

NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS -2006

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Forage yield trials are planted and harvested annually by Cornell University. Each year trials are planted at Ithaca and at another location in New York State. Trials are managed for four years; seeding year and three production years.

The plot size seeded is 3.5 ft. by 20 ft. and the plot size harvested is 3.5 ft. by 13 ft. Soil fertility is maintained at high levels by fertilizing prior to planting with 300 lb/A of 10-20-20 and by fall fertilizing each year with 300 lb/A 0-15-30.

Alfalfa:

Below is a table of trial location, table of trial yield data, soil series, and elevation for the alfalfa trials.

Trial/Table#	Soil series, elevation
Ithaca, 2003/1,8	Erie channery silt loam, 960 ft
Chazy, 2004/2	Raynham variant silt loam, 185 ft.
Ithaca, 2004/3	Madalin silt loam, 990 ft
Parry, 2004/4	Conesus gravelly silt loam, 1050 ft.
Ithaca, 2005/5	Williamson silt loam, 1000 ft.
Chazy, 2005/6	Raynham variant silt loam, 185 ft.
Ithaca, 2006/7	Williamson silt loam, 1000 ft.
Cobleskill, 2006/7	Barbour Tioga f. s. loam, 1170 ft.

Five or six replications of alfalfa plots are seeded at a rate of 18 lbs/acre. Pesticides are applied as needed. Velpar L (2 – 3 pints/A) is applied in the early spring prior to the first and second production years. For insect control, Warrior is applied as needed (0.2 pints/A). Grassy weeds are controlled with Poast (2.5 pints/acre).

Red Clover and Birdsfoot Trefoil:

Six replications of red clover plots are seeded at a rate of 15 lb per acre and of birdsfoot trefoil plots are seeded at a rate of 10 lb per acre. Pesticides are applied as needed. Grassy weeds are controlled with Poast (2.5 pints/acre).

Forage Grass:

For each grass species, entries are planted in a trial with four replicates. All entries within a species are harvested at the same time, starting in mid-May. The trials are harvested four times per year.

In early spring, and following each harvest except the fourth harvest, the plots are fertilized with 200 lb/A ammonium nitrate (33-0-0). Each fall, plots are sprayed with Banvel (1 pt/A) to control broadleaf weeds.

In addition to the four replicates for yield, an additional replicate is planted in the same field to obtain heading dates (date when five heads are visible) and forage quality data. Four samples for forage quality are taken from each entry in this replicate for the first two production years, two samples at first harvest and two samples at late boot stage. These four samples per entry will be dried, ground, and analyzed by NIRS. Data reported will include, but not be limited to yield, heading date, percent crude protein and percent neutral detergent fiber, and *invitro* digestible dry matter (48 hr.) at first harvest, and percent crude protein, percent neutral detergent fiber, and *invitro* digestible dry matter (48 hr.) at late-boot stage. values will also be available.

2006 Growing Season. For the state, spring 2006 was slightly warmer and drier than normal (+0.9 degrees F, -1.61 inches precipitation). On the heels of a dry season in 2005 (very dry in the Fingerlakes Region), 2006 will be remembered for the record setting precipitation the state had (16.86 inches in June, July and August; 5.19 inches above average). Many areas of South Central New York saw record flooding at the end of June. We did not lose any forage trials from flooding, however the newly seeded trial at Cobleskill was not far from the overflow of the West Creek.

Alfalfa yields for 2006 averaged 4.74 tons per acre dry matter (0.16 tons more than in 2005), red clover yields averaged 4.46 tons per acre dry matter (0.89 tons more than in 2005), and perennial forage grass yields averaged 5.31 tons per acre dry matter (1.67 tons more than in 2005).

Forage plant root systems were stressed this growing season from the wet soil conditions that result in loss of roots from rotting and also increased wheel traffic damage to plants.

We express appreciation to all of our cooperators in allowing us to plant field plot trials of forages on their farms, and to our employees for their hard work in harvesting and maintaining field plots.

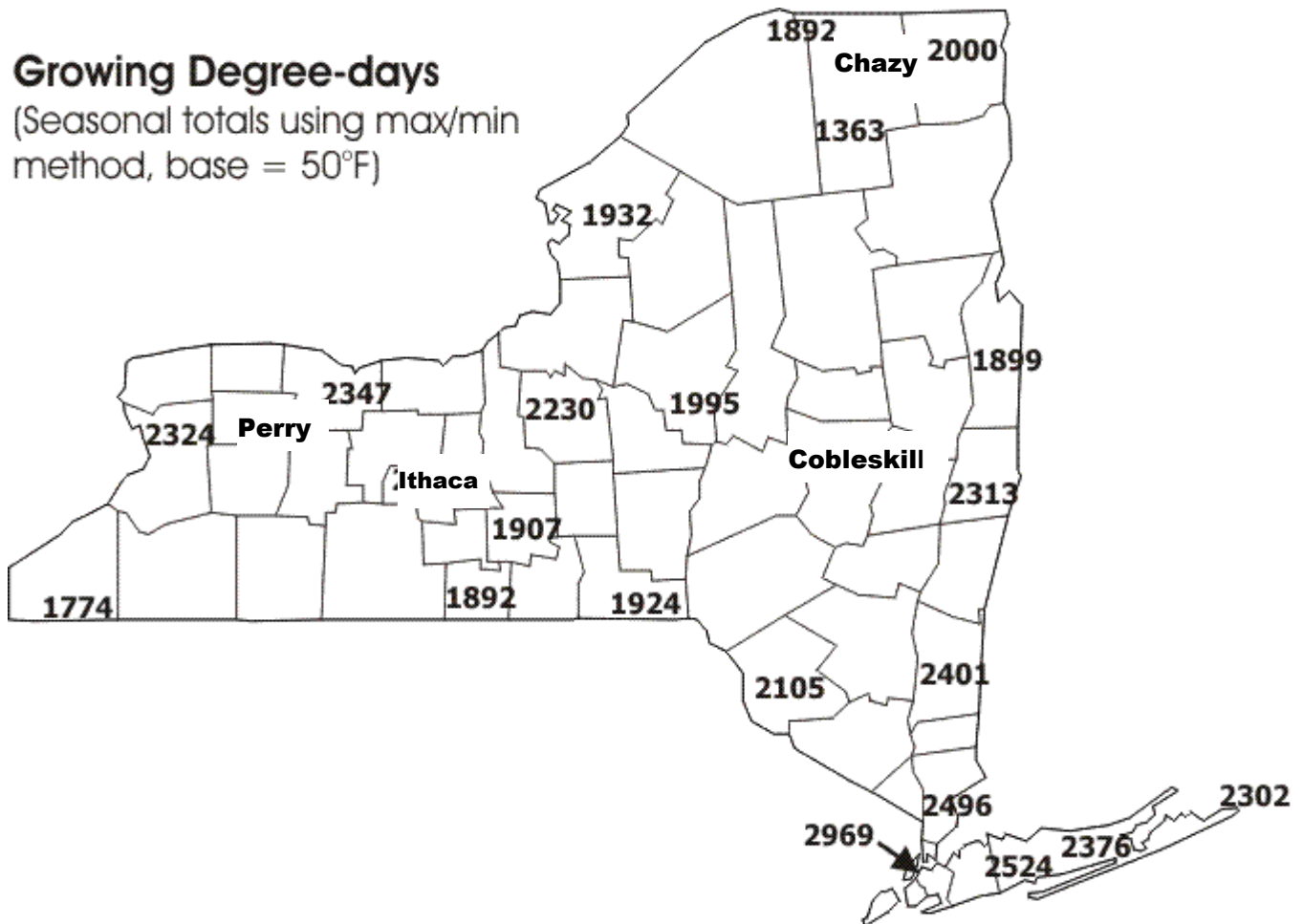


Figure 1: 2006 NYS Growing Degree Day and Trial Location Map. Map by Dr. Paul Weston, Cornell University
<http://www.entomology.cornell.edu/Extension/Woodys/GDDtracker.htm>

Many Thanks to our Cooperators:

Dan VanVleet	Cornell University Farm Manager
Tim Dodge	Cornell Univ. Field Technician
Steve Lis	Cornell Univ. Field Technician
John Conklin	Cornell Univ. Mechanic
Dr. Jerry Cherney	Cornell Univ. Professor
Dr. Mike Davis	Cornell Univ. Farm Manager at Chazy
Del Meseck	Cornell Univ. Field Assistant at Chazy
Ev Thomas	Miner Institute, Chazy, NY, Vice Pres.
J. Keith Waldron	NYSES Integrated Pest Management

Ken Wise	Area IPM Educator
Julie Dennis	Area IPM Educator
Dr. Tom Poltynski	SUNY Cobleskill, Farm Coordinator
Ken Smith	SUNY Cobleskill, Temp. Farm Manager
Bruce Tillapaugh	Wyoming County Cooperative Extension
Mike Dueppengiesser	Dairy Producer in Wyoming Co.

Many Thanks to our Summer and Seasonal Employees:

John Shiffer, Jason Schiller, Robyn Ellerbrock, Will Ewart, Aaron Shiber-Knowles, Gordon Szebenyi, Matt Applegate, Akshay Shekhar, Brian Stafford.

Questions or comments? Please contact Julie Hansen, jlh17@cornell.edu, 607-255-5043

Table number where Alfalfa Cultivars /Experimental populations are listed										Page 3								
Alfalfa Cultivar/ Experimental Pop.	1	2	3	4	5	6	7	8		Alfalfa Cultivar/ Experimental Pop.	1	2	3	4	5	6	7	8
30Q136					X	X				Escalade			X					X
31Q119							X			Everlast	X	X						
361 HY					X	X				Evermore	X	X						
3M49	X									FG42T129					X			
420	X	X								FSG 351	X	X						
425RR							X			FSG 400LH				X				
4375LH	X							X		FSG 406	X	X						
4A421	X	X			X	X	X			FSG 408DP			X	X				
4G418RR							X			FSG 505	X	X						
4R429					X	X				Genoa			X	X	X	X		
4S35					X	X				Guardman II		X		X	X	X	X	
4S419					X	X				Hi Yielder					X			
53Q30					X	X				Hybri-Force 400		X						
53H92								X		HybriForce-420/Wet	X	X	X	X				
54H91	X	X						X		HYTEST 410		X						
54Q25	X	X								Integrity				X	X			X
54V46	X	X			X	X	X			Kingfisher 30-30 Q								X
6325								X		LegenDairy 5.0			X	X				
6400HT	X	X								Lightning EXTRA			X	X				X
6415	X	X	X		X					Mariner III								X
6420			X							Marvel			X					X
A4440							X			Meadowlark					X			
AA104E						X				Milestone					X	X		
AA106E						X				NOVA			X	X				
AA107E						X				Oneida Ultra	X		X	X	X			
AA108E						X				Paramount II		X						
AA110E						X				Power 4.2	X	X						
Baralfa 32IQ					X	X				Prolific					X	X		
Baralfa 53 HR		X								Radiant AM								X
Bobwhite			X							Rebound 5.0			X	X				
BPR 387					X	X				ReGen			X	X				X
CW 15030										Seedway 9558				X				X
Dak9900	X									Starbuck								X
Dakota	X	X								Withstand								X
DKA33-16	X	X								WL 319 HQ		X						
DKA34-17RR							X			WL 335 HQ			X	X				
DKA41-18RR							X			WL 343 HQ								X
DKA42-15			X	X						WL 345 LH								X
Double Eagle					X					WL 346LH	X							X
DS304 HYB	X									WL 347 LH								X
DS307	X									WL 348 AP			X	X		X		
DS417							X			WL 355 RR								X
DS617							X			WL 357 HQ			X	X				
DS619							X			ZG 0344A			X					
Enforcer					X			X		ZG 0347A			X					

TABLE 1: NEW YORK - Central
Harvest by Harvest Ithaca, Tompkins County, Sown April 29, 2003
Summary

	2006			2005	2004	3-Yr			
	14-Jun	26-Jul	12-Sep	Total Season	Total Season	Total Season	Total	% of Cks.	% Stand 2-Oct-06
----- tons per acre dry matter -----									
RELEASED CULTIVARS									
4A421	1.92	1.55	0.62	4.08	3.92	5.18	13.19	111	91
54V46	1.84	1.56	0.75	4.14	3.81	5.22	13.16	110	90
6415	1.79	1.52	0.62	3.92	3.96	5.18	13.06	110	90
DKA33-16	1.81	1.51	0.66	3.98	3.91	5.10	12.99	109	90
FSG 505	1.75	1.53	0.69	3.97	3.84	5.09	12.90	108	90
420	1.83	1.52	0.69	4.04	3.80	5.03	12.87	108	91
FSG 351	1.76	1.58	0.75	4.09	3.71	4.92	12.72	107	89
Evermore	1.73	1.54	0.70	3.97	3.70	4.96	12.63	106	90
54Q25	1.87	1.52	0.67	4.06	3.64	4.90	12.59	106	90
HybriForce-420/Wet	1.76	1.49	0.72	3.97	3.72	4.83	12.52	105	88
Dakota	1.71	1.51	0.74	3.95	3.67	4.87	12.49	105	90
FSG 406	1.74	1.49	0.66	3.88	3.82	4.78	12.48	105	89
4375LH	1.77	1.45	0.64	3.85	3.66	4.89	12.41	104	86
5312 (check)	1.88	1.50	0.69	4.07	3.57	4.74	12.37	104	86
Oneida VR (check)	1.80	1.47	0.68	3.94	3.55	4.82	12.32	103	87
Oneida Ultra	1.72	1.43	0.63	3.77	3.56	4.75	12.09	101	87
WL 346LH	1.68	1.40	0.58	3.66	3.61	4.78	12.06	101	88
Everlast	1.70	1.45	0.65	3.80	3.45	4.78	12.02	101	87
6400HT	1.72	1.47	0.66	3.85	3.47	4.70	12.02	101	89
Power 4.2	1.65	1.41	0.61	3.68	3.64	4.66	11.99	101	90
54H91	1.55	1.48	0.59	3.63	3.28	4.60	11.50	97	85
Vernal (check)	1.81	1.34	0.56	3.71	3.07	4.23	11.03	93	85
EXPERIMENTAL STRAINS									
DS304 Hyb	1.92	1.67	0.78	4.36	4.15	5.12	13.62	114	91
Dak9900	1.81	1.60	0.74	4.15	3.72	5.05	12.93	109	90
3M49	1.75	1.43	0.61	3.79	3.54	4.98	12.32	103	90
DS307	1.75	1.53	0.73	4.01	3.62	4.82	12.45	105	89
Trial Mean (T/A)	1.78	1.49	0.66	3.92	3.64	4.84	12.4	Ck. Mean 11.91	89
P-value (entries)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		0.0001
5% LSD	0.15	0.10	0.06	0.24	0.22	0.32	0.62		2
CV(%)	6.8	5.3	7.6	4.9	4.8	5.3	4.0		2.1
MCV (%)	8	7	9	6	6	7	5		
LSR (%)	36	27	14	21	19	31	19		
Lattice Efficiency	169%	209%	162%	172%	175%	140%	158%		

TABLE 2: NEW YORK - Northern
Harvest by Harvest Chazy, Clinton County, Sown May 13, 2004
Summary

	2006			2005	2-Yr.		
	6-Jun	13-Jul	30-Aug	Total Season	Total Season	Total	
----- tons per acre dry matter -----							
RELEASED CULTIVARS							
54V46	1.65	1.35	1.04	4.04	3.86	7.91	117
Paramount II	1.63	1.32	1.08	4.02	3.64	7.66	114
6415	1.59	1.33	1.03	3.96	3.50	7.46	111
FSG 351	1.58	1.18	1.00	3.77	3.64	7.41	110
54Q25	1.60	1.23	0.99	3.82	3.58	7.40	110
DKA33-16	1.64	1.33	1.04	4.01	3.31	7.33	109
Baralfa53 HR	1.51	1.27	1.01	3.79	3.52	7.31	108
Dakota	1.52	1.24	1.05	3.81	3.50	7.30	108
FSG 505	1.51	1.17	1.05	3.73	3.57	7.30	108
HYTEST 410	1.61	1.22	0.96	3.80	3.50	7.30	108
4A421	1.50	1.25	1.04	3.79	3.47	7.26	108
Guardman II	1.52	1.26	1.00	3.77	3.43	7.19	107
Hybri-Force 400	1.52	1.11	0.97	3.60	3.59	7.19	107
Power 4.2	1.45	1.21	1.06	3.72	3.44	7.16	106
420	1.56	1.18	0.97	3.71	3.41	7.12	106
HybriForce-420/Wet	1.50	1.21	1.01	3.72	3.38	7.11	105
FSG 406	1.55	1.27	0.98	3.79	3.31	7.10	105
Everlast	1.49	1.17	1.02	3.68	3.41	7.09	105
WL 319 HQ	1.52	1.21	0.94	3.67	3.23	6.91	102
Evermore	1.45	1.19	1.01	3.65	3.26	6.90	102
Oneida VR (check)	1.48	1.12	0.92	3.52	3.37	6.88	102
Vernal (check)	1.48	1.07	0.93	3.48	3.39	6.88	102
54H91	1.47	1.09	0.95	3.52	3.26	6.79	101
6400HT	1.50	1.13	0.94	3.56	3.17	6.73	100
5312 (check)	1.46	1.06	0.93	3.45	3.01	6.46	96
							Ck. Mean
Trial Mean (T/A)	1.53	1.2	0.99	3.72	3.42	7.13	6.74
P-value (entries)	0.0246	0.0001	0.0001	0.0001	0.0003	0.0001	
5% LSD	0.14	0.14	0.08	0.30	0.36	0.59	
CV(%)	7.8	10.0	7.1	7.0	9.3	7.2	
MCV (%)	9	12	8	8	11	8	
LSR (%)	62	31	31	33	35	30	
Lattice Efficiency	305%	295%	266%	294%	245%	288%	

TABLE 3: NEW YORK - Central
Harvest by Harvest Ithaca, Tompkins County, Sown May 12, 2004
Summary

	2006			2005	2-Yr.		% Stand 5-Oct-06	
	7-Jun	20-Jul	7-Sep	Total Season	Total Season	Total		% of Cks.
----- tons per acre dry matter -----								
RELEASED CULTIVARS								
Genoa	2.78	2.31	1.14	6.22	5.53	11.73	121	93
DKA42-15	2.65	2.04	1.09	5.78	5.55	11.33	117	90
Lightning EXTRA	2.71	2.07	1.06	5.84	5.48	11.32	117	93
6415	2.60	2.24	0.99	5.83	5.46	11.28	117	92
WL 357HQ	2.65	2.10	0.98	5.73	5.44	11.18	115	92
FSG 408DP	2.58	1.95	1.12	5.65	5.46	11.12	115	91
Rebound 5.0	2.61	2.01	1.06	5.69	5.41	11.11	115	91
LegenDairy 5.0	2.55	2.19	0.94	5.68	5.34	11.04	114	93
HybriForce-420/Wet	2.67	1.79	1.07	5.54	5.39	10.93	113	91
WL 348AP	2.45	2.01	0.95	5.42	5.38	10.82	112	91
Oneida Ultra	2.49	1.75	1.01	5.24	5.29	10.53	109	91
WL 335HQ	2.50	1.86	0.90	5.25	5.20	10.45	108	92
5312 (check)	2.57	1.64	0.94	5.15	5.29	10.44	108	90
6420	2.44	1.62	0.99	5.05	5.32	10.37	107	92
NOVA	2.52	1.57	0.97	5.05	5.13	10.16	105	91
Oneida VR (check)	2.52	1.53	0.89	4.95	4.97	9.92	103	91
Vernal (check)	2.34	1.03	0.69	4.06	4.62	8.67	90	86
EXPERIMENTAL STRAINS								
Bobwhite	2.65	2.13	1.15	5.93	5.57	11.50	119	93
Marvel	2.68	2.25	1.08	6.00	5.46	11.46	118	93
Escalade	2.46	2.13	1.11	5.70	5.45	11.15	115	93
ReGen	2.63	1.80	1.10	5.52	5.42	10.94	113	89
ZG 0347A	2.41	1.85	1.04	5.31	5.06	10.38	107	90
ZG 0344A	2.51	1.83	0.91	5.24	4.88	10.12	105	90
							Ck. Mean	
Trial Mean (T/A)	2.48	1.82	0.95	5.25	5.05	10.30	9.68	89
P-value (entries)	0.0001	0.0001	0.0001	0.0001	0.0001	1E-04		0.0001
5% LSD	0.21	0.19	0.11	0.42	0.36	0.70		3
CV(%)	6.9	8.2	9.3	6.4	5.8	5.4		2.9
MCV (%)	8	10	12	8	7	7		
LSR (%)	11	9	10	8	10	8		
Lattice Efficiency	145%	118%	109%	130%	150%	148%		

TABLE 4: NEW YORK - Western
Harvest by Harvest Perry, Wyoming County, Sown April 30, 2004
Summary

	2006				2005		2-Yr	
	30-May	5-Jul	1-Aug	10-Oct	Total Season	Total Season	Total	% of Cks.
----- tons per acre dry matter -----								
RELEASED CULTIVARS								
DKA42-15	2.25	2.32	1.35	1.01	6.94	7.58	14.53	116
Genoa	2.19	2.20	1.45	1.03	6.87	7.50	14.38	115
Lightning EXTRA	2.18	2.33	1.36	1.01	6.88	7.40	14.28	114
Rebound 5.0	2.17	2.20	1.40	1.08	6.85	7.38	14.23	114
WL 357HQ	2.17	2.23	1.43	1.00	6.84	7.34	14.18	114
WL 335HQ	2.14	2.26	1.34	1.03	6.76	7.13	13.89	111
WL 348AP	2.07	2.18	1.36	0.99	6.61	7.22	13.83	111
FSG 408DP	2.05	2.14	1.29	1.13	6.61	7.12	13.72	110
NOVA	2.03	2.08	1.23	1.09	6.43	7.16	13.59	109
HybriForce-420/Wet	2.06	2.16	1.26	1.06	6.54	7.04	13.58	109
LegenDairy 5.0	2.04	2.17	1.39	0.96	6.56	6.95	13.50	108
5312 (check)	2.14	2.03	1.19	1.02	6.37	6.96	13.33	107
Guardman II	2.04	2.02	1.25	1.13	6.43	6.81	13.24	106
Seedway 9558	2.07	2.04	1.18	1.09	6.37	6.83	13.21	106
Oneida Ultra	1.99	1.99	1.14	1.04	6.17	6.81	12.97	104
Integrity	2.06	2.07	1.22	0.84	6.18	6.68	12.86	103
Oneida VR (check)	1.94	1.95	1.19	0.99	6.08	6.50	12.57	101
FSG 400LH	1.82	1.91	1.19	0.94	5.85	6.60	12.46	100
Vernal (check)	1.95	1.79	1.04	0.97	5.74	5.79	11.53	92
EXPERIMENTAL STRAINS								
ReGen	2.11	1.99	1.20	1.05	6.36	6.96	13.32	107
Trial Mean (T/A)	1.98	2.00	1.22	0.99	6.20	6.66	12.86	Ck. Mean
P-value (entries)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	12.48
5% LSD	0.15	0.12	0.09	0.08	0.29	0.27	0.46	
CV(%)	6.8	5.2	6.2	6.7	4.1	3.6	3.2	
MCV (%)	8	6	7	8	5	4	4	
LSR (%)	13	9	13	25	9	6	6	
Lattice Efficiency	162%	145%	132%	119%	144%	152%	142%	

TABLE 5: NEW YORK - Central
Harvest by Harvest Ithaca, Tompkins County, Sown May 5, 2005
Summary

	2006					
	12-Jun	18-Jul	6-Sep	Total Season	% of Cks.	% Stand 5-Oct
----- tons per acre dry matter -----						
RELEASED CULTIVARS						
Baralfa 32IQ	2.76	1.57	0.94	5.26	113	96
4S419	2.60	1.56	1.00	5.16	110	95
54V46	2.51	1.60	0.98	5.09	109	96
6415	2.43	1.67	0.96	5.07	108	96
5312 (check)	2.59	1.46	0.98	5.03	108	96
Guardsman II	2.49	1.54	0.95	4.98	107	96
BPR 387	2.50	1.48	0.97	4.95	106	95
Genoa	2.40	1.62	0.91	4.93	106	95
Prolific	2.50	1.49	0.94	4.93	106	95
361 HY	2.63	1.35	0.88	4.87	104	96
Guardsman	2.54	1.40	0.91	4.85	104	95
4A421	2.31	1.64	0.89	4.84	104	96
Integrity	2.42	1.40	0.89	4.71	101	96
Oneida VR (check)	2.50	1.31	0.86	4.67	100	97
Milestone	2.40	1.35	0.87	4.62	99	95
Oneida Ultra	2.36	1.40	0.81	4.57	98	95
4R429	2.16	1.48	0.85	4.51	96	96
53Q30	2.24	1.41	0.82	4.46	96	94
Vernal (check)	2.31	1.15	0.85	4.31	92	94
EXPERIMENTAL STRAINS						
FG42T129	2.66	1.63	0.97	5.26	113	96
Double Eagle	2.52	1.62	1.00	5.13	110	95
AA106E	2.64	1.51	0.94	5.09	109	96
AA110E	2.44	1.45	0.95	4.84	104	96
AA107E	2.36	1.55	0.89	4.80	103	95
Hi Yelder	2.47	1.36	0.91	4.74	102	94
30Q136	2.20	1.63	0.88	4.72	101	95
AA104E	2.34	1.44	0.91	4.70	101	96
Enforcer	2.25	1.56	0.88	4.69	100	97
AA108E	2.31	1.46	0.91	4.68	100	96
4S35	2.34	1.46	0.86	4.66	100	95
Meadowlark	2.44	1.27	0.92	4.62	99	95
					Ck. Mean	
Trial Mean (T/A)	2.41	1.45	0.89	4.75	4.67	95
P-value (entries)	0.0001	0.0001	0.0001	0.0001		0.3207
5% LSD	0.21	0.18	0.11	0.39		2
CV(%)	6.9	9.8	9.6	6.6		2.1
MCV (%)	8.7	12	12	8		
LSR (%)	30	35	42	32		
Lattice Efficiency	113%	110%	127%	115%		

**TABLE 6: NEW YORK - Northern
Harvest by Harvest Chazy, Clinton County, Sown May 9, 2005
Summary**

	2006				Total Season	% of Cks.
	5-Jun	13-Jul	30-Aug			
	----- tons per acre dry matter -----					
RELEASED CULTIVARS						
54V46	1.83	1.68	1.49	5.00	111	
Genoa	1.81	1.67	1.44	4.92	110	
4S419	1.85	1.58	1.47	4.91	109	
BPR 387	1.76	1.57	1.43	4.76	106	
Prolific	1.78	1.54	1.43	4.75	106	
4A421	1.76	1.58	1.39	4.73	105	
Baralfa 32IQ	1.77	1.56	1.39	4.72	105	
Milestone	1.79	1.48	1.43	4.71	105	
361 HY	1.78	1.51	1.42	4.70	105	
53Q30	1.70	1.61	1.38	4.69	104	
WL 348AP	1.76	1.55	1.37	4.67	104	
4R429	1.69	1.54	1.44	4.67	104	
Guardman II	1.69	1.55	1.40	4.64	103	
5312 (check)	1.74	1.43	1.35	4.52	101	
Vernal (check)	1.68	1.41	1.40	4.49	100	
Oneida VR (check)	1.68	1.41	1.36	4.45	99	
EXPERIMENTAL STRAINS						
4S35	1.80	1.64	1.41	4.85	108	
30Q136	1.65	1.60	1.30	4.55	101	
Trial Mean (T/A)	1.71	1.51	1.38	4.60	Ck. Mean 4.49	
P-value (entries)	0.0001	0.0001	0.0001	0.0001		
5% LSD	0.12	0.12	0.08	0.27		
CV(%)	6.9	7.8	6.1	5.8		
MCV (%)	7	8	6	6		
LSR (%)	49	30	19	33		
Lattice Efficiency	226%	117%	182%	215%		

Table 7

Alfalfa trials sown in New York in Spring 2006

Ithaca, Tompkins Co., Sown April 27, 2006

Cobleskill, Schoharie County, Sown May 2, 2006

	2006			2006			
	8-Sep	% of Cks.	% Stand 5-Oct	25-Jul	26-Sep	Total Season	% of Cks.
	T/A			- tons per acre dry matter -			
RELEASED CULTIVARS				RELEASED CULTIVARS			
ReGen	1.26	106	99	ReGen	2.13	1.22	112
Guardzman II	1.23	103	99	Starbuck	1.93	1.20	104
5312 (check)	1.20	101	99	Guardzman II	1.90	1.16	102
Oneida VR (check)	1.19	100	99	5312 (check)	1.90	1.14	101
Vernal (check)	1.19	100	97	Mariner III	1.95	1.09	101
Kingfisher 30-30 Q	1.18	99	99	Kingfisher 30-30 Q	1.86	1.17	101
Mariner III	1.17	98	99	Oneida VR (check)	1.86	1.16	101
Lightning EXTRA	1.15	97	99	4A421	1.90	1.06	99
4A421	1.15	97	99	Vernal (check)	1.80	1.14	98
54V46	1.15	96	99	Seedway 9558	1.78	1.16	98
Seedway 9558	1.15	96	99	A4440	1.90	1.03	98
A4440	1.13	95	99	54V46	1.90	1.03	98
Radiant-AM	1.08	90	99	Radiant-AM	1.80	1.12	97
Starbuck	1.05	88	99	Lightning EXTRA	1.91	0.96	96
4G418RR	1.01	85	98	Integrity	1.90	0.94	95
WL 355 RR	0.97	81	99	WL 355 RR	1.78	0.92	90
DKA41-18RR	0.96	80	99	DKA41-18RR	1.75	0.89	88
DKA34-17RR	0.93	78	99	4G418RR	1.68	0.88	86
WL 343HQ	0.88	74	99	DKA34-17RR	1.73	0.76	83
				WL 343HQ	1.62	0.79	80
EXPERIMENTAL STRAINS				EXPERIMENTAL STRAINS			
DS619	1.29	108	98	Escalade	1.97	1.16	104
DS417	1.21	102	99	DS417	2.01	1.12	104
DS617	1.19	100	99	Withstand	1.92	1.06	100
425RR	1.04	88	99	Marvel	1.77	0.94	90
31Q119	1.00	84	99	31Q119	1.72	0.92	88
		Ck. Mean					Ck. Mean
Trial Mean (T/A)	1.09	1.19	99	Trial Mean (T/A)	1.86	1.04	2.90
P-value (entries)	0.0001		0.1958	P-value (entries)	0.0001	0.0001	0.0001
5% LSD	0.13		1	5% LSD	0.14	0.07	0.15
CV(%)	9.7		0.8	CV(%)	6.8	5.5	4.6
MCV (%)	12			MCV (%)	7	6	5
LSR (%)	30			LSR (%)	27	15	16
Lattice Efficiency	112%			Lattice Efficiency	294%	178%	348%

First harvest in 2006 was on July 19th.

Table 8 Alfalfa Trials to Test Insect Resistant Cultivars - Harvest by Harvest Summary

Ithaca, Tompkins County, Sown April 29, 2003

	2006						2005	2004	3-Yr.	4-Yr.Avg.	
	15-Jun	27-Jul	18-Sep	Total Season	% of Cks	% Stand	Total Season	Total Season	Total	% of Cks	PLH* Damage
	--- tons per acre dry matter ---						T/A	T/A	T/A		
WL 346LH	2.47	1.79	0.56	4.82	102	89	3.99	5.25	14.06	105	1.2
4375LH	2.32	1.71	0.63	4.66	98	87	3.89	5.28	13.83	103	1.5
5312 (check)	2.62	1.74	0.58	4.94	104	88	3.91	4.97	13.82	103	3.0
54H91	2.39	1.74	0.62	4.76	101	87	3.73	5.08	13.57	101	1.5
Oneida VR (check)	2.50	1.68	0.57	4.75	100	87	3.73	5.07	13.54	101	3.4
Vernal (check)	2.40	1.55	0.54	4.49	95	85	3.42	4.83	12.74	95	3.1
					Ck. Mean					Ck. Mean	
Trial Mean (T/A)	2.39	1.66	0.56	4.62	4.73	85	3.68	4.98	13.27	13.37	
P-value (entries)	0.0015	0.0001	0.0001	0.0001		0.0001	0.0001	0.0001	0.0001		
LSD(.05)	0.19	0.13	0.07	0.32			2	0.37	0.39	0.95	
CV(%)	6.9	6.8	10.2	6.0		2.5	8.8	6.8	6.2		

*Potato leafhopper (PLH) damage score: 1= no apparent damage to 5=severe damage

Ithaca, Tompkins County, Sown April 29, 2005

	2006					2-Yr Avg.	
	14-Jun	25-Jul	12-Sep	Total Season	% of Cks.	% Stand	PLH* Damage
	--- tons per acre dry matter ---						
WL 347 LH	1.90	1.84	0.64	4.38	107	96.0	2.3
5312 (check)	1.95	1.75	0.61	4.30	105	96.0	4.2
6325	1.98	1.69	0.62	4.29	104	95.5	3.0
WL 345 LH	1.87	1.82	0.60	4.29	104	95.5	2.1
54H91	1.87	1.77	0.63	4.26	104	93.5	1.6
Vernal (check)	1.86	1.59	0.60	4.06	99	94.0	4.1
Oneida VR (check)	1.84	1.55	0.57	3.96	96	97.0	4.6
					Ck. Mean		
Trial Mean (T/A)	1.90	1.73	0.61	4.24	4.11	95.3	
P-value (entries)	0.0001	0.0001	0.5119	0.0001		0.0001	
5% LSD	0.13	0.11	0.07	0.20		2.5	
CV(%)	5.7	5.5	9.6	4.1		2.3	

*Potato leafhopper (PLH) damage score: 1= no apparent damage to 5=severe damage

Ithaca, Tompkins County, Sown May 1, 2006

	2006		
	20-Jul	% of Cks.	PLH* Damage 7/25
	T/A		
WL 345LH	2.17	110	2.1
WL 347LH	2.09	106	2.3
53H92	2.03	103	1.3
Oneida VR (check)	2.02	102	4.3
5312 (check)	1.98	101	3.8
Enforcer	1.92	98	1.8
Vernal (check)	1.92	98	4.1
		Ck Mean	
Trial Mean (T/A)	2.04	1.97	2.3
P-value (entries)	0.2106		0.0001
5% LSD	0.17		0.6
CV(%)	7.3		23.1

*Potato leafhopper (PLH) damage score: 1= no apparent damage to 5=severe damage

Table 9:
Harvest by Harvest Summary

New York - Central-Red Clover and Birdsfoot Trefoil

		Red Clover Trial - Sown April 29, 2003						2005	2004	3-Yr.	
Variety	Marketing Company	2006			% of Cks.	% Stand 29-Jul	Total Season	Total Season	Total	% of Cks.	
		15-Jun	27-Jul	18-Sep							
--- tons per acre dry matter ---											
Dominion (RC 9804)	Land O'Lakes	1.08	1.36	0.25	2.69	124	73	T/A	T/A	T/A	
Raven (RC 9402)	AgriCulver	0.99	1.35	0.28	2.62	121	68	2.95	5.66	11.23	
RC9101	Allied Seed, L.L.C.	0.93	1.26	0.25	2.44	113	57	3.00	5.40	10.84	
Marathon	Check	0.80	1.13	0.27	2.20	102	57	2.88	5.56	10.64	
Freedom!	Barenbrug	0.96	1.02	0.22	2.21	102	68	2.92	5.51	10.63	
FSG-9601	Seedway/FSG	0.90	1.31	0.26	2.46	114	60	2.62	5.49	10.57	
Arlington	Check	0.75	1.10	0.26	2.11	98	45	2.52	5.18	9.82	
						Ck. Mean				Ck. Mean	
						2.16		5.8		10.23	
Trial Mean		0.86	1.19	0.27	2.32			2.76	5.37		
P-value (entries)		0.0001	0.0001	0.0177	0.0001			0.0103	0.0001		
LSD(.05)		0.11	0.14	0.06	0.22			0.28	0.26		
CV(%)		11.1	10.2	20.5	8.1			18.5	8.7	4.2	

		Red Clover Trial, Sown May 7, 2004						2005	2-Yr.	
Variety	Marketing Company	2006			% of Cks.	% Stand 5-Oct	Total Season	Total	Total	% of Cks.
		16-Jun	7-Aug	18-Sep						
---- tons/acre dry matter ----										
Rocket	Chemgro/ Grassland Central	2.83	1.91	0.43	5.16	108	86	4.53	9.70	106
Duration	Check	2.54	1.84	0.41	4.78	100	87	4.70	9.48	104
Marathon (check)	Check	2.64	1.78	0.36	4.78	100	89	4.37	9.15	100
Arlington (check)	Check	2.55	1.84	0.38	4.77	100	86	4.30	9.07	100
CW 10002	Cal/West	2.42	1.75	0.45	4.62	97	87	4.28	8.90	98
WVPB-RC-NT-KY2	Smith Seed Services	2.28	1.83	0.44	4.54	95	89	4.08	8.63	95
						Ck. Mean				
						4.77		87		4.38
Trial Mean		2.54	1.82	0.41	4.78			4.38		
P-value (entries)		0.0025	0.5088	0.0806	0.0168			0.5668	0.2077	
LSD(.05)		0.25	0.17	0.07	0.34			4	0.52	
CV(%)		8.1	7.9	13.8	5.9			3.6	7.9	

		Red Clover Trial, Sown April 29, 2005						
Variety	Marketing Company	2006			% of Cks.	% Stand 25-Sep	Total Season	
		13-Jun	24-Jul	11-Sep				
---- tons/acre dry matter ----								
RC9602	Allied Seed, L.L.C.	1.96	1.82	0.63	4.41	113	88	
Dynamite	UAP NE	2.07	1.77	0.56	4.40	113	89	
Kenway	Smith Seed Services	1.89	1.79	0.60	4.28	110	89	
Dominion	Land O'Lakes	1.91	1.71	0.60	4.22	108	88	
FSG 9601	Seedway/FSG	1.89	1.69	0.58	4.16	107	87	
RC9603	Allied Seed, L.L.C.	1.76	1.73	0.59	4.09	105	86	
Cardinal	Blue River Organic Seed	1.86	1.65	0.54	4.05	104	91	
CW10002	Cal/West	1.79	1.69	0.56	4.04	104	89	
Marathon (check)	Check	1.73	1.63	0.55	3.90	100	87	
Arlington (check)	Check	1.74	1.62	0.51	3.87	99	79	
						Ck. Mean		
						3.89		87
Trial Mean		1.86	1.71	0.57	4.14			
P-value (entries)		0.0629	0.1076	0.1247	0.0005			0.0014
LSD(.05)		0.22	0.15	0.08	0.26			5
CV(%)		10.2	7.3	11.8	5.4			4.7

		Birdsfoot Trefoil Trial, Sown May 6, 2005			
Variety	Marketing Company	2006		% of Cks.	Total Season
		14-Jun	19-Jul		
Norcen	Check	2.48	0.73	3.21	100
Pardee	Seedway/FSG/FS Seeds	2.28	0.84	3.11	97
Steadfast	Seed Research of Oregon	1.61	0.88	2.49	78
					Ck. Mean
					3.21
Trial Mean		2.23	0.78	3.01	
P-value (entries)		0.0001	0.0114	0.0021	
LSD(.05)		0.23	0.17	0.35	
CV(%)		8.5	18.2	9.7	

TABLE 10: Perennial Forage Grass Variety Yield Trials in New York
(Yield - tons per acre dry matter)
Ithaca, Tompkins Co., Sown 2003, 2004, 2005
 *, ** = significant differences among varieties at P<0.05 and P<0.01, respectively; ns = no significant differences among varieties.
 Heading date is date when 5 heads in a 3.5 by 16 foot plot were visible.

Perennial Ryegrass and Festulolium		2006							3-Yr.
Sown May 9, 2003		25-May	6-Jul	10-Aug	27-Sep	Total Season	% Stand 28-Sep	Heading Date	Total
		--- tons per acre dry matter ---							T/A
Variety	Marketing Company								
Spring Green (festulolium)	Check	1.74	1.29	0.28	0.48	3.79	65	26-May	12.98
Remington	Barenbrug	0.94	1.81	0.23	0.36	3.34	74	5-Jun	11.85
PSGG9-04	PICKSEED Inc.	1.46	1.28	0.26	0.40	3.40	63	20-May	11.20
Bastion	Check	1.47	1.17	0.24	0.44	3.31	65	19-May	11.18
Citadel	Check	0.82	1.46	0.34	0.39	3.01	68	29-May	10.66
Paddock	Seedway	0.63	1.92	0.24	0.44	3.22	68	7-Jun	9.58
	Trial Mean	1.13	1.45	0.30	0.42	3.29	58		
	F-entries	25.02 **	30.36 **	14.58 **	1.18 ns	3.15 ns	156.43 **		
	LSD(.05)	0.25	0.16	0.07	0.11	0.45	5		
	CV(%)	14.8	7.5	16.7	17.1	9.3	6.2		

Perennial Ryegrass		2006							2-Yr.
Sown May 18, 2004		24-May	23-Jun	7-Aug	9-Oct	Total Season	% Stand 31-Oct	Heading Date	Total
		--- tons per acre dry matter ---							T/A
Variety	Marketing Company								
Modane	Seed Research of Oregon	0.45	2.00	0.85	1.03	4.33	85	2-Jun	7.92
Bastian	Check	0.80	1.57	0.91	1.02	4.30	83	24-May	7.78
Bargala	Barenbrug	0.48	2.10	0.78	1.10	4.46	86	31-May	7.73
Eurostar	Seed Research of Oregon	0.47	1.85	0.91	1.14	4.36	84	31-May	7.71
Grand Daddy	Seedway / FSG	0.84	1.67	0.83	1.09	4.43	86	26-May	7.64
Citadel	Check	0.41	1.89	0.86	1.05	4.21	81	31-May	7.52
Barsprinter	Barenbrug	0.60	1.93	0.91	0.94	4.38	87	31-May	7.38
RESPECT	DLF International Seeds	0.78	1.70	0.83	1.01	4.32	83	26-May	7.19
Proton	Seed Research of Oregon	0.28	1.62	0.79	0.87	3.57	80	7-Jun	6.75
	Trial Mean	0.57	1.81	0.85	1.03	4.26	84		
	F-entries	9.09 **	4.17 **	0.84 ns	3.84 **	2.66 *	2.23 ns		
	LSD(.05)	0.19	0.26	0.16	0.12	0.48	4		
	CV(%)	23.3	9.8	12.5	8.2	7.8	3.6		

Perennial Ryegrass		2006						
Sown May 4-5, 2005		23-May	22-Jun	9-Aug	2-Oct	Total Season	% Stand 5-Oct	Heading Date
		--- tons per acre dry matter ---						
Variety	Marketing Company							
Clermont	Seed Research of Oregon	1.23	2.16	1.35	0.99	5.73	85	31-May
Citadel	Check	1.06	1.82	1.50	0.99	5.38	84	26-May
Bastion	Check	1.62	1.42	1.11	0.86	5.01	81	19-May
Green Gold	UAP NE	0.96	1.77	1.15	0.89	4.77	85	31-May
Barnhem	Barenbrug	0.56	1.92	1.41	0.87	4.76	87	7-Jun
	Trial Mean	1.09	1.82	1.30	0.92	5.13	84	
	F-entries	110.12 **	8.87 **	4.03 **	1.21 ns	5.19 **	1.57 ns	
	LSD(.05)	0.11	0.27	0.25	0.17	0.55	5	
	CV(%)	6.8	10.0	12.9	12.7	7.2	4.4	

Festulolium		2006						
Sown May 4-5, 2005		23-May	22-Jun	9-Aug	2-Oct	Total Season	% Stand 5-Oct	Heading Date
		--- tons per acre dry matter ---						
Variety	Marketing Company							
Salino	Allied Seed, L.L.C.	2.17	2.10	1.43	1.17	6.87	81	26-May
Agula	Allied Seed, L.L.C.	2.21	2.01	1.41	1.21	6.85	81	26-May
Felopa	Allied Seed, L.L.C.	2.19	2.03	1.43	1.16	6.81	81	26-May
Spring Green	Check	1.75	1.88	1.20	1.09	5.93	90	22-May
	Trial Mean	2.08	2.01	1.37	1.16	6.61	83	
	F-entries	6.61 *	6.24 *	4.49 *	2.17 ns	11.03 **	17.64 **	
	LSD(.05)	0.27	0.12	0.17	0.11	0.44	3	
	CV(%)	8.2	3.7	7.7	5.8	4.2	2.5	

TABLE 10: Perennial Forage Grass Variety Yield Trials in New York (Yield - tons per acre dry matter)
Ithaca, Tompkins Co., Sown 2003, 2004, 2005
 *, ** = significant differences among varieties at P<0.05 and P<0.01, respectively; ns = no significant differences among varieties.
 Heading date is date when 5 heads in a 3.5 by 16 foot plot were visible.

Tall Fescue
 Sown May 9, 2003

		2006							3-Yr.
Variety	Marketing Company	25-May	6-Jul	10-Aug	27-Sep	Total Season	% Stand 28-Sep	Heading Date	Total
--- tons per acre dry matter ---									
Bull	Preferred Seed Co.	1.82	1.85	1.21	1.03	5.91	64	17-May	17.24
Enhance	Seedway / FSG	1.50	2.12	1.17	0.96	5.75	71	24-May	17.12
Select	Check	1.69	1.96	1.14	1.10	5.89	64	24-May	17.08
Montendre	Seed Research of Oregon	1.18	1.73	1.06	0.94	4.92	68	26-May	14.62
	Trial Mean	1.53	1.91	1.13	0.98	5.56	66		
	F-entries	29.23 **	8.42 **	1.55 ns	1.70 ns	13.59 **	1.54 ns		
	LSD(.05)	0.14	0.16	0.16	0.20	0.36	8		
	CV(%)	5.9	5.3	9.2	13.1	4.2	8.2		

Tall and Meadow Fescue
 Sown May 4-5, 2005

		2006						
Variety	Marketing Company	23-May	22-Jun	9-Aug	2-Oct	Total Season	% Stand 5-Oct	Heading Date
--- tons per acre dry matter ---								
Select	check	1.59	1.77	2.33	1.85	7.54	88	19-May
Jesup MaxQ	Pennington Seed	1.47	1.66	2.37	1.76	7.25	89	18-May
Bull	check	1.55	1.61	2.21	1.86	7.22	89	17-May
Barcarella	Barenbrug	1.35	1.67	2.33	1.77	7.12	89	20-May
Bartura (meadow fescue)	check	1.73	1.61	1.89	1.07	6.30	84	19-May
Pradel (meadow fescue)	Barenbrug	1.32	1.66	1.96	1.13	6.07	83	26-May
	Trial Mean	1.50	1.66	2.18	1.57	6.92	87	
	F-entries	7.89 **	1.73 ns	9.89 **	108.71 **	39.06 **	3.17 *	
	LSD(.05)	0.17	0.14	0.20	0.11	0.28	5	
	CV(%)	7.4	5.5	6.0	4.5	2.7	3.6	

Orchardgrass
 Sown May 9, 2003

		2006							3-Yr.
Variety	Marketing Company	25-May	6-Jul	10-Aug	27-Sep	Total Season	% Stand 28-Sep	Heading Date	Total
--- tons per acre dry matter ---									
Stampede	Check	2.18	1.42	0.60	0.69	4.88	66	15-May	14.87
Bounty (OG9701)	Seedway / FSG	2.06	1.30	0.54	0.57	4.47	73	15-May	14.37
Extend	Seedway / FSG	1.98	1.25	0.46	0.51	4.20	63	18-May	13.98
Baridana	Check	1.97	1.27	0.46	0.52	4.22	65	15-May	13.62
Potomac	Check	2.04	1.12	0.46	0.52	4.13	73	15-May	13.33
Haymaster (OG9704)	Allied Seed, L.L.C.	1.92	1.20	0.45	0.51	4.09	68	18-May	12.81
	Trial Mean	2.03	1.26	0.49	0.55	4.33	68		
	F-entries	1.74 ns	7.71 **	5.12 **	6.58 **	5.67 **	6.65 **		
	LSD(.05)	0.21	0.11	0.08	0.08	0.38	5		
	CV(%)	6.9	5.7	10.8	9.7	5.8	4.7		

Orchardgrass
 Sown May 18, 2004

		2006							2-Yr.
Variety	Marketing Company	24-May	23-Jun	7-Aug	9-Oct	Total Season	% Stand 31-Oct	Heading Date	Total
--- tons per acre dry matter ---									
Stampede	Check	2.02	1.59	1.57	1.21	6.40	86	16-May	11.42
Command	Land O Lakes	2.01	1.46	1.43	1.08	5.98	84	19-May	10.72
Intensiv	Check	1.80	1.53	1.55	0.95	5.83	79	26-May	10.31
Baridana	Check	1.82	1.43	1.30	1.05	5.60	86	17-May	10.05
Impuls	Seed Research of Oregon	1.62	1.59	1.29	0.88	5.38	80	25-May	9.41
LG 31	DLF International Seeds	1.14	1.69	1.34	0.88	5.04	83	26-May	9.41
	Trial Mean	1.74	1.55	1.41	1.01	5.70	83		
	F-entries	44.57 **	6.56 **	1.23 ns	4.02 *	9.77 **	4.40 *		
	LSD(.05)	0.15	0.11	0.33	0.19	0.46	4		
	CV(%)	5.7	4.9	15.7	12.8	5.3	3.5		

Orchardgrass
 Sown May 4-5, 2005

		2006						
Variety	Marketing Company	23-May	22-Jun	9-Aug	2-Oct	Total Season	% Stand 5-Oct	Heading Date
--- tons per acre dry matter ---								
Icon	AgriCulver / Chemgro	2.17	1.47	1.62	1.22	6.47	92	15-May
Stampede	check	2.09	1.36	1.56	1.32	6.34	89	15-May
Checkmate (OG0001)	Seed Research of Oregon	2.11	1.52	1.56	1.11	6.30	91	17-May
Quick Draw	UAP NE	1.87	1.42	1.59	1.31	6.20	91	15-May
Barexcel	Barenbrug	2.05	1.29	1.53	1.16	6.03	90	16-May
Crown Royale	Preferred Seed Co.	1.83	1.25	1.49	1.19	5.76	91	16-May
Pizza	Seed Research of Oregon	1.85	1.37	1.36	1.13	5.71	92	20-May
Baridana	Barenbrug	1.68	1.35	1.30	1.19	5.52	92	17-May
Intensiv	Barenbrug	1.69	1.13	1.49	1.19	5.50	91	25-May
	Trial Mean	1.93	1.35	1.50	1.20	5.98	91	
	F-entries	6.12 **	1.97 ns	4.40 **	3.04 *	5.25 **	2.71 **	
	LSD(.05)	0.21	0.25	0.15	0.12	0.47	2	
	CV(%)	7.6	12.5	6.7	6.9	5.4	1.3	

TABLE 10: Perennial Forage Grass Variety Yield Trials in New York (Yield - tons per acre dry matter)
Ithaca, Tompkins Co., Sown 2003, 2004, 2005
 *, ** = significant differences among varieties at P<0.05 and P<0.01, respectively; ns = no significant differences among varieties.
 Heading date is date when 5 heads in a 3.5 by 16 foot plot were visible.

Reed Canarygrass
Sown May 9, 2003

		2006							3-Yr.
Variety	Marketing Company	25-May	6-Jul	10-Aug	27-Sep	Total Season	% Stand 28-Sep	Heading Date	Total
--- tons per acre dry matter ---									
Palaton	Check	1.85	2.20	0.63	0.59	5.28	80	31-May	14.24
Marathon	FS Seeds	1.84	2.24	0.61	0.62	5.30	81	31-May	13.91
	Trial Mean	1.84	2.22	0.62	0.61	5.29	81		
	F-entries	0.05 ns	0.78 ns	0.74 ns	0.17 ns	0.03 ns	0.27 ns		
	LSD(.05)	0.17	0.13	0.11	0.24	0.50	8		
	CV(%)	4.2	2.7	7.6	17.2	4.2	4.2		

Timothy
Sown May 9, 2003

		2006							3-Yr.
Variety	Marketing Company	25-May	6-Jul	10-Aug	27-Sep	Total Season	% Stand 28-Sep	Heading Date	Total
--- tons per acre dry matter ---									
Derby (TM9901)	Allied Seed, L.L.C.	2.54	1.13	0.52	0.56	4.75	70	26-May	14.27
Crest (TM0102)	Seedway / FSG	2.27	1.13	0.50	0.57	4.47	73	2-Jun	13.93
Summit	Seedway / FSG	2.41	0.96	0.49	0.66	4.51	70	26-May	13.49
AC Opal	PICKSEED Inc.	2.10	1.50	0.39	0.55	4.54	70	7-Jun	13.20
AC Alliance	PICKSEED Inc.	2.28	1.09	0.39	0.61	4.38	71	29-May	12.92
Comer	PICKSEED Inc.	2.15	1.15	0.40	0.58	4.28	68	5-Jun	12.83
Chazy	Check	2.18	1.19	0.40	0.59	4.36	71	29-May	12.74
Express	Seed Research of Oregon	2.18	1.18	0.32	0.49	4.17	74	2-Jun	12.62
Climax	Check	1.98	1.32	0.38	0.56	4.24	70	31-May	11.84
Tenho	Barenbrug	1.76	1.72	0.29	0.52	4.29	69	7-Jun	11.46
	Trial Mean	2.18	1.24	0.41	0.57	4.40	71		
	F-entries	9.00 **	15.22 **	4.10 **	2.00 ns	2.49 *	0.64 ns		
	LSD(.05)	0.21	0.16	0.11	0.10	0.32	6		
	CV(%)	6.6	9.2	17.9	11.6	5.0	6.3		

Timothy
Sown May 18, 2004

		2006							2-Yr.
Variety	Marketing Company	24-May	23-Jun	7-Aug	9-Oct	Total Season	% Stand 31-Oct	Heading Date	Total
--- tons per acre dry matter ---									
Climax	Check	1.77	1.41	1.46	0.89	5.53	85	2-Jun	9.30
Chazy	Check	1.83	1.50	1.23	0.97	5.52	83	29-May	9.17
Monza	Seed Research of Oregon	2.04	0.82	1.52	1.01	5.39	85	26-May	9.15
Moverdi	Seed Research of Oregon	1.37	1.60	1.12	0.96	5.04	80	14-Jun	8.80
	Trial Mean	1.75	1.33	1.33	0.96	5.37	83		
	F-entries	15.93 **	128.36 **	5.52 *	1.06 ns	2.07 ns	4.09 *		
	LSD(.05)	0.22	0.10	0.26	0.16	0.51	4		
	CV(%)	8.0	4.7	12.1	10.2	5.9	2.7		

Timothy
Sown May 4-5, 2005

		2006						
Variety	Marketing Company	23-May	22-Jun	9-Aug	2-Oct	Total Season	% Stand 5-Oct	Heading Date
--- tons per acre dry matter ---								
Talon	Land O Lakes / Chemgro	2.69	0.97	2.11	0.98	6.76	89	26-May
Treasure	Seed Research of Oregon	2.62	0.91	2.23	0.88	6.64	90	29-May
Glacier	AgriCulver	2.36	0.93	2.18	1.03	6.50	90	26-May
GO-LMT-04	UAP NE	2.30	1.03	1.94	0.85	6.12	91	2-Jun
Chazy	Check	2.09	1.32	1.63	0.85	5.90	88	29-May
Climax	Check	1.88	1.21	1.75	0.69	5.53	90	7-Jun
	Trial Mean	2.33	1.06	1.97	0.88	6.24	90	
	F-entries	39.94 **	17.27 **	19.46 **	9.73 **	17.99	1.31 ns	
	LSD(.05)	0.15	0.12	0.17	0.12	0.34	3	
	CV(%)	4.2	7.6	5.6	8.7	3.6	2.4	

**TABLE 11: 2006 Grass Trials, Ithaca, Tompkins County
New York on April 28, 2006**

Variety	Marketing Co.	2006		
		22-Aug	9-Oct	Total
-- tons per acre dry matter --				
Intermediate and Perennial Ryegrass				
Tetrelite II (inter.)	DLF International Seeds	1.40	1.73	3.12
FH2004A	Cropmark Seeds Ltd	1.50	1.45	2.95
GO ABE (inter.)	Grassland Oregon	1.54	1.33	2.87
Boost	Seedway/FSG	1.26	1.61	2.86
Spring Green (festulolium)	check	1.30	1.53	2.84
Bandito (inter.)	Grassland Oregon	1.28	1.38	2.66
GO ABD	Grassland Oregon	1.10	1.42	2.52
Birger	Burlingham Seeds	1.12	1.40	2.52
Opus	Burlingham Seeds	0.90	1.45	2.35
Green Gold	Grassland Oregon	0.95	1.31	2.26
GO ABA	Grassland Oregon	1.08	1.17	2.24
BAR1M	Barenbrug	0.92	1.17	2.09
Citadel	check	0.87	1.19	2.06
Linn	check	0.81	1.13	1.94
	Trial Mean	1.14	1.38	2.52
	LSD(.05)	0.20	0.32	0.45
	CV(%)	12.1	16.5	12.5
Tall Fescue				
Drover	Barenbrug	1.89	2.07	3.96
GO-TF	Grassland Oregon	1.78	1.91	3.69
Enhance	check	1.84	1.81	3.65
Select	check	1.68	1.93	3.61
BarElite	Barenbrug	1.56	1.89	3.46
Savory	DLF International Seeds	1.57	1.79	3.35
FA2003CS	Cropmark Seeds Ltd	1.54	1.56	3.09
	Trial Mean	1.69	1.85	3.54
	LSD(.05)	0.13	0.12	0.19
	CV(%)	5.0	4.5	3.6
Orchardgrass				
IS-OG 39	DLF International Seeds	1.67	2.06	3.73
Olympia	Pennington Seed	1.70	1.89	3.59
Pennlate	check	1.62	1.88	3.50
Potomac	check	1.54	1.87	3.41
OG 0204G	Seed Research of Oregon	1.55	1.74	3.30
Endurance	DLF International Seeds	1.58	1.71	3.29
Intensiv	check	1.45	1.66	3.11
Montana (M. brome)	Seed Research of Oregon	1.23	1.09	2.32
	Trial Mean	1.54	1.74	3.28
	LSD(.05)	0.11	0.27	0.34
	CV(%)	5.0	10.7	7.1
Timothy				
Clair	check	1.61	1.19	2.81
TM9701	Allied Seed L.L.C.	1.47	1.17	2.65
Summit	Allied Seed L.L.C.	1.53	1.05	2.58
Crest (TM0102)	Allied Seed L.L.C.	1.50	0.87	2.37
Climax	check	0.96	0.89	1.85
PT2004A	Cropmark Seeds Ltd	1.04	0.73	1.77
Barpenta	Barenbrug	1.08	0.65	1.73
Chazy	check	0.95	0.74	1.69
	Trial Mean	1.27	0.91	2.18
	LSD(.05)	0.26	0.16	0.30
	CV(%)	13.9	11.7	9.5

Table 12:

Spring, First Harvest Forage Quality Data for Grass Varieties - 2005 DATA for trial planted in 2003 at Ithaca, NY

NDF = neutral detergent fiber, **IVTD** = in vitro true digestibility (48 hour digestion), **NDFD** = digestible NDF.

RFQ = relative feed quality. First harvest forage RFQ, milk per ton, and milk per acre were predicted by using **MILK2000** from U. of Wisconsin.

Boot Stage is date when 5 heads in a 3.5 x 16 foot plot were visible; **Maturity score** T=number of nodes;

R 0=boot stage, R 1=head partially emerged; R 2=head fully emerged; R 3=peduncle fully emerged.

In 2005, a drier and cooler than normal spring resulted in low forage yield at the first harvest.

Ammonium Nitrate was applied on April 11, 2005 at a rate of 200 lb/A.

Forage Quality at Boot Stage

Date at Boot Stage	% PRO-TEIN	% NDF	% IVTD
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Forage Quality at First Harvest in 2005

Date at Harvest	Yield Harvest 1	Maturity Score	% PRO-TEIN	% NDF	% IVTD	% NDFD	RFQ	Milk / Ton	Milk / Acre
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Perennial Ryegrass and Festulolium (F)

Spring Green (festulolium)	25-May	12.6	32.1	97.7
Bastion	19-May	11.5	28.0	98.0
PSGG9-04	22-May	13.0	33.4	98.0
Citadel	30-May	11.2	32.4	96.9
Remington (BAR LpT ROM99)	3-Jun	11.3	36.5	96.0
Paddock	6-Jun	11.8	39.3	95.3

26-May	1.40	R0.5	11.9	30.8	97.3	91.3	336	4,461	6,245
26-May	1.27	R2	11.6	30.5	96.7	89.0	332	4,407	5,580
26-May	1.14	R1	13.3	34.2	98.6	95.8	323	4,562	5,214
26-May	0.86	R0	13.0	28.8	97.9	92.6	358	4,496	3,862
26-May	0.78	T3	13.3	30.5	98.1	93.7	346	4,516	3,522
26-May	0.46	T3	14.7	30.3	98.0	93.3	346	4,502	2,056

Tall Fescue

Select	23-May	14.9	44.4	93.2
Bull	23-May	15.6	45.1	92.2
Enhance	25-May	14.2	42.5	93.6
Montendre	27-May	15.4	42.3	93.4

26-May	1.02	R1	15.0	44.8	92.8	84.0	231	4,125	4,216
26-May	0.98	R1	14.8	47.0	90.8	80.5	212	3,974	3,909
26-May	0.92	R0.5	14.4	42.9	93.3	84.4	241	4,159	3,827
26-May	0.67	R0.5	16.4	44.2	93.4	85.0	237	4,161	2,768

Reed Canarygrass

Palaton	31-May	15.8	50.4	92.2
Marathon	31-May	15.8	54.2	90.7

26-May	0.73	R0	19.2	49.4	94.0	87.8	225	4,210	3,091
26-May	0.69	R0	19.5	49.7	94.7	89.2	229	4,263	2,948

Orchardgrass

Potomac	13-May	16.5	46.7	94.2
Bounty (OG9701)	12-May	17.1	48.1	94.3
Stampede	16-May	16.1	49.4	94.1
Baridana	19-May	15.2	46.7	94.1
Haymaster (OG9704)	19-May	15.2	45.6	94.7
Extend	19-May	15.1	44.9	94.4

28-May	1.71	R3.5	13.6	51.2	91.2	82.8	205	4,017	6,885
28-May	1.65	R2.5	13.0	52.3	90.7	82.3	200	3,986	6,570
28-May	1.58	R2	14.9	49.8	92.7	85.4	217	4,128	6,515
28-May	1.58	R2	14.7	50.2	92.5	85.1	215	4,115	6,506
28-May	1.56	R1.5	15.4	50.2	93.1	86.3	218	4,161	6,493
28-May	1.47	R2	14.1	47.3	93.4	86.2	228	4,183	6,146

Timothy

Crest (TM0102)	1-Jun	11.2	49.6	91.6
Derby (TM9901)	25-May	11.5	45.3	93.4
Summit	25-May	11.7	44.9	93.5
AC Alliance	30-May	11.9	45.3	93.5
Comer	3-Jun	10.6	53.5	89.0
AC Opal	7-Jun	11.0	58.7	87.5
Express	1-Jun	10.6	48.8	92.3
Chazy	30-May	11.8	44.1	93.5
Climax	31-May	12.0	44.4	93.6
Tenho	7-Jun	12.2	55.8	89.1

26-May	1.60	T3	12.0	42.2	95.0	88.3	256	4,304	6,877
26-May	1.60	R0.5	12.0	45.7	94.3	87.5	239	4,254	6,819
26-May	1.56	R0	11.9	44.7	94.3	87.3	242	4,255	6,640
26-May	1.47	E3.5	12.7	40.2	96.1	90.3	271	4,381	6,436
26-May	1.37	E2	12.4	40.7	95.9	89.9	268	4,366	5,982
26-May	1.35	T2	13.1	43.2	95.6	89.8	256	4,344	5,864
26-May	1.32	T3	12.4	39.8	96.3	90.8	275	4,399	5,797
26-May	1.31	T2	12.4	38.7	95.6	88.7	275	4,341	5,672
26-May	1.07	T2.5	13.4	42.2	95.0	88.3	256	4,299	4,587
26-May	0.93	T2.5	13.8	37.4	96.7	91.2	289	4,419	4,107

Table 13:

Spring, First Harvest Forage Quality Data for Grass Varieties - 2005 DATA for trial planted in 2004 at Ithaca, NY

NDF = neutral detergent fiber, **IVTD** = in vitro true digestibility (48 hour digestion), **NDFD** = digestible NDF.

RFQ = relative feed quality. First harvest forage RFQ, milk per ton, and milk per acre were predicted by using **MILK2000** from U. of Wisconsin.

Boot Stage is date when 5 heads in a 3.5 x 16 foot plot were visible; **Maturity score** T=number of nodes;

R 0=boot stage, R 1=head partially emerged; R 2=head fully emerged; R 3=peduncle fully emerged.

In 2005, a drier and cooler than normal spring resulted in low forage yield at the first harvest.

Ammonium Nitrate was applied on April 11, 2005 at a rate of 200 lb/A.

Forage Quality at Boot Stage					Forage Quality at First Harvest in 2005									
Date at Boot Stage	% PRO-TEIN	% NDF	% IVTD		Date at Harvest	Yield Harvest 1	Maturity Score	% PRO-TEIN	% NDF	% IVTD	% NDFD	RFQ	Milk / Ton	Milk / Acre
Perennial Ryegrass and Festulolium (F)														
Bastion	22-May	12.0	28.4	95.4	26-May	0.95	R1.5	11.8	30.2	96.3	87.8	331	4,377	4,175
Grand Daddy	27-May	12.0	27.7	96.6	26-May	0.82	R1	12.9	29.7	95.2	83.7	323	4,276	3,502
Eurostar	3-Jun	9.9	29.1	95.3	26-May	0.64	T2	14.2	28.4	97.0	89.3	352	4,417	2,831
Bargala	3-Jun	10.3	35.1	94.6	26-May	0.60	T3	13.5	29.6	96.8	89.1	340	4,408	2,648
Citadel	31-May	10.7	26.4	97.1	26-May	0.53	T3	13.5	28.0	96.9	89.0	355	4,416	2,321
RESPECT	27-May	12.8	32.0	96.3	26-May	0.50	R0.5	13.9	31.3	96.7	89.3	326	4,402	2,222
Modane	3-Jun	10.8	33.3	95.5	26-May	0.48	T2	14.1	27.0	96.7	87.6	362	4,389	2,128
Barsprinter	3-Jun	11.6	36.7	95.0	26-May	0.47	T4	15.9	32.2	97.2	91.2	323	4,437	2,066
Proton	6-Jun	10.4	39.0	93.4	26-May	0.44	T2.5	14.0	30.8	96.5	88.5	327	4,383	1,939
Orchardgrass														
Command	23-May	13.5	41.4	95.3	27-May	1.26	R1.5	13.4	43.2	94.8	87.8	250	4,278	5,380
Stampede	20-May	15.5	45.6	94.0	27-May	1.15	R2	13.4	46.2	93.5	85.9	232	4,187	4,812
Baridana	20-May	15.1	42.6	94.8	27-May	1.03	R1	13.2	42.5	95.0	88.3	254	4,300	4,431
Intensiv	25-May	14.5	47.4	92.0	27-May	1.01	R0.5	13.7	47.0	92.8	84.7	225	4,133	4,190
Impuls	24-May	13.9	40.5	95.7	27-May	0.89	R0.5	14.1	43.2	94.5	87.3	248	4,255	3,791
LG 31	30-May	13.0	48.6	93.3	27-May	0.62	T2	13.8	45.2	95.1	89.1	245	4,308	2,652
Timothy														
Monza	27-May	12.6	44.7	93.5	27-May	1.31	T3	12.7	41.4	95.6	89.3	263	4,341	5,700
Moverdi	10-Jun	10.7	61.9	85.6	27-May	0.99	T2	12.1	39.0	96.3	90.5	279	4,396	4,348
Climax	3-Jun	11.7	54.7	90.4	27-May	0.95	T3.5	13.5	42.7	96.0	90.7	261	4,377	4,158
Chazy	30-May	12.8	45.2	94.1	27-May	0.80	T3	13.5	38.6	96.2	90.1	279	4,380	3,525

Table 14: Alfalfa Cultivar Features

For more information log on to the Web:

<http://plbrgen.cals.cornell.edu/programsandprojects/departmental/foragetest/>

Cultivars listed are currently tested in Cornell Alfalfa Trials. Yield data for cultivars in new trial seedings will be available next year.

Alfalfa Cultivar	Marketing Company	FD	Disease Resistance Ratings*					Marketing Co.	
			BW	VW	FW	AN	PRR	Phone Number	Web or E-mail Address
Evermore	Allied Seeds LLC	4	HR	HR	HR	HR	HR	1-888-305-0500	www.alliedseed.com
Radiant - AM	AMPAC Seed Company	4	HR	HR	HR	HR	HR	1-800-547-3230	www.ampacseed.com
Baralfa 32 IQ	Barenbrug, USA	3	HR	R	HR	HR	HR	1-800-547-4101	www.barusa.com
Baralfa 53 HR	Barenbrug, USA	5	HR	R	HR	HR	HR		
BPR 387	Bio-Plant Research	4	HR	HR	HR	HR	HR	1-800-593-7708	
Milestone	Chemgro Seeds	3	HR	R	HR	R	HR	1-800-346-4769	www.chemgro.com
Paramount II	Chemgro Seeds	3	HR	HR	HR	HR	HR		
LegenDairy 5.0	Croplan Genetics	3	HR	HR	HR	HR	HR	1-651-765-5710	www.croplangenetics.com
Rebound 5.0	Croplan Genetics	4	HR	HR	HR	HR	HR		
HybriForce-400	Dairyland Seeds	4	HR	R	HR	R	HR	1-800-236-0163	www.dairylandseed.com
HybriForce-420/Wet	Dairyland Seeds	4	HR	R	HR	R	HR		
Prolific	Doebler's	3	HR	R	HR	R	HR	1-570-753-3210	www.doebler.com
Enforcer	FS Seeds East	4	HR	HR	HR	HR	HR	1-800-338-4769	www.fsseeds.com
Mariner III	FS Seeds East	4	HR	R	HR	HR	HR		
6325	Garst Seed Co.	3	HR	HR	HR	HR	HR	1-888-464-2778	www.garstseed.com
6415	Garst Seed Co.	4	HR	HR	HR	HR	HR		
6400HT	Garst Seed Co.	4	HR	HR	HR	HR	HR		
Dakota	Northstar Seed Ltd.	4	R	MR	R	MR	HR	1-204-476-3241	www.GreatPlainsResearch.com
NOVA	Northstar Seed Ltd.	4	HR	R	HR	R	HR		
HYTEST 410	HYTEST Seeds	4	HR	HR	HR	HR	HR	1-717-737-4529	www.hytestseeds.com
Kingfisher 30-30Q	King's Agri-Seed	3	HR	HR	HR	HR	HR	1-717-687-6224	
420	Legacy Seeds	4	HR	R	HR	HR	HR	1-866-791-6390	www.legacyseeds.com
Everlast	Legacy Seeds	4	HR	R	HR	HR	HR		
DKA33-16	Monsanto	3	HR	HR	HR	HR	HR	1-800-335-2676	www.monsanto.com
DKA34-17RR	Monsanto	3	HR	HR	HR	HR	HR		
DKA41-18RR	Monsanto	4	HR	HR	HR	HR	HR		
DKA42-15	Monsanto	4	HR	HR	HR	HR	HR		
4375LH	Mycogen Seeds	4	HR	R	HR	HR	HR	1-800-MYCOGEN	www.dowagro.com/mycogen
4A421	Mycogen Seeds	4	HR	HR	HR	HR	HR		
4G4518RR	Mycogen Seeds	4	HR	HR	HR	HR	HR		
4R429	Mycogen Seeds	4	HR	HR	HR	HR	HR		
4S419	Mycogen Seeds	2	HR	HR	HR	HR	HR		
53H92	Pioneer Hi-Bred	3	HR	R	HR	HR	HR	1-800-247-6803	www.pioneer.com
53Q30	Pioneer Hi-Bred	3	HR	HR	HR	HR	HR		
54H91	Pioneer Hi-Bred	4	HR	HR	R	HR	HR		
54Q25	Pioneer Hi-Bred	4	HR	HR	HR	HR	HR		
54V46	Pioneer Hi-Bred	4	R	HR	HR	HR	HR		
Power 4.2	Power Seeds	4	HR	R	HR	HR	HR	1-705-748-3000	www.powerseeds.net
Lightning EXTRA	Preferred Seed Co.	4	HR	HR	HR	HR	HR	1-716-895-7333	www.preferredseed.com
361 HY	Preferred Seed Co.	4	HR	HR	HR	R	HR		
A4440	Producer's Choice	4	HR	HR	HR	HR	HR	1-866-744-5710	www.producerschoiceseed.com
Integrity	Producer's Choice	4	HR	HR	HR	HR	HR		
Guardsman II	Seedway/FSG	4	HR	HR	HR	HR	HR	1-800-836-3710	farmseed@seedway.com
Oneida Ultra	Seedway/FSG	4	HR	HR	HR	R	R		
ReGen	Seedway/FSG	3	R	HR	HR	HR	R		
Seedway 9558	Seedway/FSG	3	HR	HR	HR	HR	R		
FSG 351	Seedway/FSG	3	HR	R	HR	R	HR		
FSG 400 LH	Seedway/FSG	4	HR	HR	HR	HR	HR		
FSG 406	Seedway/FSG	4	HR	HR	HR	HR	HR		
FSG 408 DP	Seedway/FSG	3	HR	R	HR	R	HR		
FSG 505	Seedway/FSG	5	HR	HR	HR	HR	HR		
Starbuck	T.A. Seeds	4	HR	R	HR	HR	HR	1-866-813-7333	www.taseeds.com
Genoa	NK Brand Seeds	4	HR	HR	HR	HR	HR	1-800-445-0956	www.nk-us.com
WL 319HQ	UAP, HYTEST, AgriCulver	3	HR	HR	HR	HR	HR	1-717-653-9381	www.wiresearch.com
WL 335HQ	HYTEST Seeds	4	HR	HR	HR	HR	HR	1-585-455-9667	rcbrown@landolakes.com
WL 343HQ	UAP, HYTEST, AgriCulver	4	HR	HR	HR	HR	HR	1-800-836-3701	www.agriculverseeds.com
WL 345LH	AgriCulver Seeds	4	HR	HR	HR	HR	HR		
WL 347LH	HYTEST; UAP	4	HR	HR	HR	HR	HR		
WL 348AP	UAP, HYTEST, AgriCulver	4	HR	HR	HR	HR	HR		
WL 355RR	UAP, HYTEST, AgriCulver	4	HR	HR	HR	HR	HR		
WL 357HQ	UAP, HYTEST, AgriCulver	5	HR	HR	HR	HR	HR		
5312	check	3	HR	HR	HR	HR	HR		
Oneida VR	check	3	R	HR	HR	MR	MR		
Vernal	check	2	R	-	MR	-	-		

*Disease ratings were provided by source companies, and from standard national tests.

Disease ratings code: HR = High resistance (50% or more of the plants resistant), R= Resistance (31-50% resistant), MR = Moderate resistance

FD = fall dormancy. Fall Dormancy ratings of 2,3 or 4 are recommended for New York State.

Cultivars rated R or HR to BW, VW, and Prr should have sufficient disease resistances to perform well in New York State.

*BW - bacterial wilt, VW-Verticillium wilt, FW-Fusarium wilt, An-Anthraxnose, Prr-Phytophthora root rot

Table 15: Company Contact information for Red Clover, Birdsfoot Trefoil, and Forage Grass

See Table 14 for other Company Contact Information.

Company	Phone	Web/E-mail Address
AMPAC	1-541-928-1651	www.ampacseed.com
Blue River Organic Seed	1-800-370-7979	www.blueriverorgseed.com
Burlingham Seeds	1-503-623-2306	www.burlinghamseeds.com
Cal/West	1-530-666-3331	www.calwestseeds.com
Cropmark Seeds Ltd		www.cropmark.co.nz
DLF International Seeds	1-541-369-2251	www.dlfis.com
Farm Science Genetics(FSG)	1-888-305-0500	www.farmsciencegenetics.com
Grassland Central	1-877-560-5181	
Grassland Oregon	1-503-566-9900	
Pennington Seed	1-800-286-6100	www.penningtonseed.com
PICKSEED CANADA INC.	1-705-878-9240	www.pickseed.com
Seed Research of Oregon	1-800-253-5766	www.sroseed.com
Smith Seed Services	1-888-550-2930	www.smithseed.com
UAP NE	1-315-483-9146	www.uap.com/uap