red Clover Trials
and
Provincial Mean for 72 & 73

Varieties	Kemptville 1974	Thunder Bay 1974	Mean 1973 Tests	Mean 1972, 1973 Tests 11 Station Years
Ottawa	6743	5209	5976	4386
Hungaropoli	6014	5249	5632	4651
N7-130	7191	5243	6217	4556
N7-131	7568	5045	6307	4453
Ottawa 4n	7247	5044	6146	4508
Altaswede	7249	5515	6382	4713
Rea	6648	4621	5635	4098
Bora	6939	5347	6143	4494
Krano	6704	5353	6029	4441
Britta	5675	5171	5423	4383
Tripo	6512	5256	5884	4455
Hera	6852	5379	6116	4457

Bromegrass

Yields for varieties and strains in the provincial bromegrass tests in 1974 are reported for 1972 seeding at 6 locations, and for 1973 seedings at 5 locations. Varietal differences for total yield were not significant at any location for the 1972 seeding, and were significant at only 2 locations for the 1973 seeding. As far as forage yield is concerned there is not much basis for comment on varietal performance.

Two varieties, Saratoga and Baylor are recommended in Publication 296. Saratoga continues to yield well at every location while Baylor is somewhat lower yielding at most locations and in the means for all locations in both seeding years.

Among the varieties and strains included in both sets of tests, Ott. D-9 has performed well enough to require consideration for licensing. In addition to satisfactory forage yield, it has been selected for high seed yield. In production plots at Ottawa it yielded 1182 lb. clean seed on 2½ acres or 472 lb/a. A separate table comparing the forage yield performance of Ott. D-9, Saratoga and Baylor is on page F 13.

The strain S 7380 has yielded well for forage and seed in Western Canada and may be considered for licensing there.

Several varieties tested only one year appear promising. Beacon and Barton from Rudy-Patrick, Oseco have performed well with Beacon somewhat better at southern locations, and Barton better in the north. New Magna yielded well but is not particularly different from Magna and Dr. Knowles does not plan to increase it as a variety.

New tests of the same entries seeded in 1973 were established in 1974 at Ridgetown, Ottawa, Kapuskasing and New Liskeard. One additional entry, K1-105 a selection of the variety Sac from Northrup King, arrived too late due to the mail strike for distribution but was seeded with the test at Ottawa.

There is probably no need to seed new tests in 1975 at any location.

F.S. Warren,
Coordinator.

6.11.74

Provincial Bromegrass Tests

1974 and 1973 Yields from 1972 Seeding

Expt. 1028				
Ridgetown, Ontario				
Variety or Strain	1974 Yield D.M. (lb/a)			1973 Total
	Cut 1	Cut 2	Total	
Baylor	5669	2787	8456	7242
Saratoga	6479	2963	9442	8911
Redpatch	6613	3019	9632	8969
Brandon 988	6376	2776	9152	8116
S 7380	6278	3053	9330	8538
S 7695	6489	2943	9432	8363
Ott. D-9	6427	2907	9334	8844
Ott. D-2	6412	2842	9254	8958
mean	6343	2911	9254	8493
L.S.D. (5%)	456.0	N.S.	698.7	649.2
C.V. (%)	4.9	11.1	5.1	5.2

Expt. 2718				
Guelph, Ontario				
Variety or Strain	1974 Yield D.M. (lb/a)			Total
	Cut 1	Cut 2	Total	
Baylor	7139	2308	9447	7232
Saratoga	7146	2539	9685	8440
Redpatch	6464	2314	8778	7598
Brandon 988	5827	2130	7957	7274
S 7380	6537	2072	8609	7501
S 7695	6727	2448	9175	7853
Ott. D-9	7168	2424	9592	7618
Ott. D-2	6882	2317	9199	6985
mean	6736	2319	9055	7563
L.S.D. (5%)	N.S.	N.S.	N.S.	763.7
C.V. (%)	10.4	9.2	8.3	6.9

Provincial Bromegrass Tests
1974 and 1973 yields from 1972 seeding

Expt. 4027

Ottawa, Ontario

Variety or Strain	1974 Yield DM (lb/a)		Total	1973
	Cut 1	Cut 2		Total
Baylor	4710	489	5200	5972
Saratoga	4644	1301	5945	6622
Redpatch	5182	1321	6503	6884
Brandon 988	4877	1413	6290	6760
S 7380	4255	932	5188	6477
S 7695	4950	983	5933	6835
Ott. D-9	4888	545	5433	6252
Ott. D-2	4634	640	5274	6782
mean	4768	953	5721	6573
L.S.D. (5%)	N.S.	N.S.	N.S.	N.S.
C.V. (%)	10.3	51.9	13.5	8.4

Expt. 6004

Kapuskasing, Ontario

Variety or Strain	1974 Yield DM (lb/a)		Total	1973
	Cut 1	Cut 2		Total
Baylor	4021	2725	6747	6752
Saratoga	4188	2971	7159	5958
Redpatch	3728	2543	6271	5679
Brandon 988	4133	2172	6304	4712
S 7380	4248	2213	6460	6957
S 7695	4266	2797	7063	5998
Ott. D-9	4156	2772	6928	5519
Ott. D-2	4716	2682	7397	4183
mean	4182	2609	6791	5720
L.S.D. (5%)	N.S.	N.S.	N.S.	824.7
C.V. (%)	13.7	10.2	11.1	9.8

Provincial Bromegrass Tests
1974 and 1973 yields from 1972 seeding

Expt. 7058

Thunder Bay, Ontario

Variety or Strain	1974 Yield D.M. (lb/a)			1973 Total
	Cut 1	Cut 2	Total	
Baylor	3159			6346
Saratoga	3402			6676
Redpatch	3266			6090
Brandon 988	3479			5635
S 7380	3240			6239
S 7695	3317			6040
Ott. D-9	3369			6866
Ott. D-2	3542			5643
mean	3347			6192
L.S.D. (5%)	N.S.			817.8
C.V. (%)	11.6			9.0

Expt. 8202

New Liskeard, Ontario

Variety or Strain	1974 Yield D.M. (lb/a)			1973 Total
	Cut 1	Cut 2	Total	
Baylor	4648	1846	6494	7857
Saratoga	4688	1576	6263	8952
Redpatch	5024	1401	6425	8523
Brandon 988	5082	1503	6585	7687
S 7380	4981	1837	6818	8248
S 7695	5095	1632	6726	8975
Ott. D-9	5178	1485	6663	7777
Ott. D-2	4799	1611	6410	8541
mean	4937	1611	6548	8320
L.S.D. (5%)	N.S.	N.S.	N.S.	941.3
C.V. (%)	5.2	16.3	5.6	7.7

Provincial Bromegrass Variety Tests
1974 hay yields from 1972 seedings at 6 locations

Variety	Total yield of D.M. (lb/a)						
Location	Ridgetown	Guelph	Ottawa	Kapuskasing	Thunder Bay	N. Liskeard	Mean
Expt. No.	1028	2718	4027	6004	7058 ¹	8202	
Baylor	8456	9447	5200	6747	3159	6494	6584
Saratoga	9442	9685	5945	7159	3402	6263	6983
Redpatch	9632	8778	6503	6271	3266	6425	6813
Brandon 988	9152	7957	6290	6304	3479	6585	6628
S7380	9330	8609	5188	6460	3240	6818	6608
S7695	9432	9175	5933	7063	3317	6726	6941
Ott D-9	9334	9292	5433	6928	3369	6663	6837
Ott D-2	9254	9199	5274	7397	3542	6410	6846
Mean	9254	9055	5721	6791	3347	6548	6801
L.S.D. (5%)	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	
C.V. (%)	5.1	8.3	13.5	11.1	11.6	5.6	

Note 1: Cut 1 only reported

Provincial Bromegrass Tests
 1974 yields from 1972 seedings
 Average D.M. production (lb/a) at 5 locations

Variety or Strain	Cut 1	Cut 2	Total
Baylor	4970	2170	7140
Saratoga	5401	2337	7738
Redpatch	5234	2292	7526
Brandon 988	4934	2150	7084
S 7380	5305	2108	7413
S 7695	5343	2292	7635
Ott. D-9	5241	2155	7396
Ott. D-2	5146	2152	7298
mean	5197	2207	7404
C.V. (%)	9.5		8.1

Analysis of Variance		
Source	8 Varieties Cut 1F	5 Locations 2 Years Total F
Locations	96.4**	42.6**
Years	16.4**	0.7
Loc. x Years	9.7**	14.0**
Varieties	4.7**	5.8**
Var. x Loc.	2.4**	3.1**
Var. x Years	3.4**	1.7
Var. x Loc. x Years	3.0**	2.6**

Provincial Bromegrass Tests
1974 yields from 1973 seeding

Expt. 2729		Guelph, Ontario	
Variety or Strain	Yield DM (lb/a)		Total
	Cut 1	Cut 2	
Baylor	7104	3600	10703
Saratoga	6144	4304	10448
Redpatch	6106	4759	10865
Syn D-1	6489	3932	10421
Carlton	5847	3836	9683
S7380	6215	3616	9831
Ott. D-9	6193	4333	10526
S 7306-2	6210	3250	9461
Beacon	6009	4129	10137
Barton	5648	4337	9985
New Magna	5950	3956	9907
mean	6174	4005	10179
L.S.D. (5%)	N.S.	456.4	N.S.
C.V. (%)	13.5	7.9	8.3

Provincial Bromegrass Tests
1974 yields from 1973 seeding

Expt. 3733

Kemptville, Ontario

Variety or Strain	Yield D.M. (lb/a)		Total
	Cut 1	Cut 2	
Baylor	4308	2961	7269
Saratoga	4766	3518	8284
Redpatch	5430	3177	8607
Syn D-1	4971	3228	8199
Carlton	4411	2973	7384
S 7380	5145	3068	8212
Ott. D-9	4754	2928	7682
S 7306-2	4555	2648	7203
Beacon	5233	3279	8512
Barton	4398	3087	7485
New Magna	4671	3157	7827
mean	4786	3093	7878
L.S.D. (5%)	N.S.	N.S.	N.S.
C.V. (%)	14.8	10.4	9.3

Provincial Bromegrass Tests
1974 yields from 1973 seeding

Expt. 4120		Ottawa, Ontario		
Variety or Strain	Cut 1	Cut 2	Total	
Baylor	4119	765	4884	
Saratoga	4802	1035	5837	
Redpatch	5409	781	6190	
Syn D-1	4662	723	5386	
Carlton	4819	811	5629	
S 7380	5133	648	5781	
Ott. D-9	5180	746	5926	
S 7306-2	4626	487	5113	
Beacon	5892	1039	6931	
Barton	5912	729	6641	
New Magna	4981	462	5444	
mean	5049	748	5796	
L.S.D. (5%)	692.5	N.S.	1028.7	
C.V. (%)	9.5	39.1	12.3	

Provincial Bromegrass Tests
1974 yields from 1973 seeding

Expt. 7068

Thunder Bay, Ontario

Variety or Strain	Yield D.M. (lb/a)		Total
	Cut 1	Cut 2	
Baylor	3397	1377	4774
Saratoga	3343	1542	4885
Redpatch	3770	1311	5081
Syn D-1	3505	1448	4953
Carlton	3243	1477	4721
S 7380	3524	1495	5019
Ott. D-9	3348	1287	4635
S 7306-2	3724	1300	5025
Beacon	2926	1529	4455
Barton	3507	1232	4739
New Magna	3501	1477	4978
mean	3435	1407	4842
L.S.D. (5%)	245.6	N.S.	350.5
C.V. (%)	5.0	11.8	5.0

Provincial Bromegrass Tests
1974 yields from 1973 seeding

Expt. 8203

New Liskeard, Ontario

Variety or Strain	Yield DM (lb/a)		Total
	Cut 1	Cut 2	
Baylor	5215	1598	6812
Saratoga	4613	2053	6666
Redpatch	5299	1564	6863
Syn D-1	6263	1596	7859
Carlton	4508	1625	6133
S 7380	5706	1872	7578
Ott. D-9	5630	1709	7339
S 7306-2	5968	893	6861
Beacon	5570	955	6525
Barton	5694	1511	7205
New Magna	6149	1573	7722
mean	5510	1541	7051
L.S.D. (5%)	N.S.	373.0	N.S.
C.V. (%)	17.2	16.8	14.4

Provincial Bromegrass Variety Tests
1974 hay yields from 1973 seedings at 5 locations

Variety	Total yield of D.M. (lb/a)					
Location	Guelph	Kemptville	Ottawa	Thunder Bay	N. Liskeard	Mean
Expt. No.	2729	3733	4120	7068	8203	
Baylor	10703	7269	4884	4458	6812	6825
Saratoga	10448	8284	5837	5040	6666	7255
Redpatch	10865	8607	6190	5123	6863	7530
Syn. D-1	10421	8199	5386	5086	7859	7390
Carlton	9683	7384	5629	5060	6133	6778
S7380	9831	8212	5781	4728	7438	7198
Ott. D-9	10526	7682	5926	5150	7339	7324
S7306-2	9460	7203	5113	4742	6861	6676
Beacon	10137	8512	6931	4766	6525	7374.1
Barton	9985	7485	6641	4948	7205	7253
New Magna	9906	7827	5444	5081	7722	7196
mean	10179	7878	5796	4926	7038	7164
L.S.D. (5%)	N.S.	N.S.	473.1	350.5	N.S.	
C.V. (%)	8.3	9.3	12.3	5.0	14.4	

Provincial Bromegrass Tests

Comparison of Ott. D-9, Baylor and Saratoga

1972 Seeding

Variety or Strain	Ridgetown	Guelph	Ottawa	Kapuskasing	Thunder Bay	N. Liskeard	Mean
1973 total yields D.M. (lb/a)							

Ott. D9	8844	7618	6252	5519	6866	7777	7146
Baylor	7244	7232	5972	6752	6346	7857	6901
Saratoga	8911	8440	6622	5958	6676	8952	7593

1974 total yields D.M. (lb/a)

Ott. D9	9344	9292	5433	6928	3369	6663	6837
Baylor	8456	9447	5200	6747	3159	6494	6584
Saratoga	9442	9685	5945	7159	3402	6263	6983

1973 Seeding

1974 total yields D.M. (lb/a)

	Guelph	Kemptville	Ottawa	Thunder Bay	New Liskeard	Mean	General Mean
Ott. D9	10526	7682	5926	5150	7339	7324	7102
Baylor	10703	7269	4885	4458	6812	6825	6770
Saratoga	10448	8284	5837	5040	6666	7255	7277

For Recommendation:

Ina - Early Orchardgrass group.

Breeder: Bert Christie

Company: National N-K

Licensed by this Committee 1971

Seed: National N-K has 10,250 lbs allocated for Ontario

In Table 2 Ina is very close to Hallmark our highest yielding early variety on the recommended list. In Table 3 Ina yielded less than Hallmark and Juno but Frode our early check, was not in the test. In Table 4, the mean yield of Ina was higher than both Frode and Tardus II.

General Summary

In the 6 Station 2 year summary on page H-11 we should perhaps discontinue testing those varieties ranking 14-18 in the summary. With the new higher yielding strains of early orchardgrass available, we should consider taking Frode and Tardus II from the recommendation list. Because of a lack of seed, we should drop Rideau from the Recommended List. Some of the National N-K lines look promising.

W.R. Childers
Orchardgrass Co-ordinator

ONTARIO

TABLE 1 1973 Summary for decisions re Hallmark (Early Group)

Variety	Seeded 1972 - 15 Sta. Years						6 Station Mean
	Ridgetown	Guelph	Ottawa	New Liskeard	Kapuskasing	Thunder Bay	
Hallmark	8037	7158	7988	8154	4939	5598	6979
Frode	6750	6878	7181	7578	5484	5725	6599
Tardus II	8119	5827	7702	7083	5217	5137	6514

TABLE 2 1972 Summary - Seeded in 1970

TABLE 2		1972 Summary - Seeded in 1970			3 Station Mean
Hallmark		8017	5223	6968	6736
Juno		7795	4975	6292	6354
Ina		7890	5569	6381	6613

TABLE 3 1971 Summary - Seeded in 1970

							6 Station Mean
Hallmark	5490	10219	7173	5201	7390	6322	6966
Juno	5147	10204	6623	5419	8018	5859	6878
Ina	5406	9929	6044	5252	7133	5728	6582

TABLE 4 1974 Summary - Seeded in 1973

					3 Station Mean
Frode		8057	3271	3560	4963
Ina		8344	3893	3523	5253
Hallmark		8202	4378	3278	5286
Tardus II		7608	3978	3270	4952

Expt. 1027

Ontario Provincial Orchard Grass Test 1974

Ridgetown, Ontario

Hay yields from 1972 seeding

Yield in dry matter lbs/acre

Variety	1973			1974			2 Year Mean	Rank
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total		
Kay	4543cd	2156cdef	6699fg	4977	2389	7366	7033	16
Frode	4415d	2335bcde	6750fg	5134	2665	7799	7275	11
Rideau	5339abc	2371bcde	7710abcde	4932	2467	7398	7554	5
Napier	5195abcd	2681ab	7877abc	5592	2342	7934	7906	3
Tardus II	5635a	2484abc	8119a	5799	2446	8245	8182	2
Nordstern	5482ab	1999ef	7480abcdef	5774	2325	8098	7789	4
Hallmark	5251abcd	2885a	8037ab	5733	2825	8558	8298	1
Kall	5336abc	2462abc	7799abc	4965	2132	7097	7448	6
Flaxmere	4974abcd	2386bcd	7360abcdef	4156	2834	6990	7175	13
K8-120	4798abcd	2059def	6857defg	5131	2132	7262	7060	15
K8-123	4446cd	1935f	6380g	4837	1809	6646	6513	18
K8-117	5684a	2057def	7741abcd	4936	2156	7093	7417	7
K8-118	4629bcd	2210cdef	6839efg	5493	2263	7755	7297	9
Ferdia	4671bcd	2169cdef	6841efg	3954	2362	6316	6579	17
Unke	4865abcd	2259cdef	7125cdefg	5106	2574	7680	7403	8
Mullus	5055abcd	2401bcd	7456abcdef	4566	2413	6979	7218	12
Elite 99	4931abcd	2259cdef	7190bcdefg	4889	2494	7384	7287	10
Lemba	4799abcd	2253cdef	7052cdefg	4570	2609	7179	7116	14
L.S.D.	754.84	316.12	766.73	658.80	530.33	861.85		
C.V.	10.58	9.67	7.37	9.21	15.53	8.16		

Expt. 2720

Ontario Provincial Orchard Grass Test 1974

Guelph, Ontario

Hay yields from 1972 seeding

Yield in dry matter lbs/acre

Variety	1973						2 Year	
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total	Mean	Rank
Kay	4604 bcd	2078 cd	6682ab	5532	2017	7549	7116	9
Frode	4665 bcd	2213 bc	6878ab	5156	2236	7391	7135	8
Rideau	4451 bcde	2198 bc	6649abc	5554	2386	7940	7295	6
Napier	4065	def250lab	6566abcd	5238	2534	7771	7169	7
Tardus II	3929	ef1898 cde	5827 cd	4847	2503	7350	6589	13
Nordstern	4977ab	1473 f	6450 bcd	5925	2232	8157	7304	5
Hallmark	4529 bcde	2629a	7158ab	4903	2760	7663	7411	4
Kall	4253 cde	2168 bcd	6421 bcd	4854	2393	7247	6834	12
Flaxmere	4013	def2209 bc	6722 cd	4576	1998	6573	6648	12
K8-120	5389a	1937 cde	7326a	5202	2478	7681	7504	2
K8-123	4813abc	1988 cde	6801ab	5789	1488	7276	7039	10
K8-117	5403a	1687 ef	7090ab	5888	1946	7834	7462	3
K8-118	5323a	1842 de	7165ab	5711	2189	7900	7533	1
Ferdia	3594	f 2183 bc	5777 d	3732	1862	5594	5686	14
L.S.D.	578.29	301.09	722.04	477.27	422.52	590.21		
C.V.	8.85	10.17	7.60	6.42	13.35	5.57		

Expt. 4025

Ontario Provincial Orchardgrass Test 1974

Ottawa, Ontario

Hay yields from 1972 seeding

Yield in dry matter lbs/acre

Variety	1973						2 Year Mean	Rank
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total		
Kay	4312	1718c	6030	3269	849	4119	5075	18
Frode	4755	2426ab	7181	3231	1302	4533	5857	11
Rideau	4647	1980abc	6628	3623	953	4577	5603	12
Napier	5358	2568a	7926	3179	1455	4634	6280	5
Tardus II	5494	2207abc	7702	3137	974	4110	5906	10
Nordstern	4682	2321ab	7003	3731	1082	4813	5908	9
Hallmark	5546	2442ab	7988	3525	1191	4716	6352	3
Kall	5797	2243abc	8040	3373	997	4370	6205	6
Flaxmere	5210	1889bc	7098	2991	810	3801	5450	14
K8-120	5879	1859bc	7738	3346	796	4143	5941	8
K8-123	6229	2279abc	8508	3609	1093	4702	6605	2
K8-117	5752	2261abc	8013	3644	930	4575	6294	4
K8-118	4689	2016abc	6703	3364	777	4140	5422	15
Ferdia	5065	1910bc	6974	2448	751	3199	5087	17
Unke	5555	2398ab	7952	4027	1453	5480	6716	1
Mullus	5744	2259abc	8002	3213	954	4167	6085	7
Elite 99	4449	2330ab	6779	3076	1086	4162	5471	13
Lemba	4764	2126abc	6890	2506	857	3363	5127	16
L.S.D.	N.S.	489.19	N.S.	488.12	481.22	849.81		
C.V.	17.54	15.79	14.9	10.43	33.28	13.87		

Expt. 6082

Ontario Orchardgrass Test 1973

Kapuskasing, Ontario

Yield in dry matter lbs/acre

Variety	1973			1974			2 Year Mean	Rank
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total		
Kay	2765abc	3125	5890	2954	2382	5336	5613	4
Frode	2127abcde	3356	5484	2568	2528	5096	5290	7
Rideau	2319abcde	3255	5574	2965	2523	5487	5531	5
Napier	1619bcde	3313	4932	2696	2490	5186	5059	11
Tardus II	1736bcde	3481	5217	2322	2152	4474	4846	15
Nordstern	1015e	2808	3823	2636	1691	4327	4080	18
Hallmark	1671bcde	3268	4939	2644	2673	5317	5128	10
Kall	2560abcd	3294	5854	2834	2571	5404	5629	3
Flaxmere	1254de	3654	4907	2357	2084	4441	4674	16
K8-120	3070ab	3432	6502	2638	2486	5118	5810	2
K8-123	2166abcde	3647	5813	3060	2071	5131	5472	6
K8-117	2254abcde	3454	5707	2976	1868	4844	5216	8
K8-118	3344a	3370	6715	2931	2403	5334	6021	1
Ferdia	1813bcde	3341	5154	2326	2246	4592	4873	14
Unke	1756bcde	3138	4894	2480	1977	4457	4676	17
Mullus	1803bcde	3243	5046	2404	2667	5071	5059	12
Elite 99	1548cde	3208	4756	2580	2660	5241	4999	13
Lemba	1868bcde	3340	5208	2681	2600	5281	5245	9
L.S.D.	1236.82	N.S.	N.S.	N.S.	532.17	N.S.		
C.V.	42.58	17.77	23.41	20.62	16.01	13.77		

Expt. 7059

Thunder Bay, Ont.
 Ontario Provincial Orchard Grass Test 1974
 Hay yields from 1972 seeding
 Yield in dry matter lbs/acre

Variety	Cut 1	Cut 2	1973 Total	Cut 1	Cut 2	Total	2 year mean	Rank
Kay	4886a	1441	6327ab	2744	549	3293	4810	1
Frode	3786 bcde	1939	5725abc	1851	1012	2864	4294	8
Rideau	3771 bcde	1670	5442abcd	2381	854	3235	4339	7
Napier	3565 cdef	1963	5528abcd	1718	1133	2851	4190	10
Tardus II	3044 efgh	2093	5137 cd	1524	1235	2759	3948	12
Nordstern	4272abcd	2068	6339ab	2207	1030	3237	4788	3
Hallmark	3454 defg	2144	5598abc	1545	1317	2861	4230	9
Kall	3631 bcde	1660	5291 bcd	1345	734	2079	3685	14
Flaxmere	2457 fgh	2066	4523 de	999	1223	2222	3373	17
K8-120	4223abcd	1906	6129ab	1996	684	2680	4405	6
K8-123	4574abc	1908	6482a	3286	705	3991	5237	1
K8-117	4661ab	1633	6294ab	2635	646	3281	4788	4
K8-118	4554abc	1581	6135ab	2858	518	3376	4756	5
Ferdia	2083 h	1569	3652 e	1159	1080	2239	2946	18
Unke	3631 bcde	1947	5578abc	641	1211	1852	3715	13
Mullus	2575 fgh	1939	4514 de	1186	1203	2389	3452	16
Elite 99	3123 efg	1837	4960 cd	1242	1032	2274	3617	15
Lemba	3704 bcde	1933	5637abc	1231	1052	2283	3960	11
L.S.D.	913.67	N.S.	898.44	546.22	324.36	684.11		
C.V.	17.49	16.49	11.43	21.25	23.86	17.41		

Expt. 8504

New Liskeard Ont.
 Ontario Provincial Orchard Grass Test 1974
 Hay yield from 1972 seeding
 Yield in dry matter lbs/acre

Variety	1973		Total	1974	2 Year	Rank
	Cut 1	Cut 2		Cut 1	Mean	
Kay	5323ab	3218	8542ab	4900	6721	5
Frode	4111 cd	3467	7578 bc	4806	6192	12
Rideau	4188 cd	3358	7546 bc	5010	6278	11
Napier	4689 bcd	3051	7740 bc	5043	6392	10
Tardus II	3848 d	3234	7083 c	4410	5746	18
Nordstern	4498 bcd	3167	7665 bc	5229	6447	8
Hallmark	4762abcd	3392	8154abc	5499	6827	3
Kall	4710 bcd	3106	7816 bc	5031	6424	9
Flaxmere	4339 cd	3341	7680 bc	4497	6089	14
K8-120	5615a	3659	9274a	5642	7458	2
K8-123	5019abc	3145	8163abc	4916	6540	7
K8-117	4683 bcd	3507	8189abc	4919	6554	6
K8-118	4615 bcd	3594	8209abc	5340	6775	4
Ferdia	4095 cd	3506	7601 bc	4046	5824	17
Unke	4009 d	3140	7149 c	4823	7486	1
Mullus	4107 cd	3014	7121 c	4773	5947	15
Elite 99	3995 cd	2941	6936 c	4854	5895	16
Lemba	4487 bcd	3227	7715 bc	4481	6098	13
L.S.D.	784.06		1090.00	674.28		
C.V.	12.21		9.82	9.68		

Expt. 2730

GUELPH, ONT.

PROVINCIAL ORCHARD GRASS TEST 1974

Hay yields from 1973 seeding

Yield in dry matter lbs/acre

Variety	Cut 1	Cut 2	Total	Rank
Juno	5445	2905	8350	3
Kay	6254	2570	8824	2
Frode	5942	2116	8057	7
Rideau	5627	2415	8042	8
Tardus II	4715	2893	7608	13
Nordstern	6443	2693	9136	1
Majestic	5694	2298	7992	9
Ina	5875	2469	8344	4
Hallmark	5310	2892	8202	5
Kall	4303	2910	7714	11
K8-120	4722	2751	7473	15
K8-123	4849	2400	7249	16
K8-117	5882	2210	8093	6
K8-118	5177	2388	7565	14
Dart	5016	2686	7702	12
S66-4-47/12	4549	2304	6853	17
Kitamidori	4962	3001	7963	10
L.S.D.	790.82	427.83	892.64	
C.V.	10.36	11.66	7.90	

Provincial Orchard Grass Test 1974

Hay yields from 1973 seeding

Yield in dry matter lbs/acre

Variety	Cut 1	Cut 2	Total	Rank
Juno	3061	663	3724	10
Kay	3737	882	4619	1
Frode	2500	771	3271	15
Rideau	2633	730	3362	14
Tardus II	3029	948	3978	6
Nordstern	3409	835	4244	3
Majestic	2784	776	3560	13
Ina	3010	883	3893	8
Hallmark	3334	1044	4378	2
Kall	2397	645	3042	16
K8-120	3299	683	3981	5
K8-123	3037	735	3772	9
K8-117	2933	725	3658	11
K8-118	3252	654	3906	7
Dart	2999	993	3992	4
S66-4-47/12	2308	605	2913	17
Kitamidori	2713	859	3572	12
L.S.D.	633.02	211.16	768.88	
C.V.	15.01	18.80	14.40	

Expt. 7067

Thunder Bay, Ont.

Provincial Orchard Grass Test 1974

Hay yield from 1973 seeding

Yield in dry matter lbs/acre

Variety	Cut 1	Cut 2	Total	Rank
Juno	2063	1079	3143	16
Kay	2660	775	3436	13
Frode	2539	1022	3560	10
Rideau	2731	954	3685	7
Tardus II	1852	1419	3270	15
Nordstern	2812	792	3605	9
Majestic	2935	1039	3975	3
Ina	2268	1255	3523	11
Hallmark	1876	1402	3278	14
Kall	2511	982	3493	12
K8-120	2746	1024	3770	4
K8-123	3433	718	4151	1
K8-117	3261	873	4134	2
K8-118	2897	819	3716	5
Dart	2363	1350	3713	6
S66-4-47/12	1786	1243	3029	17
Kitamidori	2397	1238	3634	8
L.S.D.	553.63	377.60	597.69	
C.V.	15.35	25.11	11.70	

Ont.

Summary of Orchardgrass Test

1972 Seeding

72 & 73 Data

	Ridgetown	Guelph	Ottawa	New Liskeard	Kapuskasing	Thunder Bay	6 Station	
Varieties	2 Yr. Mean	2 Yr. Mean	2 Yr. Mean	2 Yr. Mean	2 Yr. Mean	2 Yr. Mean	Mean	Rank
Kay	7033	7116	5075	6721	5613	4810	6061	8
Frode	7275	7135	5857	6192	5290	4294	6007	12
Rideau	7554	7295	5603	6278	5531	4339	6100	7
Napier	7906	7169	6280	6392	5059	4190	6166	6
Tardus II	8182	6589	5906	5746	4846	3948	5870	13
Nordstern	7789	7304	5908	6447	4080	4788	6053	10
Hallmark	8298	7411	6352	6827	5128	4230	6374	2
Kall	7448	6834	6205	6424	5629	3685	6038	11
Flaxmere	7175	6648	5450	6089	4674	3373	5568	14
K8-120	7060	7504	5941	7458	5810	4405	6363	3
K8-123	6646	7039	6605	6540	5472	5237	6257	4
K8-117	7093	7462	6294	6554	5276	4788	6245	5
K8-118	7755	7533	5422	6775	6021	4756	6377	1
Ferdia	6316	5686	5087	5824	4873	2946	5122	18
*Unke	7680		6716	7486	4676	3715	6055	9
*Mullus	6979		6085	5947	5059	3452	5504	16
*Elite 99	7384		5471	5895	4999	3617	5473	17
*Lemba	7179		5127	6098	5245	3960	5522	15

* 5 station mean

Ont.

Summary of Orchardgrass Test
1973 Seeding

Varieties	Ottawa	Guelph	Thunder Bay	3 Station Mean	Rank
Juno	3724	8350	3143	5072	9
Kay	4619	8824	3436	5626	2
Frode	3271	8057	3560	4963	14
Rideau	3362	8042	3685	5030	13
Tardus II	3978	7608	3270	4952	15
Nordstern	4244	9136	3605	5662	1
Majestic	3560	7992	3975	5176	6
Ina	3893	8344	3523	5253	5
Hallmark	4378	8202	3278	5286	4
Kall	3042	7714	3493	4750	16
K8-120	3981	7473	3770	5075	8
K8-123	3772	7249	4151	5057	10
K8-117	3658	8093	4134	5295	3
K8-118	3906	7565	3716	5062	11
Dart	3992	7702	3713	5136	7
S66-4-47/12	2913	6853	3029	4265	17
Kitamidori	3572	7963	3634	5056	12

Timothy Variety Trials

Five varieties are currently recommended in Ontario (1974) - Champ, Climax, Itasca, Milton and Toro. In the timothy yield trials, Climax is used as a check and all other varieties are compared to it. Differences among the check varieties seeded in 1972 (Table 1), were non-significant in 1973, but were significant in 1974. Data from the 1973 seeding (Table 2) indicate that all of the varieties were equal to Climax.

The following varieties or strains are eligible for consideration:

1. N-7-125 (Pronto) and S3-9 (Basho) - these were supported for licensing (Fall 1973), and are presently undergoing seed increase. No certified seed is available for 1975.
2. Vanadis and Oakmere - these were considered unworthy of support for licensing (Nov. 1972). Subsequent data confirms that decision.
3. Timfor(N-7-128). This variety has been consistently higher in yield than Climax (Table 1), or equal to Climax (Table 2). At Guelph, it has headed 0-3 days earlier than Climax.
4. Glasnevin, T-49, T-93. These varieties have yielded less than Climax, on the average.
5. Heilbrink- Generally this variety has been lower in yield than Climax in the first cut. In some years, its aftermath production has been greater than Climax.
6. N-7-126. The average yield (1973-'74) of this variety was significantly greater than that of Climax (Table 1). At Guelph, this variety has headed 2-4 days later than Climax.

Suggestions for consideration:

1. Discontinue any further testing of Glasnevin, Heilbrink, T-49 and T-93, as these are not sufficiently productive;
2. Support for licensing Timfor.
3. Add Timfor to list of recommended varieties (50,000 lbs. of seed could be available).

November, 1974.

B. R. Christie
Co-ordinator

Table 1 Provincial Timothy Test - Seeded 1972

<u>Variety</u>	<u>1973¹⁾</u>		<u>1974²⁾</u>		<u>1973-'74²⁾</u>	
	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>
Climax	5500	7890	5250	6680	5410	7220
Champ	5210	8070	5280	7330	5330	7690
Itasca	5670	8170	5570	7120	5690	7600
Milton	5510	8070	5240	6970	5450	7490
Toro	5140	8080	5010	7150	5130	7540
Vanadis	4910	7130	4860	6360	5000	6720
N-7-125(Pronto)	5440	7990	5320	6970	5450	7430
S3-9(Basho)	5200	8100	5300	7440	5380	7780
Glasnevin	4740	6750	4560	5900	4660	6220
Heilbrink	5100	7720	5000	6820	5190	7270
N7-126	5480	7920	5100	6950	5390	7460
Oakmere	4440	6060	4460	5450	4510	5650
T-49	5070	7160	5200	6690	5200	6880
T-93	5440	7640	5080	6410	5310	6960
Timfor(N-7-128)	5550	8350	5380	7120	5620	7770
Mean	5230	7670	5110	6760	5250	7180
C.V.(%)	12.3	9.8	10.0	10.8	10.9	10.2
L.S.D.(5%)	340	400	260	320	180	230

1. Data obtained from Ridgetown, Guelph, Kemptville, Ottawa, Kapuskasing, Thunder Bay, and New Liskeard. (7 locations).
2. Based upon data from Ridgetown, Guelph, Ottawa, Kapuskasing and Thunder Bay.

Comments:

Of the varieties recommended in 1974, none were consistently different from Climax. In 1974, Champ, Itasca and Toro were significantly higher in yield than Climax.

The variety, Timfor, was consistently higher yielding than Climax.

Vanadis and Glasnevin were consistently lower yielding than Climax. In total yield over the two years, Oakmere, T-49 and T-93 were also lower in yield than Climax.

Table 2

Provincial Timothy Test - Seeded, 1973

Variety	Yield (lbs. D.M./acre) ¹⁾		Total
	Cut 1	Cut 2	
Climax	5340	1750	7090
Champ	4660	2120	6780
Itasca	5260	2210	7470
Milton	4990	2120	7110
Toro	4880	2330	7210
Heilbrink	4780	2030	6810
N7-126	5280	1670	6950
T-49	4780	1270	6050
T-93	4990	1480	6470
Timfor	4960	2120	7080
Omnia	5040	1460	6500
N7-127	5120	1660	6780
Medon	4940	1900	6840
MLM 17011	4670	1960	6630
Mean	4980	1860	6840
C.V.(%)	9.7	8.1	14.4
L.S.D.(5%)	480	550	270

1. Based upon data from Guelph, Ottawa, New Liskeard

Comments:

Several varieties (Champ, Milton, Itasca, Toro, Heilbrink and Timfor) produced more forage in the second cut than did Climax. However, no variety yielded significantly more than Climax in the first cut, or in total seasonal production.

Omnia, T-49 and T-93 produced significantly less forage over the season, than did Climax.

Exp. 1029.

Seeded 1972. Ridgetown.

Variety	Yield (lbs. D.M./acre)					
	1974			1973-'74		
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total
Climax	5480	1770	7250	5750	1640	7390
Champ	6000	2330	8330	5700	2360	8060
Itasca	6390	1650	8040	6350	1650	8000
Milton	5900	1770	7670	5860	1780	7640
Toro	5940	2580	8520	5920	2540	8460
Vanadis	5620	1370	6990	5370	1300	6670
N-7-125	6490	2050	8540	6130	1870	8000
Ott.#9(Basho)	6310	2480	8790	5990	2320	8310
Barmere	5150	1330	6480	4960	1380	6340
Glasnevin	5080	1610	6690	4920	1320	6340
Heilbrink	5960	1690	7650	5610	1800	7410
N-7-126	5910	2250	8160	5780	1930	7710
Oakmere	4840	780	5620	4610	800	5410
T-49	6120	1680	7800	5710	1480	7190
T-93	6050	1460	7510	5810	1270	7080
Timfor	6210	1610	7820	5910	1640	7550
Mean	5840	1780	7620	5690	1720	7410
C.V.(%)	6.5	30.0	9.9			
L.S.D.(5%)	540	760	1080			

Exp. 2719.

Seeded 1972. Guelph.

Variety	Yield-lbs. D.M./acre.					
	1974			1973-'74		
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total
Climax	6910	1180	8090	6700	1400	8100
Champ	6280	2180	8460	6280	2270	8550
Itasca	7370	1290	8660	7090	1590	8680
Milton	5710	1590	7300	5980	1730	7710
Toro	5840	2080	7920	5480	2200	7680
Vanadis	5880	1230	7110	6280	1420	7700
N-7-125	6400	1530	7930	6370	1740	8110
Ott.#9(Basho)	6410	1860	8270	6360	2110	8470
Barmere	6420	1190	7610			
Glasnevin	5320	1200	6520	5390	1260	6650
Heilbrink	5820	1730	7550	6030	1980	8010
N-7-126	5690	1650	7340	6210	1690	7900
Oakmere	5610	730	6340	5040	940	5980
T-49	5950	1270	7220	5950	1240	7190
T-93	5690	1000	6690	6330	1190	7520
Timfor	5920	1500	7420	6380	1890	8270
Mean	6080	1450	7530	6120	1650	7770
C.V.(%)	6.3	22.1	6.6			
L.S.D.(5%)	540	460	710			

Relative Maturity - 1974

<u>Variety</u>	<u>Date Headed</u>
Toro	June 25
Basho	June 28
Barmere	June 28
Heilbrink	June 28
Champ	June 28
Itasca	June 28
Vanadis	June 29
Timfor	June 29
N-7-125	June 29
Climax	July 2
Milton	July 2
T-49	July 2
T-93	July 2
N-7-126	July 4
Glasnevin	July 6
Oakmere	----- (no heads visible on July 6)

Exp. 4026

Seeded 1972. Ottawa.

Variety	Yield (lbs. D.M./acre)					
	1974			1973-'74		
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total
Climax	4610	430	5040	5060	1100	6160
Champ	5050	1250	6300	5920	1810	7730
Itasca	4960	580	5540	5960	1220	7180
Milton	5250	840	6090	6370	1370	7740
Toro	4580	1010	5590	5580	1630	7210
Vanadis	4600	660	5260	5240	1250	6490
N-7-125	4810	720	5530	5410	1430	6840
Ott.#9(Basho)	4950	1700	6650	5790	2140	7930
Barmere	4390	810	5200	4700	1410	6110
Glasnevin	4220	680	4900	4920	1250	6170
Heilbrink	4880	1520	6400	5950	1630	7580
N-7-126	5030	1030	6060	5910	1560	7470
Oakmere	3520	260	3780	4630	750	5380
T-49	5390	1010	6400	5740	1500	7240
T-93	5180	950	6130	5750	1440	7190
Timfor	5160	920	6080	6100	1510	7610
Mean	4790	900	5680	5620	1440	7060
C.V.(%)	13.4	62.6	18.5			
L.S.D.(5%)	920	N.S.	1500			

Exp. 6036.

Seeded 1972. Kapuskasing.

Yield-lbs. D.M./acre.

Variety	1974			1973-'74		
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total
Climax	4040	1630	5670	3880	1970	5850
Champ	4250	2300	6550	3750	2420	6170
Itasca	4170	2150	6320	4000	2270	6270
Milton	4180	2020	6200	3800	2350	6150
Toro	3820	2430	6250	3540	2510	6050
Vanadis	3590	2100	5690	3410	2170	5580
N-7-125	4210	2010	6220	4020	2240	6260
Ott.#9	3880	2370	6250	3610	2500	6110
Barmere	3970	1390	5360	3640	1200	4840
Glasnevin	3620	1370	4990	3440	1590	5030
Heilbrink	3860	1850	5710	3660	2290	5950
N-7-126	4010	1980	5990	3700	2270	5970
Oakmere	3670	1580	5250	3430	1380	4810
T-49	3980	1730	5710	3640	1810	5450
T-93	3910	1650	5560	3690	2110	5800
Timfor	4380	2310	6690	4020	2560	6580
Mean	3970	1930	5900	3710	2160	5870
C.V.(%)	10.8	15.2	7.5			
L.S.D.(5%)	N.S.	420	630			

Exp. 7060.

Seeded 1972. Thunder Bay.

Variety	Yield-lbs. D.M./acre.	
	<u>1974</u>	<u>1973-'74</u>
	<u>Cut 1</u>	<u>Cut 1</u>
Climax	4650	5200
Champ	4450	4810
Itasca	4860	5360
Milton	4910	5090
Toro	4360	4560
Vanadis	4220	4400
N-7-125	5000	5320
Ott. #9(Basho)	4820	4720
Barmere	4940	5180
Glasnevin	3810	4380
Heilbrink	4510	4480
N-7-126	4610	4980
Oakmere	4280	4600
T-49	4080	4550
T-93	4440	4880
Timfor	4860	4930
Mean	4550	
C.V.(%)	9.8	
L.S.D.(5%)	640	

Exp. 8404.

Seeded 1972. New Liskeard

Yield(lbs. D.M./acre)

Variety	1974			1973-'74		
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total
Climax	5200	2130	7330	5630	2970	8600
Champ	4810	2190	6990	4980	2960	7940
Itasca	4930	2110	7040	5030	2850	7880
Milton	5140	2440	7580	5240	2980	8220
Toro	4890	2600	7490	5150	3120	8270
Vanadis	4620	2090	6710	4710	2440	7150
N-7-125	4690	1950	6650	5340	2620	7960
Ott.#9(Basho)	4940	2290	7230	5140	2940	8080
Barmere	4330	1940	6270	4090	2010	6100
Glasnevin	4540	1860	6400	4650	2250	6900
Heilbrink	4500	2310	6810	4690	2690	7380
N-7-126	4840	2340	7180	5330	2930	8260
Oakmere	4670	1560	6230	4840	1820	6660
T-49	4570	1770	6340	4960	2370	7330
T-93	4580	1570	6150	4960	2270	7230
Timfor	5240	2360	7600	5690	3160	8850
Mean	4780	2090	6870	5090	2690	7780
C.V.(%)	7.9	16.1	7.1			
L.S.D.(5%)	540	480	670			

Exp. 2728.

Seeded 1973. Guelph

Variety	Yield(lbs. D.M./acre)-1974		
	Cut 1	Cut 2	Total
Climax	5770	2640	8410
Champ	5510	3420	8930
Milton	5950	3620	9570
Itasca	6000	3210	9210
Toro	5680	3500	9180
Barmere	5640	2100	7740
Heilbrink	5300	3130	8430
N-7-126	6010	2730	8740
T-49	5590	2270	7860
T-93	5520	2470	7990
Timfor	5450	3470	8920
Omnia	5500	2480	7980
N-7-127	6140	2910	9050
Medon	5810	2920	8730
MLM 17011	5410	3440	8850
Murra	5630	3100	8730
Senpoku	5760	3450	9210
Mean	5690	2990	8680
C.V.(%)	9.6	10.4	7.7
L.S.D.(5%)	N.S.	440	950

Relative Maturity - 1974

<u>Variety</u>	<u>Date Headed</u>
MLM 17011	June 24
Toro	June 25
Barmere	June 28
Champ	June 28
Heilbrink	June 28
Itasca	June 28
Medon	June 30
Milton	June 30
Murra	June 30
N-7-127	June 30
T-49	June 30
Climax	July 2
Omnia	July 2
Senpoku	July 2
Timfor	July 2
N-7-126	July 4
T-93	July 4

Exp. 4121.

Seeded 1973. Ottawa.

Variety	Yield (lbs. D.M./acre)-1974		
	Cut 1	Cut 2	Total
Climax	5730	1040	6770
Champ	5030	1130	6160
Itasca	5490	1130	6620
Milton	5140	920	6060
Toro	5110	1160	6270
Heilbrink	4760	970	5730
N-7-126	5380	620	6000
T-49	4960	560	5520
T-93	5150	480	5630
Timfor	5220	910	6130
Omnia	5390	580	5970
N-7-127	5250	630	5880
Medon	5110	810	5920
MLM 17011	4670	620	5290
Murra	4910	890	5800
T-10	4960	860	5820
Mean	5140	830	5970
C.V.(%)	8.2	24.4	9.0
L.S.D.(5%)	N.S.	290	770

Exp. 8405.

Seeded-1973. New Liskeard

Variety	Yield (lbs. D.M./acre)-1974		
	Cut 1	Cut 2	Total
Climax	4500	1580	6080
Champ	3440	1810	5250
Milton	3890	1810	5700
Itasca	4280	2300	6580
Toro	3850	2340	6190
Barmere	3900	2260	6160
Heilbrink	4290	1980	6270
N-7-126	4460	1650	6110
T-49	3790	980	4770
T-93	4310	1490	5800
Timfor	4220	1980	6200
Omnia	4230	1310	5540
N-7-127	3990	1420	5410
Medon	3890	1980	5870
MLM 17011	3920	1810	5730
Murra	4430	1600	6030
T-10	4190	2310	6500
Mean	4090	1800	5890
C.V.(%)	11.1	15.4	7.6
L.S.D.(5%)	N.S.	390	630

Other Grasses

Reed canarygrass - The varieties Frontier and Rise are the only ones listed in Publication 296. No requests for changes have been received. No new tests have been sent out for three years.

Only the following test 1974 yields from 1971 seeding was reported.

Experiment 6056 Reed Canarygrass Test, Kapuskasing, Ontario

1974 hay yields from 1971 seeding

Variety or Strain	Yield DM with 75 lb/a N (lb/a) after each cut		
	Cut 1	Cut 2	Total
Frontier	4031	2556	6587
S6982	3611	1746	5357
Ott Syn G.	3839	2208	6047
Rise	4050	2522	6572
Grove	3773	2269	6042
S7358	3529	2010	5540
S7451-2	3555	1763	5318
Mean	3770	2153	5923

Yield DM with 150 lb/a N (lb/a) after each cut

	Cut 1	Cut 2	Total
Frontier	4159	2653	6812
S6982	4270	1860	6130
Ott Syn G	3820	1973	5792
Rise	4921	2262	7183
Grove	4465	2237	6702
S7358	4220	1929	6149
S7451	4284	1985	6269
Mean	4306	2128	6434

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Coordinator.

4.11.74