NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS -2009 HARVEST AND TOTAL SEASON SUMMARY

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http://plbrgen.cals.cornell.edu/cals/pbg/programs/departmental/forage/foragetest.cfm

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. Every field area is fenced with 3 strand electric fence to exclude deer from early spring to late fall.

Alfalfa (pg. 3-12):
Below is a table of trial location, year of establishment, soil series, and elevation.

Loc., Yr of Est.	Soil series, elevation
Ithaca, 2006	Williamson silt loam, 1000 ft.
Cobleskill, 2006	Barbour Tioga f. sandy loam, 1170 ft.
Ithaca, 2007	Williamson silt loam, 1000 ft.
Warsaw, 2007	Bath-Valois gravelly loam, 1700 ft.
Ithaca, 2008	Williamson silt loam, 1000 ft.
Chazy, 2008	Raynham variant silt loam, 185 ft.
Ithaca, 2009	Madalin silt loam, 990 ft.
Cobleskill, 2009	Barbour Tioga f. sandy 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.

Red Clover and Birdsfoot Trefoil (pg 13):
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 (pg 14-19):
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 (except bromegrass which is harvested three 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 are dried, ground, and analyzed by NIRS. Data reported includes yield, heading date, percent neutral detergent fiber, and percent digestible neutral detergent fiber (48 hr. incubation time in rumen fluid) at first harvest and at late boot stage (2008 data are on page 17-18, 2009 data available in 2010).

2008 Growing Season (pg 2):
For the state, the spring temperatures were 1.3 degrees above normal and precipitation was 0.7 inches below normal. The summer temperatures were 0.9 degrees below normal and precipitation was 2.35 inches above normal. Particularly notable were the cool temperatures in July (2009 had the fourth coolest July in the last 115 years). September and October were both below average for temperature. September had 60% of the normal precipitation and October had 121% of the normal precipitation.

Alfalfa yields for 2009 averaged 6.2 tons per acre dry matter (0.2 tons less than in 2008), red clover yields averaged 4.6 tons per acre dry matter (same as in 2008), and perennial forage grass yields averaged 6.3 tons per acre dry matter (1.3 tons per acre more than in 2008).

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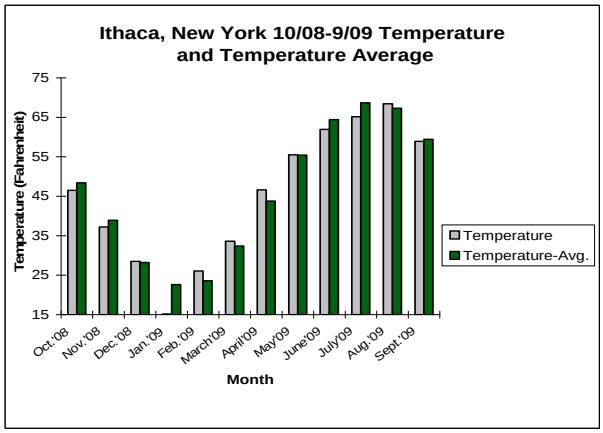
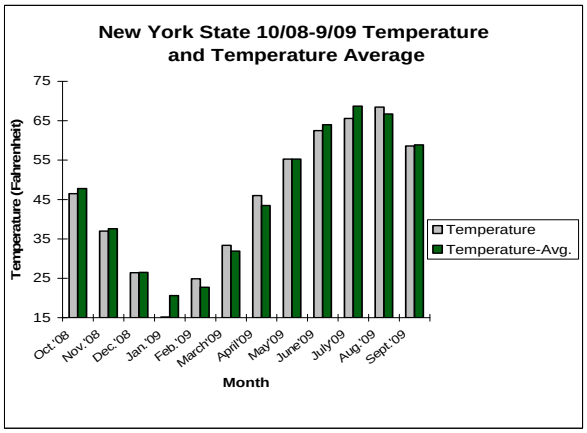
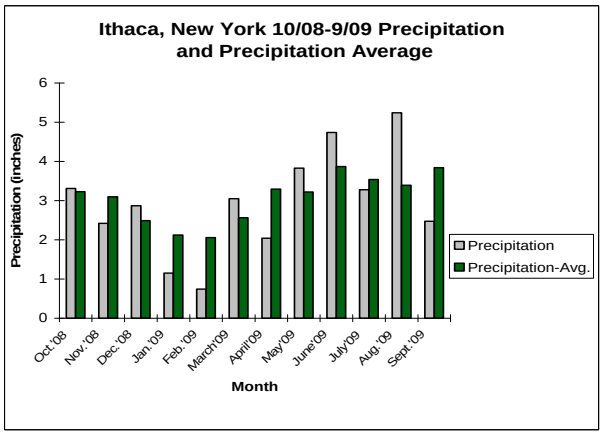
Cornell University







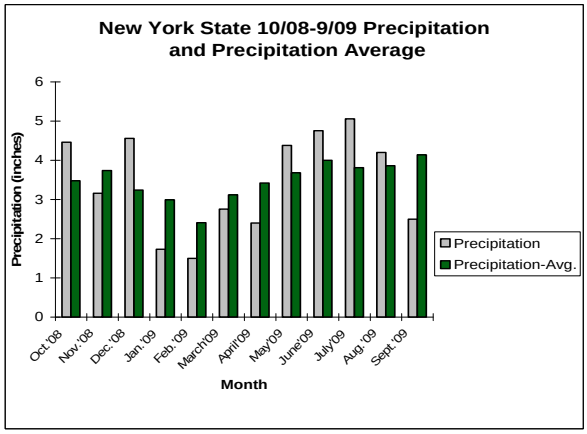


Figure 1: Ithaca, New York 10/08-9/09 temperature and precipitation.
Weather data from the Northeast Regional Climate Center at Cornell University.

Figure 2: New York State 10/08-9/09 temperature and precipitation.
Weather data from the Northeast Regional Climate Center at Cornell University.

Many Thanks to our Cooperators:

Drew Lewis	Cornell University Director of Operations
Tim Dodge	Cornell University Farm Manager
Thomas Edwards	Cornell Univ. Field Technician
Steve Lis	Cornell Univ. Field Technician
John Conklin	Cornell Univ. Mechanic
Dr. Jerry Cherney	Cornell Univ. Forage Agronomist, Professor
Dr. Mike Davis	Cornell Univ. Farm Manager at Chazy
Del Meseck	Cornell Univ. Field Assistant at Chazy
Ev Thomas	Miner Institute at Chazy, NY, Vice President
J. Keith Waldron	NYSES Integrated Pest Management
Ken Wise	Area IPM Educator
Dr. Doug Goodale	SUNY Cobleskill, Professor
Tom Poltynski	SUNY Cobleskill, Farm Coordinator
Tim Pajda	SUNY Cobleskill, Farm Manager
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Questions or comments? Please contact Julie Hansen, jlh17@cornell.edu, 607-255-5043

Table number where Alfalfa Cultivars/Experimental populations are listed.

Alfalfa Cultivar/ Experimental Pop.	Table Number							
	1	2	3	4	5	6	7	8
6415			X	X				
6417					X	X		
6426								X
425RR	X							
4A421	X	X						
4G418RR	X	X						
4P424								X
4S417					X		X	
5312 (check)	X	X	X	X	X	X	X	X
53H92								X
54Q32							X	
54V46	X	X						
55V12							X	
55V48			X	X	X	X	X	
A 4330					X			
A 4440	X	X			X			
A 5225			X	X				
AmeriStand 403T Plus							X	
AmeriStand 404LH								X
Ameristand 407TQ			X	X	X	X	X	
Attention II			X					
DKA34-17RR	X	X						
DKA41-18RR	X	X						
DKA43-13					X	X	X	
DS619	X							
DS704-M			X					
DS705 -M			X					
DS711-BR			X					
DS712-M			X					
DS811-M					X			
DS812-T					X			
DS815-BR					X			
DS911-M							X	
DS912-M							X	
DS913-T							X	
DS914-T							X	
DS915-BR							X	
DS916-BR							X	
Enforcer								X
Escalade		X			X			
EverGreen 3								X
Ezra		X			X	X	X	
Falcon			X					
FG44H375								X
FSG 329							X	
FSG 351			X	X				
FSG 400LH								X

Alfalfa Cultivar/ Experimental Pop.	Table Number							
	1	2	3	4	5	6	7	8
FSG 406			X	X				
FSG 408DP							X	
FSG 408SF			X	X				
FSG 420 LH							X	X
Genoa					X			
Guardsman II	X	X	X	X	X	X	X	
HybriForce-2400					X		X	
Integrity		X						
Keystone			X	X				
Kingfisher 30-30 Q	X	X						
L 333 HD					X	X	X	
L 447 HD					X	X		
Lander			X	X				
Leader	X	X						
LegenDairy 5.0							X	
Lightning EXTRA	X	X						
LS 605							X	
Magnum VI	X	X						
Magnum VI-Wet	X							
Mariner III	X	X						
Marvel		X			X			
msSunstra-807					X		X	
msSunstra-901							X	
msSunstra-903							X	
NY0231					X	X	X	
Oneida VR (check)	X	X	X	X	X	X	X	X
Persist II					X	X		
PGI 459			X	X				
Pounce							X	X
Prolific II					X		X	
Radiant-AM	X	X						
Rebound 5.0					X		X	
ReGen	X	X	X	X	X	X	X	
Seedway 9558	X	X		X	X	X		
Starbuck	X	X						
Syngenta 64Q22							X	
TJA 901							X	
TJA 902							X	
TJA 903							X	
TJA 904							X	
Vernal (check)	X	X	X	X	X	X	X	X
Withstand		X						
WL 343 HQ	X	X	X	X		X	X	
WL 345LH								X
WL 347LH								X
WL 355RR	X	X						
WL 363HQ					X	X	X	

Table 1: NEW YORK - Central
Harvest by Harvest Ithaca, Tompkins County, Sown April 27, 2006
Summary

	2009							2008	2007	3-Yr.	
	3-Jun	13-Jul	28-Aug	Total	% of Cks.	% Stand 29-Jul	Lodging 3-Jun	Total	Total	Total Season	% of Cks.
	- - - - tons per acre dry matter - - - -							T/A	T/A	T/A	
RELEASED CULTIVARS											
Lightning EXTRA	2.91	2.33	2.20	7.43	124	86	2.8	6.79	6.71	20.95	113
ReGen	2.95	2.10	1.91	6.96	116	82	2.8	6.98	6.90	20.89	113
WL 343HQ	2.69	2.38	2.19	7.26	121	89	4.4	6.71	6.83	20.83	113
4A421	2.88	2.17	2.07	7.12	118	86	2.8	6.86	6.82	20.76	112
4G418RR	2.70	2.33	2.18	7.20	120	87	2.8	6.57	6.66	20.46	111
DKA34-17RR	2.71	2.32	2.18	7.21	120	89	4.2	6.61	6.62	20.44	111
54V46	2.66	2.16	2.03	6.84	114	84	2.8	6.66	6.82	20.30	110
Starbuck	2.79	2.07	1.98	6.83	114	83	2.2	6.83	6.54	20.19	109
Radiant-AM	2.76	2.19	2.04	7.00	116	82	2.0	6.63	6.55	20.18	109
Mariner III	2.75	2.11	1.93	6.79	113	85	3.2	6.66	6.62	20.05	109
WL 355RR	2.66	2.26	2.07	6.99	116	85	2.4	6.53	6.46	19.99	108
Guardsman II	2.67	2.08	1.91	6.67	111	79	3.2	6.87	6.33	19.88	108
Kingfisher 30-30 Q	2.83	2.06	1.94	6.83	114	80	2.4	6.52	6.38	19.73	107
DKA41-18RR	2.62	2.22	2.04	6.88	114	87	2.8	6.42	6.32	19.63	106
A4440	2.77	2.01	1.84	6.62	110	83	2.4	6.45	6.36	19.40	105
Oneida VR (check)	2.81	1.93	1.84	6.58	110	82	1.8	6.34	6.36	19.27	104
5312 (check)	2.65	1.76	1.68	6.09	101	78	2.6	6.26	6.69	18.98	103
Seedway 9558	2.49	1.73	1.66	5.89	98	78	1.4	6.26	6.40	18.58	101
Vernal (check)	2.43	1.50	1.44	5.37	89	71	2.0	5.77	6.02	17.15	93
EXPERIMENTAL STRAINS											
Leader	2.91	2.45	2.28	7.63	127	90	3.8	7.10	6.71	21.44	116
Magnum VI	2.96	2.19	2.13	7.29	121	83	3.6	6.87	7.02	21.17	115
Magnum VI-Wet	2.90	2.33	2.08	7.31	122	83	2.8	7.00	6.70	21.02	114
DS619	2.85	2.15	2.03	7.03	117	82	2.8	6.89	6.67	20.56	111
425RR	2.65	2.28	2.20	7.13	119	90	3.4	6.81	6.59	20.54	111
Ck. Mean (T/A)	2.63	1.73	1.65	6.01				6.13	6.36	18.47	
Trial Mean (T/A)	2.70	2.08	1.93	6.71		83	2.7	6.56	6.51	19.78	
P-value (entries)	0.0001	0.0001	0.0001	0.0001		0.0001	0.0001	1E-04	0.0001	0.0001	
5% LSD	0.17	0.17	0.16	0.43		4	1.1	0.40	0.40	0.93	
CV(%)	5	6.5	6.5	5		4.1	33.7	4.9	4.9	3.7	
MCV (%)	6	8	8	6				6	6	5	
LSR (%)	29	18	19	19				30	40	22	
Lattice Efficiency	164%	229%	217%	214%				178%	160%	230%	

Lodging scale 1=not lodged to 5=completely lodged.
Trial design is partially balanced incomplete block with five replicates and block size of four.
Excellent weed, insect and deer control. Soil type Williamson; potential corn yield on this soil type is 118 bu/A.

Table 2: Harvest by Harvest Summary

NEW YORK
Cobleskill, Schoharie County, Sown May 2, 2006

	2009						2008	2007	3-Yr	
	4-Jun	15-Jul	19-Aug	Total	% of Cks.	% Stand 28-Jul	Total	Total	Total Season	% of Cks.
	- - - - tons per acre dry matter - - - -						T/A	T/A	T/A	
RELEASED CULTIVARS										
4A421	2.89	2.77	2.28	7.92	113	81	8.96	7.54	24.45	113
Lightning EXTRA	3.02	2.82	2.32	8.16	116	84	8.70	7.55	24.43	113
Marvel	2.84	2.81	2.14	7.79	111	82	8.59	7.53	23.92	111
54V46	2.86	2.75	2.18	7.80	111	79	8.57	7.36	23.74	110
Radiant-AM	2.78	2.61	2.30	7.67	109	78	8.57	7.41	23.67	109
ReGen	2.78	2.62	2.09	7.49	107	73	8.63	7.53	23.65	109
Starbuck	2.74	2.56	2.15	7.44	106	76	8.46	7.63	23.54	109
DKA34-17RR	2.86	2.72	2.26	7.83	112	83	8.37	7.17	23.38	108
Mariner III	2.81	2.47	2.10	7.38	105	78	8.55	7.44	23.38	108
WL 355RR	2.69	2.80	2.19	7.66	109	86	8.38	7.32	23.36	108
4G418RR	2.80	2.72	2.33	7.84	112	84	8.27	7.13	23.26	108
WL 343HQ	2.90	2.72	2.25	7.87	112	88	8.36	7.01	23.21	107
Escalade	2.85	2.64	2.15	7.64	109	78	8.16	7.20	22.99	106
DKA41-18RR	2.71	2.52	2.15	7.38	105	87	8.24	7.19	22.82	105
Guardsman II	2.52	2.40	2.09	7.03	100	80	8.46	7.32	22.79	105
5312 (check)	2.77	2.47	2.13	7.36	105	66	8.15	7.27	22.78	105
Kingfisher 30-30 Q	2.66	2.43	2.07	7.16	102	72	8.23	7.21	22.60	104
A4440	2.64	2.58	2.10	7.33	105	77	8.04	7.02	22.36	103
Oneida VR (check)	2.74	2.44	2.13	7.30	104	77	7.81	7.02	22.11	102
Integrity	2.58	2.46	1.93	6.98	100	73	8.07	7.07	22.11	102
Seedway 9558	2.39	2.19	1.99	6.57	94	70	7.92	7.12	21.60	100
Vernal (check)	2.52	2.08	1.76	6.37	91	56	7.26	6.39	20.01	93
EXPERIMENTAL STRAINS										
Leader	2.81	2.83	2.31	7.96	114	85	8.73	7.34	24.02	111
Magnum VI	2.73	2.62	2.13	7.46	106	74	8.60	7.60	23.69	110
Ezra	2.83	2.55	2.16	7.54	108	78	8.51	7.48	23.52	109
Withstand	2.67	2.51	2.14	7.33	105	75	8.32	7.26	22.91	106
Ck. Mean (T/A)	2.67	2.33	2.00	7.01			7.74	6.90	21.63	
Trial Mean (T/A)	2.69	2.53	2.12	7.34		77	8.24	7.22	22.81	
P-value (entries)	0.0001	0.0001	0.0001	0.0001		0.0001	1E-04	0.0001	0.0001	
5% LSD	0.16	0.20	0.14	0.38		5	0.34	0.30	0.73	
CV(%)	5.3	7	5.9	4.5		5.6	0.34	3.6	2.8	
MCV (%)	6	8	7	5			4	4	3	
LSR (%)	25	26	24	20			20	24	16	
Lattice Efficiency	180%	129%	186%	139%			155%	203%	172%	

Trial design is partially balanced incomplete block with six replicates and block size of four

Excellent weed and insect control. Soil type is Barbour Tioga; potential corn yield on this soil type is 140 bu/A.

Table 3: Harvest by Harvest Summary

NEW YORK - Central
Ithaca, Tompkins County, Sown May 4, 2007

	2009							2008	2-Yr	
						% Stand Lodging			Total	% of
	2-Jun	17-Jul	3-Sep	Total	% of Cks.	29-Jul	2-Jun	Total	Season	Cks.
	- - - - tons per acre dry matter - - - -							T/A	T/A	
RELEASED CULTIVARS										
ReGen	2.65	1.94	1.77	6.35	112	89	3.2	7.05	13.39	109
Guardsman II	2.53	1.93	1.72	6.18	109	92	3.0	6.98	13.15	107
55V48	2.51	2.08	1.86	6.44	114	94	2.0	6.66	13.11	107
A 5225	2.50	2.08	1.86	6.44	114	92	2.4	6.57	13.02	106
Lander	2.50	1.95	1.68	6.13	108	93	3.2	6.85	12.98	106
FSG 351	2.43	1.87	1.69	6.00	106	88	2.2	6.85	12.84	105
5312 (check)	2.49	1.77	1.64	5.89	104	89	1.6	6.92	12.81	104
AmeriStand 407TQ	2.48	2.05	1.75	6.28	111	94	2.8	6.49	12.77	104
Keystone	2.44	1.92	1.75	6.11	108	95	2.2	6.57	12.67	103
PGI 459	2.41	2.11	1.83	6.34	112	94	2.0	6.31	12.66	103
WL 343HQ	2.45	2.07	1.70	6.22	110	94	2.4	6.42	12.64	103
FSG 406	2.43	1.91	1.67	6.01	106	90	2.2	6.56	12.57	103
6415	2.42	2.03	1.69	6.14	108	92	3.6	6.34	12.48	102
Vernal (check)	2.44	1.68	1.47	5.59	99	90	2.6	6.53	12.12	99
Oneida VR (check)	2.27	1.64	1.58	5.50	97	90	1.2	6.34	11.84	97
EXPERIMENTAL STRAINS										
DS711-BR	2.47	2.10	1.91	6.48	115	91	2.4	6.80	13.27	108
Falcon	2.53	2.14	1.83	6.50	115	92	2.6	6.73	13.22	108
DS705 -M	2.56	1.99	1.78	6.34	112	91	1.2	6.83	13.17	107
DS704-M	2.50	2.04	1.78	6.33	112	93	2.0	6.56	12.89	105
DS712-M	2.49	1.92	1.78	6.19	109	90	2.2	6.60	12.79	104
FSG 408SF	2.39	1.99	1.80	6.17	109	93	1.2	6.37	12.54	102
Attention II	2.34	2.03	1.85	6.22	110	94	1.0	6.25	12.47	102
Ck. Mean (T/A)	2.40	1.70	1.56	5.66				6.60	12.26	
Trial Mean (T/A)	2.43	1.93	1.68	6.05		92	2.28	6.51	12.55	
P-value (entries)	0.0001	0.0001	0.0001	0.0001		0.0001	0.0008	0.0001	0.0001	
5% LSD	0.13	0.13	0.13	0.33		3	1.3	0.38	0.62	
CV(%)	4.3	5.3	6.3	4.4		2.6	45.3	4.6	3.9	
MCV (%)	5	7	8	5				6	5	
LSR (%)	24	24	20	24				27	23	
Lattice Efficiency	354%	477%	296%	401%				613%	613%	

Lodging: 1 = not lodged to 5 = competely lodged.

Trial design is partially balanced incomplete block with 5 replicates and block size of four.

Excellent weed, insect and deer control. The first block in each replicate was lower yielding due to variability in soil moisture.

Soil type Williamson; potential corn yield on this soil type is 118 bu/A.

Table 4: **NEW YORK**
Harvest by Harvest Summary **Warsaw, Wyoming County, Sown May 3, 2007**

	2009					2008	2-Yr	
	5-Jun	14-Jul	4-Sep	Total	% of Cks.	Total	Total Season	% of Cks.
	- - - tons per acre dry matter - - -					T/A	T/A	
RELEASED CULTIVARS								
55V48	3.09	2.44	2.66	8.19	116	9.16	17.36	113
FSG 406	3.06	2.48	2.39	7.91	112	8.89	16.79	109
Keystone	2.98	2.50	2.50	7.98	113	8.77	16.74	109
ReGen	2.90	2.39	2.44	7.75	110	8.77	16.53	108
PGI 459	3.01	2.43	2.59	8.02	114	8.50	16.49	107
A 5225	2.97	2.46	2.32	7.76	110	8.73	16.47	107
AmeriStand 407TQ	3.06	2.44	2.33	7.83	111	8.62	16.45	107
Guardsman II	2.95	2.35	2.44	7.74	110	8.70	16.44	107
6415	3.02	2.46	2.39	7.86	112	8.59	16.44	107
FSG 351	2.82	2.39	2.39	7.61	108	8.65	16.26	106
5312 (check)	2.79	2.21	2.27	7.28	103	8.65	15.93	104
WL 343HQ	3.00	2.39	2.28	7.67	109	8.25	15.90	104
Oneida VR (check)	2.69	2.17	2.29	7.15	101	8.43	15.58	102
Lander	2.78	2.24	2.30	7.33	104	8.23	15.58	102
Seedway 9558	2.80	2.13	2.29	7.20	102	8.25	15.45	101
Vernal (check)	2.58	2.02	2.12	6.72	95	7.80	14.54	95
EXPERIMENTAL STRAINS								
FSG 408SF	2.91	2.41	2.41	7.74	110	8.79	16.51	108
Ck. Mean (T/A)	2.69	2.13	2.23	7.05		8.29	15.35	
Trial Mean (T/A)	2.86	2.30	2.31	7.47		8.47	15.94	
P-value (entries)	1E-04	1E-04	1E-04	1E-04		1E-04	1E-04	
5% LSD	0.14	0.13	0.16	0.32		0.31	0.54	
CV(%)	4.1	4.9	6.1	3.7		3.2	2.9	
MCV (%)	5	6	7	4		4	3	
LSR (%)	28	25	24	22		23	19	
Lattice Efficiency	194%	209%	124%	146%		140%	129%	

Trial design is partially balanced incomplete block with six replicates and block size of three.
Excellent weed and insect control.
Soil type is Bath-Valois; potential corn yield on this soil type is 125-130 bu/A

Table 5: NEW YORK
Harvest by Harvest Ithaca, Tompkins County, Sown May 7, 2008
Summary

	2009					
	8-Jun	16-Jul	27-Aug	Total	% of Cks.	% Stand 23-Sep
	- - - - - tons per acre dry matter - - - - -					
RELEASED CULTIVARS						
ReGen	2.29	1.67	1.47	5.42	112	93
L 447 HD	2.26	1.66	1.46	5.37	111	93
AmeriStand 407TQ	2.04	1.77	1.51	5.31	110	95
55V48	2.08	1.73	1.46	5.27	109	94
Genoa	2.01	1.74	1.49	5.24	109	94
Marvel	2.13	1.66	1.45	5.23	108	93
Guardsman II	2.16	1.62	1.42	5.21	108	94
6417	2.02	1.67	1.46	5.15	107	94
WL 363HQ	1.98	1.70	1.43	5.12	106	95
Rebound 5.0	2.06	1.66	1.39	5.11	106	93
Escalade	2.08	1.58	1.44	5.11	106	94
DKA43-13	1.89	1.72	1.48	5.10	106	95
Seedway 9558	2.09	1.54	1.40	5.03	104	92
L 333 HD	2.13	1.52	1.28	4.92	102	89
Oneida VR (check)	2.13	1.44	1.34	4.92	102	91
5312 (check)	2.15	1.51	1.26	4.92	102	92
Vernal (check)	2.23	1.32	1.08	4.63	96	83
EXPERIMENTAL STRAINS						
DS812-T	2.47	1.79	1.64	5.89	122	94
HybriForce-2400	2.32	1.83	1.66	5.81	121	93
Persist II	2.30	1.77	1.66	5.73	119	94
4S417	2.34	1.78	1.55	5.66	117	93
Prolific II	2.35	1.70	1.58	5.63	117	92
msSunstra-807	2.29	1.71	1.56	5.55	115	93
DS811-M	2.21	1.69	1.51	5.41	112	93
DS815-BR	2.26	1.67	1.44	5.36	111	92
Ezra	2.23	1.67	1.39	5.30	110	94
NY0231	2.14	1.63	1.39	5.16	107	94
A 4330	2.04	1.64	1.43	5.10	106	93
A 4440	2.17	1.53	1.32	5.03	104	92
Ck. Mean (T/A)	2.17	1.42	1.23	4.82		
Trial Mean (T/A)	2.13	1.64	1.42	5.20		93
P-value (entries)	0.0001	0.0001	0.0001	0.0001		0.0001
5% LSD	0.13	0.12	0.11	0.28		2
CV(%)	4.9	5.6	6.1	4.3		1.9
MCV (%)	6	7	8	5		
LSR (%)	22	30	27	26		
Lattice Efficiency	213%	191%	180%	174%		

Trial design is partially incomplete block with five replicates and block size of four.
Excellent weed, insect and deer control.
Soil type is Madalin; potential corn yield on this soil type is 95 bu/A

Table 6: NEW YORK
Harvest by Harvest Summary **Chazy, Clinton County, Sown May 9, 2008**

	2009					
	10-Jun	22-Jul	1-Sep	Total	% of Cks.	% Stand 4-May
	- - - - - tons per acre dry matter - - - - -					
RELEASED CULTIVARS						
55V48	2.27	1.77	1.43	5.47	118	91
L 447 HD	2.18	1.78	1.43	5.39	117	94
WL 343HQ	2.07	1.85	1.47	5.38	117	91
DKA43-13	2.10	1.80	1.48	5.38	116	90
AmeriStand 407TQ	2.12	1.73	1.41	5.26	114	92
Guardsman II	2.17	1.71	1.37	5.24	113	83
ReGen	2.14	1.71	1.35	5.20	113	88
6417	2.09	1.67	1.43	5.19	112	90
Rebound 5.0	1.96	1.70	1.43	5.09	110	81
WL 363HQ	1.93	1.67	1.38	4.98	108	89
Oneida VR (check)	2.05	1.65	1.28	4.98	108	85
Seedway 9558	1.88	1.59	1.49	4.96	107	85
L 333 HD	2.02	1.62	1.30	4.93	107	86
5312 (check)	1.90	1.52	1.12	4.54	98	86
Vernal (check)	1.87	1.46	1.03	4.35	94	80
EXPERIMENTAL STRAINS						
Persist II	2.32	1.84	1.58	5.74	124	95
Ezra	2.05	1.58	1.34	4.96	107	84
NY0231	1.89	1.54	1.29	4.72	102	86
Ck. Mean (T/A)	1.94	1.54	1.15	4.62		
Trial Mean (T/A)	2.00	1.63	1.33	4.96		87
P-value (entries)	0.0003	0.0001	0.0003	0.0001		0.0039
5% LSD	0.26	0.18	0.21	0.57		7
CV(%)	9.3	7.6	11.1	8.2		5.9
MCV (%)	13	11	16	11		
LSR (%)	38	46	38	40		
Lattice Efficiency	213%	191%	180%	174%		

Trial design is partially balanced incomplete block with four replicates and block size o
Excellent weed and insect control. Phytothphora root rot in seeding year reduced star
Soil type is Raynham; potential corn yield on this soil type is 115 bu/A

Table 7: **NEW YORK**
Ithaca, Tompkins County and Cobleskill, Schoharie County
Ithaca sown April 30, 2009 and Cobleskill sown July 28, 2009 (reseede

First production year yield data available for the trial entries listed below will be available in 20

Seeding year forage was not weighed and recorded, rather was just cut off.

Ithaca NY Trial

RELEASED CULTIVARS	
5312 (check)	Pioneer
4S417	Mycogen
55V48	Pioneer
AmeriStand 403T Plus	America's Alfalfa
Ameristand 407TQ	America's Alfalfa
Syngenta 64Q22	Syngenta
FSG 329	Seedway
FSG 408DP	Seedway
Guardsman II	Seedway
L333 HD	Legacy Seeds
LS 605	AMPAC
HybriForce-2400	Dairyland
msSunstra-807	Dairyland
Oneida VR (check)	Check
Prolific II	Doeblers
Rebound 5.0	Croplan Genetics
ReGen	Seedway
Vernal (check)	Check

EXPERIMENTAL STRAINS	
54Q32 (exp)	Pioneer
55V12 (exp)	Pioneer
DS911-M	Dairyland
DS912-M	Dairyland
DS913-T	Dairyland
DS914-T	Dairyland
DS915-BR	Dairyland
DS916-BR	Dairyland
NY0231	Allied Seed
Ezra	Allied Seed
TJA 901	Dairyland
TJA 902	Dairyland
TJA 903	Dairyland
TJA 904	Dairyland

Cobleskill NY Trial

RELEASED CULTIVARS	
5312 (check)	Pioneer
4S417	Mycogen
55V48	Pioneer
AmeriStand 403T Plus	America's Alfalfa
Ameristand 407TQ	America's Alfalfa
DKA43-13	Monsanto
Syngenta 64Q22	Syngenta
FSG 329	Seedway
FSG 408DP	Seedway
FSG 420 LH	Seedway
Guardsman II	Seedway
LegenDairy 5.0	Croplan Genetics
HybriForce-2400	Dairyland
msSunstra-807	Dairyland
Oneida VR	Check
Pounce	Doeblers
Prolific II	Doeblers
Rebound 5.0	Croplan Genetics
ReGen	Seedway
Vernal	Check
WL 343 HQ	W-L
WL 363 HQ	W-L

EXPERIMENTAL STRAINS	
54Q32 (exp)	Pioneer
55V12 (exp)	Pioneer
msSunstra-901	Dairyland
msSunstra-903	Dairyland
NY0231	Allied Seed
Ezra	Allied Seed
TJA 901	Dairyland
TJA 902	Dairyland
TJA 903	Dairyland
TJA 904	Dairyland

Table 8: No Insecticide - Tompkins County, Ithaca, NEW YORK

Check cultivars are conventional alfalfa cultivars that are planted in all yield trials.
In 2009 potato leafhopper populations were small, and damage to alfalfa plants was less than normal for Central New York
PLH Damage Score: 1=minor to no damage to 5=severe damage.

Sown May 1, 2006

	2009						2008	2007	3-Yr.		3-Yr Average
Cultivar	1-Jun	10-Jul	3-Sep	Total Season	% of Cks.	% Stand 23-Sep	Total Season	Total Season	Total	% of Cks.	PLH Damage Score
	- - - - tons per acre dry matter - - - -						T/A	T/A	T/A		
WL 345LH	2.14	1.45	1.52	5.11	100	90	4.40	3.38	12.90	102	1.7
Enforcer	2.06	1.46	1.55	5.07	100	89	4.50	3.32	12.89	102	1.4
WL 347LH	2.14	1.45	1.47	5.05	99	91	4.41	3.40	12.87	101	1.7
5312 (check)	2.36	1.36	1.38	5.10	100	91	4.53	3.14	12.78	101	3.3
Vernal (check)	2.37	1.31	1.54	5.04	102	86	4.64	3.08	12.77	101	3.3
Oneida VR (check)	2.24	1.33	1.40	4.96	97	91	4.37	3.19	12.51	99	4.0
53H92	1.95	1.44	1.49	4.88	96	90	3.96	2.93	11.77	93	1.1
					Ck. Mean					Ck. Mean	
Trial Mean (T/A)	2.23	1.38	1.52	5.12	5.09	88	4.44	3.40	12.96	12.69	
P-value	0.0014	0.0849	0.0069	0.1160		0.0001	0.0569	0.0001	0.0140		
5% LSD	0.22	0.13	0.14	0.42		4	0.42	0.28	0.99		
CV(%)	8.4	8.4	8.2	7.0		3.2	8.3	7.2	6.6		

Minimal PLH damage in 2009. Soil type is Bath and Valois. Yield potential of corn on this soil type is 125-130 bu/A.

Sown May 9, 2007

	2009							2008	2-Yr.		3-Yr Average
Cultivar	1-Jun	20-Jul	15-Sep	Total Season	% of Cks.	% Stand 9-Nov	PLH Damage Score 7-20	Total Season	Total	% of Cks.	PLH Damage Score
	- - - - tons per acre dry matter - - - -							T/A	T/A		
FSG 400LH	2.26	2.17	1.54	5.97	105	89	1.5	4.63	10.60	105	1.9
5312 (check)	2.19	2.11	1.58	5.87	103	89	1.9	4.60	10.48	104	2.8
Vernal (check)	2.16	2.05	1.54	5.75	101	86	2.3	4.32	10.07	100	3.2
EverGreen 3	2.12	2.10	1.55	5.77	101	89	1.1	4.25	10.01	99	1.5
53H92	2.01	2.04	1.56	5.62	99	89	1.1	4.39	10.00	99	1.2
Oneida VR (check)	1.96	1.90	1.57	5.44	96	89	2.6	4.36	9.79	97	3.3
4P424	2.00	1.98	1.47	5.44	96	88	1.2	4.07	9.51	94	1.2
					Ck. Mean					Ck. Mean	
Trial Mean (T/A)	2.10	2.00	1.48	5.58	5.69		1.4	4.38	9.97	10.11	
P-value	0.1509	0.0305	0.0385	0.0843		0.0059	0.0001	0.1104	0.0954		
5% LSD	0.24	0.22	0.18	0.56		3	0.5	0.46	0.94		
CV(%)	9.8	9.3	10.7	8.6		2.8	28.5	9.0	8.2		

Minimal PLH damage in 2009. Soil type is Hudson. Yield potential of corn on this soil type is 135 bu/A

Sown May 6, 2008

		2008		
Cultivar	2009	Total Season	% of Checks	PLH Damage
		T/A		
53H92	No Data in 2009 due to	1.94	104	1.5
AmeriStand 404LH	severe woodchuck feeding	1.91	102	1.8
5312 (check)	damage. Trial will be	1.88	101	2.8
Vernal (check)	harvested in 2010.	1.88	101	3.3
Oneida VR (check)		1.85	99	3.7
6426		1.77	95	1.8
EverGreen 3		1.63	87	1.8
			Ck. Mean	
Trial Mean (T/A)		1.85	1.87	2.1
LSD(.05)		0.26		
CV(%)		12.1		

Minimal PLH damage in 2009. Soil type is Eel. Yield potential of corn on this soil type is 140 bu/A

Sown May 12, 2009

	2009			
Cultivar	27-Aug	% of Checks	PLH Damage Score 7-31	% Stand 10-Nov
	T/A			
53H92	1.50	114	1.4	95
5312 (check)	1.36	103	4.0	95
Pounce	1.34	102	3.5	95
Oneida VR (check)	1.31	99	5.0	95
Vernal (check)	1.29	98	5.0	95
FG44H375	1.27	96	1.0	95
FSG 420 LH	1.27	96	1.3	95
		Ck. Mean		
Average	1.40	1.32	2.5	95
P-value	0.0001		0.0001	
LSD(.05)	0.11		0.6	
CV(%)	7.1		21.9	

Severe PLH damage in 2009. Soil type is Langford. Yield potential of corn on this soil type is 120 bu/A

Table 9: Alfalfa Cultivar Features

For more information log on to the Web: http://plbrgen.cals.cornell.edu/cals/pbg/programs/departmental/forage/foragetest.cfm

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

			Disease Resistance Ratings*					Marketing Co.	
Alfalfa Cultivar	**Marketing Company**	**FD**	**BW**	**VW**	**FW**	**AN**	**PRR**	**Phone Number**	**Web or E-mail Address**
Lander	Allied Seeds LLC	4		R	LR	MR	MR	1-888-305-0500	www.alliedseed.com
AmeriStand 404LH	America's Alfalfa	4	HR	HR	HR	HR	HR	1-800-873-2532	http://www.americasalfalfa.com/
AmeriStand 403T Plus	America's Alfalfa	4	HR	HR	HR	HR	HR		
AmeriStand 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR		
Radiance HD	AMPAC Seed Company	4	HR	R	HR	HR	HR	1-800-547-3230	www.ampacseed.com
Radiant - AM	AMPAC Seed Company	4	HR	HR	HR	HR	HR		
Keystone	Chemgro Seeds	3	HR	HR	HR	HR	HR	1-800-346-4769	www.chemgro.com
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-2400	Dairyland Seed Co.	4	HR	HR	HR	HR	HR	1-262-626-3080	http://www.dairylandseed.com
msSunstra-807	Dairyland Seed Co.	4	HR	HR	HR	HR	HR		
Pounce	Doebler's	3	HR	HR	HR	HR	HR	1-800-853-2676	www.doeblers.com
Prolific II	Doebler's	4	HR	HR	HR	HR	HR		
Enforcer	GROWMARK FS	4	HR	HR	HR	HR	HR	1-800-338-4769	www.fsseeds.com
Escalade	GROWMARK FS	5	HR	R	R	R	HR		
Mariner III	GROWMARK FS	4	HR	R	HR	HR	HR		
Marvel	GROWMARK FS	4	HR	HR	HR	HR	HR		
6415	Garst Seed Co.	4	HR	HR	HR	HR	HR	1-888-464-2778	www.garstseed.com
6417	Garst Seed Co.	4	HR	HR	HR	HR	HR		
6426	Garst Seed Co.	4	HR	HR	HR	HR	HR		
Kingfisher 30-30Q	King's Agri-Seed	3	HR	HR	HR	HR	HR	1-717-687-6224	
L 333HD	Legacy Seeds	3	HR	HR	HR	HR	HR	1-866-791-6390	www.legacyseeds.com
L 447HD	Legacy Seeds	4	HR	R	HR	HR	HR		
DKA34-17RR	Monsanto	3	HR	HR	HR	HR	HR	1-800-335-2676	www.monsanto.com
DKA41-18RR	Monsanto	4	HR	HR	HR	HR	HR		
DKA43-13	Monsanto	4	HR	HR	HR	HR	HR		
4A421	Mycogen Seeds	4	HR	HR	HR	HR	HR	1-800-MYCOGEN	www.dowagro.com/mycogen
4G418RR	Mycogen Seeds	4	HR	HR	HR	HR	HR		
4P424	Mycogen Seeds	4	HR	HR	HR	HR	HR		
4S417	Mycogen Seeds	4	HR	HR	HR	HR	HR		
EverGreen 3	NK Brand Seeds	4	HR	HR	HR	HR	HR	1-800-445-0956	www.nk-us.com
Genoa	NK Brand Seeds	4	HR	HR	HR	HR	HR		
Syngenta 64Q22	Syngenta	4	HR	HR	HR	HR	HR		
53H92	Pioneer Hi-Bred	3	HR	R	HR	HR	HR	1-800-247-6803	www.pioneer.com
54V46	Pioneer Hi-Bred	4	R	HR	HR	HR	HR		
55V48	Pioneer Hi-Bred	5	HR	R	HR	HR	HR		
Lightning EXTRA	Preferred Seed Co.	4	HR	HR	HR	HR	HR	1-716-895-7333	www.preferredseed.com
A4440	Producer's Choice	4	HR	HR	HR	HR	HR	1-866-744-5710	www.producerschoiceseed.com
A5225	Producer's Choice	5	HR	HR	HR	HR	HR		
Integrity	Producer's Choice	4	HR	HR	HR	HR	HR		
PGI 459	Producer's Choice	4	HR	HR	HR	HR	HR		
Guardsman II	Seedway/FSG	4	HR	HR	HR	HR	HR	1-800-836-3710	www.seedway.com
ReGen	Seedway/FSG	3	R	HR	HR	HR	R		
Seedway 9558	Seedway/FSG	3	HR	HR	HR	HR	R		
FSG 329	Seedway/FSG	3	HR	HR	HR	HR	HR		
FSG 351	Seedway/FSG	3	HR	R	HR	HR	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	4	HR	R	HR	HR	HR		
FSG 420 LH	Seedway/FSG	4	HR	HR	HR	HR	HR		
Starbuck	T.A. Seeds	4	HR	R	HR	HR	HR	1-866-813-7333	www.taseeds.com
WL 343HQ	Crop Production Services, HYTEST, AgriCulv	4	HR	HR	HR	HR	HR	1-717-917-1609	www.wlresearch.com
WL 345LH	AgriCulver Seeds	4	HR	HR	HR	HR	HR	1-800-836-3701	www.agriculverseeds.com
WL 347LH	Crop Production Services, HYTEST	4	HR	HR	HR	HR	HR	1-585-586-1330	www.cropproductionservices.com
WL 355RR	Crop Production Services, HYTEST, AgriCulv	4	HR	HR	HR	HR	HR		info@wlresearch.com
WL 363HQ	Crop Production Services, HYTEST, AgriCulv	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-Anthracnose, Prr-Phytophthora root rot

Table 10: Red Clover and Birdsfoot Trefoil Cultivar Yield Trials- 2009 Ithaca, Tompkins Co.

T/A = tons per acre dry matter; 5%LSD = to claim statistically significant yield differences between two cultivars, the yield difference must be equal to or greater than the LSD.

Sown May 9, 2007		2009						2008	2-Yr.	
Red Clover					Total	% of	% Stand	Total		% of
Cultivar/Experimental	Marketing Company*	1-Jun	20-Jul	15-Sep	Season	Cks.	8-Nov	Season	Total	Cks.
		- - - - tons per acre dry matter - - - -						T/A	T/A	
Robust	Seed Research of Oregon	2.24	1.66	1.22	5.12	111	69	5.08	10.20	109
Star Fire II	AgriCulver/ AMPAC Seed	2.19	1.46	1.22	4.88	106	78	5.13	10.01	107
Raven	Seed Research of Oregon	2.24	1.57	1.18	4.99	109	72	4.93	9.92	106
Marathon (check)	WI Check	2.10	1.33	1.07	4.49	98	73	4.87	9.36	100
Arlington (check)	WI Check	2.06	1.58	1.06	4.70	102	68	4.64	9.34	100
Rocket	Seed Research of Oregon	1.91	1.29	1.04	4.24	92	70	4.85	9.09	97
Duration Extra	Preferred Seed	1.98	1.36	1.16	4.50	98	74	4.56	9.06	97
GO-ABT	Grassland Oregon	1.57	1.34	0.84	3.75	81	56	4.64	8.39	90
GO-ABR	Grassland Oregon	1.28	1.33	0.52	3.13	68	34	4.15	7.28	78
						Ck. Mean				Ck. Mean
5% LSD		0.37	0.31	0.23	0.88	4.60	7	0.50	1.35	9.35

Soil type - Hudson silty clay loam; randomized complete block design with six replicates.

Sown May 7, 2008		2009					
Red Clover					Total	% of	% Stand
Cultivar/Experimental	Marketing Company	1-Jun	29-Jul	16-Sep	Season	Cks.	8-Nov
		- - - - tons per acre dry matter - - - -					
CW040040	Cal/West Seeds	3.64	2.00	1.45	7.09	108	82
FP 345	Allied Seed LLC	3.67	1.96	1.36	6.99	107	83
CW202	Cal/West Seeds	3.48	1.92	1.46	6.86	105	83
RC0006 (expt)	Allied Seed LLC	3.49	1.92	1.40	6.81	104	80
Marathon (check)	WI Check	3.48	1.81	1.30	6.60	101	80
Arlington (check)	WI Check	3.23	2.00	1.26	6.49	99	76
						Ck. Mean	
5% LSD		0.40	0.17	0.13	0.58	6.54	6

Soil type - Erie-Ellery channery silt loam; randomized complete block design with six replicates.

Sown May 12, 2009		2009		
Red Clover			% of	% Stand
Cultivar/Experimental	Marketing Company	26-Aug	Checks	9-Nov
		T/A		
Exp RC 9703	Lewis Seed	1.70	104	98
Arlington	WI check	1.70	104	98
StarFire II	AgriCulver/ AMPAC Seed	1.67	102	98
C328	WI experimental	1.62	99	98
Marathon	WI check	1.58	97	98
			Ck. Mean	
5% LSD		0.11	1.64	

Soil type - Langford channery silt loam - randomized complete block design with six replicates.

Sown May 12, 2009		2009		
Birdsfoot Trefoil			% of	% Stand
Cultivar/Experimental	Marketing Company	26-Aug	Norcen	9-Nov
		T/A		
Bruce	Semican	2.70	151	95
WITT	Public Check	2.45	137	92
Pardee	Seedway/FSG/GROWMARK	2.42	135	94
AC Langile	Public Check	2.23	125	94
Norcen	Public Check	1.79	100	95
LSD(.05)		0.19		

Soil type - Langford channery silt loam - randomized complete block design with six replicates.

Marketing Company*	Phone	Web address
AgriCulver	1-800-836-3701	www.agriculverseeds.com
Allied Seed LLC	1-888-305-0500	www.alliedseed.com
AMPAC Seed	1-541-928-1651	www.ampacseed.com
Cal/West	1-530-666-3331	www.calwestseeds.com
Dairyland Seed Company	1-800-236-0163	www.dairylandseed.com
Grassland Oregon	1-503-566-9900	
Lewis Seed	1-541-491-3700	www.lewisseed.com
Preferred Seed	1-716-895-7333	www.preferredseed.com
Seed Research of Oregon	1-800-253-5766	www.sroseed.com
Seedway/FSG	1-800-836-3710	www.seedway.com
Semican	1-866-736-4226	www.semican.ca

Table 11: 2009 Perennial Forage Grass Yield Summary **Ithaca, Tompkins Co., Sown 2006, 2007, 2008**
(T/A - tons per acre dry matter) **Soils**
*, ** = significant differences among varieties at P<0.05 and P<0.01, respectively; ns = no significant differences among varieties. 2006, 2008 Williamson very fine sandy silt loam
Heading date is date when 5 heads in a 3.5 x 16 foot plot were visible. 2007 Niagara silt loam

Timothy

		2009							2008		2007		
Sown April 28, 2006						**Total**	**% Stand**	**Heading**	**Total**	**Heading**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**20-May**	**23-Jun**	**4-Aug**	**8-Oct**	**Season**	**9-Nov**	**Date**	**Season**	**Date**	**Season**	**Date**	**Total**
		- - - - tons per acre dry matter - - - -							T/A		T/A		T/A
Clair	check	2.71	1.11	1.59	1.27	6.68	68	22-May	5.94	29-May	6.40	25-May	19.03
TM9701	Allied Seed Co., L.L.C.	2.80	1.08	1.71	1.23	6.82	70	22-May	5.42	29-May	6.78	26-May	19.02
Summit	Seedway/FSG	2.65	0.95	1.74	1.31	6.65	70	22-May	5.40	29-May	6.16	26-May	18.21
Crest (TM0102)	Seedway/FSG	2.50	1.13	1.65	1.15	6.43	76	28-May	5.09	3-Jun	5.81	31-May	17.33
Climax	check	2.05	1.33	1.22	1.03	5.63	69	1-Jun	4.30	9-Jun	5.59	3-Jun	15.52
Barpenta	Barenbrug	1.96	1.70	1.07	1.18	5.90	70	12-Jun	3.59	10-Jun	5.95	10-Jun	15.44
Chazy	check	2.06	1.38	1.12	0.99	5.55	66	29-May	3.76	9-Jun	5.24	31-May	14.55
PT2004A	Cropmark Seeds Ltd	1.77	1.11	1.26	1.02	5.17	71	7-Jun	3.64	9-Jun	4.30	3-Jun	13.11
	Trial Mean	2.31	1.22	1.42	1.15	6.10	70		4.64		5.78		
	F-entries	19.95 **	14.87 **	31.95 **	7.68 **	23.09 **	2.67 *		20.85 **		44.27 **		
	LSD(.05)	0.26	0.18	0.15	0.13	0.38	5		0.60		0.34		
	CV(%)	7.7	10.0	7.0	7.7	4.2	5.2		8.8		4.0		

Timothy

		2009							2008			
Sown May 4, 2007						**Total**	**% Stand**	**Heading**	**Total**	**Heading**		**3 or 2-Yr.**
Variety	**Marketer**	**21-May**	**24-Jun**	**29-Jul**	**8-Oct**	**Season**	**10-Nov**	**Date**	**Season**	**Date**		**Total**
		- - - - tons per acre dry matter - - - -							T/A			T/A
Derby	Allied Seed Co., L.L.C.	2.71	1.06	1.62	1.42	6.81	70	22-May	6.44	29-May		13.25
Clair	check	2.72	1.14	1.64	1.39	6.88	74	22-May	6.30	29-May		13.18
Summit	Seedway/FSG	2.47	1.00	1.60	1.34	6.42	74	22-May	6.12	29-May		12.53
Barpenta	Barenbrug USA	1.70	1.52	1.15	1.15	5.52	73	12-Jun	4.95	10-Jun		10.47
Climax	check	2.03	1.06	1.34	0.90	5.33	74	1-Jun	4.37	9-Jun		9.71
	Trial Mean	2.33	1.16	1.47	1.24	6.19	73		5.63			
	F-entries	166.88 **	32.74 **	21.37 **	19.06 **	40.53 **	0.81 ns		93.38 **			
	LSD(.05)	0.10	0.11	0.14	0.15	0.34	6		0.29			
	CV(%)	3.0	6.3	6.4	8.1	3.7	5.0		3.4			

Orchardgrass

		2009								2008		2007		
Sown April 28, 2006						**Total**	**% Stand**	**Heading**	**Leaf Tip**	**Total**	**Heading**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**20-May**	**23-Jun**	**4-Aug**	**8-Oct**	**Season**	**9-Nov**	**Date**	**Disease**	**Season**	**Date**	**Season**	**Date**	**Total**
		- - - - tons per acre dry matter - - - -							1=min., 3=ma	T/A		T/A		T/A
IS-OG 39	DLF International Seeds	2.24	1.51	1.87	1.93	7.55	65	12-May	2.5	6.10	8-May	6.98	16-May	20.63
Pennlate	check	2.21	1.36	1.67	1.80	7.04	64	11-May	2.0	6.10	8-May	6.98	16-May	20.12
Endurance	DLF International Seeds	1.93	1.47	1.65	1.83	6.88	66	12-May	3.0	5.70	8-May	7.28	16-May	19.86
OG 0204G	Seed Research of Oregon	2.07	1.31	1.54	1.68	6.61	64	15-May	1.9	5.54	13-May	6.43	19-May	18.58
Potomac	check	2.18	1.11	1.45	1.66	6.40	65	11-May	2.9	5.46	7-May	6.64	13-May	18.51
Olympia	Pennington Seed	1.97	1.18	1.58	1.67	6.40	71	11-May	2.6	5.74	7-May	6.33	13-May	18.48
Intensiv	check	1.89	1.36	1.74	1.54	6.54	68	18-May	1.5	5.19	18-May	5.92	20-May	17.66
Montana (Meadow Brome.)	Seed Research of Oregon	1.93	0.93	1.17	0.76	4.79	59	7-May	1.0	4.02	9-May	6.13	13-May	14.94
	Trial Mean	2.05	1.28	1.58	1.61	6.53	65		2.2	5.48		6.59		
	F-entries	2.73 *	16.27 **	13.45 **	15.21 **	14.58 **	4.00 **		18.52 **	17.71 **		7.75 **		
	LSD(.05)	0.25	0.14	0.17	0.27	0.62	5.24		0.5	0.47		0.49		
	CV(%)	8.4	7.4	7.3	11.6	6.4	5.5		15.0	5.8		5.1		

Orchardgrass

		2009								2008			
Sown May 4, 2007						**Total**	**% Stand**	**Heading**	**Leaf Tip**	**Total**	**Heading**		**3 or 2-Yr.**
Variety	**Marketer**	**21-May**	**24-Jun**	**29-Jul**	**8-Oct**	**Season**	**9-Nov**	**Date**	**Disease**	**Season**	**Date**		**Total**
		- - - - tons per acre dry matter - - - -							1=min., 3=ma	T/A			T/A
Shiloh II	ProSeeds Marketing	2.42	1.46	1.88	2.00	7.77	70	12-May	2.1	8.00	8-May		15.76
Potomac	check	2.58	1.46	1.71	1.99	7.74	65	11-May	2.0	7.80	8-May		15.54
OG0203G	Allied Seed Co., L.L.C.	2.78	1.35	1.77	2.11	8.00	69	13-May	1.6	7.52	13-May		15.52
Pennlate	check	2.53	1.46	1.92	2.05	7.96	69	13-May	1.0	7.38	11-May		15.34
Warrior II	ProSeeds Marketing	2.32	1.38	1.74	2.13	7.57	70	13-May	1.1	7.51	11-May		15.08
Profit	AMPAC Seed Co.	2.20	1.48	1.74	2.06	7.49	70	13-May	1.0	7.48	13-May		14.98
Command	Land O'Lakes	2.41	1.36	1.68	1.88	7.33	69	13-May	1.1	7.24	13-May		14.57
Intensiv	check	2.41	1.48	1.68	1.95	7.51	66	18-May	1.0	6.91	18-May		14.42
	Trial Mean	2.46	1.43	1.76	2.02	7.67	68		1.4	7.48			
	F-entries	7.53 **	1.80 ns	3.13 *	1.31 ns	1.84 ns	0.76 ns		6.67 **	2.70 *			
	LSD(.05)	0.19	0.12	0.15	0.21	0.51	6		0.5	0.59			
	CV(%)	5.2	5.7	5.7	7.2	4.5	6.3		26.6	5.4			

Table 11: 2009 Perennial Forage Grass Yield Summary — **Ithaca, Tompkins Co., Sown 2006, 2007, 2008**

Tall Fescue		2009							2008		2007		
Sown April 28, 2006						**Total**	**% Stand**	**Heading**	**Total**	**Heading**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**20-May**	**23-Jun**	**4-Aug**	**8-Oct**	**Season**	**9-Nov**	**Date**	**Season**	**Date**	**Season**	**Date**	**Total**
		- - - - tons per acre dry matter - - - -							T/A		T/A		T/A
Select	check	1.73	1.58	1.89	2.11	7.31	70	19-May	5.45	15-May	7.86	22-May	20.62
GO-TF	Grassland Oregon	1.68	1.60	1.88	2.02	7.18	66	18-May	5.67	15-May	7.75	23-May	20.59
Drover	Barenbrug	1.86	1.44	2.05	2.05	7.40	65	15-May	5.16	12-May	7.37	15-May	19.93
Savory	DLF International Seeds	1.54	1.47	1.78	2.21	7.00	66	18-May	4.86	15-May	7.04	23-May	18.89
Enhance	Seedway/FSG	1.34	1.56	1.82	1.98	6.69	59	21-May	4.59	20-May	7.05	23-May	18.33
BarElite	Barenbrug	1.31	1.44	1.70	2.12	6.57	66	24-May	4.87	26-May	6.80	25-May	18.24
FA2003CS	Cropmark Seeds Ltd	1.12	1.34	1.64	1.69	5.80	60	19-May	4.60	15-May	6.20	22-May	16.59
	Trial Mean	1.51	1.49	1.82	2.02	6.85	65		5.03		7.15		
	F-entries	7.73 **	4.83 **	3.95 *	2.35 ns	5.60 **	5.20 **		2.53 ns		6.67 **		
	LSD(.05)	0.28	0.12	0.20	0.32	0.69	5		0.77		0.66		
	CV(%)	12.7	5.7	7.5	10.6	6.9	5.3		10.3		6.2		

Tall Fescue		2009						2008		
Sown May 4, 2007						**Total**	**% Stand**	**Heading**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**21-May**	**24-Jun**	**29-Jul**	**8-Oct**	**Season**	**10-Nov**	**Date**	**Season**	**Date**	**Total**
		- - - - tons per acre dry matter - - - -							T/A		T/A
Select	check	2.16	1.79	2.06	2.47	8.47	69	18-May	8.49	18-May	16.96
Stockman	Seed Research of Oregon	1.98	1.79	2.21	2.34	8.33	65	18-May	8.49	18-May	16.82
RAD-ERF48	ProSeeds Marketing	2.15	1.63	2.10	2.48	8.37	69	18-May	8.41	16-May	16.78
Enhance	Seedway/FSG	2.02	1.75	2.17	2.38	8.32	69	21-May	8.41	22-May	16.73
IS-FTF 31	DLF International Seeds	2.15	1.64	2.10	2.30	8.19	69	18-May	8.27	16-May	16.46
KY 31-	check	1.90	1.83	2.09	2.38	8.20	69	21-May	8.18	22-May	16.39
KYFA9301/AR584	U of Kentucky	2.02	1.53	2.05	2.35	7.96	68	21-May	8.28	22-May	16.24
TF0202	Allied Seed Co., L.L.C.	1.82	1.82	1.96	2.21	7.81	70	22-May	8.33	22-May	16.14
BarElite	Barenbrug USA	1.48	1.64	1.73	2.16	7.02	71	24-May	7.15	26-May	14.17
	Trial Mean	1.97	1.71	2.05	2.34	8.07	69		8.23		
	F-entries	11.22 **	9.80 **	4.25 **	2.26 ns	6.51	1.25 ns		8.13 **		
	LSD(.05)	0.19	0.10	0.20	0.21	0.51	4		0.43		
	CV(%)	6.6	3.9	6.6	6.0	4.3	4.4		3.6		

Tall Fescue		2009						
Sown April 25, 2008						**Total**	**% Stand**	**Heading**
Variety	**Marketer**	**26-May**	**29-Jun**	**3-Aug**	**20-Oct**	**Season**	**16-Nov**	**Date**
		- - - - tons per acre dry matter - - - -						
KY 31-	check	2.34	2.00	1.51	2.43	8.28	80	24-May
KY 31+	check	2.34	1.89	1.44	2.51	8.18	83	21-May
BAR FA BE9301A	Barenbrug USA	2.00	1.91	1.37	2.39	7.67	70	21-May
Bariane	Barenbrug USA	1.97	1.95	1.26	2.11	7.30	80	27-May
		2.16	1.94	1.39	2.36	7.86	78	
		38.95 **	3.19 ns	4.95 *	2.84 ns	12.26 **	19.67 **	
		0.10	0.09	0.15	0.33	0.42	4	
		3.0	2.9	6.7	8.7	3.3	3.2	

Bromegrass		2009					2008		
Sown May 7, 2007					**Total**	**% Stand**	**Heading**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**27-May**	**30-Jul**	**21-Oct**	**Season**	**6-Oct**	**Date**	**Season**	**Date**	**Total**
		- - - - tons per acre dry matter - - - -						T/A		T/A
Hakari	Barenbrug USA	1.82	2.37	1.21	5.40	81	27-May	6.91	29-May	12.31
York	AMPAC Seed Co.	2.01	2.02	1.06	5.09	77	18-May	6.36	18-May	11.45
Olga	Barenbrug USA	2.15	1.63	0.92	4.70	72	18-May	6.59	18-May	11.29
Doina	Barenbrug USA	2.03	1.69	0.77	4.49	75	18-May	6.48	18-May	10.97
Peak	Seedway/FSG	1.89	2.03	1.00	4.92	80	18-May	5.37	18-May	10.30
Canterbury	Barenbrug USA	1.36	1.34	0.83	3.54	66	27-May	5.81	26-May	9.35
	Trial Mean	1.88	1.85	0.96	4.69	75		6.25		
	F-entries	8.11 **	13.49 **	7.39 **	12.29 **	11.76 **		10.75 **		
	LSD(.05)	0.29	0.29	0.17	0.54	5		0.50		
	CV(%)	11.6	12.0	13.7	8.8	4.8		6.1		

All varieties are smooth bromegrass except for Canterbury which is a moutain bromegrass and Hakari which is an alaska bromegrass.

Bromegrass		2009					
Sown April 25, 2008					**Total**	**% Stand**	**Heading**
Variety	**Marketer**	**26-May**	**29-Jun**	**20-Oct**	**Season**	**16-Nov**	**Date**
		- - - - tons per acre dry matter - - - -					
York	AMPAC	2.55	2.19	1.18	5.93	74	18-May
GRL	Barenbrug	2.60	2.22	1.06	5.88	76	18-May
Peak	Seedway/FSG	2.46	2.32	1.10	5.87	80	16-May
	Trial Mean	2.54	2.24	1.11	5.89	77	
	F-entries	1.20 ns	0.82 ns	2.51 ns	0.04 ns	1.97 ns	
	LSD(.05)	0.23	0.26	0.14	0.50	8	
	CV(%)	5.3	6.6	7.2	4.9	5.9	

Table 11: 2009 Perennial Forage Grass Yield Summary — **Ithaca, Tompkins Co., Sown 2006, 2007, 2008**

Perennial Ryegrass		2009							2008		2007		
Sown April 28, 2006						**Total**	**% Stand**	**Heading**	**Total**	**Heading**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**20-May**	**23-Jun**	**4-Aug**	**8-Oct**	**Season**	**9-Nov**	**Date**	**Season**	**Date**	**Season**	**Date**	**Total**
		- - - - tons per acre dry matter - - - -							T/A		T/A		T/A
Tetrelite II	DLF International Seeds	1.28	1.86	1.09	0.91	5.14	58	26-May	4.15	29-May	6.24	27-May	15.53
Boost	Seedway/FSG	1.49	1.89	0.98	1.13	5.49	63	22-May	3.40	26-May	6.15	24-May	15.05
Spring Green (festulolium)	check	1.32	1.74	1.06	1.21	5.33	63	22-May	3.42	26-May	5.91	23-May	14.66
Birger	Burlingham Seeds	1.23	1.69	1.05	1.31	5.27	61	24-May	3.09	26-May	5.80	26-May	14.16
Aberecho	Grassland Oregon	1.05	1.66	0.98	0.82	4.51	51	18-May	2.78	15-May	5.93	19-May	13.22
Opus	Burlingham Seeds	0.95	1.57	1.04	1.33	4.88	58	18-May	2.85	15-May	5.39	23-May	13.12
Citadel	check	1.00	1.73	0.94	1.33	5.00	65	26-May	2.77	26-May	5.20	24-May	12.97
Aberdart	Grassland Oregon	0.85	1.62	1.10	1.14	4.72	59	21-May	2.40	15-May	5.14	23-May	12.25
BAR1M	Barenbrug	0.96	1.77	0.88	1.22	4.84	55	18-May	2.65	16-May	4.71	22-May	12.20
FH2004A	Cropmark Seeds Ltd	0.15	1.48	1.19	1.02	3.84	30	22-May	3.07	26-May	5.13	23-May	12.04
Linn	check	0.60	1.51	0.82	0.98	3.90	51	18-May	2.74	11-May	5.07	16-May	11.70
Aberavon	Grassland Oregon	0.69	1.85	1.17	1.29	5.00	60	26-May	2.04	29-May	4.63	22-May	11.67
Green Gold	UAP - NE	0.71	1.69	0.83	1.10	4.33	63	26-May	2.23	26-May	4.54	28-May	11.10
	Trial Mean	0.92	1.68	1.01	1.13	4.75	53		2.89		5.17		
	F-entries	7.85 **	2.61 **	5.46 **	9.68 **	10.93 **	106.29 **		17.20 **		26.94 **		
	LSD(.05)	0.36	0.24	0.14	0.15	0.45	5		0.37		0.53		
	CV(%)	27.8	10.0	9.7	9.1	6.7	6.0		8.9		7.1		

Tetraploid perennial ryegrass - Boost, Birger, Opus, Citadel, FH2004A, GreenGold; Diploid perennial ryegrass - Aberdart, Linn, BAR1M, Aberavon
Intermediate Ryegrass - Tetrelite, Aberecho, Bandito

Perennial Ryegrass		2009								2008		
Sown May 4, 2007						**Total**	**% Stand**	**Heading**	**Rust**	**Total**	**Heading**	**3 or 2-Yr.**
Variety	**Marketer**	**21-May**	**24-Jun**	**29-Jul**	**8-Oct**	**Season**	**10-Nov**	**Date**	**8-Oct**	**Season**	**Date**	**Total**
			- - - - tons per acre dry matter - - - -						1=min., 3=ma	T/A		T/A
Quartermaster	Lewis Seed Co.	1.21	1.84	1.07	1.15	5.27	53	24-May	1.9	6.51	26-May	11.79
Lato (Kentucky bluegrass)	Allied Seed Co., L.L.C.	2.11	1.46	1.60	1.68	6.85	69	11-May	3.0	4.74	8-May	11.59
Power	AMPAC Seed Co.	0.93	1.87	1.03	1.36	5.18	54	26-May	1.9	5.75	26-May	10.94
GO-ABV	Grassland Oregon	0.93	1.79	1.29	0.78	4.79	50	28-May	2.1	6.00	29-May	10.80
Calibra	check	1.14	1.41	1.16	1.25	4.97	56	24-May	1.6	5.65	26-May	10.63
Eurostar	Seed Research of Oregon	1.01	1.66	1.08	1.36	5.11	61	24-May	1.5	5.44	26-May	10.56
Troy (Kentucky bluegrass)	check	2.09	1.34	1.32	1.35	6.10	76	7-May	3.0	4.30	8-May	10.40
Citadel	check	0.87	1.69	1.09	1.40	5.05	53	26-May	1.4	4.92	26-May	9.97
Sierra	Lewis Seed Co.	1.18	1.44	1.02	1.27	4.91	63	18-May	1.4	4.92	11-May	9.84
GO-ABS	Grassland Oregon	0.97	1.64	1.23	1.41	5.25	59	22-May	1.6	4.36	18-May	9.61
Tonga	AMPAC Seed Co.	1.17	1.28	0.97	1.11	4.52	53	18-May	1.4	4.87	18-May	9.39
GO-ABZ	Grassland Oregon	0.93	1.39	1.15	1.27	4.75	63	26-May	1.8	4.58	26-May	9.33
Linn	check	1.33	1.10	0.94	1.19	4.57	59	18-May	1.6	4.67	11-May	9.24
GO-ABM	Grassland Oregon	0.83	1.68	1.15	1.15	4.80	61	26-May	1.5	4.10	24-May	8.91
	Trial Mean	1.19	1.54	1.15	1.27	5.15	59		1.8	5.06		
	F-entries	29.71 **	8.49 **	9.39 **	19.23 **	26.89 **	8.14 **		25.60 **	14.04		
	LSD(.05)	0.22	0.23	0.16	0.13	0.34	7		0.3	0.54		
	CV(%)	12.6	10.2	9.8	7.2	4.7	8.5		11.7	7.5		

Tetraploid perennial ryegrass - Quartermaster, Eurostar, Power, Tonga; Diploid perennial ryegrass - Sierra, GO-ABM, GO-ABS, GO-ABZ;
Intermediate ryegrass - GO-ABV

Perennial Ryegrass		2009						
Sown April 25, 2008						**Total**	**% Stand**	**Heading**
Variety	**Marketer**	**26-May**	**29-Jun**	**3-Aug**	**20-Oct**	**Season**	**16-Nov**	**Date**
			- - - - tons per acre dry matter - - - -					
Lato (Kentucky bluegrass)	Seedway/FSG	2.15	1.54	1.09	1.74	6.52	79	11-May
Troy (Kentucky bluegrass)	check	2.13	1.46	0.97	1.41	5.98	83	7-May
Calibra	check	1.80	1.52	0.88	1.65	5.85	80	24-May
PSG 47 MOL	PICKSEED	2.46	1.39	0.86	1.02	5.73	80	24-May
Barderby (Kentucky bluegr.)	Barenbrug	1.51	1.51	1.17	1.54	5.73	85	7-May
Cancan	DLF International Seeds	1.03	1.74	0.97	1.85	5.59	80	12-Jun
KenBlue (Kentucky bluegr.)	check	1.70	1.45	1.09	1.26	5.50	85	7-May
PSG AM 108	PICKSEED	1.72	1.37	0.83	1.19	5.11	79	24-May
Foxtrot	DLF International Seeds	1.18	1.56	0.81	1.49	5.03	81	2-Jun
Linn	check	2.26	0.90	0.65	1.15	4.96	84	18-May
Pastour	DLF International Seeds	1.05	1.58	0.78	1.53	4.95	81	2-Jun
PSG 06 B Lh	PICKSEED	1.95	0.89	0.55	0.74	4.13	80	24-May
		1.74	1.41	0.89	1.38	5.42	81	
		26.28 **	7.33 **	20.68 **	10.38 **	8.59 **	1.55 ns	
		0.27	0.28	0.12	0.28	0.61	5	
		10.7	13.6	9.0	14.3	7.8	4.4	

Tetraploid perennial ryegrass PSG 06 B Lh, PSG 47 MOL, PSG AM 108, Calibra, - ; Diploid perennial ryegrass -Cancan, Foxtrot, Pastour, Linn ;

Perennial Forage Grass Varieties - 2008 Forage Quality, Maturity and Yield at Spring Growth Boot Stage (See Table 12 below)

For the first two production years of each grass trial sown, samples for forage quality analyses were taken from each grass variety. Two samples were taken at boot stage or when seed heads were first visible. The data from these samples can be used to compare forage quality of varieties at approximately the same stage of maturity, however on different days.

Grasses increase in fiber concentration (%NDF) and decrease in fiber digestibility (%NDFd) by advancing calendar date and by increasing temperatures. Harvest grass at boot stage for optimum forage quality. Choose grass varieties first by species based in species agronomic characteristics, then by date of boot stage based on planned date of harvest, then by yield and forage quality (low fiber, high fiber digestibility). Predictions of milk per acre, milk per ton, and relative feed quality were found to be very highly correlated with %NDF and yield, thus are no longer reported.

The samples taken in 2009 will be analyzed and reported on in early 2010.

Table 12: Spring, First Harvest Forage Quality Data for Grass Varieties

	Trial Sown 2006 Boot Stage in 2008		
	Date at Boot Stage	% NDF	% NDFD
Orchardgrass			
Olympia	8-May	54	79
Potomac	8-May	53	79
IS-OG 39	9-May	51	80
Pennlate	9-May	53	81
Endurance	9-May	51	81
Montana	10-May	54	87
OG 0204G	14-May	54	81
Intensiv	19-May	58	78
Timothy			
Clair	30-May	60	70
TM9701	30-May	60	70
Summit	30-May	60	70
Crest (TM0102)	4-Jun	67	68
Climax	10-Jun	65	66
PT2004A	10-Jun	64	63
Chazy	10-Jun	64	66
Barpenta	11-Jun	62	68
Perennial Ryegrass			
Linn	12-May	43	81
Opus	16-May	43	82
Aberecho	16-May	36	83
Aberdart	16-May	40	83
BAR1M	17-May	42	81
Boost	27-May	47	77
Spring Green	27-May	47	79
Birger	27-May	41	81
Citadel	27-May	40	82
FH2004A	27-May	40	77
Green Gold	27-May	38	81
Tetrelite II	30-May	46	80
Aberavon	30-May	36	84
Tall and Meadow Fescue			
Drover	13-May	49	74
Select	16-May	52	75
GO-TF	16-May	52	73
Savory	16-May	52	74
FA2003CS	16-May	51	71
Enhance	21-May	48	72
BarElite	27-May	51	73

	Trial Sown 2007 Boot Stage in 2008		
	Date at Boot Stage	% NDF	% NDFD
Orchardgrass			
Potomac	9-May	53	81
Shiloh II	9-May	52	81
Pennlate	12-May	53	79
Warrior II	12-May	53	79
Command	14-May	53	80
OG0203G	14-May	54	78
Profit	14-May	53	78
Intensiv	19-May	57	74
Timothy			
Clair	30-May	58	69
Derby	30-May	59	72
Summit	30-May	59	69
Climax	10-Jun	64	67
Barpenta	11-Jun	63	65
Perennial Ryegrass and Kentucky Bluegrass			
Lato (K.Bluegr.)	9-May	38	70
Troy (K. Bluegr.)	9-May	47	71
Linn	12-May	42	73
Sierra	12-May	43	73
Tonga	19-May	38	74
GO-ABS	19-May	38	73
GO-ABM	25-May	33	76
Quartermaster	27-May	45	72
Power	27-May	40	76
Calibra	27-May	43	73
Eurostar	27-May	39	70
GO-ABZ	27-May	36	72
Citadel	27-May	37	75
Aberavon	30-May	43	74
Tall and Meadow Fescue			
RAD-ERF48	17-May	51	70
IS-FTF 31	17-May	52	74
Select	19-May	54	70
Stockman	19-May	52	70
Enhance	23-May	46	75
KYFA9301/AR584	23-May	50	75
KY 31	23-May	50	74
TF0202	23-May	45	76
BarElite	27-May	49	76
Bromegrass			
Olga	19-May	60	77
Doina	19-May	59	79
York	19-May	56	82
Peak	19-May	57	81
Canterbury	27-May	60	80
Hakari	30-May	60	78

Perennial Forage Grass Varieties - 2008 Forage Quality, Maturity and Yield at Spring Growth at Harvest 1 (See Table 13 below)

Two samples were taken from each variety just prior to first harvest. The data from these samples can be used to compare forage quality of varieties on the same day, but at different stages of maturity. Varieties are sorted from earliest heading date to latest heading date within each trial.

Grass varieties that are harvested prior to boot stage such that the seed heads are not harvested in the first cutting, will have seed head emergence at the second harvest. Varieties with seed heads at second harvest can be expected to have lower forage quality at second harvest compared to a variety that does not have seed head emergence at that harvest. Samples were not taken for analyses at the second harvest.

Table 13: 2008 Spring, First Harvest Forage Quality Data for Grass Varieties

Trial Sown 2006

	First Harvest in 2008 - May 21			% Seed	2008 Aftermath
	Yield (t/a) Harvest 1	% NDF	% NDFD	Heads at Harvest 2	Forage Yield (t/a)
Orchardgrass					
Olympia	3.16	61	72	3	2.58
Potomac	2.79	59	73	2	2.67
IS-OG 39	2.95	58	74	4	3.15
Pennlate	2.96	58	75	2	3.15
Endurance	2.83	57	73	2	2.87
Montana (Meadow Brome.)	2.21	60	81	1	1.81
OG 0204G	2.82	58	77	3	2.72
Intensiv	2.55	55	77	16	2.65
Timothy					
Clair	2.83	52	79	5	3.12
TM9701	2.57	52	80	5	2.85
Summit	2.50	51	78	5	2.90
Crest (TM0102)	2.22	50	82	8	2.88
Climax	1.67	45	86	40	2.64
PT2004A	1.57	41	84	23	2.07
Chazy	1.50	44	84	50	2.26
Barpenta	1.32	44	86	63	2.27
Perennial Ryegrass					
Linn	1.84	48	75	95	0.90
Opus	1.43	41	81	95	1.42
Aberecho	1.27	34	84	95	1.51
Aberdart	0.98	37	81	95	1.42
BAR1M	1.18	41	82	95	1.47
Boost	1.57	43	83	90	1.83
Spring Green	1.49	42	84	88	1.93
Birger	1.14	38	82	83	1.95
Citadel	0.86	39	84	93	1.90
FH2004A	0.76	37	81	95	2.31
Green Gold	0.70	35	83	95	1.53
Tetrelite II	1.75	41	82	95	2.40
Aberavon	0.57	35	82	95	1.47
Tall and Meadow Fescue					
Drover	1.64	50	72	1	3.51
Select	1.83	52	73	3	3.62
GO-TF	1.70	51	73	2	3.97
Savory	1.57	52	74	5	3.29
FA2003CS	1.47	51	72	4	3.13
Enhance	1.40	47	75	3	3.19
BarElite	1.39	49	75	25	3.49

Trial Sown 2007

	First Harvest in 2008 - May 24			% Seed	2008 Aftermath
	Yield (t/a) Harvest 1	% NDF	% NDFD	Heads at Harvest 2	Forage Yield (t/a)
Orchardgrass					
Potomac	2.91	59	73	1	4.90
Shiloh II	2.77	58	74	1	5.23
Pennlate	2.40	57	76	1	4.99
Warrior II	2.68	57	75	1	4.82
Command	2.69	54	78	1	4.55
OG0203G	2.85	57	75	1	4.67
Profit	2.42	57	74	1	5.06
Intensiv	2.36	58	76	1	4.55
Timothy					
Clair	2.73	54	76	2	3.57
Derby	2.63	54	79	3	3.81
Summit	2.58	53	78	2	3.54
Climax	1.90	47	82	14	2.48
Barpenta	1.67	46	85	58	3.28
Perennial Ryegrass					
Lato	1.32	43	76	0	3.43
Troy	1.37	57	72	0	2.92
Linn	2.40	46	78	65	2.28
Sierra	2.34	47	76	85	2.58
Tonga	1.94	37	81	79	2.93
GO-ABS	1.20	36	83	81	3.16
GO-ABM	0.97	34	85	88	3.13
Quartermaster	2.67	41	81	95	3.85
Power	2.03	38	81	94	3.73
Calibra	1.98	40	82	90	3.68
Eurostar	1.59	37	82	94	3.86
GO-ABZ	1.32	35	82	83	3.26
Citadel	1.26	38	84	90	3.66
Aberavon	2.51	40	82	94	3.50
Tall and Meadow Fescue					
RAD-ERF48	2.38	49	73	1	6.04
IS-FTF 31	2.30	51	73	1	5.97
Select	2.50	51	74	1	5.99
Stockman	2.39	48	74	1	6.10
Enhance	2.34	46	75	1	6.08
KYFA9301/AR584	2.38	50	75	1	5.90
KY 31	2.24	47	76	1	5.95
TF0202	2.26	47	74	1	6.07
BarElite	1.81	45	77	5	5.34
Bromegrass - First Harvest May 31					
Olga	3.17	66	70	6	3.42
Doina	3.12	66	70	8	3.36
York	2.67	65	71	2	3.69
Peak	2.47	63	71	3	2.91
Canterbury	2.62	60	76	90	3.19
Hakari	2.82	59	78	90	4.09

Table 14: Annual Ryegrass Trials, and Perennial Cool Season Grass Trials Sown in 2009.

Variety	Marketing Company	2009 Total Season	2009 Heading Date	2009 % Stand 16-Nov	2008 Total Season	2-Yr. Total
		T/A			T/A	T/A
Annual Ryegrass	**Sown April 25, 2008**					
MX 108	PICKSEED	6.77	22-May	65	3.62	10.39
PSG 29 BF 06	PICKSEED	6.48	24-May	75	3.84	10.32
Feast II	Check	6.36	22-May	69	3.68	10.03
Hercules	Barenbrug	6.58	24-May	73	3.39	9.96
Marshall	Check	5.61	24-May	38	3.93	9.54
LSD(.05)		0.58		6	0.45	
Annual Ryegrass	**Sown May 6, 2009**					
Feast II	AgriCulver / AMPAC	5.72		85		
Feast II	check	5.49		85		
Bruiser	AgriCulver / AMPAC	5.27		91		
Fantastic	AgriCulver / AMPAC	5.12		92		
AMP-1IR	AMPAC	4.55		92		
PSG 29 BF 06	PICKSEED	4.17		85		
06 B Lh	PICKSEED	3.91		84		
MX 108	PICKSEED	3.54		86		
A 108	PICKSEED	3.23		88		
LSD(.05)		0.52		5		
Perennial Ryegrass	**Sown May 6, 2009**					
Duo	AMPAC	2.13		95		
Impressario	DLF International Seeds	1.91		95		
Spring Green	check	1.86		94		
Power	AgriCulver / AMPAC	1.84		95		
AMP-MDR2	AMPAC	1.77		95		
AMP-EDR1	AMPAC	1.75		93		
Tonga	AMPAC	1.64		94		
Calibra	check	1.63		95		
Orantas	DLF International Seeds	1.61		95		
Linn	check	1.30		93		
LSD(.05)		0.23		2		

Variety	Marketing Company	2009 25-Sep	Stand 16-Nov
		T/A	
Timothy	**Sown May 6, 2009**		
Richmond	check	1.12	89
Climax	check	1.05	88
Tuukka	AgriCulver / AMPAC	0.98	90
LSD(.05)		0.10	2
Orchardgrass	**Sown May 6, 2009**		
Profit	AgriCulver / AMPAC	2.25	95
Profit-coated	AgriCulver / AMPAC	2.17	90
IS-OG 52	DLF International Seeds	2.13	92
Potomac	check	2.11	95
Tekapo-coated	AMPAC	1.86	85
Tekapo	AMPAC	1.73	87
Dividend VL	Allied	1.36	89
AMP-1MB	AMPAC	1.04	89
LSD(.05)		0.20	3
Tall Fescue	**Sown May 6, 2009**		
IS-FTF 48	DLF International Seeds	2.44	94
Goliath	AMPAC	2.37	93
KY 31 E-	check	2.27	95
Bronson	AgriCulver / AMPAC	2.25	95
KY 31 E+	check	2.14	94
Pradel	check	2.09	93
AMP-1MF	AMPAC	1.93	94
Goliath-coated	AMPAC	1.91	90
LSD(.05)		0.30	3

Table 15: Marketing Companies for Grass Varieties

Marketing Company	Marketing Co. Phone Number	Web or E-mail Addre
AgriCulver	1-800-836-3701	www.agriculverseeds.com
Allied Seed Co., L.L.C.	1-888-305-0500	www.alliedseed.com
AMPAC Seed Company	1-800-547-3230	www.ampacseed.com
Barenbrug USA	1-800-547-4101	www.barusa.com
Burlingham Seeds	1-503-623-2306	www.burlinghamseeds.com
Cropmark Seeds Ltd		www.cropmark.co.nz
DLF International Seeds	1-541-369-2251	www.dlfis.com
Grassland Oregon	1-503-566-9900	
Land O' Lakes	1-800-328-9680	www.landolakesinc.com
Lewis Seed Co.	1-541-466-3704	www.lewisseed.com/
Pennington Seed	1-800-285-SEED	www.penningtonseed.com
PICKSEED	705-878-9240	http://www.pickseed.com/ECanada/index.html
ProSeeds Marketing	1-541-928-9999	www.proseeds.net
Seed Research of Oregon	1-800-253-5766	www.sroseed.com
Seedway/FSG	1-800-836-3710	www.seedway.com

Estimates of potential corn yields by soil type in tables 1-8 are from: http://nmsp.css.cornell.edu/software/newyorkstatecornNcalculator.xls