

NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS SUMMARY FOR 2013 – SEASON TOTALS



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Introduction Forage variety total season yields from New York in the 2013 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 2013 – 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 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.

2013 New York State

Temperature Averages

Month			
	Temperature	Departure	Rank
March	30.7	-1.2	57
April	43.4	-1.1	58
May	57.1	1.8	90
June	64.3	-0.1	58
July	77.7	2.8	113
August	65.7	-1.5	36
September	58.2	-1.4	34
October	50.8	2.7	95

Precipitation Averages

Month				
	Precipitation	Departure	Pct Normal	Rank
March	1.77	-1.29	57%	14
April	3.29	-0.13	96%	65
May	3.97	0.32	108%	84
June	7.72	3.63	188%	118
July	5.01	0.97	123%	105
August	3.79	-0.08	97%	67
September	3.40	-0.59	85%	54
October	3.23	-0.72	81%	58

Rankings are for 119 years between 1895 and 2013. 1=coolest; 119=warmest or 1=driest; 119=wettest.

http://www.nrcc.cornell.edu/page_summaries.html

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Cornell University

Alfalfa yields for 2013 averaged 6.3 tons per acre dry matter (1.3 tons more than in 2012), red clover yields averaged 6.8 tons per acre dry matter (4 tons per acre more than in 2012), and perennial forage grass yields averaged 6.8 tons per acre dry matter (2 tons per acre more than in 2012).

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. The trial planted in 2010 at Perry NY was not harvested in 2013, however the second production year summary is included in this report. In 2013, a trial was planted in Western New York in Leroy. 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 normally harvested four times between May 20th and November 3rd. Bromegrass does not tolerate intensive management thus was harvested three times this growing season. Due to rain delays in 2013, some grass trials were harvested just three times instead of four. Grass yields by species for production year trials harvested 2013 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 2012 for the trials planted in 2010 and 2011 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 24 to May 29 in 2012) and two samples at heading date (May 9 to June 7 in 2012). Forage quality estimates from 2013 for trials planted in 2011 and 2012 will be available late winter.

Table 7 is a summary of grasses planted and harvested in 2013.

See [2013 Cornell Guide for Integrated Field Crop Management](http://www.fieldcrops.org/Pages/Home.aspx) 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 plot.

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2013

Table 1: NY Alfalfa Cultivar Yield Trial Results - 2013 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 2011 - 2013			
Cultivar	Yielded in the Top 50% of the Trial(s)*		
	Avg. % of Cks	No. of harvests	Total No. of harvests
4A415	107	9	9
55V48	119	18	18
55V50	111	15	15
6305Q	116	18	18
AMERISTAND 407TQ	118	6	6
ARCHER III	110	9	9
BARALFA X42	109	9	9
BRADOR	109	6	6
DG 3210	121	9	18
DG 4210	119	24	27
DKA43-13	110	9	9
EZRA	109	15	15
GUNNER	118	6	9
HYBRIFORCE-2400	108	9	18
MAGNITUDE	107	6	6
MARINER IV	116	6	6
MASKA	110	6	6
PERSIST II	107	3	9
PGI 557	115	18	27
PHIRST EXTRA	116	12	18
PILLAR	122	18	18
PLUS II	117	18	18
PROLIFIC II	111	9	9
REBOUND 6.0	118	6	9
REGEN	109	15	24
WL 343HQ	124	9	18
WL 354HQ	110	9	9
WL 363HQ	116	18	18

*Cultivars sorted by total yield over all production years.

*Data from production year trials only, not from trials sown in 2013.

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

Trial, Seeding Year	Soil series, elevation, # of harvests in 2013
Ithaca, 2010, Page 3	Williamson silt loam, 1000 ft., 3 harvests
Perry, 2010 Page 3	Lansing gravelly silt loam, 1390 ft. 0 harvests
Ithaca, 2011, Page 4	Erie channery silt loam, 1000 ft., 3 harvests
Chazy, 2012, Page 4	Raynham variant silt loam, 185 ft., 3 harvests
Ithaca, 2012, Page 5	Williamson silt loam, 1000 ft., 3 harvests
Cobleskill, 2012 Pg.4	Barbour Tioga fine sandy loam, 1170 ft., 3 harvests
Ithaca, 2013, Page 5	Erie channery silt loam, 1000 ft., 2 harvests
Leroy, 2013 Page 5	Ontario loam, Kendaia silt loam, 888 feet 1 harvest

Alfalfa Entered as Experimental in 2010 at Ithaca			
Cultivar/ Experimental	2013 Total (T/A)	3-Yr Total Season (T/A)	3 Yr % of Cks.
CRAVE*	7.39	20.78	117
STOCKPILE*	7.45	20.62	116
4030*	7.46	20.35	115
PERSIST III*	7.16	20.21	114
MARINER IV*	7.22	19.98	113
SHOCKWAVE-BR*	7.13	19.98	113
MAGNUM 7-WET*	7.04	19.85	112
CW 053015*	7.17	19.60	111
DSA04-M*	6.98	19.59	111
DSA09-L*	6.98	19.33	109
SENECA*	7.04	19.15	108
RED FALCON BR*	6.76	19.12	108
4010BR*	6.70	18.79	106
HYBRIFORCE-2420*	6.54	18.56	105
PGI 215*	6.34	18.07	102
N-R-GEE*	6.17	17.85	101
Alfalfa Entered as Experimental in 2010 (Perry)			
4030*	4.01	10.15	129
msSunstra-A10*	4.02	10.12	129

Ithaca, Tompkins County, Sown May 2010			
Cultivars	2013 Total	3-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
PILLAR	7.50	20.33	115
DG 4210	7.31	19.82	112
55V48	7.26	19.74	112
PLUS II	7.13	19.44	110
DKA43-13	7.14	19.42	110
EZRA	6.57	19.35	109
BARALFA X42	6.75	19.25	109
6305Q	6.99	19.22	109
HYBRIFORCE-2400	6.64	19.10	108
WL363HQ	6.83	19.08	108
4A415	6.71	18.89	107
REGEN	6.36	18.86	107
GUARDSMAN II	6.47	18.69	106
WL343 HQ	6.84	18.66	105
PGI 557	6.74	18.64	105
CORNERSTONE	6.65	18.47	104
DG 3210	6.52	18.44	104
5312 (check)	6.21	18.19	103
53H92	6.13	17.94	101
RUGGED	6.02	17.81	101
ONEIDA VR (check)	6.20	17.47	99
VERNAL (check)	5.74	17.43	98
WL 353LH	5.57	17.37	98
Ck. Mean			
Mean	6.68	18.90	17.70
5% LSD	0.44	0.87	
CV (%)	5.3	3.7	

Perry, Wyoming County, Sown April 2010			
Cultivars	2012 Total	2-Yr	
		Total Season	% of Cks.
No Harvests in 2013			
- tons per acre dry matter -			
PILLAR	4.17	10.12	129
DG 4210	3.96	9.92	127
55V48	3.82	9.89	126
WL 343HQ	4.04	9.73	124
WL 363HQ	3.85	9.72	124
6305Q	4.04	9.71	124
PLUS II	3.88	9.71	124
PGI 557	3.98	9.62	123
DG 3210	3.86	9.51	121
PHIRST EXTRA	3.72	9.48	121
CORNERSTONE	3.77	9.43	120
HYBRIFORCE-2400	3.62	9.33	119
4S417	3.57	9.20	117
EZRA	3.56	8.97	114
REGEN	3.43	8.79	112
5312 (check)	3.24	8.40	107
RUGGED	3.29	8.35	107
ONEIDA VR (check)	3.17	7.92	101
VERNAL (check)	3.05	7.19	92
Ck. Mean			
Mean	3.65	9.18	7.84
5% LSD	0.21	0.39	
CV (%)	5.0	3.7	

(con't) Alfalfa Entered as Experimental in 2010 (Perry)

PROFUSION-HX*	3.81	9.70	124
4010BR*	3.88	9.59	122
CW 053015*	3.90	9.54	122
375HY/BR*	3.52	9.23	118
PGI 215*	3.65	8.89	113
N-R-GEE*	3.42	8.88	113
HYBRIFORCE-2420*	3.50	8.83	113

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2013

Table 1 (cont): NY Alfalfa Cultivar Yield Trial Results - 2013 Forage Yields

Ithaca, Tompkins County, Sown May 2011				Chazy, Clinton County, Sown June 2012		
Cultivars	2013 Total	3-Yr		Cultivars	2013 Total	2013 % of Cks.
		Total	Season			
- tons per acre dry matter -				- tons per acre dry matter -		
AMERISTAND 407TQ	6.58	11.75	118	PHIRST EXTRA	5.94	112
DG 4210	6.73	11.75	118	55V50	5.73	108
55V50	6.57	11.72	118	PROLIFIC II	5.72	107
GUNNER	6.63	11.72	118	PERSIST II	5.71	107
REBOUND 6.0	6.77	11.68	118	PGI 557	5.69	107
WL 354HQ	6.60	11.54	116	ARCHER III	5.64	106
PROLIFIC II	6.22	11.38	115	WL 354HQ	5.54	104
PGI 557	6.49	11.36	115	DG 4210	5.52	104
ARCHER III	6.49	11.26	114	GUNNER	5.41	102
EZRA	6.18	11.24	113	PGI 215	5.41	102
PGI 215	6.11	11.17	113	REBOUND 6.0	5.39	101
PHIRST EXTRA	5.96	11.10	112	ONEIDA VR (check)	5.37	101
PERSIST II	5.90	10.94	110	5312 (check)	5.34	100
N-R-GEE	5.99	10.42	105	VERNAL (check)	5.24	99
5312 (check)	5.54	10.28	104			Ck. Mean
ONEIDA VR (check)	5.45	10.01	101	Mean	5.52	5.32
VERNAL (check)	4.63	9.47	95	5% LSD	0.4	
			Ck. Mean	CV (%)	5.7	
Mean	6.33	11.4	9.92			
5% LSD	0.34	0.65				
CV (%)	4.3	4.6				
Alfalfa Entered as Experimental in Ithaca 2011				Cobleskill, Schoharie County, Sown June 2012		
DSB09-M*	7.14	12.66	128		2013 Total	2013 % of Cks.
DSB03-T*	6.92	12.59	127	- tons per acre dry matter -		
MAGNUM 7-WET*	6.80	12.58	127	MARINER IV	7.00	116
DSB01-T*	6.78	12.57	127	REGEN	6.66	110
BOBWHITE 2ML*	7.15	12.54	126	MASKA	6.66	110
SENECA*	6.85	12.51	126	55V50	6.65	110
SECURE-BR*	6.97	12.50	126	BRADOR	6.57	109
STOCKPILE*	7.08	12.41	125	EZRA	6.54	108
DSB07-L*	6.73	12.35	125	MAGNITUDE	6.49	107
DSB02-T*	6.82	12.27	124	5312 (check)	6.39	106
FG 45A119*	6.65	11.87	120	GEMSTONE	6.27	104
DSB04-BR*	6.26	11.53	116	ONEIDA VR (check)	6.19	102
Seedway 9558 SBR*	6.16	11.33	114	N-R-GEE	6.08	100
5010*	6.33	10.92	110	55H94	6.04	100
				VERNAL (check)	5.57	92
Alfalfa Entered as Experimental in Chazy 2012						Ck. Mean
msSunstra-B12*	6.46	121		Mean	6.55	6.05
HYBRIFORCE 3400*	6.28	118		5% LSD	0.34	
SENECA*	6.26	118		CV (%)	4.1	
Seedway 9558 SBR*	5.40	101				
5010*	5.34	100				
FG 45A119*	5.20	98				
Alfalfa Entered as Experimental in Cobleskill 2012				Alfalfa Entered as Experimental in Cobleskill 2012		
msSunstra-C15*	7.48	124		msSunstra-C12*	7.01	116
HYBRIFORCE 3400*	7.39	122		msSunstra-C10*	6.99	115
msSunstra-C14*	7.38	122		msSunstra-C11*	6.66	110
msSunstra-C13*	7.26	120		Seedway 9558 SBR*	6.21	103
PERSIST III*	7.26	120		PGI 529*	6.14	102
CRAVE*	7.07	117		FG 48A177*	5.94	98

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2013

Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2013 Forage Yields

Ithaca, Tompkins County, Sown May 2012		
Cultivars	2013 Total	2013 % of Cks.
- tons per acre dry matter -		
55V50	6.78	119
MARINER IV	6.50	114
REGEN	6.43	113
EZRA	6.24	110
LEGACY 449APH2	6.24	110
MASKA	6.23	109
MAGNITUDE	6.17	108
GEMSTONE	6.09	107
BRADOR	5.93	104
N-R-GEE	5.91	104
55H94	5.81	102
5312 (check)	5.72	100
ONEIDA VR (check)	5.71	100
VERNAL (check)	5.65	99
Mean	6.29	Ck. Mean 5.69
5% LSD	0.26	
CV (%)	3.2	

Alfalfa Entered as Experimental in Ithaca 2012

DSC02-T*	7.01	123
DSC01-T*	6.88	121
PERSIST III*	6.86	121
CRAVE*	6.84	120
MAGNUM 7-WET*	6.80	120
DSC04-BR*	6.78	119
DSC06-M*	6.71	118
DSC05-BR*	6.70	118
DSC03-BR*	6.69	118
MAGNUM 7*	6.50	114
505004*	6.48	114
PGI 529*	6.25	110
Seedway 9558 SBR*	6.11	107
FG 48A177*	6.00	105

2013 Trials - Cultivars Planted		
Round Up Ready	Ithaca	Leroy
54QR04	5312 (check)	5312 (check)
WL 372HQ.RR	55H94	55H94
6497R	55Q27	55Q27
WL 356HQ.RR	55V50	55V50
DKA41-18RR	Seedway 9558 SBR	Seedway 9558 SBR
428RR	DG 4210	DG 4210
DKA44-16RR	EZRA	EZRA
	FSG 329	FSG 403LR
	FSG 403LR	FSG 424
	FSG 408DP	FSG 524
	FSG 424	N-R-GEE
	FSG 524	ONEIDA VR (check)
	L 455HD	VERNAL (check)
	N-R-GEE	
	ONEIDA VR (check)	
	VERNAL (check)	

2013 Trials - Experimentals Planted

Ithaca	Leroy
DSD01-T*	msSunstra-D11*
DSD02-T*	msSunstra-D13*
DSD04-T*	msSunstra-D14*
DSD05-T*	msSunstra-D15*
DSD06-M*	msSunstra-D16*
DSD07-M*	msSunstra-D17*
LS 905*	
OPTIMUS*	
SHOCKWAVE BR*	

2013 Alfalfa Trials to Test Insect Resistant Cultivars; Trials in Ithaca NY

Trials harvested 3 times per production year; 2013 trial on Langford channery silt loam, 2010, 2011, 2012 trials on Williamson silt loam.

*PLH (Potato leafhopper) Damage Score - 1=minor to no damage; 5=severe damage **PLH populations were at moderately severe levels in 2013.**

Oneida VR, 5312, and Vernal are alfalfa cultivars susceptible to potato leafhopper. These cultivars are the check cultivars in each trial.

Sown 2010; 2013 No Insecticide			
Cultivar	2013 Total Season	3-Yr Total Season	2013 Avg. PLH Damage
<i>PLH Resistant</i>	T/A	T/A	
53H92	6.96	19.62	2.3
WL 353LH	6.52	18.57	2.2
6475H	6.55	18.53	2.7
<i>Conventional</i>			
5312	6.68	19.27	4.8
VERNAL	6.46	18.75	4.8
ONEIDA VR	6.50	18.47	5.0
Trial Mean (T/A)	6.48	18.80	
5% LSD	0.50	0.94	
CV(%)	6.6	4.3	

Sown 2011; 2013 No Insecticide			
Cultivar	2013 Total Season	2-Yr Total Season	2013 PLH Damage
<i>PLH Resistant</i>	T/A		
55H94	7.14	11.87	1.4
<i>Conventional</i>			
5312	6.23	10.1	4.2
VERNAL	5.89	9.69	4.8
ONEIDA VR	6.28	9.91	4.4
Trial Mean (T/A)	6.50	10.9	
5% LSD	0.31	0.5	
CV(%)	3.7	3.7	

Sown 2012; 2013 No Insecticide		
Cultivar	2013 Total Season	2013 PLH Damage
<i>PLH Resistant</i>	T/A	
55H94	6.87	1.0
505005*	6.41	1.0
<i>Conventional</i>		
5312	6.16	3.0
VERNAL	5.66	3.8
ONEIDA VR	6.01	4.2
Trial Mean (T/A)	6.07	
5% LSD	0.40	
CV(%)	5.1	

Sown 2013; 2013 No Insecticide		
Cultivar	2013 Total Season	2013 PLH Damage
<i>PLH Resistant</i>	T/A	
55H94	2.97	1.3
LANCER	2.60	3.5
FSG 420LH	2.42	1.5
<i>Conventional</i>		
5312	2.49	5.0
VERNAL	2.56	5.0
ONEIDA VR	2.36	5.0
Trial Mean (T/A)	2.54	
5% LSD	0.58	
CV(%)	10.0	

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.

Alfalfa Cultivar	Marketing Company	FD	Disease Resistance Ratings*					Marketing Co.	Phone Number	Web or E-mail Address
			BW	VW	FW	AN	PRR			
AMERISTAND 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	1-800-873-2532	www.americasalfalfa.com/	
ARCHER III	America's Alfalfa	5	HR	HR	HR	HR	HR			
BARALFA X42	Barenbrug USA	4	HR	HR	HR	HR	HR	1-800-547-4101	www.barusa.com	
BOBWHITE 2ML	Blue River Hybrids	4	HR	HR	HR	HR	HR	1-800-370-7979	www.blueriverorgseed.com/	
RED FALCON BR	Blue River Hybrids	4	HR	HR	HR	HR	HR			
4010BR	BrettYoung	4	HR	HR	HR	HR	HR	1-800-665-5015	www.brettyoung.ca/	
4030	BrettYoung/Preferred Seed	4	HR	HR	HR	HR	HR			
5010	BrettYoung	5	HR	HR	HR	HR	HR			
OPTIMUS	BrettYoung	4	HR	HR	HR	HR	HR			
SHOCKWAVE-BR	BrettYoung	4	HR	HR	HR	HR	HR			
STOCKPILE	BrettYoung	4	HR	HR	HR	HR	HR			
CORNERSTONE	Chemgro Seeds	4	HR	HR	HR	HR	HR	1-800-346-4769	www.chemgro.com	
GEMSTONE	Chemgro Seeds	4	HR	HR	HR	HR	HR			
GUNNER	CROPLAN	5	HR	HR	HR	HR	HR	1-651-765-5710	www.croplan.com	
REBOUND 6.0	CROPLAN	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			
HYBRIFORCE-3400	Dairyland Seed Co.	4	HR	HR	HR	HR	HR			
MAGNUM 7-WET	Dairyland Seed Co.	4	HR	HR	HR	HR	HR			
MAGNUM 7	Dairyland Seed Co.	4	HR	HR	HR	HR	HR			
PERSIST II	Doebler's	4	HR	HR	HR	HR	HR	1-800-853-2676	www.doebler.com	
PERSIST III	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			
LANCER	GROWMARK FS	4	HR	HR	HR	HR	HR	1-800-338-4769	www.fsseed.com	
MAGNITUDE	GROWMARK FS	4	HR	HR	HR	HR	HR			
MARINER IV	GROWMARK FS	4	HR	HR	HR	HR	HR			
PROFUSION-HX	King's AgriSeeds	4	HR	HR	HR	HR	HR	1-717-687-6224	http://www.kingsagri-seeds.com/	
SECURE-BR	King's AgriSeeds	4	HR	HR	HR	HR	HR			
L 455HD	Legacy Seeds	4	HR	HR	HR	HR	HR	1-866-791-6390	www.legacvseeds.com	
LEGACY 449-APH2	Legacy Seeds	4	HR	HR	HR	HR	HR			
DKA41-18RR	Monsanto	4	HR	HR	HR	HR	HR	1-800-335-2676	www.monsanto.com	
DKA44-16RR	Monsanto	4	HR	HR	HR	HR	HR			
DKA43-13	Monsanto	4	HR	HR	HR	HR	HR			
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			
6305Q	NEXGROW	3	HR	HR	HR	HR	HR	1-855-463-9476	www.plantnexus.com	
6475H	NEXGROW	4	HR	HR	HR	HR	HR			
6497R	NEXGROW	4	HR	HR	HR	HR	HR			
CRAVE	T.A. Seeds	4	HR	HR	HR	HR	HR	1-866-813-7333	www.taseeds.com	
SENECA	T.A. Seeds	4	HR	HR	HR	HR	HR			
53H92	Pioneer Hi-Bred	3	HR	HR	HR	HR	HR	1-800-247-6803	www.pioneer.com	
54QR04	Pioneer Hi-Bred	4	HR	HR	HR	HR	HR			
55H94	Pioneer Hi-Bred	5	HR	HR	HR	HR	HR			
55Q27	Pioneer Hi-Bred	5	HR	HR	HR	HR	HR			
55V48	Pioneer Hi-Bred	5	HR	R	HR	HR	HR			
55V50	Pioneer Hi-Bred	5	HR	HR	R	HR	HR			
375HY/BR	Preferred Seed Co.	4	HR	HR	HR	HR	R	1-716-895-7333	www.preferredseed.com	
4030	Preferred Seed Co./BrettYoung	4	HR	HR	HR	HR	HR			
PGI 215	Producer's Choice	2	HR	HR	HR	HR	HR	1-877-560-5181	www.producerschoiceseed.com	
PGI 529	Producer's Choice	5	HR	R	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	3	R	R	HR	HR	R	1-800-836-3710	www.seedway.com	
N-R-GEE	Seedway	4	HR	HR	HR	HR	R			
REGEN	Seedway	3	R	HR	HR	HR	HR			
SEEDWAY 9558 SBR	Seedway	4	R	R	R	R	R			
FSG 329	Seedway	3	HR	HR	HR	HR	HR			
FSG 403LR	Seedway	4	HR	HR	R	HR	HR			
FSG 408 DP	Seedway	4	HR	R	HR	HR	HR			
FSG 420 LH	Seedway	4	HR	HR	HR	HR	HR			
FSG 424	Seedway	4	HR	HR	HR	HR	HR			
FSG 524	Seedway	5	HR	HR	HR	HR	HR			
428RR	Seedway/GROWMARK FS	4	HR	HR	HR	HR	HR			
BRADOR	Semican International	4	HR	HR	HR	HR	HR	1-866-736-4226	www.semican.ca	
MASKA	Semican International	4	HR	HR						
DG 3210	Crop Production Services	3	HR	HR	HR	HR	HR	1-585-586-1330	www.cropproductionservices.com	
DG 4210	Crop Production Services	4	HR	HR	HR	HR	HR			
WL 343HQ	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR	1-717-917-1609	www.wlresearch.com	
WL 353LH	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR			
WL 354HQ	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR			
WL 356HQ.RR	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR			
WL 363HQ	Seedway; Crop Prod. Services; W-L	5	HR	HR	HR	HR	HR			
WL 372HQ.RR	Seedway; Crop Prod. Services; W-L	5	HR	HR	HR	HR	HR			

*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 Trials- 2013 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.

RED CLOVER Checks are **Marathon and Cinnamon Plus**

Sown May 13, 2011		2013			2012	2-Yr.	
Cultivar/Experimental	Marketing Company	Total Season	% of Cks.	% Stand 11-Nov	Total Season	Total	% of Cks
		T/A			T/A	T/A	
Cinnamon Plus	check/Allied Seed, L.L.C.	7.02	100	86	5.64	12.65	101
Marathon	check	6.95	99	86	5.47	12.42	99
RC0005	Allied Seed, L.L.C.	6.80	97	88	5.29	12.09	96
			Ck. Mean				Ck. Mean
5% LSD		0.42	6.99	6	0.35	0.66	12.54

Sown on May 16, 2012		2013		
Cultivar/Experimental	Marketing Company	Total Season	% of Cks.	% Stand 11-Nov
		T/A		
RC 9806	PICKSEED	7.45	108	80
Cinnamon Plus	check / Allied Seed, L.L.C.	7.14	104	80
IS-TP12	DLF International Seeds	7.07	103	70
FSG 402	Seedway	7.03	102	78
Marathon	check	6.62	96	68
B.11.1816	Blue Moon Farms	5.11	74	58
			Ck. Mean	
5% LSD		0.60	6.88	7

Sown on May 3, 2013		2013		
Cultivar/Experimental	Marketing Company	2nd Harvest	% of Cks.	% Stand 11-Nov
		T/A		
Cinnamon Plus	check / Allied Seed, L.L.C.	2.19	110	97
TP12B	DLF International Seeds	2.18	110	96
RC0401	Allied Seed L.L.C.	2.00	101	97
RC0702	DLF International Seeds	1.97	99	96
Marathon	check	1.78	89	95
			Ck. Mean	
	LSD(.05)	0.24	1.99	2

Trial was cut off on July 17.

BIRDSFOOT TREFOIL

Sown on May 11, 2011		2013		2012	2-Yr.
Cultivar	Marketing Company	Total Season	% of Cks.	Total Season	Total
		T/A		T/A	T/A
Pardee	Seedway/GROWMARK FS	4.09	109	3.55	7.65
Bruce	Semican	4.16	111	3.28	7.45
Norcen	Public Check	3.74	100	1.39	5.13
5% LSD		0.51		0.46	0.83

Marketing Company*	Phone	Web address
Allied Seed, L.L.C.	1-208-250-6321	www.alliedseed.com
Blue Moon Farms	1-541-936-1210	
DLF International Seeds	1-800-445-2251	www.dlfis.com/
Growmark FS	1-800-338-4769	www.fsseed.com
PICKSEED	705-878-9240	www.pickseed.com/ECanada/index.html
Seedway	1-800-836-3710	www.seedway.com
Semican	1-866-736-4226	www.semican.ca

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2013

Table 4: 2013 Perennial Forage Grass Yield Summary

Ithaca, Tompkins Co., Sown 2010, 2011, 2012, 2013

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: 2010 Erie-Ellery channery silt loam, 2011 plantings Williamson silt loam, 2012 and 2013 Niagara silt loam.

Marketer	2012			Disease 1=least 3=most	2011			2010			3 or 2-Yr. Total	
	Total Season	Oct. % Stand	Heading Date		Total Season	Nov. % Stand	Heading Date	Total Season	Nov. % Stand	Heading Date		
Timothy												
Sown May 11, 2010												
Richmond	check	7.08	55	30-May	4.39	55	22-May	6.37	81	27-May	17.84	
Climax	check	6.14	55	5-Jun	3.64	60	30-May	5.53	74	2-Jun	15.30	
Dainiai	Allied Seed, L.L.C.	5.00	43	7-Jun	3.17	45	5-Jun	4.53	65	7-Jun	12.70	
	LSD(.05)	0.50	10		0.17	13		0.29	5			
Timothy												
Sown May 11, 2011												
Richmond	check	6.09	80	24-May	6.23	87	22-May				12.32	
Summit	Seedway	5.95	80	24-May	6.21	85	19-May				12.15	
Crest	Seedway	5.53	73	24-May	5.51	83	22-May				11.04	
Climax	check	5.63	73	3-Jun	5.00	82	30-May				10.63	
	LSD(.05)	0.72	9		0.61	9						
analyzed 2 reps in 2012.												
Timothy												
Sown May 18, 2012												
TM0801	FFR Coop.	8.21	80	24-May								
TM0802	FFR Coop.	8.19	79	29-May								
Summit	Seedway	7.87	78	24-May								
Climax	check	7.69	80	3-Jun								
Kara	Semican	7.62	84	3-Jun								
Ovation	Semican	7.51	80	29-May								
Crest	Seedway	7.46	81	29-May								
SummerGraze	BrettYoung Seeds	7.15	79	5-Jun								
Clair	check	7.11	81	29-May								
	LSD(.05)	0.28	5									
Orchardgrass												
Sown May 11, 2010												
Potomac	check	6.86	48	13-May	2.0	5.32	45	10-May	7.28	80	17-May	19.47
Persist	Smith Seeds	6.82	43	13-May	2.5	5.46	48	10-May	6.76	79	17-May	19.04
IS-OG 53	DLF International Seeds	6.29	33	22-May	1.3	5.49	33	20-May	6.70	70	20-May	18.48
Dg83R01	Barenbrug USA	6.39	38	24-May	1.3	5.05	40	26-May	6.80	80	27-May	18.24
Dg12R01	Barenbrug USA	6.28	38	22-May	2.4	5.06	38	16-May	6.66	80	20-May	18.00
Anksta	Allied Seed, L.L.C.	6.24	40	8-May	2.6	5.06	48	10-May	6.62	81	13-May	17.91
	LSD(.05)	0.54	8			0.23	9		0.39	8		
Orchardgrass												
Sown May 11, 2011												
Extend	Seedway	7.46	70	10-May	1.8	7.07	88	9-May				14.53
IS-OG 53	DLF International Seeds	7.27	63	13-May	1.4	7.20	83	10-May				14.48
Potomac	check	7.31	73	10-May	1.9	6.90	88	9-May				14.21
Olympia	Pennington Seed	7.14	79	19-May	2.9	6.86	88	20-May				14.00
	LSD(.05)	0.28	12			0.32	5					
Orchardgrass												
Sown May 18, 2012												
PPG-0G103	Mountain View Seeds	9.23	84	20-May	1.13							
Checkmate	PICKSEED	9.19	85	19-May	2.38							
PPG-0G102	Mountain View Seeds	9.14	86	19-May	1.50							
Potomac	check	8.75	81	13-May	1.63							
PPG-0G101	Mountain View Seeds	8.60	84	13-May	1.63							
Orca	PICKSEED	8.32	84	17-May	2.50							
Niva	DLF International Seeds	8.09	79	22-May	1.63							
	LSD(.05)	0.54	4									
Tall Fescue												
Sown May 11, 2010												
KY 31 E-	check	7.05	50	22-May	5.56	61	19-May	7.66	81	24-May	20.27	
KY 31 E+	check	6.85	50	19-May	5.67	56	19-May	7.52	78	20-May	20.04	
Cajun II	Smith Seeds	7.04	55	22-May	5.53	64	13-May	7.28	81	24-May	19.85	
BarElite	Barenbrug USA	6.17	43	22-May	5.01	53	20-May	7.13	75	24-May	18.31	
	LSD(.05)	0.29	6		0.30	9		0.27	5			
Tall Fescue												
Sown May 11, 2011												
KY 31 E-	check	8.85	79	21-May	7.46	88	14-May				16.30	
KY 31 E+	check	9.11	78	21-May	7.05	88	13-May				16.16	
Enhance	Seedway	8.71	79	21-May	6.77	88	14-May				15.48	
Tower 647	DLF International Seeds	8.32	70	24-May	6.58	80	22-May				14.90	
	LSD(.05)	0.44	12		0.69	6						

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2013

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2013

Table 4 (con't): 2013 Perennial Forage Grass Yield Summary

Ithaca, Tompkins Co., Sown 2010, 2011, 2012

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 other

Soils: 2009, 2011 plantings Williamson silt loam, 2010 Erie-Ellery channery silt loam, 2012 Niagara silt loam.

Marketer	2013					2012			2011			3 or 2-Yr. Total
	Total Season	Oct. % Stand	Heading Date	1=least 3=most	Rust	Total Season	Oct. % Stand	Heading Date	Total Season	Oct. % Stand	Heading Date	
Tall Fescue	Sown May 18, 2012					T/A			T/A			T/A
KY 31-	check	9.28	88	22-May	1.6							
Tuscany II	PICKSEED	9.20	88	20-May	1.1							
Flourish	Seedway	9.10	89	22-May	1.4							
KY 31+	check	8.98	89	22-May	1.3							
Teton II	Mountain View Seeds	8.98	91	19-May	2.1							
Kora	DLF International Seeds	8.94	84	22-May	1.5							
BARFaFL 118701	Barenbrug	8.92	84	20-May	1.1							
Tower	DLF International Seeds	8.89	86	24-May	1.0							
BARFaFL 118702	Barenbrug	8.72	88	22-May	1.0							
PST-5CAN	BrettYoung	7.45	91	19-May	2.8							
	LSD(.05)	0.58	4									
Perennial Ryegrass	Sown May 11, 2010					T/A			T/A			T/A
Kentaur	DLF International Seeds	4.24	33	5-Jun	4.36	38	24-May	6.04	70	31-May	14.64	
Elena DS	Allied Seed, L.L.C.	4.14	35	24-May	4.31	40	24-May	6.00	65	27-May	14.45	
Calibra	check	3.79	40	30-May	4.03	45	24-May	5.60	71	27-May	13.43	
Polim	DLF International Seeds	4.09	30	7-Jun	4.26	33	5-Jun	5.01	68	2-Jun	13.36	
Verseka	Allied Seed, L.L.C.	3.68	30	30-May	3.64	38	24-May	5.73	68	27-May	13.05	
Linn	check	3.58	50	22-May	3.52	55	13-May	4.80	80	20-May	11.90	
	LSD(.05)	0.15	5		0.32	8		0.33	6			
Tetraploid perennial ryegrass Kentaur, Elena DS, Verseka, Polim, Calibra; Diploid perennial ryegrass -Linn												
Perennial Ryegrass and Festulolium	Sown May 11, 2011					T/A			T/A			T/A
Tetramag	Mountain View Seeds	6.13	74	24-May	1.8	6.09	85	22-May				12.22
Gain (Festulolium)	Seedway	6.28	64	22-May	1.8	5.11	79	14-May				11.39
Spring Green (Festulolium)	check	5.59	78	21-May	2.1	5.46	85	14-May				11.06
Tetrasweet	Mountain View Seeds	5.49	75	22-May	1.0	4.63	85	20-May				10.11
Tivoli	DLF International Seeds	5.61	74	3-Jun	1.0	4.32	81	1-Jun				9.93
Linn	check	4.04	74	14-May	2.0	4.51	89	13-May				8.55
	LSD(.05)	0.29	6		0.33	5						
Tetraploid perennial ryegrass Tivoli, PPG-LHT103, Boost, PPG-FPRT103; Diploid perennial ryegrass -Linn; festulolium -Spring Green, Gain												
Perennial Ryegrass and Festulolium	Sown May 18, 2012					T/A			T/A			T/A
Hostyn (Festulolium)	DLF International Seeds	8.02	74	22-May	1.5							
Perun (Festulolium)	DLF International Seeds	8.01	78	22-May	1.5							
Spring Green (Festulolium)	check	7.27	84	22-May	1.8							
Calibra	check	6.74	89	24-May	1.8							
Zenital	BrettYoung	6.36	89	3-Jun	1.6							
Torgal	BrettYoung	6.11	89	24-May	1.8							
Linn	check	5.18	90	17-May	3.0							
	LSD(.05)	0.47	4									
Tetraploid perennial ryegrass-Calibra, Diploid perennial ryegrass - Zenital, Torgal, Linn; Festulolium-Spring Green, Perun, Hostyn												
Bromegrass	Sown May 11, 2010					T/A			T/A			T/A
Peak	Seedway	6.53	60	19-May	4.84	63	13-May	6.67	84	20-May	18.04	
BAR BiF1GRL	Barenbrug USA	6.45	63	22-May	4.77	65	16-May	6.62	84	20-May	17.83	
BAR BcF1FRRL	Barenbrug USA	6.58	53	8-May	4.65	60	9-May	6.14	81	13-May	17.37	
Hakari	Barenbrug USA	5.44	23	24-May	3.93	48	23-May	6.76	81	2-Jun	16.13	
AC Knowles	Barenbrug USA	5.71	43	22-May	3.28	53	10-May	5.61	74	17-May	14.59	
	LSD(.05)	0.62	13		0.52	12		0.55	8			
Bromegrass	Sown May 11, 2011					T/A			T/A			T/A
Hakari	Barenbrug USA	6.89	55	25-May	6.17	63	22-May				13.06	
Barpal 16	Barenbrug USA	6.18	63	13-May	6.50	70	9-May				12.69	
Peak	Seedway	7.01	70	19-May	4.59	70	14-May				11.59	
	LSD(.05)	1.14	10		0.66	8						
Marketing Co.												
Marketing Company	Phone Number	Web or E-mail Address										
Ag Research USA Limited	828-645-3872											
Allied Seed, L.L.C.	208-250-6321	www.alliedseed.com										
Barenbrug USA	800-547-4101	www.barusa.com										
BrettYoung	800-665-5015	www.brettyoung.ca/										
Columbia Seeds	888-681-733	www.columbiaseeds.com										
DLF International Seeds	541-369-2251	www.dlfls.com										
FFR Cooperative	765-589-3123	www.ffrcoop.org/										
Growmark FS	800-338-4769	www.fsseed.com										
Mountain View Seeds	503-588-7333	www.mtviewseeds.com										
Pennington Seed	800-285-SEED	www.penningtonseed.com										
PICKSEED	705-878-9240	www.pickseed.com/ECanada/index.html										
Preferred Seed	716-895-7333	www.preferredseed.com										
Seedway	800-836-3710	www.seedway.com										
Semican	866-736-4226	www.semican.ca										
Smith Seed Services	888-550-2930	www.smithseed.com										

Perennial Forage Grass Varieties - 2012 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.

Table 5: Spring Forage Quality Data for Grass Varieties

Trial Sown 2010 Boot Stage in 2012				Trial Sown 2011 Boot Stage in 2012			
	Date at Boot Stage	% NDF	% NDFD		Date at Boot Stage	% NDF	% NDFD
Perennial Ryegrass				Perennial Ryegrass and Festulolium (F)			
Linn	13-May	49	79	Linn	13-May	50	76
Kentaur	24-May	51	77	Spring Green (F)	14-May	46	82
Calibra	24-May	50	78	Gain (F)	14-May	45	80
Elena DS	24-May	54	74	PPG-FPRT103	20-May	46	80
Verseka	24-May	49	77	PPG-LHT103	22-May	52	74
Polim	5-Jun	57	75	Tivoli	1-Jun	57	75
Tall Fescue				Tall Fescue			
Cajun II	13-May	53	70	KY 31 E+	13-May	54	70
KY 31 E-	19-May	54	73	Enhance	14-May	54	72
KY 31 E+	19-May	53	71	KY 31 E-	14-May	53	73
BarElite	20-May	52	73	Tower 647	22-May	58	65
Orchardgrass				Orchardgrass			
Potomac	10-May	53	80	Extend	9-May	59	76
Persist	10-May	55	79	Potomac	9-May	60	75
Anksta	10-May	53	81	IS-OG 53	10-May	58	78
Dg12R01	16-May	59	78	Olympia	20-May	63	74
IS-OG 53	20-May	60	78				
Dg83R01	26-May	65	71				
Timothy				Timothy			
Richmond	22-May	60	70	Summit	19-May	62	70
Climax	30-May	65	66	Richmond	22-May	65	67
Dainiai	5-Jun	67	66	Crest	22-May	62	69
				Climax	30-May	68	66
Bromegrass				Bromegrass			
BAR BcF1FRRL	9-May	55	83	Barpal 16	9-May	54	83
AC Knowles	10-May	49	88	Peak	14-May	56	81
Peak	13-May	56	80	Hakari	22-May	67	75
BAR BiF1GRL	16-May	63	76				
Hakari	23-May	64	78	Annual Ryegrass			
				Centurion	14-May	48	75
				PPG-LWT104	14-May	42	78
				PS-AR-09-1	14-May	48	73
				PS-Lm-09-2	14-May	47	76
				AE 110	14-May	46	76
				MX 108	16-May	43	77
				Feast II	16-May	47	76
				Maximo	19-May	51	71

Perennial Forage Grass Varieties - 2012 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: 2012 Spring, First Harvest Forage Quality Data for Grass Varieties

	Trial Sown 2010					Trial Sown 2011					
	First Harvest in 2012- May 24			% Seed	2012	First Harvest in 2012- May 29			% Seed	2012	
	Yield (t/a)	%	%	Heads at	Aftermath	Yield (t/a)	%	%	Heads at	Aftermath	
	Harvest 1	NDF	NDFD	Harvest 2	Forage Yield (t/a)	Harvest 1	NDF	NDFD	Harvest 2	Forage Yield (t/a)	
Perennial Ryegrass						Perennial Ryegrass and Festulolium (F)					
Linn	1.77	56	71	10	1.75	Linn	2.89	66	59	1	1.61
Kentaur	1.74	51	79	43	2.62	Spring Green (F)	3.36	64	65	1	2.11
Calibra	1.60	49	80	25	2.43	Gain (F)	3.10	62	65	5	2.01
Elena DS	2.05	54	76	78	2.26	PPG-FPRT103	2.43	62	67	1	2.20
Verseka	1.59	50	77	30	2.05	PPG-LHT103	3.75	66	62	5	2.34
Polim	1.24	49	81	83	3.03	Tivoli	1.83	54	76	1	2.49
Tall Fescue						Tall Fescue					
Cajun II	2.08	60	65	1	3.46	KY 31 E+	2.79	63	64	1	4.26
KY 31 E-	2.05	57	68	1	3.51	Enhance	2.62	62	63	1	4.16
KY 31 E+	2.01	58	68	1	3.66	KY 31 E-	3.09	64	63	1	4.37
BarElite	1.83	57	69	1	3.18	Tower 647	2.47	65	59	1	4.11
Orchardgrass						Orchardgrass					
Potomac	2.06	65	72	1	3.27	Extend	3.30	73	64	1	3.78
Persist	2.15	67	68	1	3.31	Potomac	3.20	77	57	1	3.70
Anksta	2.47	67	69	1	2.59	IS-OG 53	3.35	75	64	1	3.85
Dg12R01	2.14	64	71	1	2.91	Olympia	3.46	73	64	1	3.40
IS-OG 53	2.24	62	75	1	3.24						
Dg83R01	1.87	65	71	1	3.18						
Timothy						Timothy					
Richmond	2.84	61	70	not	1.55	Summit	3.91	72	60	1	2.29
Climax	2.47	63	72	avail-	1.16	Richmond	3.91	72	60	1	2.32
Dainiai	2.07	60	74	able	1.10	Crest	3.68	72	62	1	1.83
						Climax	3.36	70	64	1	1.64
Bromegrass						Bromegrass					
BAR BcF1FRRL	2.98	69	68	not	1.68	Barpal 16	4.18	73	66	1	2.32
AC Knowles	2.17	65	72	avail-	1.11	Peak	3.37	71	63	1	1.22
Peak	2.97	66	69	able	1.87	Hakari	4.68	69	53	1	1.49
BAR BiF1GRL	3.12	68	71		1.65						
Hakari	2.66	65	76		1.27						
						Annual Ryegrass					
						Centurion	3.84	64	57	90	0.98
						PPG-LWT104	2.98	64	56	75	1.02
						PS-AR-09-1	3.68	63	58	75	2.49
						PS-Lm-09-2	3.90	65	56	50	2.38
						AE 110	3.63	61	58	90	1.59
						MX 108	3.51	63	57	80	2.39
						Feast II	3.14	65	60	10	2.17
						Maximo	3.47	63	59	20	2.36

Table 7: Annual Ryegrass Trials, and Perennial Cool Season Grass Trials Sown in 2013.

Variety	Marketing Company	2013			2012	
		Total Season	% Stand 15-Nov	Heading Date	Total Season	2 or 3-Yr. Total
Annual Ryegrass						
Sown May 18, 2012						
Zorro	DLF International Seeds	8.26	68	22-May	0.65	8.91
IS-LMT 5	DLF International Seeds	8.20	74	22-May	0.66	8.86
IS-LMT 15	DLF International Seeds	8.01	70	22-May	0.66	8.67
IS-LMT 6	DLF International Seeds	7.93	69	22-May	0.60	8.53
Mx108	PICKSEED	7.87	70	22-May	0.52	8.39
PS-Lm-09-2	PICKSEED	7.81	66	22-May	0.55	8.36
Lh-4x-1PS	PICKSEED	7.58	58	24-May	0.72	8.30
Feast II	check	7.03	60	24-May	0.78	7.81
AE 110	PICKSEED	6.44	53	20-May	0.58	7.02
Fria	Seedway/GROWMARK FS	5.75	23	22-May	0.95	6.70
	LSD(.05)	0.61	7		0.14	
2013 Perennial Grass Trials, one harvest in 2013.						
Variety	Marketing Company	Yield		% Seed		
		3 Harvests	% Stand	Heads	Har. 1	
Annual Ryegrass						
Sown May 18, 2013						
Amp	Columbia Seeds	6.61	75	85		
Dyna Gain	Columbia Seeds	5.75	65	78		
LMT 15 M3	DLF International Seeds	5.64	70	1		
Feast II	check	5.52	63	1		
	LSD(.05)	0.60	10			

2013 Perennial Grass Trials, one harvest in 2013.

Variety	Marketing Company	21-Oct
Timothy		
Php 6C	DLF International Seeds	0.89
Derby	Growmark FS	0.84
Clair	check	0.80
Project	BrettYoung Seeds	0.74
Alternate	BrettYoung Seeds	0.74
Climax	check	0.64
TM9701	Allied Seed, L.L.C.	0.63
Zenyatta	DLF International Seeds	0.60

2013 Perennial Grass Trials, one harvest in 2013.

Variety	Marketing Company	Yield 21-Oct
Orchardgrass		
Sown May 18, 2013		
OG 61 M2	DLF International Seeds	1.41
Potomac	check	1.30
Bounty	Seedway	1.24
Pawnee	Seedway	1.24
Pennlate	check	1.21
OG 62	DLF International Seeds	1.16
Haymaster	Growmark FS	1.16
Harvester	Preferred Seed	1.14
Extend	Seedway	1.06
Tall Fescue		
Sown May 18, 2013		
Jesup MaxQ	Pennington	1.21
KYFA9821 / AR584	U of Kentucky	1.16
AGRFA-200 AR584	AgResearch USA Limited	1.12
KY 31-	check	1.09
FTF 73C	DLF International Seeds	1.09
FTF 70B	DLF International Seeds	1.08
GT213 AR584	AgResearch USA Limited	1.06
KYFA9301 / AR584	U of Kentucky	1.06
AGRFA-179 AR584	AgResearch USA Limited	0.97
KY 31+	check	0.85
Perennial Ryegrass		
Sown May 18, 2013		
Full Throttle	Columbia Seeds	1.39
Mahulena	DLF International Seeds	1.37
Hipast	DLF International Seeds	1.30
Linn	check	1.15
FOJTAN	DLF International Seeds	1.13
Calibra	check	1.12
RAD-MRF145	Allied Seed, L.L.C.	0.97
ReBAB	DLF International Seeds	0.96
RAD-MFP142	Allied Seed, L.L.C.	0.80
Spring Green	check	0.22
Bromegrass		
Sown May 18, 2013		
Peak	Seedway/GROWMARK FS	No Harvest in 2013
York	check	
Success	Allied Seed, L.L.C.	
BAR BiF1GRL	check	

2013 Weather Data for Ithaca New York and for New York State

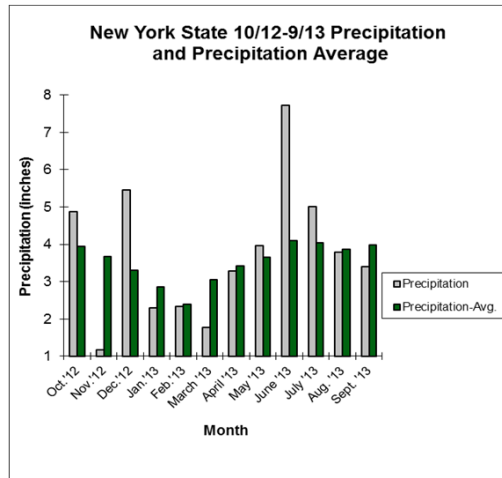
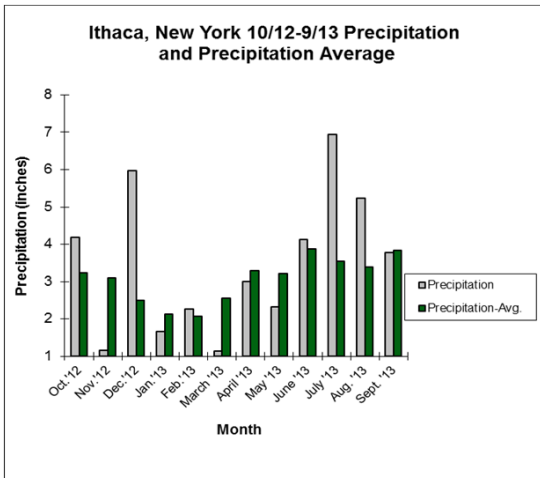
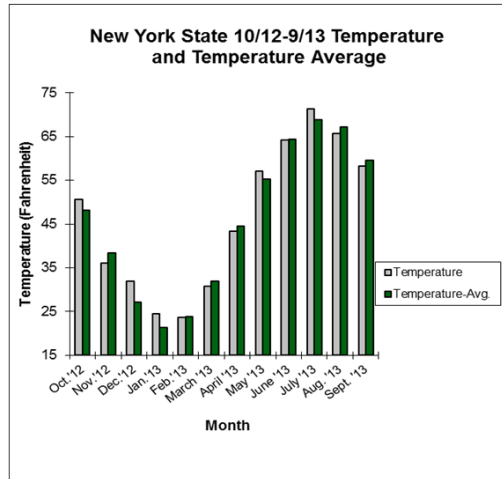
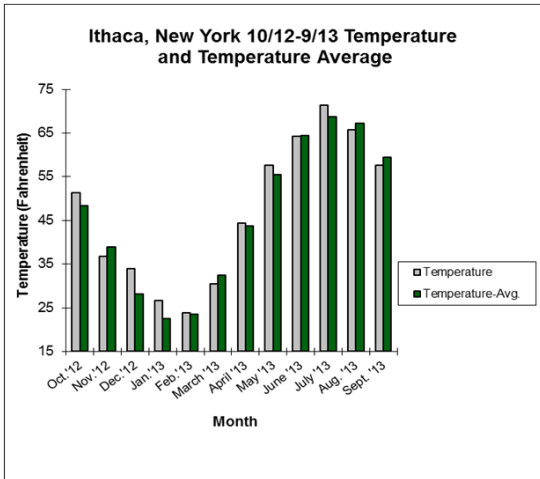


Figure 1: Ithaca, New York 10/12-9/13 temperature and precipitation. www.nrcc.cornell.edu/page_summaries.html

Weather data from the Northeast Regional Climate Center at Cornell U.

Alfalfa	Company	Pages	Alfalfa	Company	Pages	Alfalfa	Company	Pages
375HY/BR	Preferred Seed Co.	3,6	EZRA	Seedway	3,4,5,6	RUGGED	Producer's Choice	3,6
4010BR	BrettYoung	3,6	FG 45A119*	Forage Genetics	4	SECURE-BR	King's AgriSeeds	4,6
4030	Preferred Seed Co.	3,6	FG 48A177*	Forage Genetics	5	SENECA	T.A. Seeds	3,4,6
428RR	Seedway	5,6	FSG 329	Seedway	5,6	SHOCKWAVE-BR	Preferred Seed Co.	3,5,6
4A415	Mycogen Seeds	3,6	FSG 403LR	Seedway	5,6	STOCKPILE	BrettYoung	3,4,6
4S417	Mycogen Seeds	3,6	FSG 408 DP	Seedway	5,6	VERNAL	check	3,4,5,6
5010	BrettYoung	4,6	FSG 420 LH	Seedway	5,6	WL 343HQ	Seedway, Crop Prod. Services, W-L	3,6
505004*	Pioneer Hi-Bred	5	FSG 424	Seedway	5,6	WL 353LH	W-L Research	3,5,6
505005*	Pioneer Hi-Bred	5	FSG 524	Seedway	5,6	WL 354HQ	W-L Research	3,4,6
5312	check	3,4,5,6	GEMSTONE	Chemgro Seeds	4,5,6	WL 356HQ.RR	W-L Research	5,6
53H92	Pioneer Hi-Bred	3,5,6	GUARDSMAN II	Seedway	3,6	WL 363HQ	Seedway, Crop Prod. Services, W-L	3,6
54QR04	Pioneer Hi-Bred	5,6	GUNNER	CROPLAN	3,4,6	WL 372HQ.RR	W-L Research	5,6
55H94	Pioneer Hi-Bred	4,5,6	HYBRIFORCE-2400	Dairyland Seed Co.	3,6			
55Q27	Pioneer Hi-Bred	5,6	HYBRIFORCE-2420/WET	Dairyland Seed Co.	3,6	Red Clover		
55V48	Pioneer Hi-Bred	3,6	HYBRIFORCE-3400	Dairyland Seed Co.	4,6	B.11.1816	Blue Moon Farms	7
55V50	Pioneer Hi-Bred	3,4,5,6	L 455HD	Legacy Seeds	5,6	Cinnamon Plus	check / Allied Seed, L.L.C.	7
6305Q	NEXGROW	3,6	LANCER	Allied Seed, L.L.C.	5,6	FSG 402	Seedway/Allied Seed, L.L.C.	7
6475H	NEXGROW	5,6	LEGACY 449-APH2	Legacy Seeds	5,6	IS-TP12	DLF International Seeds	7
6497R	NEXGROW	5,6	LS 905	Legacy Seeds	5	Marathon	check	7
9558 SBR	Seedway	4,5,6	MAGNITUDE	Seedway	3,4,5,6	RC 9806	PICKSEED	7
AMERISTAND 407TQ	America's Alfalfa	3,4,6	MAGNUM 7	Dairyland Seed Co.	5,6	RC0005	Allied Seed, L.L.C.	7
			MAGNUM 7-WET	Dairyland Seed Co.	3,4,5,6	RC0401	Seedway/Allied Seed, L.L.C.	7
ARCHER III	America's Alfalfa	3,4,6	MARINER IV	GROWMARK FS	3,4,5,6	RC0702	DLF International Seeds	7
BARALFA X42	Barenbrug USA	3,6	MASKA	Semican International	3,4,5,6	TP12B	DLF International Seeds	7
BOBWHITE 2ML	Blue River Hybrids	4,6	msSunstra-A10*	Dairyland Seed Co.	3			
BRADOR	Semican International	3,4,5,6	msSunstra-B12*	Dairyland Seed Co.	4	Birdsfoot Trefoil		
			msSunstra-C10*	Dairyland Seed Co.	4	Bruce	Semican	7
CORNERSTONE	Chemgro Seeds	3,6	msSunstra-C11*	Dairyland Seed Co.	4	Norcen	Public Check	7
CRAVE	T.A. Seeds	3,4,5,6	msSunstra-C12*	Dairyland Seed Co.	4	Pardee	Seedway/GROWMARK FS	7
CW 053015	Cal/West Seeds	3	msSunstra-C13*	Dairyland Seed Co.	4			
CW 085028*	Cal/West Seeds	4,5	msSunstra-C14*	Dairyland Seed Co.	4	Timothy		
DG 3210	Crop Production Services	3,6	msSunstra-C15*	Dairyland Seed Co.	4	Alternate	Brett Young	12
DG 4210	Crop Production Services	3,4,5,6	msSunstra-D11*	Dairyland Seed Co.	5	Clair	check	8,12
DKA41-18RR	Monsanto	5,6	msSunstra-D13*	Dairyland Seed Co.	5	Climax	check	8,10,11,12
DKA43-13	Monsanto	3,6	msSunstra-D14*	Dairyland Seed Co.	5	Crest	Seedway	8,10,11
DKA44-16RR	Monsanto	5,6	msSunstra-D15*	Dairyland Seed Co.	5	Dainiai	Allied Seed, L.L.C.	8,10,11
DSA04-M*	Dairyland Seed Co.	3	msSunstra-D16*	Dairyland Seed Co.	5	Derby	Growmark FS	12
DSA09-L*	Dairyland Seed Co.	3	msSunstra-D17*	Dairyland Seed Co.	5	Kara	Semican	8
DSB01-T*	Dairyland Seed Co.	4	N-R-GEE	Seedway	3,4,5,6	Ovation	Semican	8
DSB02-T*	Dairyland Seed Co.	4	ONEIDA VR	check	3,4,5,6	Php 6C	DLF International Seeds	12
DSB03-T*	Dairyland Seed Co.	4	OPTIMUS	BrettYoung	5,6	Project	Brett Young	12
DSB04-BR*	Dairyland Seed Co.	4	PERSIST II	Doebler's	3,4,6	Richmond	check	8,10,11
DSB07-L*	Dairyland Seed Co.	4	PERSIST III	Doebler's	3,4,5,6	SummerGraze	BrettYoung Seeds	8
DSB09-M*	Dairyland Seed Co.	4	PGI 215	Producer's Choice	3,4,6	Summit	Seedway	8,10,11
DSC01-T*	Dairyland Seed Co.	5	PGI 557	Producer's Choice	3,4,6	TM0801	FFR Coop.	8
DSC02-T*	Dairyland Seed Co.	5	PHIRST EXTRA	Doebler's	3,4,6	TM0802	FFR Coop.	8
DSC03-BR*	Dairyland Seed Co.	5	PILLAR	Doebler's	3,6	TM9701	Seedway/Allied Seed, L.L.C.	12
DSC04-BR*	Dairyland Seed Co.	5	PLUS II	Doebler's	3,6	Zenyatta	DLF International Seeds	12
DSC05-BR*	Dairyland Seed Co.	5	PROFUSION-HX	King's AgriSeeds	3,6			
DSC06-M*	Dairyland Seed Co.	5	PROLIFIC II	Doebler's	3,4,6			
DSD01-T*	Dairyland Seed Co.	5	REBOUND 6.0	CROPLAN	3,4,6			
DSD02-T*	Dairyland Seed Co.	5	RED FALCON BR	Blue River Hybrids	3,6			
DSD04-T*	Dairyland Seed Co.	5	REGEN	Seedway	3,4,5,6			
DSD05-T*	Dairyland Seed Co.	5						
DSD06-M*	Dairyland Seed Co.	5						
DSD07-M*	Dairyland Seed Co.	5						

Orchardgrass			Tall Fescue			Perennial Ryegrass		
Anksta	Allied Seed, L.L.C.	8,10,11	AGRFA-179 AR584	AgResearch USA Limited	12	Boost	Seedway	9,10,11
Bounty	Seedway/Allied Seed, L.L.C.	12	AGRFA-200 AR584	AgResearch USA Limited	12	Calibra	check	9,10,11,12
Checkmate	PICKSEED	8	BarElite	Barenbrug USA	8,10,11	Elena DS	Allied Seed	9,10,11
Dg12R01	Barenbrug USA	8,10,11	BARFaFL 118701	Barenbrug USA	9	FOJTAN	DLF International Seeds	12
Dg83R01	Barenbrug USA	8,10,11	BARFaFL 118702	Barenbrug USA	9	Full Throttle	Columbia Seeds	12
Extend	Seedway/Allied Seed, L.L.C.	8,10,11,12	Cajun II	Smith Seeds	8,10,11	Gain (Festulolium)	Seedway	9,10,11
Harvestar	Preferred Seed	12	Enhance	Seedway	8,10,11	Hipast	DLF International Seeds	12
Haymaster	Growmark FS	12	Flourish	Seedway/Allied Seed, L.L.C.	9	Hostyn (Festulolium)	DLF International Seeds	9
IS-OG 53	DLF International Seeds	8,10,11	FTF 70B	DLF International Seeds	12	Kentaur	DLF International Seeds	9,10,11
Niva	DLF International Seeds	8	FTF 73C	DLF International Seeds	12	Linn	check	9,10,11,12
OG 61 M2	DLF International Seeds	12	GT213 AR584	AgResearch USA Limited	12	Mahulena	DLF International Seeds	12
OG 62	DLF International Seeds	12	Jesup MaxQ	Pennington	12	Perun (Festulolium)	DLF International Seeds	9
Olympia	Pennington Seed	8,10,11	Kora	DLF International Seeds	9	Polim	DLF International Seeds	9,10,11
Orca	PICKSEED	8	KY 31 E-	check	8,9,10,11,12	Tetrasweet	Mountain View Seeds	9,10,11
Pawnee	Seedway/Allied Seed, L.L.C.	12	KY 31+	check	8,9,10,11,12	Tetramag	Mountain View Seeds	9,10,11
Pennlate	check	12	KYFA9301 / AR584	U of Kentucky	12	RAD-MFP142	Allied Seed, L.L.C.	12
Persist	Smith Seeds	8,10,11	KYFA9821 / AR584	U of Kentucky	12	RAD-MRF145	Allied Seed, L.L.C.	12
Potomac	check	8,10,11,12	Teton II	Mountain View Seeds	9	ReBAB	DLF International Seeds	12
PPG-0G101	Mountain View Seeds	8	PST-5CAN	BrettYoung	9	Spring Green (Festulolium)	check	9,10,11,12
PPG-0G102	Mountain View Seeds	8	Tower	DLF International Seeds	9	Tivoli	DLF International Seeds	9,10,11
PPG-0G103	Mountain View Seeds	8	Tower 647	DLF International Seeds	8,10,11	Torgal	BrettYoung	9
			Tuscany II	PICKSEED	9	Verseka	Allied Seed, L.L.C.	9,10,11
						Zenital	BrettYoung	9
Bromegrass			Annual Ryegrass			Annual Ryegrass		
AC Knowles	Barenbrug USA	9,10,11	AE 110	PICKSEED	10,11,12	Lh-4x-1PS	PICKSEED	12
BAR BcF1FRRL	Barenbrug USA	9,10,11	Amp	Columbia Seeds	12	LMT 15 M3	DLF International Seeds	12
BAR Bif1GRL	Barenbrug USA	9,10,11,12	Dyna Gain	Columbia Seeds	12	Maximo	PICKSEED	10,11
Barpal 16	Barenbrug USA	9,10,11	Feast II	check	12	MX 108	Check	10,11
Hakari	Barenbrug USA	9,10,11	Feast II	check	12	Mx108	PICKSEED	10,11,12
Peak	Seedway/Allied Seed, L.L.C.	9,10,11,12	Feast II	Check	10,11,12	Centurion	Mountain View Seeds	10,11
Success	Seedway/Allied Seed, L.L.C.	12	Fria	Seedway/Allied Seed, L.L.C.	12	PPG-LWT104	Mountain View Seeds	10,11
York	check	12	IS-LMT 15	DLF International Seeds	12	PS-AR-09-1	PICKSEED	10,11
			IS-LMT 5	DLF International Seeds	12	PS-Lm-09-2	PICKSEED	12
			IS-LMT 6	DLF International Seeds	12	PS-Lm-09-2	PICKSEED	10,11,12
						Zorro	DLF International Seeds	12

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.cfm>

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

2014 Cornell Guide for Integrated Field Crop Management: to order hardcopy by phone call 607-255-7282 or to view on-line: <http://ipmguidelines.org/fieldcrops/>

Alfalfa Variety Comparison: <http://www.uwex.edu/ces/aq/alfalfa/index.cfm>

New York State Integrated Pest Management Program <http://nysipm.cornell.edu/fieldcrops/>

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

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

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