

# NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS SUMMARY FOR 2014 – SEASON TOTALS



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<http://plbrgen.cals.cornell.edu/cals/pbg/programs/departamental/forage/foragetest.cfm>

**Introduction** Forage variety total season yields from New York in the 2014 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 2014 – 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.

## 2014 New York State

### Temperature Averages

Month			
	Temperature	Departure	Rank
March	23.7	-8.0	5
April	43.5	-0.7	64
May	56.7	1.7	90
June	65.1	1.0	94
July	67.4	-1.0	40
August	65.3	-1.5	38
September	60.2	0.8	82
October	51.3	3.3	109

### Precipitation Averages

Month				
	Precipitation	Departure	Pct Normal	Rank
March	3.05	-0.01	99%	61
April	3.59	0.15	104%	77
May	4.64	0.91	124%	94
June	5.11	1.00	124%	103
July	5.34	1.29	131%	107
August	3.68	-0.23	94%	60
September	2.12	-1.93	52%	12
October	4.01	0.04	100%	84

Rankings are for 120 years between 1895 and 2014. 1=coolest; 112=warmest or 1=driest; 112=wettest.  
[http://www.nrcc.cornell.edu/page\\_summaries.html](http://www.nrcc.cornell.edu/page_summaries.html)

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Cornell University

Alfalfa yields for 2014 averaged 5.7 tons per acre dry matter (0.6 tons less than in 2013), red clover yields averaged 4.8 tons per acre dry matter (2 tons per acre less than in 2013), and perennial forage grass yields averaged 5.4 tons per acre dry matter (1.4 tons per acre less than in 2013).

### **Cultivar/Variety Selection**

Plant breeders continue to develop new and improved cultivars with 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 2011 at Ithaca NY winterkilled and was not harvested in 2014, however the second production year summary is included in this report. In 2014, an alfalfa trial was planted near Richfield Springs. 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 20<sup>th</sup> and November 3<sup>rd</sup>. Bromegrass does not tolerate intensive management thus was harvested three times this growing season. Due to rain delays in 2014, some grass trials were harvested just three times instead of four. Also, there was winter injury in the orchardgrass and perennial ryegrass trials. 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 2013 for the trials planted in 2011 and 2012 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 20 to May 21 in 2013) and two samples at heading date (May 10 to June 5 in 2013). Forage quality estimates from 2014 for trials planted in 2012 and 2013 will be available late winter.

**Table 7** is a summary of grasses planted and harvested in 2014.

See [2015 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 - 2014

**Table 1: NY Alfalfa Cultivar Yield Trial Results - 2014 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.

Check Cultivars are planted in every alfalfa trial except for Roundup Ready Trials. Checks are Pioneer 5312, Oneida VR, Vernal.

Summary of Alfalfa Cultivar Performance 2012 - 2014			
Cultivars (listed alphabetically)	Yielded in the Top 50% of the Trial(s)*		Total No. of harvests
	Avg. % of Cks	No. of harvests	
55H94	114	3	18
55Q27	109	6	6
55V50	118	30	30
AMERISTAND 407TQ	118	6	6
ARCHER III	111	12	12
BRADOR	110	6	12
DG 4210	110	9	18
EZRA	110	18	24
FSG 329	109	3	3
FSG 403LR	112	6	6
FSG 408DP	108	3	3
GEMSTONE	114	12	12
GUNNER	118	6	12
L 455HD	111	3	3
LEGACY 449APH2	115	6	6
MAGNITUDE	116	12	12
MARINER IV	119	12	12
MASKA	115	12	12
N-R-GEE	106	6	24
PERSIST II	109	6	12
PGI 557	112	12	12
PHIRST EXTRA	110	6	12
PROLIFIC II	111	12	12
REBOUND 6.0	118	6	12
REGEN	115	12	12
Seedway 9558 SBR	104	3	6
WL 354HQ	112	12	12

\*Cultivars sorted by total yield over all production years.

\*Data from production year trials only, not from trials sown in 2014.

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

Trial, Seeding Year	Soil series, elevation, # of harvests in 2014
Ithaca, 2011, Page 3	Erie channery silt loam, 1000 ft., 0 harvests
Chazy, 2012, Page 3	Raynham variant silt loam, 185 ft., 3 harvests
Ithaca, 2012, Page 4	Williamson silt loam, 1000 ft., 3 harvests
Cobleskill, 2012 Pg.4	Barbour Tioga fine sandy loam, 1170 ft., 3 harvests
Ithaca, 2013, Page 4	Erie channery silt loam, 1000 ft., 3 harvests
Leroy, 2013 Page 4	Ontario loam, Kendaia silt loam, 888 feet 4 harvests - however, harvest 2 data was inadvertently discarded
Ithaca, 2014, Page 5	Rhinebeck silt loam, 970 feet, 1 harvest
Richfield Springs, 2014, Page 5	Honeoye silt loam, 1400 feet, 0 harvest
Roundup Ready Alfalfa, Page 5	Rhinebeck silt loam, 970 feet, 1 harvest

Alfalfa Entered as Experimental in 2012 at Chazy			
Cultivar/ Experimental	2014	2-Yr Total	2 Yr % of
	Total (T/A)	Season (T/A)	Cks.
msSunstra-B12*	5.87	12.32	119
HYBRIFORCE 3400*	5.73	12.12	117
SENECA*	5.79	12.01	116
5010*	5.34	10.67	103
Seedway 9558 SBR*	5.14	10.60	102
FG 45A119*	5.33	10.56	102

Ithaca, Tompkins County, Sown May 2011			
Cultivars	2013 Total	2-Yr	
		Total Season	% of Cks.
Trial Winterkilled			
No Harvest in 2014			
- tons per acre dry matter -			
AMERISTAND 407TQ	6.58	11.75	118
DG 4210	6.73	11.75	118
55V50	6.57	11.72	118
GUNNER	6.63	11.72	118
REBOUND 6.0	6.77	11.68	118
WL 354HQ	6.60	11.54	116
PROLIFIC II	6.22	11.38	115
PGI 557	6.49	11.36	115
ARCHER III	6.49	11.26	114
EZRA	6.18	11.24	113
PGI 215	6.11	11.17	113
PHIRST EXTRA	5.96	11.10	112
PERSIST II	5.90	10.94	110
N-R-GEE	5.99	10.42	105
5312	5.54	10.28	104
ONEIDA VR	5.45	10.01	101
VERNAL	4.63	9.47	95
Mean	6.33	11.4	Ck. Mean
5% LSD	0.34	0.65	9.92
CV (%)	4.3	4.6	
Alfalfa Entered as Experimental in Ithaca 2011			
DSB09-M*	7.14	12.66	128
DSB03-T*	6.92	12.59	127
MAGNUM 7-WET*	6.80	12.58	127
DSB01-T*	6.78	12.57	127
BOBWHITE 2ML*	7.15	12.54	126
SENECA*	6.85	12.51	126
SECURE-BR*	6.97	12.50	126
STOCKPILE*	7.08	12.41	125
DSB07-L*	6.73	12.35	125
DSB02-T*	6.82	12.27	124
FG 45A119*	6.65	11.87	120
DSB04-BR*	6.26	11.53	116
Seedway 9558 SBR*	6.16	11.33	114
5010*	6.33	10.92	110

Chazy, Clinton County, Sown June 2012			
Cultivars	2014 Total	2-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
55V50	5.74	11.51	111
PHIRST EXTRA	5.42	11.35	110
PERSIST II	5.56	11.25	109
PGI 557	5.54	11.24	109
ARCHER III	5.52	11.21	108
WL 354HQ	5.49	11.15	108
PROLIFIC II	5.46	11.15	108
REBOUND 6.0	5.51	11.00	106
GUNNER	5.47	10.99	106
PGI 215	5.32	10.89	105
DG 4210	5.30	10.83	105
VERNAL	5.14	10.44	101
ONEIDA VR	5.01	10.42	101
5312	4.87	10.18	98
Mean	5.38	10.97	Ck. Mean
5% LSD	0.53	0.88	10.35
CV (%)	7.8	6.4	

## ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2014

Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2014 Forage Yields

Ithaca, Tompkins County, Sown May 2012			
Cultivars	2014 Total	2-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
55V50	6.58	13.36	129
MARINER IV	5.92	12.42	120
REGEN	5.87	12.30	119
MAGNITUDE	5.98	12.16	117
GEMSTONE	5.90	11.98	116
MASKA	5.66	11.89	115
EZRA	5.65	11.88	115
LEGACY 449APH2	5.63	11.87	115
BRADOR	5.18	11.10	107
N-R-GEE	5.05	10.95	106
55H94	5.04	10.85	105
5312	4.94	10.66	103
ONEIDA VR	4.63	10.34	100
VERNAL	4.43	10.09	97
Mean	5.72	12.02	Ck. Mean
5% LSD	0.33	0.51	10.36
CV (%)	4.6	3.4	
Alfalfa Entered as Experimental in Ithaca 2012			
DSC02-T*	6.45	13.46	130
MAGNUM 7-WET*	6.51	13.31	128
PERSIST III*	6.35	13.20	127
CRAVE*	6.27	13.11	127
DSC01-T*	6.08	12.96	125
DSC04-BR*	6.15	12.94	125
DSC03-BR*	6.18	12.87	124
DSC06-M*	6.04	12.74	123
DSC05-BR*	6.02	12.73	123
505004*	6.21	12.68	122
PGI 529*	6.24	12.49	121
MAGNUM 7*	5.74	12.25	118
FG 48A177*	5.90	11.90	115
Seedway 9558 SBR*	5.71	11.83	114

Cobleskill, Schoharie County, Sown June 2012			
Cultivars	2014 Total	2-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
MARINER IV	7.14	14.14	119
55V50	7.08	13.72	115
MAGNITUDE	7.14	13.64	114
MASKA	6.96	13.64	114
GEMSTONE	7.21	13.46	113
EZRA	6.74	13.29	112
REGEN	6.52	13.17	110
BRADOR	6.53	13.11	110
5312	6.21	12.59	106
N-R-GEE	6.52	12.58	106
55H94	6.26	12.29	103
ONEIDA VR	5.97	12.17	102
VERNAL	5.44	10.99	92
Mean	6.80	13.34	Ck. Mean
5% LSD	0.34	0.58	11.92
CV (%)	4.0	3.5	
Alfalfa Entered as Experimental in Cobleskill 2012			
msSunstra-C14*	7.47	14.86	125
HYBRIFORCE 3400QR*	7.35	14.83	124
PERSIST III*	7.45	14.72	123
msSunstra-C15*	7.19	14.68	123
HYBRIFORCE 3400*	7.23	14.61	123
msSunstra-C13*	7.22	14.50	122
CRAVE*	7.26	14.34	120
msSunstra-C12*	7.15	14.16	119
msSunstra-C10*	7.14	14.12	118
PGI 529*	7.34	13.48	113
msSunstra-C11*	6.76	13.43	113
Seedway 9558 SBR*	6.68	12.90	108
FG 48A177*	6.93	12.88	108

Ithaca, Tompkins County Sown May 2013		
Cultivars	2014 Total	2014 % of Cks.
tons per acre		
55V50	6.47	125
FSG 403LR	6.01	117
55H94	5.89	114
55Q27	5.87	114
EZRA	5.81	113
L 455HD	5.73	111
FSG 329	5.61	109
FSG 408DP	5.56	108
Seedway 9558 SBR	5.51	107
DG 4210	5.46	106
FSG 424	5.44	105
5312	5.40	105
N-R-GEE	5.37	104
VERNAL	5.21	101
FSG 524	5.04	98
ONEIDA VR	4.87	94
Mean	5.60	Check Mean
5% LSD	0.41	5.16
CV (%)	5.8	

Leroy**, Geneseo County, Sown July 2013		
Cultivars	2014 Total	2014 % of Cks.
tons per acre		
FSG 403LR	5.14	108
55V50	5.12	107
N-R-GEE	5.07	106
Seedway 9558 SBR	4.98	104
55Q27	4.96	104
ONEIDA VR	4.90	103
DG 4210	4.86	102
EZRA	4.85	102
FSG 524	4.81	101
FSG 424	4.78	100
5312	4.75	100
55H94	4.73	99
VERNAL	4.66	98
Mean	4.94	Ck. Mean
5% LSD	0.35	4.77
CV (%)	6.1	

\*\* Harvest 2 data in 2014 was inadvertently discarded.

**2013 Ithaca and Leroy Experimental Populations Yields  
are on Page 5.**

**ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2014**

Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2014 Forage Yields

Ithaca, Tompkins County, Sown May 2013			Leroy, Geneseo County, Sown July 2013		
Experimentals	2014 Total	2014 % of Cks.	Experimentals	2014 Total	2014 % of Cks.
- tons per acre dry matter -			- tons per acre dry matter -		
DSD05-T*	6.27	122	msSunstra-D17*	5.42	114
DSD02-T*	6.27	122	msSunstra-D14*	5.30	111
DSD04-T*	6.11	118	msSunstra-D11*	5.24	110
DSD01-T*	6.06	117	msSunstra-D15*	5.22	110
DSD06-M*	6.04	117	msSunstra-D16*	5.20	109
SHOCKWAVE BR*	5.99	116	msSunstra-D13*	5.04	106
DSD07-M*	5.81	113			
LS 905*	5.24	102			
OPTIMUS*	5.21	101			
Ithaca, Tompkins County, Sown May 2014			Richfield Springs, Otsego County, Sown May 2014		
Cultivars	Yield Sept. 9	% of Cks.	Cultivars	Experimentals	
- tons per acre dry matter -			No Harvest in 2014		
55V50	1.51	121	5312	REGEN	
55Q27	1.37	111	55H94	Seedway 9558 SBR	
55H94	1.35	109	55Q27	VERNAL	
EZRA	1.31	106	55V50	AFX065033*	
BRADOR	1.30	105	BRADOR	AFX083003*	
5312	1.29	104	EZRA	AFX085029*	
MASKA	1.28	103	L-455HD	AFX094017*	
GA-409	1.28	103	MASKA		
VERNAL	1.27	103	ONEIDA VR		
REGEN	1.27	102			
Seedway 9558 SBR	1.18	95			
ONEIDA VR	1.17	94			
Mean	1.25	Ck. Mean			
5% LSD	0.11	1.24			
CV (%)	7.0				
Ithaca, Tompkins County, Sown May 2014			Ithaca, Tompkins County, Sown May 2014		
Experimentals	Yield Sept. 9	% of Cks.	Experimentals	Yield Sept. 9	% of Cks.
- tons per acre dry matter -			- tons per acre dry matter -		
AFXH134092*	1.53	123	AFXH134092*	1.53	123
AFXH134090*	1.43	116	AFXH134090*	1.43	116
AFXH134091*	1.40	113	AFXH134091*	1.40	113

**ROUNDUP READY ALFALFA TRIALS**

Ithaca, Tompkins County, Sown May 2013			Ithaca, Tompkins County, Sown May 2014		
Experimentals	2014 Total	2014 % of Trial	Cultivars	Yield (t/a)	2014 % of Trial
Mean			Sept. 9		
428RR	6.00	104	DKA43-22RR	1.37	108
54QR04	5.87	101	54QR04	1.28	101
WL 372HQ.RR	5.87	101	DKA41-18RR	1.24	98
6497R	5.83	101	DKA40-51RR	1.23	97
DKA44-16RR	5.82	101	DKA44-16RR	1.23	97
DKA41-18RR	5.57	96	Mean	1.27	
WL 356HQ.RR	5.54	96	5% LSD	0.10	
Mean	5.79		CV (%)	5.8	
5% LSD	0.31				
CV (%)	4.0				

**2014 Alfalfa Trials to Test Insect Resistant Cultivars; Trials in Ithaca NY**

Trials harvested 3 times per production year; 2014 trial on Rhinebeck silt loam; 2013 trial on Langford channery silt loam; 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 2014.**

Oneida VR, 5312, and Vernal are alfalfa cultivars susceptible to potato leafhopper. **Trial sown in 2011 winterkilled.**

Sown 2012; 2014 No Insecticide			Sown 2013; 2014 No Insecticide			Sown 2014; 2014 No Insecticide		
Cultivar	2-Yr Total	2014 PLH Damage	Cultivar	2014 Total	2014 PLH Damage	Cultivar	2014 Sept. 9	2014 PLH Damage
PLH Resistant	T/A		PLH Resistant	T/A		PLH Resistant	T/A	
55H94	12.42	1.6	55H94	6.36	1.0	55H94	1.24	1.0
505005*	11.37	1.2	FSG 420LH	5.95	1.1			
Conventional			LANCER	5.84	2.2			
5312	10.91	3.0	Conventional			5312	1.26	3.6
ONEIDA VR	10.22	3.1	5312	5.77	3.0	ONEIDA VR	1.17	4.2
VERNAL	9.88	2.6	ONEIDA VR	5.61	2.8	VERNAL	1.20	4.2
Trial Mean (T/A)	10.71		VERNAL	5.63	3.0	Trial Mean (T/A)	1.22	
5% LSD	0.90		Trial Mean (T/A)	5.50		5% LSD	0.09	
CV(%)	6.6		5% LSD	0.56		CV(%)	5.6	
			CV(%)	8.0				

**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.	
			BW	VW	FW	AN	PRR	Phone Number	Web or E-mail Address
PGI 215	Alforex Seeds	2	HR	HR	HR	HR	HR	1-877-560-5181	<a href="http://www.alforexseeds.com">www.alforexseeds.com</a>
PGI 529	Alforex Seeds	5	HR	R	HR	HR	HR		
PGI 557	Alforex Seeds	5	HR	HR	HR	HR	HR		
AMERISTAND 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	1-800-873-2532	<a href="http://www.americasalfalfa.com/">www.americasalfalfa.com/</a>
ARCHER III	America's Alfalfa	5	HR	HR	HR	HR	HR		
BOBWHITE 2ML	Blue River Hybrids	4	HR	HR	HR	HR	HR	1-800-370-7979	<a href="http://www.blueriverorgseed.com/">www.blueriverorgseed.com/</a>
5010	BrettYoung	5	HR	HR	HR	HR	HR	1-800-665-5015	<a href="http://www.brettyoung.ca/">www.brettyoung.ca/</a>
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		
GEMSTONE	Chemgro Seeds	4	HR	HR	HR	HR	HR	1-800-346-4769	<a href="http://www.chemgro.com">www.chemgro.com</a>
GUNNER	CROPLAN	5	HR	HR	HR	HR	HR	1-651-765-5710	<a href="http://www.croplan.com">www.croplan.com</a>
REBOUND 6.0	CROPLAN	4	HR	HR	HR	HR	HR		
HYBRIFORCE-3400	Dairyland Seed Co.	4	HR	HR	HR	HR	HR	1-800-236-0163	<a href="http://www.dairylandseed.com">www.dairylandseed.com</a>
MAGNUM 7-WET	Dairyland Seed Co.	4	HR	HR	HR	HR	HR		
MAGNUM 7	Dairyland Seed Co.	4	HR	HR	HR	HR	HR		
DKA40-51RR	Dekalb	4	HR	HR	HR	HR	HR	1-800-335-2676	<a href="http://www.monsanto.com">www.monsanto.com</a>
DKA41-18RR	Dekalb	4	HR	HR	HR	HR	HR		
DKA43-22RR	Dekalb	4	HR	HR	HR	HR	HR		
DKA44-16RR	Dekalb	4	HR	HR	HR	HR	HR		
PERSIST II	Doebler's	4	HR	HR	HR	HR	HR	1-800-853-2676	<a href="http://www.doebler.com">www.doebler.com</a>
PERSIST III	Doebler's	4	HR	HR	HR	HR	HR		
PHIRST EXTRA	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	<a href="http://www.fsseed.com">www.fsseed.com</a>
MAGNITUDE	GROWMARK FS	4	HR	HR	HR	HR	HR		
MARINER IV	GROWMARK FS	4	HR	HR	HR	HR	HR		
SECURE-BR	King's AgriSeeds	4	HR	HR	HR	HR	HR	1-717-687-6224	<a href="http://www.kingsagriseeds.com/">www.kingsagriseeds.com/</a>
GA-409	Legacy Seeds	4	HR	HR	HR	HR	HR	1-866-791-6390	<a href="http://www.legacyseeds.com">www.legacyseeds.com</a>
L 455HD	Legacy Seeds	4	HR	HR	HR	HR	HR		
LEGACY 449-APH2	Legacy Seeds	4	HR	HR	HR	HR	HR		
6497R	NEXGROW	4	HR	HR	HR	HR	HR	1-855-463-9476	<a href="http://www.plantnexusgrow.com">www.plantnexusgrow.com</a>
54QR04	Pioneer Hi-Bred	4	HR	HR	HR	HR	HR	1-800-247-6803	<a href="http://www.pioneer.com">www.pioneer.com</a>
55H94	Pioneer Hi-Bred	5	HR	HR	HR	HR	HR		
55Q27	Pioneer Hi-Bred	5	HR	HR	HR	HR	HR		
55V50	Pioneer Hi-Bred	5	HR	HR	R	HR	HR		
EZRA	Seedway	3	R	R	HR	HR	R	1-800-836-3710	<a href="http://www.seedway.com">www.seedway.com</a>
N-R-GEE	Seedway	4	HR	HR	HR	R	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	<a href="http://www.semican.ca">www.semican.ca</a>
MASKA	Semican International	4	HR	HR			HR		
CRAVE	T.A. Seeds	4	HR	HR	HR	HR	HR	1-866-813-7333	<a href="http://www.taseeds.com">www.taseeds.com</a>
SENECA	T.A. Seeds	4	HR	HR	HR	HR	HR		
DG 4210	Crop Production Services	4	HR	HR	HR	HR	HR	1-585-586-1330	<a href="http://www.cropproductionservices.com">www.cropproductionservices.com</a>
WL 354HQ	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR	1-717-917-1609	<a href="http://www.wlresearch.com">www.wlresearch.com</a>
WL 356HQ.RR	Seedway; Crop Prod. Services; W-L	4	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-Anthraxnose, Prr-Phytophthora root rot

**Red Clover and Birdsfoot Trefoil Cultivar Yield Trials- 2014 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		2014			2013	2012	3-Yr.	
RED CLOVER		Total	% of	% Stand	Total	Total	Total	% of Cks
Cultivar/Experimental	Marketing Company	Season	Cks.	28-Oct	Season	Season	Total	% of Cks
		T/A			T/A	T/A	T/A	
Cinnamon Plus	check/Allied Seed, L.L.C.	4.78	102	46	7.02	5.64	17.44	101
Marathon	check	4.63	98	50	6.95	5.47	17.04	99
RC0005	Allied Seed, L.L.C.	4.68	99	42	6.80	5.29	16.77	97
			Ck. Mean					Ck. Mean
	5% LSD	0.39	4.71		0.42	0.35	0.72	17.24

Sown on May 16, 2012		2014			2013	2-Yr.	
RED CLOVER		Total	% of	% Stand	Total	Total	% of Cks
Cultivar/Experimental	Marketing Company	Season	Cks.	13-Nov	Season	Season	% of Cks
		T/A			T/A	T/A	
RC 9806	PICKSEED	4.14	103	40	7.45	11.59	106
Cinnamon Plus	check / Allied Seed, L.L.C.	4.29	107	42	7.14	11.43	105
FSG 402	Seedway	4.16	103	50	7.03	11.19	103
IS-TP12	DLF International Seeds	3.41	85	20	7.07	10.48	96
Marathon	check	3.75	93	30	6.62	10.37	95
B.11.1816	Blue Moon Farms	1.41	35	6	5.11	6.51	60
			Ck. Mean				Ck. Mean
	5% LSD	0.70	4.02	11	0.60	1.16	10.90

Sown on May 3, 2013		2014		
RED CLOVER		Total	% of	% Stand
Cultivar/Experimental	Marketing Company	Season	Cks.	6-Nov
		T/A		
RC0401	Allied Seed L.L.C.	6.55	101	83
Cinnamon Plus	check / Allied Seed, L.L.C.	6.50	101	81
RC0702	DLF International Seeds	6.43	100	84
Marathon	check	6.41	99	82
TP12B	DLF International Seeds	6.12	95	76
			Ck. Mean	
	LSD(.05)	0.38	6.46	

Sown on May 7, 2014		2014	
RED CLOVER		Sept. 10	% of
Cultivar/Experimental	Marketing Company		Cks.
		T/A	
Dynamite	Grassland Oregon	1.76	119
Emarwan	Pure Seed	1.71	116
DLFPS TP12	DLF International Seeds	1.59	108
Cinnamon Plus	check/Allied Seed, L.L.C.	1.50	101
DLFPS RC 9806	DLF International Seeds	1.47	100
Marathon	check	1.45	98
Gallant Red	Preferred	1.35	91
DLFPS RC 0702	DLF International Seeds	1.31	89
GO-MER	Grassland Oregon	1.18	80
			Ck. Mean
	LSD(.05)	0.11	1.48

Sown May 7, 2014		2014
BIRDSFOOT TREFOIL		Sept. 9
Cultivar	Marketing Company	
		T/A
Pardee	Seedway	0.76
WITT	Allied Seed L.L.C.	0.67
GO-13-BFT	Grassland Oregon	0.63
Bruce	Welter	0.59
	LSD(.05)	0.13

Marketing Company*	Phone	Web address
Allied Seed, L.L.C.	1-208-250-6321	<a href="http://www.alliedseed.com">www.alliedseed.com</a>
Blue Moon Farms	1-541-936-1210	
DLF International Seeds	1-800-445-2251	<a href="http://www.dlfis.com/">www.dlfis.com/</a>
Grassland Oregon	1-503-566-9900	<a href="http://www.grasslandoregon.com">www.grasslandoregon.com</a>
Growmark FS	1-800-338-4769	<a href="http://www.fsseed.com">www.fsseed.com</a>
PICKSEED	1-705-878-9240	<a href="http://www.pickseed.com/ECanada/index.htm">www.pickseed.com/ECanada/index.htm</a>
Preferred Seed	1-716-895-7333	<a href="http://www.preferredseed.com">www.preferredseed.com</a>
Pure Seed	1-503-651-2130	<a href="http://www.pureseed.com">www.pureseed.com</a>
Seedway	1-800-836-3710	<a href="http://www.seedway.com">www.seedway.com</a>

**PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2014**

Table 4: 2014 Perennial Forage Grass Yield Summary

Ithaca, Tompkins Co., Sown 2011, 2012, 2013, 2014

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: 2011 plantings Williamson silt loam, 2012 and 2013 Niagara silt loam, 2014 Rhinebeck silt loam

Marketer		2014			2013		2012		3 or 2-Yr. Total
		Total Season	Oct. % Stand	Heading Date	Total Season	Heading Date	Total Season	Heading Date	
		T/A			T/A		T/A		
<b>Timothy</b>		<b>Sown May 11, 2011</b>							
Richmond	check	5.50	75	1-Jun	6.09	24-May	6.23	22-May	17.82
Summit	Seedway	5.32	75	30-May	5.95	24-May	6.21	19-May	17.47
Crest	Seedway	5.18	68	1-Jun	5.53	24-May	5.51	22-May	16.22
Climax	check	5.00	68	5-Jun	5.63	3-Jun	5.00	30-May	15.64
	<i>analyzed 2 reps.</i>	LSD(.05)	0.82	9	0.72		0.61		
<b>Timothy</b>		<b>Sown May 18, 2012</b>							
TM0801	FFR	6.27	74	28-May	8.21	24-May			14.49
TM0802	FFR	5.94	76	3-Jun	8.19	29-May			14.13
Summit	Seedway	5.76	74	29-May	7.87	24-May			13.63
Crest	Seedway	5.56	79	4-Jun	7.46	29-May			13.02
Ovation	Semican	5.36	73	3-Jun	7.51	29-May			12.87
Climax	check	4.98	74	4-Jun	7.69	3-Jun			12.68
Kara	Semican	5.02	76	9-Jun	7.62	3-Jun			12.64
SummerGraze	BrettYoung	4.98	71	9-Jun	7.15	5-Jun			12.13
Clair	check	4.86	78	3-Jun	7.11	29-May			11.98
		LSD(.05)	0.24	6	0.28				
<b>Timothy</b>		<b>Sown May 18, 2013</b>							
Derby	Growmark FS	7.47	86	28-May					
Alternate	BrettYoung Seeds	7.31	83	1-Jun					
Zenyatta	DLF International Seeds	7.09	89	28-May					
TM9701	Allied Seed, L.L.C.	6.97	89	28-May					
Php 6C	DLF International Seeds	6.77	85	29-May					
Project	BrettYoung Seeds	6.65	85	29-May					
Clair	check	6.61	86	1-Jun					
Climax	check	6.15	83	4-Jun					
		LSD(.05)	0.49	5					
<b>Orchardgrass</b>		<b>Sown May 11, 2011</b>							
Extend	Seedway	4.44	45	18-May	7.46	10-May	7.07	9-May	18.97
IS-OG 53	DLF International Seeds	4.29	35	18-May	7.27	13-May	7.20	10-May	18.76
Potomac	check	4.16	55	18-May	7.31	10-May	6.90	9-May	18.37
Olympia	Pennington Seed	4.11	55	28-May	7.14	19-May	6.86	20-May	18.11
		LSD(.05)	0.27	23	0.28		0.32		
<b>Orchardgrass</b>		<b>Sown May 18, 2012</b>							
Checkmate	PICKSEED	4.84	45	25-May	9.19	19-May			14.03
PPG-OG102	Mountain View Seed	4.81	43	27-May	9.14	19-May			13.95
PPG-OG101	Mountain View Seed	5.04	45	27-May	8.60	13-May			13.65
Potomac	check	4.89	43	21-May	8.75	13-May			13.64
PPG-OG103	Mountain View Seed	4.29	33	6-Jun	9.23	20-May			13.52
Orca	PICKSEED	4.75	53	25-May	8.32	17-May			13.07
Niva	DLF International Seeds	4.27	40	27-May	8.09	22-May			12.36
		LSD(.05)	0.36	8	0.54				
<b>Orchardgrass</b>		<b>Sown May 18, 2013</b>							
Pawnee	Seedway	5.87	73	21-May					
Pennlate	check	5.65	63	18-May					
Bounty	Seedway	5.62	70	19-May					
Haymaster	Growmark FS	5.61	60	18-May					
Potomac	check	5.52	60	19-May					
Harvestar	Preferred Seed	4.93	45	27-May					
Extend	Seedway	4.93	48	18-May					
OG 62	DLF International Seeds	4.81	45	23-May					
OG 61 M2	DLF International Seeds	4.56	35	27-May					
		LSD(.05)	0.34	9					
<b>Bromegrass</b>		<b>Sown May 11, 2011</b>							
Peak	Seedway/FSG	5.49	78	22-May	7.01	19-May	4.59	14-May	17.08
Hakari	Barenbrug	4.40	55	1-Jun	6.89	25-May	6.17	22-May	17.46
		LSD(.05)	0.46	12	1.14		0.66		
<b>Bromegrass</b>		<b>Sown May 18, 2013</b>							
BAR Bif1GRL	check	6.95	83	23-May					
York	check	6.78	90	23-May					
Peak	Seedway/GROWMARK FS	6.29	90	23-May					
Success	Allied Seed, L.L.C.	6.11	43	23-May					
		LSD(.05)	0.95	10					

**PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2014**



**PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2014**

Table 4: 2014 Perennial Forage Grass Yield Summary

Ithaca, Tompkins Co., Sown 2011, 2012, 2013, 2014

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: 2011 plantings Williamson silt loam, 2012 and 2013 Niagara silt loam, 2014 Rhinebeck silt loam.

Marketer	2014			2013		2012		3 or 2-Yr. Total	
	Total Season	Nov. % Stand	Heading Date	Total Season	Heading Date	Total Season	Heading Date		
	T/A			T/A		T/A			
<b>Tall Fescue</b>									
Sown May 11, 2011									
KY 31 E-	check	5.44	74	25-May	8.85	21-May	7.46	14-May	21.74
KY 31 E+	check	5.23	73	25-May	9.11	21-May	7.05	13-May	21.39
Enhance	Seedway	5.08	74	25-May	8.71	21-May	6.77	14-May	20.56
Tower 647	DLF International Seeds	4.81	65	28-May	8.32	24-May	6.58	22-May	19.71
	LSD(.05)	0.33	6		0.44		0.69		
<b>Tall Fescue</b>									
Sown May 18, 2012									
Tuscany II	PICKSEED	5.69	64	27-May	9.20	20-May			14.89
Flourish	Seedway/ Allied	5.79	73	28-May	9.10	22-May			14.89
Kora	DLF International Seeds	5.85	60	28-May	8.94	22-May			14.79
Tower	DLF International Seeds	5.18	61	1-Jun	8.89	24-May			14.07
PPG-FTF101	Mountain View Seeds	5.69	70	25-May	8.98	19-May			14.66
PST-SCAN	BrettYoung	4.55	74	25-May	7.45	19-May			12.00
KY 31 E+	check	5.56	66	28-May	8.98	22-May			14.54
KY 31 E-	check	5.67	70	27-May	9.28	22-May			14.94
BARFaFL 118701	Barenbrug	5.06	64	28-May	8.92	20-May			13.98
BARFaFL 118702	Barenbrug	5.27	68	28-May	8.72	22-May			13.99
	LSD(.05)	0.32	7		0.58				
<b>Tall Fescue</b>									
Sown May 18, 2013									
Jesup MaxQ	Pennington	7.53	83	23-May					
KY 31 E+	check	7.45	80	23-May					
KY 31 E-	check	7.32	80	23-May					
KYFA9821 / AR584	U of Kentucky	7.17	80	23-May					
KYFA9301 / AR584	U of Kentucky	7.03	84	23-May					
FTF 70B	DLF International Seeds	6.80	75	27-May					
GT213 AR584	AgResearch USA Limited	6.65	79	23-May					
FTF 73C	DLF International Seeds	6.60	83	25-May					
AGRFA-200 AR584	AgResearch USA Limited	6.02	63	29-May					
AGRFA-179 AR584	AgResearch USA Limited	5.57	55	27-May					
	LSD(.05)	0.38	8						
<b>Perennial Ryegrass and Festulolium</b>									
Sown May 11, 2011									
Tetragam	Mountain View Seeds				6.13	24-May	6.09	22-May	12.22
Gain (Festulolium)	Seedway				6.28	22-May	5.11	14-May	11.39
Boost	Seedway				5.83	21-May	5.31	19-May	11.14
Spring Green (Festulolium)	check				5.59	21-May	5.46	14-May	11.06
Tetrasweet	Mountain View Seeds				5.49	22-May	4.63	20-May	10.11
Tivoli	DLF International Seeds				5.61	3-Jun	4.32	1-Jun	9.93
Linn	check				4.04	14-May	4.51	13-May	8.55
	LSD(.05)				0.29		0.33		
Tetraploid perennial ryegrass Tivoli, Tetrasweet, Boost; Hybrid Ryegrass - Tetragam; Diploid perennial ryegrass -Linn; festulolium -Spring Green, Gain									
<b>Perennial Ryegrass and Festulolium</b>									
Sown May 18, 2012									
Hostyn (Festulolium)	DLF International Seeds	4.25	30	4-Jun	8.02	22-May			12.28
Perun (Festulolium)	DLF International Seeds	4.10	28	4-Jun	8.01	22-May			12.10
Spring Green (Festulolium)	check	4.06	45	1-Jun	7.27	22-May			11.33
Zenital	BrettYoung	4.27	53	11-Jun	6.36	3-Jun			10.62
Calibra	check	3.81	48	6-Jun	6.74	24-May			10.55
Torgal	BrettYoung	4.08	43	9-Jun	6.11	24-May			10.20
Linn	check	3.13	48	28-May	5.18	17-May			8.31
	LSD(.05)	0.35	7		0.47				
Tetraploid perennial ryegrass-Calibra, Diploid perennial ryegrass - Zenital, Torgal, Linn; Festulolium-Spring Green, Perun, Hostyn									
<b>Perennial Ryegrass and Festulolium</b>									
Sown May 18, 2013									
<b>Festulolium</b>									
Mahulena	DLF International Seeds	7.69	81	18-May					
FOJTAN	DLF International Seeds	6.96	81	25-May					
ReBAB	DLF International Seeds	6.79	80	27-May					
Hipast	DLF International Seeds	6.56	68	27-May					
Spring Green	check	4.95	48	27-May					
<b>Perennial Ryegrass</b>									
RAD-MFP142	Allied Seed, L.L.C.	4.92	55	9-Jun					
Calibra	check	4.75	53	4-Jun					
RAD-MRF145	Allied Seed, L.L.C.	4.60	53	1-Jun					
Linn	check	4.24	71	23-May					
Full Throttle	Columbia Seeds								
	LSD(.05)	0.56	7						
<b>Marketing Co.</b>									
<b>Marketing Company</b>	<b>Phone Number</b>	<b>Web or E-mail Address</b>							
Ag Research USA Limited	828-645-3872								
Allied Seed, L.L.C.	208-250-6321	<a href="http://www.alliedseed.com">www.alliedseed.com</a>							
Barenbrug USA	800-547-4101	<a href="http://www.barusa.com">www.barusa.com</a>							
BrettYoung	800-665-5015	<a href="http://www.brettyoung.ca/">www.brettyoung.ca/</a>							
Columbia Seeds	888-681-7333	<a href="http://www.columbiaseeds.com">www.columbiaseeds.com</a>							
DLF International Seeds	541-369-2251	<a href="http://www.dlfiis.com">www.dlfiis.com</a>							
FFR Cooperative	765-589-3123	<a href="http://www.ffrcoop.org/">www.ffrcoop.org/</a>							
Growmark FS	800-338-4769	<a href="http://www.fsseed.com">www.fsseed.com</a>							
Mountain View Seeds	503-588-7333	<a href="http://www.mvviewseeds.com">www.mvviewseeds.com</a>							
Pennington Seed	800-285-SEED	<a href="http://www.penningtonseed.com">www.penningtonseed.com</a>							
PICKSEED	705-878-9240	<a href="http://www.pickseed.com/ECanada/index.html">www.pickseed.com/ECanada/index.html</a>							
Preferred Seed	716-895-7333	<a href="http://www.preferredseed.com">www.preferredseed.com</a>							
Seedway	800-836-3710	<a href="http://www.seedway.com">www.seedway.com</a>							
Semican	866-736-4226	<a href="http://www.semican.ca">www.semican.ca</a>							
Smith Seed Services	888-550-2930	<a href="http://www.smithseed.com">www.smithseed.com</a>							

**PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2014**

**Perennial Forage Grass Varieties - 2013 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 2014 will be analyzed and reported on in 2015.

**Table 5: Spring Forage Quality Data for Grass Varieties**

<i>Varieties sorted by early maturity to late maturity</i>	Trial Sown 2011 Boot Stage in 2013			<i>Varieties sorted by early maturity to late maturity</i>	Trial Sown 2012 Boot Stage in 2013		
	Date at Boot Stage	% NDF	% NDFD		Date at Boot Stage	% NDF	% NDFD
<b>Perennial Ryegrass and Festulolium</b>				<b>Perennial Ryegrass and Festulolium</b>			
Linn	14-May	39	82	Linn	17-May	43	84
Boost	21-May	45	82	Hostyn (Festulolium)	22-May	49	80
Spring Green (Festulolium)	21-May	43	82	Perun (Festulolium)	22-May	44	83
Tetrasweet	22-May	44	84	Spring Green (Festulolium)	22-May	45	83
Gain (Festulolium)	22-May	44	82	Calibra	24-May	44	83
Tetramag	24-May	45	78	Torgal	24-May	47	84
Tivoli	3-Jun	53	75	Zenital	3-Jun	57	73
<b>Tall Fescue</b>				<b>Tall Fescue</b>			
Enhance	21-May	50	77	PPG-FTF101	19-May	50	73
KY 31 E-	21-May	51	74	PST-5CAN	19-May	48	75
KY 31 E+	21-May	48	77	Tuscany II	20-May	50	74
Tower 647	24-May	55	73	BARFaFL 118701	20-May	47	76
<b>Orchardgrass</b>				<b>Orchardgrass</b>			
Extend	10-May	54	85	Flourish	22-May	50	73
Potomac	10-May	53	85	Kora	22-May	51	74
IS-OG 53	13-May	52	84	KY 31 E+	22-May	51	72
Olympia	19-May	54	83	KY 31 E-	22-May	52	72
<b>Timothy</b>				<b>Timothy</b>			
Richmond	24-May	52	78	BARFaFL 118702	22-May	51	72
Crest	24-May	51	79	Tower	24-May	55	69
Summit	24-May	53	77	<b>Orchardgrass</b>			
Climax	3-Jun	58	69	PPG-0G101	13-May	56	83
<b>Bromegrass</b>				<b>Orchardgrass</b>			
Barpal 16	13-May	43	87	Potomac	13-May	56	81
Peak	19-May	55	82	Orca	17-May	58	78
Hakari	25-May	60	81	Checkmate	19-May	56	80
<b>Annual Ryegrass</b>				<b>Orchardgrass</b>			
AE 110	20-May	38	80	PPG-0G102	19-May	57	79
Mx108	22-May	47	74	PPG-0G103	20-May	58	79
PS-Lm-09-2	22-May	45	74	Niva	22-May	60	77
Fria	22-May	36	79	<b>Timothy</b>			
IS-LMT 5	22-May	46	74	TM0801	24-May	55	75
IS-LMT 6	22-May	42	77	Summit	24-May	56	74
IS-LMT 15	22-May	43	76	Clair	29-May	54	76
Zorro	22-May	44	77	TM0802	29-May	56	74
Lh-4x-1PS	24-May	43	72	Ovation	29-May	54	76
Feast II	24-May	42	76	Crest	29-May	56	77
				Kara	3-Jun	63	70
				Climax	3-Jun	61	70
				SummerGraze	5-Jun	59	67

**Perennial Forage Grass Varieties - 2013 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.

Samples from 2014 will be analyzed and forage quality reported in 2015.

**Table 6: 2013 Spring, First Harvest Forage Quality Data for Grass Varieties**

Varieties sorted by early maturity to late maturity	Trial Sown 2011					Varieties sorted by early maturity to late maturity	Trial Sown 2012				
	First Harvest in 2013- May 21			% Seed	Aftermath		First Harvest in 2013- May 20			% Seed	Aftermath
	Yield (t/a)	%	%	Heads at Harvest 2	Forage Yield (t/a)		Yield (t/a)	%	%	Heads at Harvest 2	Forage Yield (t/a)
<b>Perennial Ryegrass and Festulolium</b>						<b>Perennial Ryegrass and Festulolium</b>					
Linn	1.55	50	76	20	2.50	Linn	1.54	47	77	15	3.64
Boost	1.84	48	81	65	3.99	Hostyn (Festulolium)	2.00	49	78	83	6.02
Spring Green (Festulolium)	1.64	48	83	68	3.95	Perun (Festulolium)	1.98	46	79	83	6.03
Tetrasweet	1.22	46	85	65	4.27	Spring Green (Festulolium)	1.63	44	81	68	5.65
Gain (Festulolium)	1.56	46	83	63	4.72	Calibra	1.18	42	84	58	5.56
Tetramag	1.65	46	82	85	4.48	Torgal	0.97	44	85	65	5.15
Tivoli	1.06	43	86	78	4.55	Zenital	0.83	44	85	88	5.52
<b>Tall Fescue</b>						<b>Tall Fescue</b>					
Enhance	2.21	51	74	1	6.49	PPG-FTF101	1.41	51	69	1	7.57
KY 31 E-	2.28	54	73	1	6.57	PST-5CAN	1.13	48	72	1	6.33
KY 31 E+	2.20	53	73	1	6.91	Tuscany II	1.56	51	72	1	7.64
Tower 647	2.03	53	72	1	6.28	BARFaFL 118701	1.23	50	73	1	7.70
<b>Orchardgrass</b>						<b>Orchardgrass</b>					
Extend	2.35	61	70	1	5.11	Flourish	1.22	47	74	1	7.88
Potomac	2.57	63	72	1	4.73	Kora	1.36	50	73	1	7.58
IS-OG 53	2.19	62	73	1	5.09	KY 31 E+	1.32	51	71	1	7.66
Olympia	2.53	60	77	1	4.61	KY 31 E-	1.39	51	71	1	7.88
<b>Timothy</b>						<b>Timothy</b>					
Richmond	2.26	55	78	1	3.83	PPG-0G101	1.88	63	73	1	6.73
Crest	2.17	55	77	1	3.35	Potomac	2.00	60	74	1	6.75
Summit	2.45	54	76	1	3.50	Orca	1.79	62	74	1	6.53
Climax	2.30	53	80	1	3.33	Checkmate	1.96	61	74	1	7.23
<b>Bromegrass</b>						<b>Bromegrass</b>					
Barpal 16	1.54	60	75	1	4.64	PPG-0G102	1.83	60	75	1	7.31
Peak	2.13	66	75	1	4.87	PPG-0G103	1.66	61	75	1	7.57
Hakari	2.39	61	82	1	4.51	Niva	1.58	57	76	1	6.51
<b>Annual Ryegrass</b>						<b>Annual Ryegrass</b>					
AE 110	1.28	40	80	90	5.16	TM0801	2.10	56	74	2	6.11
Mx108	2.20	45	76	90	5.67	Summit	1.79	58	74	3	6.08
PS-Lm-09-2	1.67	45	75	90	6.14	Clair	1.48	54	77	43	5.64
Fria	1.33	39	82	90	4.41	TM0802	2.02	54	76	4	6.17
IS-LMT 5	2.07	45	77	90	6.13	Ovation	1.63	53	80	25	5.88
IS-LMT 6	2.00	44	78	90	5.94	Crest	1.57	52	83	23	5.89
IS-LMT 15	1.83	43	81	90	6.18	Kara	1.43	55	78	50	6.20
Zorro	1.89	44	77	90	6.37	Climax	1.58	53	79	45	6.11
Lh-4x-1PS	1.71	39	83	90	5.88	SummerGraze	1.77	53	78	19	5.38
Feast II	1.28	41	81	90	5.75						

**Table 7: Perennial Cool Season Grass Trials Sown in 2014.**  
**2014 Perennial Grass Trials, one harvest in 2014.**

Variety	Marketing Company	Yield 9-Oct
<b>Timothy</b>	<b>Sown May 12, 2014</b>	T/A
Zenyatta	DLF International Seeds	1.35
DLFPS TM0704DT	DLF International Seeds	1.35
DLFPS PHP6	DLF International Seeds	1.30
Richmond	DLF International Seeds	1.22
Ovation	Semican	1.22
Clair	check	1.16
TM0603	Allied Seed, L.L.C.	1.16
Switch	BrettYoung Seeds	1.14
Kara	Semican	1.10
Climax	check	1.03
	LSD(.05)	0.12

Variety	Marketing Company	Yield 9-Oct
<b>Orchardgrass</b>	<b>Sown May 12, 2014</b>	T/A
GO-MOSO	Grassland Oregon	1.87
OG0506	Allied Seed, L.L.C.	1.83
Potomac	check	1.83
Pennlate	check	1.81
Persist	Smith Seeds	1.76
GO-BxCR	Grassland Oregon	1.75
Elise	Pure Seed	1.72
OG0604WH	Allied Seed, L.L.C.	1.66
	LSD(.05)	0.10

First growth was cut off August 11, 2014.

**2014 Perennial Grass Trials, one harvest in 2014.**

Variety	Marketing Company	Yield 9-Oct
<b>Tall Fescue</b>	<b>Sown May 12, 2014</b>	T/A
TF0705SL	Allied Seed, L.L.C.	2.18
Cajun II	Smith Seeds	2.02
Brava	Allied Seed, L.L.C.	2.00
TF0402	Allied Seed, L.L.C.	1.99
KY 31-	check	1.91
KY 31+	check	1.89
Cowgirl	Pure Seed	1.85
	LSD(.05)	0.13

Variety	Marketing Company	Yield 9-Oct
<b>Perennial Ryegrass</b>	<b>Sown May 12, 2014</b>	T/A
Albion	Grassland Oregon	1.51
Spring Green	check	1.51
Calibra	check	1.37
Tetragain	Pure Seed	1.24
2COW	Pure Seed	1.18
Linn	check	0.99
	LSD(.05)	0.13

**2014 Weather Data for Ithaca New York and for New York State**

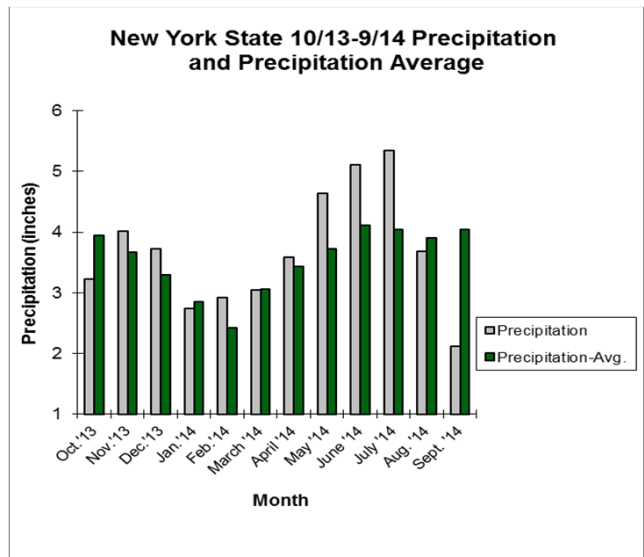
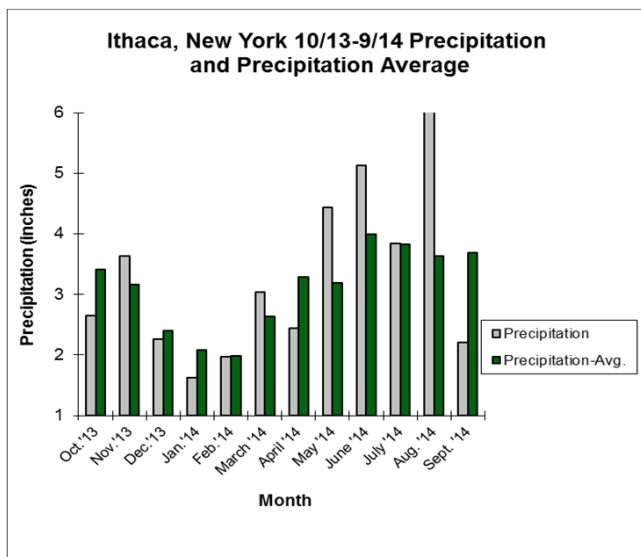
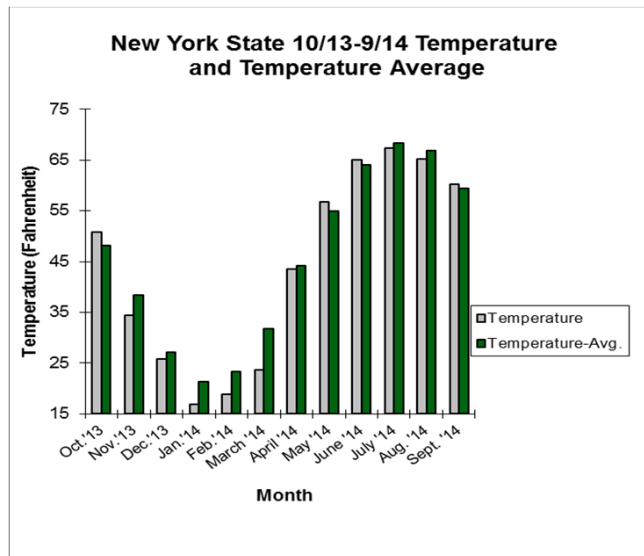
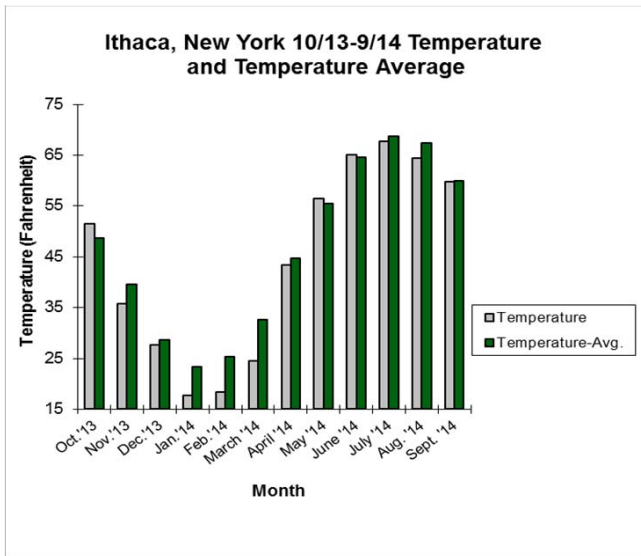


Figure 1: Ithaca, New York 10/13-9/14 temperature and precipitation.  
[www.nrcc.cornell.edu/page\\_summaries.html](http://www.nrcc.cornell.edu/page_summaries.html)

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

Alfalfa	Company	Pages	Alfalfa	Company	Pages	Red Clover	Company	Pages
5312	Pioneer Hi-Bred	3, 4, 5	GA-409	Legacy Seeds	5, 6	B.11.1816	Blue Moon Farms	7
428RR	Seedway/ GROWMARK FS	5, 6	GEMSTONE	Chemgro Seeds	3, 4, 6	Cinnamon Plus	check/Allied Seed, L.L.C.	7
5010	BrettYoung	3, 6	GUNNER	CROPLAN	3, 6	DLFPS RC 0702	DLF International Seeds	7
505004*	Pioneer Hi-Bred	4	HYBRIFORCE 3400	Dairyland Seed Co.	3, 4, 6	DLFPS RC 9806	DLF International Seeds	7
505005*	Pioneer Hi-Bred	5	L 455HD	Legacy Seeds	3, 4, 5, 6	DLFPS TP12	DLF International Seeds	7
54QR04	Pioneer Hi-Bred	5, 6	LANCER	GROWMARK FS	5, 6	Dynamite	Grassland Oregon	7
55H94	Pioneer Hi-Bred	3, 4, 5, 6	LEGACY 449APH2	Legacy Seeds	3, 4, 6	Emarwan	Pure Seed	7
55Q27	Pioneer Hi-Bred	3, 4, 5, 6	LS 905*	Legacy Seeds	5	FSG 402	Seedway	7
55V50	Pioneer Hi-Bred	3, 4, 5, 6	MAGNITUDE	GROWMARK FS	3, 4, 6	Gallant Red	Preferred	7
6497R	NEXGROW	5, 6	MAGNUM 7	Dairyland Seed Co.	4, 6	GO-MER	Grassland Oregon	7
AFX065033*	Alforex Seeds	5	MAGNUM 7-WET*	Dairyland Seed Co.	3, 4, 6	IS-TP12	DLF International Seeds	7
AFX083003*	Alforex Seeds	5	MARINER IV	GROWMARK FS	3, 4, 6	Marathon	check	7
AFX085029*	Alforex Seeds	5	MASKA	Semican International	3, 4, 5, 6	RC 9806	PICKSEED	7
AFX094017*	Alforex Seeds	5	msSunstra-B12*	Dairyland Seed Co.	3	RC0005	Allied Seed, L.L.C.	7
AFXH134090*	Alforex Seeds	5	msSunstra-C10*	Dairyland Seed Co.	4	RC0401	Allied Seed, L.L.C.	7
AFXH134091*	Alforex Seeds	5	msSunstra-C11*	Dairyland Seed Co.	4	RC0702	DLF International Seeds	7
AFXH134092*	Alforex Seeds	5	msSunstra-C12*	Dairyland Seed Co.	4	TP12B	DLF International Seeds	7
AMERISTAND 407TQ	America's Alfalfa	3, 6	msSunstra-C13*	Dairyland Seed Co.	4			
ARCHER III	America's Alfalfa	3, 6	msSunstra-C14*	Dairyland Seed Co.	4	<b>Timothy</b>		
BOBWHITE 2ML	Blue River Hybrids	3, 6	msSunstra-C15*	Dairyland Seed Co.	4	Alternate	BrettYoung Seeds	8
BRADOR	Semican International	3, 4, 5, 6	msSunstra-D11*	Dairyland Seed Co.	5	Clair	check	8, 10, 11, 12
CRAVE	T.A. Seeds	4, 6	msSunstra-D13*	Dairyland Seed Co.	5	Climax	check	8, 10, 11, 12
DG 4210	Crop Production Services	3, 4, 6	msSunstra-D14*	Dairyland Seed Co.	5	Crest	Seedway	8, 10, 11
DKA40-51RR	Dekalb	5, 6	msSunstra-D15*	Dairyland Seed Co.	5	Derby	GROWMARK FS	8
DKA41-18RR	Dekalb	5, 6	msSunstra-D16*	Dairyland Seed Co.	5	DLFPS PHP6	DLF International Seeds	12
DKA43-22RR	Dekalb	5, 6	msSunstra-D17*	Dairyland Seed Co.	5	DLFPS TM0704DT	DLF International Seeds	12
DKA44-16RR	Dekalb	5, 6	N-R-GEE	Seedway	3, 4, 5, 6	Kara	Semican International	8, 10, 11, 12
DSB01-T*	Dairyland Seed Co.	3	ONEIDA VR	Seedway	3, 4, 5	Ovation	Semican International	8, 10, 11, 12
DSB02-T*	Dairyland Seed Co.	3	OPTIMUS	BrettYoung	5, 6	Php 6C	DLF International Seeds	8
DSB03-T*	Dairyland Seed Co.	3	PERSIST II	Doebler's	3, 6	Project	BrettYoung Seeds	8
DSB04-BR*	Dairyland Seed Co.	3	PERSIST III	Doebler's	4, 6	Richmond	check	8, 10, 11, 12
DSB07-L*	Dairyland Seed Co.	3	PGI 215	Alforex Seeds	3, 6	SummerGraze	BrettYoung	8, 10, 11
DSB09-M*	Dairyland Seed Co.	3	PGI 529	Alforex Seeds	4, 6	Summit	Seedway	8, 10, 11
DSC01-T*	Dairyland Seed Co.	4	PGI 557	Alforex Seeds	3, 6	Switch	BrettYoung Seeds	12
DSC02-T*	Dairyland Seed Co.	4	PHIRST EXTRA	Doebler's	3, 6	TM0603	Allied Seed, L.L.C.	12
DSC03-BR*	Dairyland Seed Co.	4	PROLIFIC II	Doebler's	3, 6	TM0801	FFR	8, 10, 11
DSC04-BR*	Dairyland Seed Co.	4	REBOUND 6.0	CROPLAN	3, 6	TM0802	FFR	8, 10, 11
DSC05-BR*	Dairyland Seed Co.	4	REGEN	Seedway	3, 4, 5, 6	TM9701	Allied Seed, L.L.C.	8
DSC06-M*	Dairyland Seed Co.	4	SECURE-BR	King's AgriSeeds	3, 6	Zenyatta	DLF International Seeds	8, 12
DSD01-T*	Dairyland Seed Co.	5	Seedway 9558 SBR	Seedway	3, 4, 5, 6			
DSD02-T*	Dairyland Seed Co.	5	SENECA	T.A. Seeds	3, 6			
DSD04-T*	Dairyland Seed Co.	5	SHOCKWAVE BR	BrettYoung	5, 6			
DSD05-T*	Dairyland Seed Co.	5	STOCKPILE	BrettYoung	5, 6			
DSD06-M*	Dairyland Seed Co.	5	VERNAL	Public	3, 4, 5			
DSD07-M*	Dairyland Seed Co.	5	WL 354HQ	Seedway; Crop Prod. Services, W-L	3, 6			
EZRA	Seedway	3, 4, 5, 6	WL 356HQ.RR	Seedway; Crop Prod. Services, W-L	5, 6			
FG 45A119*	Forage Genetics	3	WL 372HQ.RR	Seedway; Crop Prod. Services, W-L	5, 6			
FG 48A177*	Forage Genetics	4						
FSG 329	Seedway	3, 4, 6	<b>Birdsfoot Trefoil</b>					
FSG 403LR	Seedway	3, 4, 6	Bruce	Welter	7			
FSG 408DP	Seedway	3, 4, 6	GO-13-BFT	Grassland Oregon	7			
FSG 420LH	Seedway	5, 6	Pardee	Seedway	7			
FSG 424	Seedway	4, 6	WITT	Allied Seed L.L.C.	7			
FSG 524	Seedway	4, 5						

**Orchardgrass**

Bounty	Seedway	8
Checkmate	PICKSEED	8, 10, 11
Elise	Pure Seed	12
Extend	Seedway	8, 10, 11
GO-BxCR	Grassland Oregon	12
GO-MOSO	Grassland Oregon	12
Harvestar	Preferred Seed	8
Haymaster	Growmark FS	8
IS-OG 53	DLF International Seeds	8, 10, 11
Niva	DLF International Seeds	8, 10, 11
OG 61 M2	DLF International Seeds	8
OG 62	DLF International Seeds	8
OG0506	Allied Seed, L.L.C.	12
OG0604WH	Allied Seed, L.L.C.	12
Olympia	Pennington Seed	8, 10, 11
Orca	PICKSEED	8, 10, 11
Pawnee	Seedway	8
Pennlate	check	8, 12
Persist	Smith Seeds	12
Potomac	check	8, 10, 11, 12
PPG-0G101	Mountain View Seed	8, 10, 11
PPG-0G102	Mountain View Seed	8, 10, 11
PPG-0G103	Mountain View Seed	8, 10, 11

**Bromegrass**

BAR Bif1GRL	check	8
Barpal 16	Barenbrug	10, 11
Hakari	Barenbrug	8, 10, 11
Peak	Seedway/FSG	8, 10, 11
Success	Allied Seed, L.L.C.	8
York	AMPAC	8

**Tall Fescue**

AGRFA-179 AR584	AgResearch USA Limited	9
AGRFA-200 AR584	AgResearch USA Limited	9
BARFaFL 118701	Barenbrug	9, 10, 11
BARFaFL 118702	Barenbrug	9, 10, 11
Brava	Allied Seed, L.L.C.	12
Cajun II	Smith Seeds	12
Cowgirl	Pure Seed	12
Enhance	Seedway	9, 10, 11
Flourish	Seedway/ Allied	9, 10, 11
FTF 70B	DLF International Seeds	9
FTF 73C	DLF International Seeds	9
GT213 AR584	AgResearch USA Limited	9
Jesup MaxQ	Pennington	9
Kora	DLF International Seeds	9, 10, 11
KY 31 E-	check	9, 10, 11, 12
KY 31 E+	check	9, 10, 11, 12
KYFA9301 / AR584	U of Kentucky	9
KYFA9821 / AR584	U of Kentucky	9
PPG-FTF101	Mountain View Seeds	9, 10, 11
PST-5CAN	BrettYoung	9, 10, 11
TF0402	Allied Seed, L.L.C.	12
TF0705SL	Allied Seed, L.L.C.	12
Tower	DLF International Seeds	9, 10, 11
Tower 647	DLF International Seeds	9, 10, 11
Tuscany II	PICKSEED	9, 10, 11

**Annual Ryegrass**

AE 110	PICKSEED	10, 11
Feast II	check	10, 11
Fria	Seedway/ GROWMARK FS	10, 11
IS-LMT 15	DLF International Seeds	10, 11
IS-LMT 5	DLF International Seeds	10, 11

**Perennial Ryegrass and Festulolium**

Boost	Seedway	9, 10, 11
Calibra	check	9, 10, 11, 12
FOJTAN (Festulolium)	DLF International Seeds	9
Full Throttle	Columbia Seeds	9
Gain (Festulolium)	Seedway	9, 10, 11
Hipast	DLF International Seeds	9
Hostyn (Festulolium)	DLF International Seeds	9, 10, 11
Linn	check	9, 10, 11, 12
Mahulena (Festulolium)	DLF International Seeds	9
Perun (Festulolium)	DLF International Seeds	9, 10, 11
RAD-MFP142	Allied Seed, L.L.C.	9
RAD-MRF145	Allied Seed, L.L.C.	9
ReBAB	DLF International Seeds	9
Spring Green (Festulolium)	check	9, 10, 11, 12
Tetramag	Mountain View Seeds	9, 10, 11
Tetrasweet	Mountain View Seeds	9, 10, 11
Tivoli	DLF International Seeds	9, 10, 11
Torgal	BrettYoung	9, 10, 11
Zenital	BrettYoung	9, 10, 11
Albion	Grassland Oregon	12
Tetragain	Pure Seed	12
2COW	Pure Seed	12

**Annual Ryegrass**

IS-LMT 6	DLF International Seeds	10, 11
Lh-4x-1PS	PICKSEED	10, 11
Mx108	PICKSEED	10, 11
PS-Lm-09-2	PICKSEED	10, 11
Zorro	DLF International Seeds	10, 11

**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://ipmqguidelines.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/>

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

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

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