NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS SUMMARY FOR 2011 – SEASON TOTALS

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

Introduction Forage variety total season yields from New York in the 2011 growing season are in this report. If yields for each harvest are of interest please review the report titled New York Forage Legume and Grass Variety Yield Trials Summary for 2011 – Harvest and Total Season Summary (available at the website listed above).

Forage yield trials are planted and harvested annually at the Cornell University Agricultural Experiment Station in Ithaca and at three other locations in New York State. Funding for these trials is provided by the companies that submit the varieties/ cultivars in the trials, from Cornell University College of Agriculture and Life Sciences, and from Northern New York Agricultural Development Program. Trials of perennial forages are managed for four years; seeding year and three production years.

2011 New York State

Temperature Averages

Month	Temperature	Departure	Rank
March	31.0	-0.9	59
April	45.0	0.5	81
May	58.1	2.8	103
June	65.4	1.0	85
July	71.7	2.9	110
August	67.9	0.7	83
September	62.8	3.2	109
October	49.6	1.5	76

Precipitation Averages

Month	Precipitation	Departure	Pct Normal	Rank
March	4.34	1.29	142%	106
April	6.26	2.84	183%	115
May	5.54	1.89	151%	112
June	3.89	-0.20	95%	74
July	2.51	-1.53	62%	13
August	7.68	3.81	198%	117
September	6.36	2.37	159%	114
October	4.61	0.66	116%	95

Rankings are for 117 years between 1895 and 2011. 1=coolest; 117=warmest or 1=driest; 117=wettest.
http://www.nrcc.cornell.edu/page_summaries.html

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Cornell University

11/2011

Alfalfa yields for 2011 averaged 5.4 tons per acre dry matter (1.0 tons less than in 2010), red clover yields averaged 3.3 tons per acre dry matter (0.4 tons per acre less than in 2010), and perennial forage grass yields averaged 5.6 tons per acre dry matter (0.5 tons per acre less than in 2010).

Cultivar/Variety Selection

Plant breeders continue to develop new and improved cultivars. Cultivars are continually released and were selected for improved agronomic characteristics such as yield, disease and insect resistance, forage quality, etc. Seed cost of improved cultivars can be higher than for other cultivars, but this cost is generally offset when there is improved performance at each harvest over the life of the stand.

In each New York trial, there is a group of top-yielding cultivars. Cultivar performance should be critically evaluated by comparing yield with other cultivars in two or more trials that are in the second or later year of production.

Alfalfa (Tables 1 and 2) cultivars for New York are recommended to have resistance (R) or high resistance (HR) to four diseases (bacterial wilt, Verticillium wilt, anthracnose, Phytophthora root rot) and fall dormancy rating should be 2, 3, or 4. Cultivars with higher fall dormancy ratings will go dormant later in the fall. Cultivars that have fall dormancy ratings higher than 4 may have unacceptable winter-hardiness for New York, particularly in Northern New York. All of the production year alfalfa trials were harvested three or four times between late May and mid-September.

A limited number of potato leafhopper (PLH) resistant alfalfa cultivars are available for producers to plant. These cultivars are tested in trials that are not sprayed with insecticide (page 5).

Red Clover (Table 3) is generally a two-production year crop in New York and is an excellent forage legume for short-rotation fields and for frost-seeding into established stands. The clover root curculio is a destructive pest on clover, eating the roots and destroying the plants in the later production years.

Birdsfoot Trefoil (Table 3) is a legume that tolerates soils that alfalfa will not be productive on. Birdsfoot trefoil should always be planted in combination with other forages like perennial grasses. Also, birdsfoot trefoil does not tolerate low cutting heights, so it is advisable to leave 5+ inches of stubble in the field.

Grass yield (Tables 4, 5, and 6) trials were fertilized with 315 lb/A ammonium sulfate in early April and after first, second, and third harvests. Forage grass trials are harvested four times between May 20th and November 3rd. Bromegrass does not tolerate intensive management thus was harvested three times this growing season. Grass yields by species for production year trials harvested 2011 are listed in summary **Table 4, page 8-9**.

Also listed is a visual estimate of percent stand and heading date. Heading date is the calendar date when about 5 heads per plot were visible. Use percent stand, heading date, and yield to select grass varieties that fit your forage program.

Grass forage quality estimates from 2010 for the trials planted in 2008 and 2009 are presented in **Tables 5 and 6**. Grass forage quality samples are taken at the first growth only, not at the other three harvests. When grass plants produce seed heads, the seed head stems lower forage quality. Samples from each cultivar are taken on two days – two samples at harvest time (May 26 to June 3 in 2011) and two samples at heading date (May 12 to June 7 in 2011). Forage quality estimates from 2011 for trials planted in 2009 and 2010 will be available late winter.

Table 7 is a summary of grasses planted and harvested in 2011.

See 2012 Cornell Guide for Integrated Field Crop Management for more detailed management information (http://www.fieldcrops.org/Pages/Home.aspx).

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.

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ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

Table 1: NY Alfalfa Cultivar Yield Trial Results - 2011 Forage Yields

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. CV = A statistical representation of the precision of a trial. Lower is better.

Summary of Alfalfa Cultivar Performance 2009 - 2011

Cultivar	Yielded in the Top 50% of the Trial(s)* Avg. % of Cks	No. of harvests	Total No. of harvests
6417	110	18	18
4A415	106	3	3
4S417	112	13	17
55V48	115	38	38
AMERISTAND 407TQ	112	24	31
BARALFA X42	107	3	3
CORNERSTONE	120	4	7
DG 4210	119	7	7
DKA43-13	115	12	28
EZRA	110	3	7
FSG 329	111	13	13
GENOA	109	9	9
GUARDSMAN II	111	31	34
HYBRIFORCE-2400	114	20	20
HYBRIFORCE-2420/WET	108	13	13
L 447 HD	112	18	18
LEGENDAIRY 5.0	104	7	7
LS 605	111	6	6
PGI 557	120	4	7
PHIRST EXTRA	123	4	4
PILLAR	120	7	7
PLUSS II	116	7	7
PROLIFIC II	112	13	13
REBOUND 5.0	111	18	31
REGEN	111	19	38
6305Q	114	7	7
WL343 HQ	119	13	23
WL 363HQ	112	23	32

*Cultivars sorted by total yield over all production years.

*Data from production year trials only, not from trials sown in 2011.

Cks. = Check Cultivars are Oneida VR, Pioneer 5312, Vernal.

Trial, Seeding Year	Soil series, elevation, # of harvests in 2011
Ithaca, 2008, Page 3	Erie channery silt loam, 1000 ft., 3 harvests
Chazy, 2008, Page 3	Raynham variant silt loam, 185 ft., 3 harvests
Ithaca, 2009, Page 4	Madalin silt loam, 990 ft, 3 harvests
Cobleskill, 2009 Pg.4	Barbour Tioga fine sandy loam, 1170 ft., 3 harvests
Ithaca, 2010, Page 5	Williamson silt loam, 1000 ft., 3 harvests
Perry, 2010 Page 5	Lansing gravelly silt loam, 1390 ft. 4 harvests
Ithaca, 2011, Page 4	Erie channery silt loam, 1000 ft., 3 harvests
Chazy, 2011, Page 4	Raynham variant silt loam, 185 ft., 3 harvests

Many Thanks to our Cooperators:

Tim Dodge	Cornell University Farm Manager
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Dr. Mike Davis	Cornell Univ. Farm Manager at Chazy
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Dr. Rick Grant	Miner Institute at Chazy, NY, President
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Ken Wise	Area IPM Educator
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Tom Poltynski	SUNY Cobleskill, Farm Coordinator
Tim Pajda	SUNY Cobleskill, Farm Manager
Joan Petzen	Wyoming County Cooperative Extension
Andy Flint	Dairy Producer in Wyoming Co.
Brian True	Dairy Producer in Wyoming Co.

Ithaca, Tompkins County, Sown May 4, 2008

Cultivars	2011 Total	3-Yr Total Season	3-Yr % of Cks.
	- tons per acre dry matter -		
REGEN	4.05	14.20	116
GUARDSMAN II	3.86	13.71	112
55V48	3.68	13.59	111
AMERISTAND 407TQ	3.83	13.56	111
L 447 HD	3.66	13.39	110
GENOA	3.66	13.39	109
6417	3.64	13.22	108
REBOUND 5.0	3.73	13.17	108
WL 363HQ	3.61	13.15	108
DKA43-13	3.56	12.92	106
ESCALADE	3.45	12.92	106
MARVEL	3.64	12.91	106
SEEDWAY 9558	3.42	12.83	105
5312 (check)	3.62	12.72	104
L 333 HD	3.55	12.71	104
ONEIDA VR (check)	3.45	12.32	101
VERNAL (check)	3.07	11.63	95
			Ck. Mean
Trial Mean (T/A)	3.70	13.32	12.23
5% LSD	0.28	0.76	
CV(%)	6.0	4.5	

Chazy, Clinton County, Sown May 9, 2008

Cultivars	2011 Total	3-Yr Total Season	3-Yr % of Cks.
	- tons per acre dry matter -		
55V48	5.56	17.80	119
DKA43-13	5.50	17.77	119
WL 343HQ	5.41	17.55	117
REBOUND 5.0	5.35	17.10	114
L 447 HD	5.20	17.10	114
6417	4.93	16.65	111
AMERISTAND 407TQ	4.92	16.60	111
GUARDSMAN II	5.08	16.60	111
WL 363HQ	5.17	16.49	110
REGEN	4.89	16.14	108
ONEIDA VR (check)	4.93	15.87	106
L 333 HD	4.85	15.81	106
SEEDWAY 9558	4.76	15.47	103
5312 (check)	4.75	15.13	101
VERNAL (check)	4.48	13.92	93
			Ck. Mean
Trial Mean (T/A)	4.93	16.04	14.97
5% LSD	0.60	1.60	
CV(%)	8.6	7.0	

Alfalfa Entered as Experimental in 2008

Cultivar/ Experimental	Trial Location	Avg. Yield % of Ck. Mean	Ck Mean (T/A)
PERSIST II*	Ithaca, Chazy	121, 119	12.23, 14.97
4030*	Ithaca	120	12.23
HYBRIFORCE-2400*	Ithaca	119	12.23
PROLIFIC II*	Ithaca	117	12.23
4S417*	Ithaca	116	12.23
HYBRIFORCE-2420/WET*	Ithaca	115	12.23
4A415*	Ithaca	114	12.23
EZRA*	Ithaca, Chazy	113, 109	12.23, 14.97
MILESTONE II*	Ithaca	112	12.23
N-R-GEE*	Ithaca, Chazy	110, 105	12.23, 14.97
A 4330*	Ithaca	108	12.23
A 4440*	Ithaca	103	12.23

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ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

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Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2011 Forage Yields

Ithaca, Tompkins County, Sown May 7, 2009			
		2-Yr	
Cultivars	2011 Total	Total Season	% of Cks.
	- tons per acre dry matter -		
HYBRIFORCE-2400	6.11	12.97	116
4S417	6.03	12.94	116
PROLIFIC II	5.88	12.87	115
55V48	6.16	12.70	114
AMERISTAND 407TQ	6.08	12.62	113
HYBRIFORCE-2420/WET	5.84	12.55	112
GUARDSMAN II	5.82	12.53	112
FSG 329	5.80	12.48	112
LS 605	5.76	12.43	111
REGEN	5.71	12.28	110
6422Q	5.73	12.06	108
5312 (check)	5.47	11.99	107
REBOUND 5.0	5.54	11.83	106
AMERISTAND 403T PLUS	5.52	11.79	106
FSG 408DP	5.45	11.77	105
L333 HD	5.32	11.65	104
ONEIDA VR (check)	5.15	11.17	100
VERNAL (check)	4.46	10.36	93
			Ck. Mean
Trial Mean (T/A)	5.72	12.23	11.17
5% LSD	0.27	0.52	
CV(%)	3.8	3.4	
Alfalfa Entered as Experimental in 2009			
MAGNUM 7*	6.19	13.41	120
SONIC*	6.17	13.26	119
RENEW*	6.12	13.04	117
KF401B*	6.12	12.86	115
TJA 904*	6.01	12.83	115
DS911-M*	6.03	12.82	115
TJA 903*	5.94	12.74	114
TJA 901*	5.89	12.71	114
TJA 902*	6.02	12.65	113
NSF-7011ML*	5.94	12.61	113
EZRA*	5.59	12.12	109
55V12*	5.67	12.07	108
54Q32*	5.69	12.04	108
N-R-GEE*	5.63	11.85	106

Cobleskill, Schoharie County, Sown July 30, 2009			
		2-Yr	
Cultivars	2011 Total	Total Season	% of Cks.
	- tons per acre dry matter -		
FSG 329	6.10	14.97	110
REGEN	6.06	14.74	108
HYBRIFORCE-2400	6.08	14.71	108
4S417	6.03	14.68	108
GUARDSMAN II	5.97	14.64	108
PROLIFIC II	6.07	14.63	108
55V48	6.26	14.24	105
WL 363HQ	6.11	14.22	105
LEGENDAIRY 5.0	6.19	14.21	104
HYBRIFORCE-2420/WET	5.75	14.15	104
5312 (check)	5.89	14.05	103
FSG 408DP	5.84	14.00	103
ONEIDA VR (check)	5.77	13.99	103
REBOUND 5.0	5.94	13.93	102
6422Q	6.19	13.89	102
AMERISTAND 407TQ	5.88	13.60	100
POUNCE	5.45	13.59	100
DKA43-13	5.95	13.50	99
AMERISTAND 403T PLUS	5.73	13.50	99
WL 343HQ	5.81	13.25	97
FSG 420 LH	5.57	12.97	95
VERNAL (check)	5.18	12.75	94
			Ck. Mean
Trial Mean (T/A)	5.91	14.01	13.60
5% LSD	0.31	0.58	
CV (%)	4.5	3.6	
Alfalfa Entered as Experimental in 2009			
MSSUNSTRA-901*	6.52	15.79	116
MSSUNSTRA-903*	6.36	15.27	112
TJA 901*	6.12	14.95	110
TJA 904*	6.10	14.89	109
TJA 902*	6.04	14.82	109
EZRA*	6.05	14.73	108
TJA 903*	6.06	14.50	107
54Q32*	5.99	14.03	103
55V12*	6.32	13.98	103
N-R-GEE*	5.50	13.32	98

2011 Trials - Cultivars Planted	
Ithaca NY Trial	**Chazy NY Trial**
Archer III	Archer III
DG 4210	DG 4210
Gunner	Gunner
Rebound 6.0	Rebound 6.0
Prolific II	Prolific II
Persist II	Persist II
Phirst Extra	Phirst Extra
PGI 557	PGI 557
PGI 215	PGI 215
WL 354HQ	WL 354HQ
55V50	55V50
AmeriStand 407TQ	
ReGen	
Ezra	
N-R-GEE	
2011 Trials - Experimentals Planted	
Ithaca NY Trial	**Chazy NY Trial**
FG 45A119	FG 45A119
Seneca	Seneca
CW 0550055	CW 0550055
DSB01-T	msSunstra-B12
DSB02-T	msSunstra-803
DSB03-T	**Ithaca NY Trial**
DSB04-BR	DSB09-M
DSB05-BR	DS704-M
DSB06-BR	DSA01-T
DSB07-L	

On-Line Resources for Forage Management and Cultivar Selection:

Find this report and others at:
http://plbrgen.cals.cornell.edu/cals/pbg/programs/departmental/forage/foragetest.cfi

Forage Crop Management, Dr. Jerry Cherney:
http://www.forages.org/

2012 Cornell Guide for Integrated Field Crop Management:
to order hardcopy by phone call: 607-255-7282
to view on-line: http://ipmguidelines.org/fieldcrops/

Alfalfa Variety Comparison:
http://www.uwex.edu/ces/ag/alfalfa/index.cfm

New York State Integrated Pest Management Program
http://nysipm.cornell.edu/fieldcrops/default.asp

North American Alfalfa Improvement Conference:
http://www.naaic.org/

National Alfalfa and Forage Alliance
http://www.alfalfa.org/

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2011 Forage Yields

Ithaca, Tompkins County, Sown May , 2010	2011	
Cultivars	Total	% of Cks.
	T/A	
PILLAR	6.79	112
DKA43-13	6.74	111
DG 4210	6.67	110
EZRA	6.66	110
55V48	6.62	109
REGEN	6.57	108
PLUSS II	6.55	108
WL363 HQ	6.53	108
HYBRIFORCE-2400	6.52	108
6305Q	6.49	107
BARALFA X42	6.46	107
4A415	6.41	106
GUARDSMAN II	6.40	106
WL343 HQ	6.35	105
5312 (check)	6.31	104
PGI 557	6.20	102
53H92	6.18	102
DG 3210	6.15	102
LANCER	6.15	101
RUGGED	6.10	101
CORNERSTONE	6.08	100
WL353 LH	6.05	100
VERNAL (check)	6.01	99
ONEIDA VR (check)	5.86	97
		Ck. Mean
Trial Mean (T/A)	6.41	6.06
5% LSD	0.35	
CV (%)	4.4	
Alfalfa Entered as Experimental in 2010 (Perry)		
4030*	6.14	131
MSSUNSTRA-A10*	6.10	130
PROFUSION-HX	5.89	126
375HY/BR*	5.72	122
4010BR*	5.71	122
Alfalfa Entered as Experimental in 2010 (Ithaca)		
DSA08-M*	7.02	116
DSA01-T*	6.96	115
DSA03-T*	6.92	114
4030*	6.70	111
DSA07-BR*	6.66	110
DSA06-BR*	6.63	109
DSA05-BR*	6.62	109
DSA04-M*	6.59	109

Perry, Wyoming County, Sown April, 2010	2011	
Cultivars	Total	% of Cks.
	T/A	
55V48	6.05	129
DG 4210	5.96	127
PILLAR	5.95	127
WL363 HQ	5.87	125
PLUSS II	5.81	124
PHIRST EXTRA	5.75	123
HYBRIFORCE-2400	5.72	122
WL343 HQ	5.70	121
6305Q	5.68	121
CORNERSTONE	5.65	120
PGI 557	5.65	120
4S417	5.64	120
DG 3210	5.63	120
EZRA	5.41	115
REGEN	5.36	114
5312 (check)	5.17	110
RUGGED	5.05	108
ONEIDA VR (check)	4.75	101
VERNAL (check)	4.13	88
		Ck. Mean
Trial Mean (T/A)	5.54	4.69
5% LSD	0.24	
CV (%)	3.8	
CW 053015*	5.65	120
N-R-GEE*	5.47	117
HYBRIFORCE-2420*	5.33	114
PGI 215*	5.24	112
CW 053015*	6.47	107
RED FALCON BR*	6.45	106
DSA09-L*	6.38	105
HYBRIFORCE-2420*	6.32	104
N-R-GEE*	6.28	104
DSA02-T*	6.26	103
4010BR*	6.17	102
PGI 215*	6.12	101

2011 Alfalfa Trials to Test Insect Resistant Cultivars; Trials in Ithaca NY

Trials harvested 3 times per production year; 2009 trial on Langford channery silt loam, 2010 and 2011 trials on Williamson silt loam.
Oneida VR, 5312, and Vernal are alfalfa cultivars susceptible to potato leafhopper. These cultivars are the check cultivars in each trial.

*PLH (Potato leafhopper) Damage Score - 1=minor to no damage; 5=severe damage

Sown May 12, 2009	2011		2-Yr		3-Yr
Cultivar	Total Season	% of Cks.	Total Season	% of Cks.	Avg. PLH Damage
	T/A		T/A		
53H92	4.65	109	9.80	105	1.6
5312 (PLH susceptible)	4.57	107	9.68	104	4.0
VERNAL (PLH susceptible)	4.19	98	9.25	99	4.2
POUNCE	4.04	94	9.16	99	3.4
ONEIDA VR (PLH susceptible)	4.08	95	8.97	96	4.7
6475H	4.35	102	8.96	96	1.0
FSG 420 LH	4.28	100	8.91	96	1.2
		Ck. Mean		Ck. Mean	
Trial Mean (T/A)	4.33	4.28	9.49	9.3	
5% LSD	0.30		0.58		
CV(%)	5.9		5.3		

PLH populations were at severe levels in 2011.

Sown May 11,2011	2011		
Cultivar	Total Season	% of Cks.	PLH Damage
	T/A		
55H94	0.75	164	2.8
5312 (PLH susceptible)	0.52	113	4.8
WL 353LH	0.48	105	4.6
VERNAL (PLH susceptible)	0.44	97	4.8
ONEIDA VR (PLH susceptible)	0.41	90	4.8
		Ck.Mean	
Trial Mean (T/A)	0.58	0.46	3.9
5% LSD	0.12		0.4
CV(%)	15.7		7.4

Sown May 4, 2010	2011 - No Insecticide		
Cultivar	Total Season	% of Checks	2011 PLH Damage
	T/A		
53H92	7.06	103	1.0
5312 (PLH susceptible)	7.04	102	2.8
LANCER	6.96	101	1.8
VERNAL (PLH susceptible)	6.94	101	3.2
WL353 LH	6.64	97	1.3
ONEIDA VR (PLH susceptible)	6.64	97	3.3
6475H	6.53	95	1.0
		Ck. Mean	
Trial Mean (T/A)	6.81	6.87	
5% LSD	0.44		
CV(%)	5.5		
Harvests Dates in 2011 were: 6/15, 7/20, 9/19.			

Sown May 4, 2010	2011 + Insecticide	
Cultivar	Total Season	% of Checks
	T/A	
53H92	6.18	102
5312 (PLH susceptible)	6.31	104
LANCER	6.15	101
VERNAL (PLH susceptible)	6.01	99
WL353 LH	6.05	100
ONEIDA VR (PLH susceptible)	5.86	97
		Ck. Mean
Trial Mean (T/A)	6.41	6.06
5% LSD	0.35	
CV(%)	4.4	
Harvests Dates in 2011 were: 6/10, 7/15, 8/26.		

^2008 trial data were not reportable due to excessive soil variability.

Table 2: 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**
AMERISTAND 403T PLUS	America's Alfalfa	4	HR	HR	HR	HR	HR	1-800-873-2532	http://www.americasalfalfa.com/
AMERISTAND 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR		
ARCHER III	America's Alfalfa	5	HR	HR	HR	HR	HR		
RADIANCE HD	AMPAC Seed Company	4	HR	R	HR	HR	HR	1-800-547-3230	www.ampacseed.com
BARALFA X42	Barenbrug USA	4	HR	HR	HR	HR	HR	1-800-547-4101	www.barusa.com
RED FALCON BR	Blue River Hybrids	4	HR	HR	HR	HR	HR	1-800-370-7979	www.blueriverorgseed.com/
KF401B	Byron Seed	4	HR	HR	HR	HR	HR	1-765-569-3555	
CORNERSTONE	Chemgro Seeds	4	HR	HR	HR	HR	HR	1-800-346-4769	www.chemgro.com
MILESTONE II	Chemgro Seeds	3	HR	HR	HR	HR	HR		
GUNNER	CROPLAN GENETICS	5	HR	HR	HR	HR	HR	1-651-765-5710	www.croplangenetics.com
LEGENDAIRY 5.0	CROPLAN GENETICS	3	HR	HR	HR	HR	HR		
REBOUND 5.0	CROPLAN GENETICS	4	HR	HR	HR	HR	HR		
REBOUND 6.0	CROPLAN GENETICS	4	HR	HR	HR	HR	HR		
HYBRIFORCE-2400	Dairyland Seed Co.	4	HR	HR	HR	HR	HR	1-800-236-0163	http://www.dairylandseed.com
HYBRIFORCE-2420/WET	Dairyland Seed Co.	4	HR	HR	HR	HR	HR		
MAGNUM 7	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
PERSIST II	Doebler's	4	HR	HR	HR	HR	HR		
PILLAR	Doebler's	4	HR	HR	HR	HR	HR		
PHIRST EXTRA	Doebler's	4	HR	HR	HR	HR	HR		
PLUSS II	Doebler's	4	HR	HR	HR	HR	HR		
PROLIFIC II	Doebler's	4	HR	HR	HR	HR	HR		
ESCALADE	GROWMARK FS	5	HR	R	R	R	HR	1-800-338-4769	www.fsseed.com
LANCER	GROWMARK FS	4	HR	HR	HR	HR	HR		
MARVEL	GROWMARK FS	4	HR	HR	HR	HR	HR		
6417	Garst Seed Co.	4	HR	HR	HR	HR	HR	1-888-464-2778	www.garstseed.com
PROFUSION-HX	King's AgriSeeds	4	HR	HR	HR	HR	HR	1-717-687-6224	http://www.kingsagriseeds.com/
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		
DKA43-13	Monsanto	4	HR	HR	HR	HR	HR	1-800-335-2676	www.monsanto.com
4A415	Mycogen Seeds	4	HR	HR	HR	HR	HR	1-800-MYCOGEN	www.dowagro.com/mycogen
4S417	Mycogen Seeds	4	HR	HR	HR	HR	HR		
NSF-7011ML	NuSource Forage	4	HR	HR	HR	HR	HR	1-800-545-8873	www.twincityseed.com
SONIC	NuTech Seed	4	HR	HR	HR	HR	HR	1-800-942-6748	www.nutechseed.com
GENOA	Snygenta	4	HR	HR	HR	HR	HR	1-800-445-0956	www.nk-us.com
6305Q	Snygenta	3	HR	HR	HR	HR	HR		
6422Q	Syngenta	4	HR	HR	HR	HR	HR		
6475H	Syngenta	4	HR	HR	HR	HR	HR		
NSF-7011ML	Twin Cities Seed Company	4	HR	HR	HR	HR	HR	1-800-545-8873	www.twincityseed.com
53H92	Pioneer Hi-Bred	3	HR	HR	HR	HR	HR	1-800-247-6803	www.pioneer.com
55H94	Pioneer Hi-Bred	5	HR	HR	HR	HR	HR		
54Q32	Pioneer Hi-Bred	4	HR	HR	HR	HR	HR		
55V12	Pioneer Hi-Bred	5	R	HR	HR	HR	HR		
55V48	Pioneer Hi-Bred	5	HR	R	HR	HR	HR		
55V50	Pioneer Hi-Bred	5	HR	HR	R	HR	HR		
4030	Preferred Seed Co.	4	HR	HR	HR	HR	HR	1-716-895-7333	www.preferredseed.com
A4330	Producer's Choice	4	HR	HR	HR	HR	HR	1-877-560-5181	www.producerschoiceseed.com
A4440	Producer's Choice	4	HR	HR	HR	HR	HR		
PGI 215	Producer's Choice	2	HR	HR	HR	HR	HR		
PGI 557	Producer's Choice	5	HR	HR	HR	HR	HR		
RUGGED	Producer's Choice	3	HR	HR	HR	HR	HR		
EZRA	Seedway/FSG	3	R	R	HR	HR	R	1-800-836-3710	www.seedway.com
GUARDSMAN II	Seedway/FSG	4	HR	HR	HR	HR	HR		
N-R-GEE	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 329	Seedway/FSG	3	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		
DG3210	Crop Production Services	3	HR	HR	HR	HR	HR	1-585-586-1330	www.cropproductionservices.com
DG4210	Crop Production Services	4	HR	HR	HR	HR	HR		
WL 343HQ	Crop Production Services, HYTEST, AgriCulver	4	HR	HR	HR	HR	HR		
WL 353LH	W-L Research	4	HR	HR	HR	HR	HR	1-717-917-1609	www.wlresearch.com
WL 354HQ	W-L Research	4	HR	HR	HR	HR	HR		
WL 363HQ	Crop Production Services, 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-Anthracnose, Prr-Phytophthora root rot

RED CLOVER AND BIRDSFOOT TREFOIL CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

Table 3: Red Clover and Birdsfoot Trefoil Cultivar Yield Trials- 2011 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 7, 2008		2011		2010		2009		3-Yr.	
Red Clover		Total	% of	Total	% of	Total	% of		% of
Cultivar/Experimental	Marketing Company	Season	Cks.	Season	Cks.	Season	Cks.	Total	Cks.
		T/A		T/A		T/A		T/A	
Emerald	Cal/West Seeds	1.61	175	3.62	129	7.09	108	12.32	120
FP 345	Allied Seed, L.L.C.	1.36	148	3.65	129	6.99	107	12.00	117
CW202	Cal/West Seeds	1.46	159	3.59	127	6.86	105	11.91	116
RC0006 (expt)	Allied Seed, L.L.C.	1.18	128	3.25	115	6.81	104	11.24	109
Marathon (check)	WI Check	1.08	118	2.99	106	6.60	101	10.67	104
Arlington (check)	WI Check	0.76	83	2.65	94	6.49	99	9.90	96
			Ck. Mean		Ck. Mean		Ck. Mean		Ck. Mean
5% LSD		0.28	0.92	0.42	2.82	0.58	6.54	1.27	10.29

Sown May 12, 2009		2011			2010		2-Yr.	
Red Clover		Total	% of	% Stand	Total	% of		% of
Cultivar/Experimental	Marketing Company	Season	Cks.	22-Jul	Season	Cks.	Total	Cks.
		T/A			T/A		T/A	
LS 9703	Lewis Seed	3.08	141	55	6.17	103	9.25	113
StarFire II	AgriCulver/ AMPAC Seed	2.94	134	55	6.12	102	9.06	111
C328	WI experimental	2.39	109	52	6.18	103	8.56	105
Marathon	WI check	2.13	97	30	6.25	104	8.38	102
Arlington	WI check	2.24	102	23	5.76	96	8.00	98
			Ck. Mean			Ck. Mean		Ck. Mean
5% LSD		0.39	2.19	14	0.41	6.01	0.67	8.19

Sown May 11, 2010		2011		
Red Clover		Total	% of	% Stand
Cultivar/Experimental	Marketing Company	Season	Cks.	24-Oct
		T/A		
CW 30091	Cal/West Seeds	4.79	111	81
Arlington	WI check	4.32	100	67
Cinnamon Plus	Allied Seed, L.L.C.	4.32	100	78
Marathon	WI check	4.31	100	75
Freedom!MR	Barenbrug USA	4.19	97	79
			Ck. Mean	
5% LSD		0.25	4.32	6

Sown May 13, 2011		
Red Clover		
Cultivar/Experimental	Marketing Company	
RC0005	Seedway	
Cinnamon Plus	Allied Seed, L.L.C.	**^^^^Production Year Data Available in 2012^^^^**
Freedom!MR	Barenbrug USA	

Sown May 12, 2009		2011			2010		2-Yr.	
Birdsfoot Trefoil		Total	% of	% Stand	Total	% of		% of
Cultivar/Experimental	Marketing Company	Season	Norcen	24-Oct	Season	Norcen	Total	Norcen
		T/A			T/A		T/A	
Pardee	Seedway/FSG/GROWMARK FS	4.37	118	50	4.55	143	8.92	129
Bruce	Semican	4.25	114	48	4.55	143	8.80	128
AC Langile	Public Check	4.17	112	38	3.81	120	7.98	116
WITT	Public Check	3.84	103	42	3.91	123	7.74	112
Norcen	Public Check	3.72	100	40	3.17	100	6.89	100
LSD(.05)		0.19		14	0.31		0.45	

Sown May 11, 2011		
Birdsfoot Trefoil		
Cultivar/Experimental	Marketing Company	
Bruce	Semican	
Pardee	Seedway/FSG/GROWMARK FS	**^^^^Production Year Data Available in 2012^^^^**
Norcen	Public Check	

Marketing Company*	Phone	Web address
AgriCulver	1-800-836-3701	
Allied Seed, L.L.C.	1-208-250-6321	www.alliedseed.com
AMPAC Seed	1-541-928-1651	www.ampacseed.com
Cal/West	1-800-297-3332	www.calwestseeds.com
Dairyland Seed Company	1-800-236-0163	www.dairylandseed.com
Grassland Oregon	1-503-566-9900	
Growmark FS	1-800-338-4769	www.fsseed.com
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

RED CLOVER AND BIRDSFOOT TREFOIL CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

Table 4: 2011 Perennial Forage Grass Yield Summary — **Ithaca, Tompkins Co., Sown 2008, 2009, 2010**

T/A = tons per acre dry matter — **Marketing contacts listed on page 9**

5%LSD = claim statistically significant yield differences between two varieties, the yield difference must be equal to or greater than the LSD.

Heading date is date when 5 heads in a 3.5 x 16 foot plot were visible. Trials were harvested four times per year, unless otherwise noted.

Soils: 2008 and 2009 plantings Williamson silt loam, 2010 Erie-Ellery channery silt loam.

		2011			2010				2009			
	Marketer	Total Season	Nov. % Stand	Heading Date	Total Season	Nov. % Stand	Heading Date		Total Season	Oct. % Stand	Heading Date	3 or 2-Yr. Total
		T/A			T/A				T/A			T/A
Timothy	**Sown August 7, 2009**											
Richmond	check	5.19	75	27-May	7.01	80	24-May					12.20
Climax	check	4.82	79	2-Jun	5.93	80	1-Jun					10.75
Tuukka	AMPAC	4.66	74	7-Jun	5.98	83	3-Jun					10.64
	LSD(.05)	0.36	6		0.47	5						
Timothy	**Sown May 11, 2010**											
Richmond	check	6.37	81	27-May								
Climax	check	5.53	74	2-Jun								
Dainiai	Allied Seed, L.L.C.	4.53	65	7-Jun								
	LSD(.05)	0.29	5									
								Leaf Tip Disease				
Orchardgrass	**Sown August 7, 2009**							1=min., 3=max.				
IS-OG 52	DLF International Seeds	6.17	69	17-May	9.09	76	10-May	1.6				15.26
Potomac	check	5.79	73	13-May	8.78	80	4-May	2.1				14.57
Profit-coated	AMPAC	5.80	71	17-May	8.55	74	10-May	1.6				14.35
RAD-LCF21	Lewis Seed	5.55	59	20-May	7.56	76	19-May	1.0				13.12
Profit	AMPAC	5.46	70	17-May	7.62	76	10-May	1.4				13.08
Tekapo-coated	AMPAC	5.01	73	17-May	7.94	81	6-May	1.0				12.95
Tekapo	AMPAC	4.72	68	17-May	7.12	80	6-May	1.3				11.85
Dividend VL	Allied Seed, L.L.C.	5.31	79	24-May	6.50	81	21-May	2.8				11.81
AMP-1MB	AMPAC	4.06	50	17-May	6.17	74	6-May	2.6				10.24
	LSD(.05)	0.52	5		0.75	5		0.5				
Orchardgrass	**Sown May 11, 2010**											
Dg12R01	Barenbrug	7.10	80	20-May								
Anksta	Allied Seed, L.L.C.	6.90	81	13-May								
Dg83R01	Barenbrug	6.90	76	27-May								
IS-OG 53	DLF Trifolium	6.76	78	20-May								
Persist	Smith Seeds	6.59	81	17-May								
Potomac	check	6.57	74	17-May								
	LSD(.05)	0.45	9									
Tall Fescue	**Sown April 25, 2008**											
KY 31-	check	5.67	69	20-May	7.86	71	19-May		8.28	80	24-May	21.80
KY 31+	check	5.62	69	24-May	7.61	71	21-May		8.18	83	21-May	21.41
BAR FA BE9301A	Barenbrug USA	5.33	61	24-May	7.47	63	21-May		7.67	70	21-May	20.46
Bariane	Barenbrug USA	5.17	65	27-May	6.78	69	23-May		7.30	80	27-May	19.25
	LSD(.05)	0.19	4		0.46	6			0.42	4		
Tall Fescue	**Sown May 6, 2009**											
Goliath	AMPAC	7.32	76	22-May	7.32	79	17-May					14.64
Goliath-coated	AMPAC	7.02	79	20-May	7.23	79	17-May					14.25
IS-FTF 48	DLF International Seeds	7.32	73	24-May	7.00	71	21-May					14.33
KY 31 E-	check	7.04	75	22-May	7.19	78	19-May					14.23
KY 31 E+	check	6.78	74	24-May	6.99	75	21-May					13.77
Bronson	AMPAC	6.86	76	20-May	6.89	79	17-May					13.75
Pradel (Meadow Fes.)	check	5.27	65	22-May	5.63	73	19-May					10.90
AMP-1MF (Meadow Fes.)	AMPAC	5.02	68	20-May	5.39	73	19-May					10.41
	LSD(.05)	0.53	4		0.64	4						
Tall Fescue	**Sown May 11, 2010**											
KY 31 E-	check	7.66	81	24-May								
KY 31 E+	check	7.52	78	20-May								
Cajun II	Smith Seeds	7.28	81	24-May								
BarElite	Barenbrug	7.13	75	24-May								
	LSD(.05)	0.27	5									

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

Table 4 (con't): 2011 Perennial Forage Grass Yield Summary — **Ithaca, Tompkins Co., Sown 2008, 2009, 2010**

T/A = tons per acre dry matter — Marketing contacts listed below

5%LSD = claim statistically significant yield differences between two varieties, the yield difference must be equal to or greater than the LSD.

Heading date is date when 5 heads in a 3.5 x 16 foot plot were visible. — Trials were harvested four times per year, unless otherwise noted.

Soils: 2008 and 2009 plantings Williamson silt loam, 2010 Erie-Ellery channery silt loam.

		2011			2010				2009			
	Marketer	Total Season	Oct. % Stand	Heading Date	Total Season	Oct. % Stand	Heading Date		Total Season	Oct. % Stand	Heading Date	3 or 2-Yr. Total
		T/A			T/A				T/A			T/A
Bromegrass	**Sown April 25, 2008**											
Peak	Seedway/FSG/Growmark FS	4.65	74	20-May	5.47	79	19-May		5.87	80	16-May	15.99
York	AMPAC	4.85	69	20-May	5.01	78	19-May		5.93	74	18-May	15.79
GRL	Barenbrug USA	4.21	75	20-May	4.58	79	19-May		5.88	76	18-May	14.67
	LSD(.05)	0.40	5		0.59	8			0.50	8		
Bromegrass	**Sown May 11, 2010**											
Hakari	Barenbrug	6.76	81	2-Jun								
Peak	Seedway/FSG/Growmark FS	6.67	84	20-May								
BAR BiF1GRL	Barenbrug	6.62	84	20-May								
BAR BcF1FRRL	Barenbrug	6.14	81	13-May								
AC Knowles	Barenbrug	5.61	74	17-May								
	LSD(.05)	0.55	8									
								Rust Oct.				
Perennial Ryegrass	**Sown April 25, 2008**							1=min., 3=max.				
Lato (Kentucky bluegrass)	Seedway/FSG	4.31	76	17-May	5.24	76	6-May	2.0	6.52	79	11-May	16.08
Barderby (Kentucky bluegr.)	Barenbrug USA	4.56	85	12-May	5.79	85	6-May	2.8	5.73	85	7-May	16.07
Troy (Kentucky bluegrass)	check	4.34	83	12-May	5.48	83	4-May	2.8	5.98	83	7-May	15.80
KenBlue (Kentucky bluegr.)	check	4.24	84	12-May	5.24	85	4-May	3.0	5.50	85	7-May	14.98
Cancan	DLF International Seeds	4.13	60	7-Jun	4.67	60	3-Jun	1.6	5.59	80	12-Jun	14.38
PSG 47 MOL	PICKSEED	4.00	59	27-May	4.61	69	23-May	1.4	5.73	80	24-May	14.35
Calibra	check	3.78	59	27-May	4.42	66	24-May	1.5	5.85	80	24-May	14.04
Foxtrot	DLF International Seeds	4.04	61	7-Jun	4.61	69	3-Jun	1.6	5.03	81	2-Jun	13.68
Pastour	DLF International Seeds	3.80	58	2-Jun	4.73	68	1-Jun	1.4	4.95	81	2-Jun	13.47
PSG AM 108	PICKSEED	3.48	63	24-May	4.63	69	21-May	1.5	5.11	79	24-May	13.22
Linn	check	3.40	68	20-May	4.48	76	16-May	1.9	4.96	84	18-May	12.85
PSG 06 B Lh	PICKSEED	3.99	51	27-May	4.56	68	23-May	1.0	4.13	80	24-May	12.68
	LSD(.05)	0.43	6		0.49	5		0.4	0.61	5		
Tetraploid perennial ryegrass	PSG 06 B Lh, PSG 47 MOL, PSG AM 108, Calibra; Diploid perennial ryegrass -Cancan, Foxtrot, Pastour, Linn											
Perennial Ryegrass	**Sown May 6, 2009**											
AMP-EDR1 (festulolium)	AMPAC	5.42	59	24-May	7.13	69	19-May					12.54
AMP-MDR2	AMPAC	5.24	69	27-May	6.78	70	21-May					12.02
Spring Green (festulolium)	check	5.08	66	27-May	6.77	74	17-May					11.85
Duo (festulolium)	AMPAC	5.04	66	24-May	5.99	69	19-May					11.03
Power	AMPAC	4.52	61	27-May	6.29	73	21-May					10.81
Calibra	check	4.48	68	27-May	5.99	73	24-May					10.47
Tonga	AMPAC	4.48	60	22-May	5.95	73	17-May					10.43
Impressario	DLF International Seeds	4.44	63	24-May	5.82	73	19-May					10.27
Linn	check	4.22	70	19-May	5.68	81	17-May					9.90
Orantas	DLF International Seeds	4.04	71	27-May	5.11	78	23-May					9.16
	LSD(.05)	0.36	6		0.43	5						
Tetraploid perennial ryegrass	Power, Impresario, Tonga, AMP MDR2, Calibra; Diploid perennial ryegrass -Orantas, Linn											
Perennial Ryegrass	**Sown May 11, 2010**											
Kentaur	DLF Trifolium	6.04	70	31-May								
Elena DS	Allied Seed, L.L.C.	6.00	65	27-May								
Verseka	Allied Seed, L.L.C.	5.73	68	27-May								
Calibra	check	5.60	71	27-May								
Polim	DLF Trifolium	5.01	68	2-Jun								
Linn	check	4.80	80	20-May								
	LSD(.05)	0.33	6									
Tetraploid perennial ryegrass	Kentaur, Elena DS, Verseka, Polim, Calibra; Diploid perennial ryegrass -Linn											

Marketing Company	**Marketing Co. Phone Number**	**Web or E-mail Address**
AgriCulver	1-800-836-3701	
Allied Seed, L.L.C.	1-208-250-6321	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
DLF International Seeds	1-541-369-2251	www.dlfis.com
Grassland Oregon	1-503-566-9900	
Growmark FS	1-800-338-4769	www.fsseed.com
Land O' Lakes	1-800-328-9680	www.landolakesinc.com
Lewis Seed Co.	1-541-491-3700	www.lewisseed.com/
Pennington Seed	1-800-285-SEED	www.penningtonseed.com
PICKSEED	1-705-878-9240	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
Smith Seeds		www.smithseed.com/contact.shtml

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2011

CORRECTED NDFD 1-18-2012

Perennial Forage Grass Varieties - 2010 Forage Quality, Maturity and Yield at Spring Growth Boot Stage (See Table 5 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 2011 will be analyzed and reported on in 2012.

Table 5: Spring Forage Quality Data for Grass Varieties

Trial Sown 2008
Boot Stage in 2010

	Date at Boot Stage	% NDF	% NDFD
Perennial Ryegrass and Kentucky Bluegrass			
KenBlue(Kentucky bluegr.)	4-May	52	75
Troy(Kentucky bluegr.)	4-May	53	73
Lato(Kentucky bluegr.)	6-May	49	76
Barderby(Kentucky bluegr.)	6-May	56	69
Linn	16-May	41	75
PSG AM 108	21-May	35	79
PSG 06 B Lh	23-May	45	71
PSG 47 MOL	23-May	44	75
Calibra	24-May	40	78
Pastour	1-Jun	51	73
Cancan	3-Jun	52	74
Foxtrot	3-Jun	53	74
Tall Fescue			
KY 31-	19-May	47	74
KY 31+	21-May	50	73
BAR FA BE9301A	21-May	50	71
Bariane	23-May	53	72
Bromegrass			
GRL	19-May	61	73
York	19-May	58	78
Peak	19-May	57	75

Trial Sown 2009
Boot Stage in 2010

	Date at Boot Stage	% NDF	% NDFD
Annual Ryegrass			
Fantastic	17-May	37	75
AMP-1IR	17-May	40	75
Bruiser	17-May	38	74
Feast II	21-May	44	76
A 108	21-May	39	76
MX 108	21-May	44	73
06 B Lh	21-May	46	72
PSG 29 BF 06	21-May	47	74

Trial Sown 2009
Boot Stage in 2010

	Date at Boot Stage	% NDF	% NDFD
Perennial Ryegrass			
Tonga	17-May	36	76
Spring Green	17-May	41	79
Linn	17-May	43	73
Duo	19-May	44	77
AMP-EDR1	19-May	48	77
Impressario	19-May	41	78
AMP-MDR2	21-May	46	78
Power	21-May	44	78
Orantas	23-May	46	77
Calibra	24-May	42	77
Tall and Meadow Fescue			
Goliath-coated	17-May	51	67
Goliath	17-May	50	66
Bronson	17-May	51	67
AMP-1MF (Meadow Fes.)	19-May	53	73
KY 31 E-	19-May	53	68
Pradel (Meadow Fes.)	19-May	54	72
IS-FTF 48	21-May	55	64
KY 31 E+	21-May	53	67
Orchardgrass			
Potomac	4-May	58	76
AMP-1MB	6-May	56	78
Tekapo-coated	6-May	56	76
Tekapo	6-May	54	78
Profit	10-May	57	74
Profit-coated	10-May	57	74
IS-OG 52	10-May	58	76
RAD-LCF21	19-May	59	70
Dividend VL	21-May	53	75
Timothy			
Richmond	24-May	59	70
Climax	1-Jun	68	63
Tuukka	3-Jun	67	67

CORRECTED NDFD 1-18-2012

Perennial Forage Grass Varieties - 2010 Forage Quality, Maturity and Yield at Spring Growth at Harvest 1 (See Table 6 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 6: 2010 Spring, First Harvest Forage Quality Data for Grass Varieties

Trial Sown 2008

	First Harvest in 2010 - May 24 Yield (t/a) Harvest 1	% NDF	% NDFD	% Seed Heads at Harvest 2	2010 Aftermath Forage Yield (t/a)
Perennial Ryegrass and Kentucky Bluegrass					
KenBlue (Kentucky bluegr	2.02	60	63	1	3.22
Troy (Kentucky bluegrass)	2.23	61	63	1	3.26
Lato (Kentucky bluegrass)	2.16	57	66	1	3.08
Barderby (Kentucky blueg	1.97	64	64	1	3.82
Linn	2.17	48	73	5	2.32
PSG AM 108	1.84	42	80	33	2.80
PSG 06 B Lh	2.52	47	75	80	2.03
PSG 47 MOL	2.15	43	79	70	2.46
Calibra	1.61	40	78	55	2.81
Pastour	1.21	46	83	60	3.52
Cancan	1.07	42	83	63	3.59
Foxtrot	1.30	42	82	61	3.31
Tall Fescue					
KY 31-	2.53	51	70	1	5.32
KY 31+	2.24	51	71	1	5.37
BAR FA BE9301A	2.20	51	70	1	5.27
Bariane	2.11	49	72	1	4.67
Bromegrass	Harvest 1 on May 28th				
GRL	3.05	69	64	1	1.54
York	3.01	67	68	1	2.00
Peak	3.70	68	67	1	1.78

Trial Sown 2009

	First Harvest in 2010 - May 25 Yield (t/a) Harvest 1	% NDF	% NDFD	% Seed Heads at Harvest 2	2010 Aftermath Forage Yield (t/a)
Perennial Ryegrass					
Tonga	2.82	50	71	9	3.12
Spring Green	3.20	55	72	73	3.57
Linn	2.92	56	68	4	2.76
Duo	2.77	50	75	85	3.22
AMP-EDR1	3.27	57	70	85	3.85
Impressario	2.53	47	75	6	3.29
AMP-MDR2	3.13	50	76	73	3.65
Power	2.49	47	77	6	3.80
Orantas	1.77	49	78	8	3.34
Calibra	2.50	43	78	5	3.48
Tall and Meadow Fescue					
Goliath-coated	2.21	59	64	1	5.01
Goliath	2.07	58	64	1	5.25
Bronson	2.13	58	64	1	4.75
AMP-1MF (Meadow Fes.)	2.26	59	72	1	3.13
KY 31 E-	2.09	57	67	1	5.10
Pradel (Meadow Fes.)	2.26	57	74	1	3.37
IS-FTF 48	1.88	58	64	1	5.12
KY 31 E+	2.04	56	68	1	4.95
Orchardgrass	Harvest 1 on May 28th				
Potomac	3.67	65	67	1	5.10
AMP-1MB	3.80	67	76	1	2.38
Tekapo-coated	3.40	63	68	1	4.54
Tekapo	2.85	64	68	1	4.27
Profit	3.49	65	69	1	4.13
Profit-coated	3.94	66	69	1	4.61
IS-OG 52	4.33	67	69	1	4.76
RAD-LCF21	3.28	66	78	1	4.28
Dividend VL	3.09	56	76	1	3.41
Timothy	Harvest 1 on May 28th				
Richmond	4.22	59	70	1	2.79
Climax	3.57	59	75	1	2.36
Tuukka	3.81	56	77	1	2.17

Trial Sown 2009

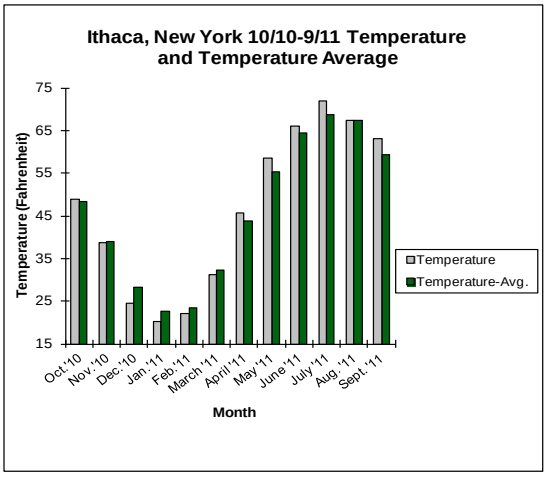
	First Harvest in 2010 - May 25 Yield (t/a) Harvest 1	% NDF	% NDFD	% Seed Heads at Harvest 2	2010 Aftermath Forage Yield (t/a)
Annual Ryegrass					
Fantastic	2.35	53	68	95	2.41
AMP-1IR	3.70	52	69	95	4.89
Bruiser	2.85	54	65	95	2.61
Feast II	2.71	48	73	95	4.59
A 108	2.80	44	77	5	2.89
MX 108	3.48	51	68	95	4.23
06 B Lh	3.85	52	71	95	4.78
PSG 29 BF 06	3.54	51	71	95	4.67

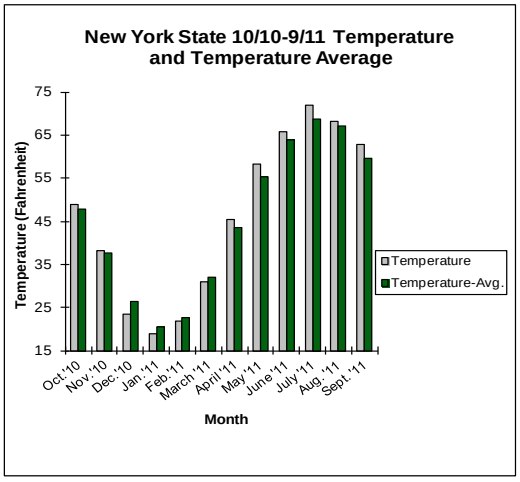
Table 7: Annual Ryegrass Trials, and Perennial Cool Season Grass Trials Sown in 2011.

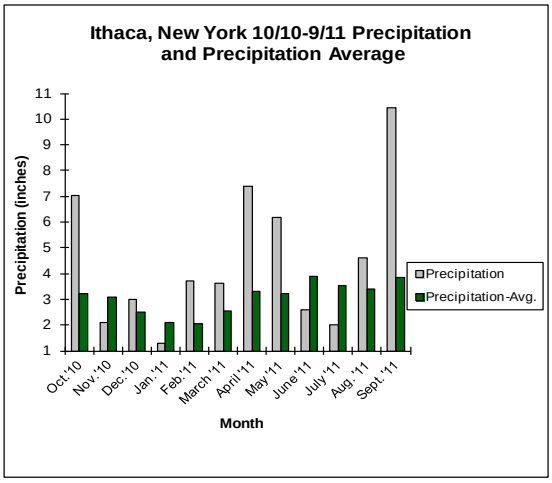
Variety	Marketing Company	2011 Total Season T/A	2011 % Stand 22-Nov	2011 Heading Date	2010 Total Season T/A	2 or 3-Yr. Total T/A
Annual Ryegrass	**Sown May 6, 2009**					
AMP-1IR	AMPAC	4.84	53	24-May	8.59	17.98
06 B Lh	PICKSEED	4.96	55	24-May	8.63	17.50
PSG 29 BF 06	PICKSEED	5.08	48	24-May	8.21	17.46
Feast II	AgriCulver / AMPAC	3.87	45	27-May	7.33	16.93
Feast II	check	3.65	43	27-May	7.30	16.44
MX 108	PICKSEED	4.41	40	27-May	7.71	15.67
Bruiser	AgriCulver / AMPAC	3.80	2	22-May	5.46	14.52
Fantastic	AgriCulver / AMPAC	3.75	2	19-May	4.75	13.62
A 108	PICKSEED	3.48	71	27-May	5.69	12.40
LSD(.05)		0.44	10		0.61	
Annual Ryegrass	**Sown May 11, 2010**					
Max	PICKSEED	6.59	70	27-May	1.99	8.58
Feast II	check	5.31	68	27-May	3.18	8.50
PS07-2 AR	PICKSEED	6.46	78	24-May	1.98	8.44
PS-Lm-09-2	PICKSEED	6.00	75	24-May	2.29	8.29
AE 110	PICKSEED	5.15	60	20-May	2.48	7.63
Ed (2n)	Smith Seeds	4.10	23	20-May	3.20	7.29
Thunder	Burlingham Seeds	4.09	43	17-May	2.76	6.85
Big Boss (4n)	Smith Seeds	3.45	18	24-May	3.20	6.65
LSD(.05)		0.43	11		0.46	
Annual Ryegrass	**Sown May 11, 2011**					
PPG-LWT104	Mountain View Seed	2.57	78			
Feast II	Check	2.34	83			
PPG-LWD101	Mountain View Seed	2.26	85			
PS-Lm-09-2	PICKSEED USA, Inc	2.07	83			
PS-AR-09-1	PICKSEED USA, Inc	2.06	88			
MX 108	Check	1.95	80			
AE 110	Check	1.87	76			
Maximo	PICKSEED USA, Inc	1.80	85			
LSD(.05)		0.46	6			

Variety	Marketing Company	2011 3-Nov T/A	Stand 22-Nov
Orchardgrass	**Sown May 11, 2011**		
IS-OG 53	DLF International Seeds	1.05	90
Extend	Seedway	0.91	90
Olympia	Pennington Seed	0.91	90
Potomac	check	0.84	90
LSD(.05)		0.13	
Tall Fescue	**Sown May 11, 2011**		
Tower 647	DLF International Seeds	1.35	90
KY 31 E-	check	1.14	90
KY 31 E+	check	1.02	90
Enhance	Seedway	0.90	91
LSD(.05)		0.14	
Bromegrass	**Sown May 11, 2011**		
Barpal 16	Barenbrug	1.21	90
Hakari	Barenbrug	0.78	91
Peak	Seedway/ FSG	0.48	83
LSD(.05)		0.16	3
Perennial Ryegrass	**Sown May 11, 2011**		
Gain	Seedway	1.27	85
Spring Green	check	0.54	90
Tivoli	DLF International Seeds	0.53	90
PPG-FPRT103	Mountain View Seed	0.52	90
PPG-LHT103	Mountain View Seed	0.50	90
Boost	Seedway	0.42	89
Linn	check	0.39	93
LSD(.05)		0.15	3
Timothy	**Sown May 11, 2011**		
Climax	check	Not	90
Richmond	check	Available	88
Crest	Seedway / FSG		93
Summit	Seedway / FSG		90
LSD(.05)			5

2011 Weather Data for Ithaca New York and for New York State







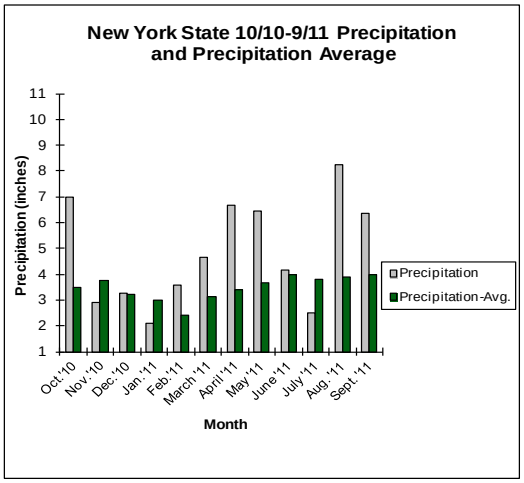


Figure 1: Ithaca, New York 10/10-9/11 temperature and precipitation. Weather data from the Northeast Regional Climate Center at Cornell U. www.nrcc.cornell.edu/page_summaries.html

Figure 2: New York State 10/10-9/11 temperature and precipitation. Weather data from the Northeast Regional Climate Center at Cornell U. www.nrcc.cornell.edu/page_summaries.html

Table 8: Index of Forage Varieties in 2011 Summary Report and Page Number where information is located.