

NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS

SUMMARY FOR 2017 – SEASON TOTALS

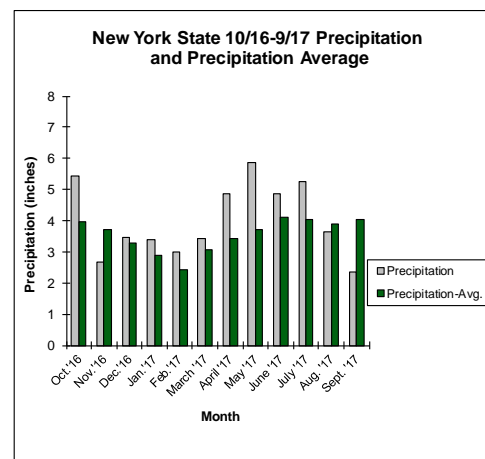
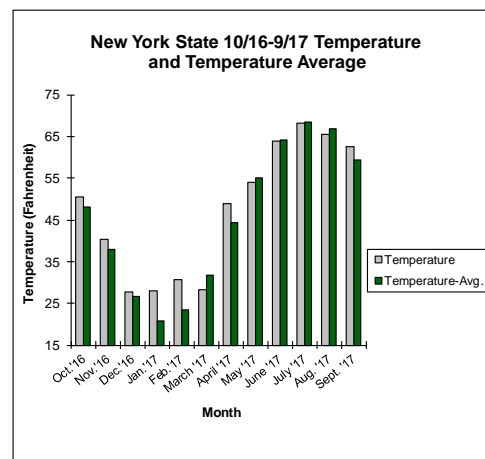


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<http://plbrgen.cals.cornell.edu/research-extension/forage-project/ny-forage-yield-results>. Photo: Meadow fescue trial at Cornell Agricultural Experiment Station near Ithaca NY.

Introduction Forage variety total season yields from New York in the 2017 growing season are in this report. 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 submitted the varieties/cultivars in the trials, from Cornell University Agricultural Experiment Station, and from Northern New York Agricultural Development Program. Trials of perennial forages are managed for four years; seeding year and three production years. Alfalfa yields for 2017 averaged 5.7 tons per acre dry matter (0.4 tons more than in 2016), red clover yields averaged 4.4 tons per acre dry matter (1.3 tons per acre more than in 2016), and perennial forage grass yields averaged 7.2 tons per acre dry matter (2.6 tons per acre more than in 2016).

Cultivar/Variety Selection

Plant breeders continue to develop new and improved varieties with better agronomic characteristics such as yield, disease and insect resistance, forage quality, etc. Seed cost of improved varieties can be higher than for other varieties, 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 varieties. Variety performance should be critically evaluated by comparing yield with other varieties in two or more trials that are in the second or later year of production.



New York State 10/16-9/17 temperature and precipitation. Weather data from the Northeast Regional Climate Center at Cornell U. <http://www.nrcc.cornell.edu/regional/tables/tables.html>

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Weather and the 2017 Rain and Mist. From October 2016 to February 2017, temperatures were above normal (average rank 106 out of 123 years (1=coolest, 123= warmest)). May 2017 to August 2017 had temperatures that were below normal (average rank 58 out of 123 years). Precipitation was above normal (ranged from 111 % to 157% above normal) from January to July 2017. Finally in August, some hay-making / chopping weather came along (see graphs on page 1).

Alfalfa (Tables 1 and 2, pages 3-7) varieties for New York usually need 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. Varieties with higher fall dormancy ratings will produce more forage in the fall. Varieties that have fall dormancy ratings higher than 4 may have unacceptable winter-hardiness for New York, particularly in Northern New York.

An alfalfa trial was planted at Geneva in Western NY and alfalfa and other forage trials were planted at Ithaca in Southern Tier NY in 2017. These trials established very well and have excellent stands for harvest from 2018 to 2020. All of the production year alfalfa trials were harvested three times between late May and mid-October. Late harvest dates this year were due to extremely rainy weather and poor drying conditions. The alfalfa trial near Richfield Springs in Otsego County and Cobleskill in Schoharie County (both in Eastern NY) had severe yellow leaf blotch in the fall.

Round-up Ready alfalfa varieties are tested for yield in separate trials at Ithaca and in one trial at Cobleskill (page 5). A limited number of potato leafhopper (PLH) resistant alfalfa varieties are tested in trials that are not sprayed with insecticide (page 6).

Red Clover and Birdsfoot Trefoil (Table 3, page 8) 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. The third production year trial was harvested at first cut, but plot stands were too thin to harvest later in the season. Birdsfoot Trefoil is a legume that tolerates soils that alfalfa will not be productive on. Birdsfoot trefoil

should always be planted in combination with other forages. Also, birdsfoot trefoil does not tolerate low cutting heights, so it is advisable to leave 5+ inches of stubble in the field. Birdsfoot trefoil variety trials were not harvested in 2017.

Grass yield (Tables 4, 5, and 6, pages 9-13) trials were fertilized with 315 lb/A ammonium sulfate in early April and after first and second harvests. Forage grass trials are normally harvested four times between May 20th and November 3rd. In 2017 perennial grass trials were harvested three times due to frequent rain events. Grass growth was lush and difficult to harvest. Grass yields by species for production year trials harvested 2017 are listed in summary **Table 4, pages 9-10**.

Also listed is a visual estimate of percent stand and heading date. Heading date is the calendar date when about 5 + seed heads at the boot stage were visible for each variety in one trial replicate. Use percent stand, heading date, and yield to select grass varieties that fit your forage program.

Grass forage quality estimates from 2016 for the trials planted in 2014 and 2015 are presented in **Tables 5 and 6, pages 11-12**. Grass forage quality samples are taken at the first growth only (May/June), not at the other two or three harvests. When grass plants produce seed heads, the seed head stems lower forage quality. Samples from each variety are taken on two days – replicate samples at harvest time and replicate samples at heading date. Forage quality estimates from 2017 for trials planted in 2015 and 2016 will be available late winter.

Table 7 (page 13) is a summary of grasses planted and harvested in 2017, and annual grass trial results. The first growth was cut off in August and then the trials were harvested for yield measurements in October.

See [2017 Cornell Guide for Integrated Field Crop Management](http://fieldcrops.cals.cornell.edu/) for more detailed management information (<http://fieldcrops.cals.cornell.edu/>).

We express appreciation to all of our cooperators for allowing us to plant and harvest forage plot trials on their farms and to all of the people who work to harvest the trials (names on pg. 13). Also, thanks to the seed companies and forage breeding companies that test their forages in New York.

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017

Table 1: NY Alfalfa Cultivar Yield Trial Results - 2017 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.

Cultivars (listed alphabetically)	Summary of Conventional Alfalfa Cultivar Performance 2015 - 2017 Yielded in the		
	Top 50% in the Trial(s)*		Total No. of harvests
	Avg. % of Cks	No. of harvests	
55H94	99	3	24
55Q27	113	32	35
55V50	112	26	35
55VR06	104	5	5
KINGBIRD	99	3	3
BRADOR	106	18	18
EZRA	108	29	29
FSG 415BR	112	6	6
FSG 426	109	6	6
GA-409	105	9	9
HYBRIFORCE-3400	114	6	6
L-455HD	110	9	9
MASKA	111	18	18
N-R-GEE	104	5	11
ONEIDA VR	100	3	26
PERSIST III	108	17	17
PLUSS III	107	6	17
REBOUND 6XT	108	3	6
RED FALCON	106	3	3
REGEN	110	18	18
ROBIN	101	3	3
Seedway 9558 SBR	108	6	29
SW 315LH	110	11	17
VERNAL	100	3	35

*Cultivars sorted by total yield over all production years.

*Data from Conventional Alfalfa Trials, not from no-insecticide or Roundup Ready trials.

*Data from production year trials only, not from trials sown in 2016.

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

Alfalfa Entered as Experimental in Ithaca 2014			
Cultivar/ Experimental	2017	3-Yr Total	3 Yr % of
	Total (T/A)	Season (T/A)	Cks.
			% of Cks.
AFXH134092*	6.92	18.41	119
AFXH134090*	6.60	17.75	115
AFXH134091*	6.41	17.42	113

Alfalfa Entered as Experimental in Richfield Springs 2014			
Cultivar/ Experimental	2017	3-Yr Total	3 Yr % of
	Total (T/A)	Season (T/A)	Cks.
AFX083003*	4.34	14.25	107
AFX065033*	4.28	14.01	105
AFX094017*	4.17	13.33	100
AFX085029*	4.11	13.14	99

Ithaca, Tompkins County, Sown May 2014			
Cultivars	2017 Total	3-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
55V50	6.90	18.69	121
55Q27	6.44	17.16	111
MASKA	6.40	17.05	110
REGEN	6.55	16.96	110
EZRA	6.38	16.71	108
BRADOR	6.18	16.44	106
GA-409	6.10	16.25	105
DKA41-18RR	6.00	16.17	105
Seedway 9558 SBR	5.96	16.04	104
5312	6.14	15.86	103
55H94	5.80	15.85	103
VERNAL	5.73	15.31	99
ONEIDA VR	5.98	15.17	98
Mean	6.17	16.36	Ck. Mean
5% LSD	0.45	0.74	15.45
CV (%)	5.8	3.6	

Richfield Springs, Otsego County, Sown May 2014			
Cultivars	2017 Total	3-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
MASKA	4.46	14.90	112
REGEN	4.46	14.68	110
L-455HD	4.37	14.63	110
55Q27	4.51	14.56	110
EZRA	4.26	14.20	107
BRADOR	4.24	13.94	105
55V50	4.39	13.86	104
55H94	4.26	13.51	102
VERNAL	4.18	13.48	101
Seedway 9558 SBR	4.15	13.48	101
5312	4.25	13.32	100
Mean	4.19	13.62	Ck. Mean
5% LSD	0.25	0.65	13.29
CV (%)	4.6	3.8	

^Severe Yellow Leaf Blotch at Harvest 3 from 2015-2017.

Trial, Seeding Year	Soil series, elevation, # of harvests in 2017
Ithaca, 2014, Page 3	Rhinebeck silt loam, 970 feet, 3 harvests
Richfield Springs, 2014, Pg 3	Honeoye silt loam, 1400 feet, 3 harvests
Ithaca, 2015, Page 4-5	Williamson silt loam, 1000 ft., 3 harvests
Chazy, 2015, Page 4	Raynham variant silt loam, 185 ft., 2 harvests
Ithaca, 2016, Page 4-5	Erie Chippewa channery silt loam, 1054 ft. 3 har.
Cobleskill, 2016, Page 4	Barbour Tioga fine sandy loam, 1170 ft.3 harvest
Ithaca, 2017	Bath and Valois, 1047 ft, 0 harvests
Geneva, 2017	Honeoye and Lima loam, 486 feet, 0 harvests

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017

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Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2017 Forage Yields

Ithaca, Tompkins County			
Sown May 2015			
Cultivars	2017 Total	2-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
55V50	6.96	13.21	115
HYBRIFORCE-3400	6.81	13.09	114
55Q27	7.02	12.94	113
FSG 415BR	6.71	12.86	112
FSG 426	6.52	12.46	109
EZRA	6.56	12.46	109
Seedway 9558 SBR	6.67	12.37	108
PERSIST III	6.52	12.28	107
PLUSS III	6.50	12.27	107
DKA41-18RR	6.49	12.01	105
N-R-GEE	6.39	11.98	105
55H94	6.42	11.75	103
ONEIDA VR	6.18	11.75	103
SW 315LH	6.21	11.50	101
VERNAL	6.12	11.48	100
5312	6.04	11.10	97
<i>Mean</i>	6.60	12.40	<i>Ck. Mean</i>
<i>5% LSD</i>	0.45	0.68	11.44
<i>CV (%)</i>	5.4	4.4	

Chazy, Clinton County			
Sown May 2015			
Cultivars	2017 Total	2-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
55Q27	4.91	11.30	116
PERSIST III	4.81	10.78	111
55V50	4.76	10.60	109
EZRA	4.64	10.39	107
SW 315LH	4.64	10.26	105
N-R-GEE	4.50	10.16	104
55VR06	4.45	10.15	104
5312	4.51	9.90	102
PLUSS III	4.16	9.83	101
VERNAL	4.27	9.74	100
ONEIDA VR	4.21	9.54	98
Seedway 9558 SBR	4.06	9.48	97
<i>Mean</i>	4.48	10.05	<i>Ck. Mean</i>
<i>5% LSD</i>	0.41	0.71	9.73
<i>CV (%)</i>	7.1	5.5	

Ithaca, Tompkins County		
Sown May 2016		
Cultivars	2017 Total	2017 % of Cks.
tons per acre		
SW 315LH	7.48	114
PERSIST III	6.95	106
RED FALCON	6.93	106
ROBIN	6.60	101
VERNAL	6.58	100
ONEIDA VR	6.53	100
55V50	6.51	99
55H94	6.50	99
KINGBIRD	6.48	99
55Q27	6.30	96
KF-406AP2	6.28	96
PLUSS III	5.87	89
KF-425HD	5.86	89
DKA41-18RR	5.86	89
LIGHTNING BOLT	5.85	89
REBOUND 6XT	5.67	86
59W205	5.36	82
		Ck. Mean
<i>Mean</i>	6.38	6.56
<i>5% LSD</i>	0.34	
<i>CV (%)</i>	4.3	

Cobleskill		
Sown May 2016		
Cultivars	2017 Total	2017 % of Cks.
tons per acre		
55Q27	6.42	114
55V50	6.40	114
SW 315LH	6.27	112
REBOUND 6XT	6.05	108
PERSIST III	6.04	108
PLUSS III	6.00	107
LIGHTNING BOLT	5.98	107
ONEIDA VR	5.66	101
VERNAL	5.56	99
		Ck. Mean
<i>Mean</i>	6.17	5.61
<i>5% LSD</i>	0.29	
<i>CV (%)</i>	3.7	
Cobleskill 2016 Experimentals		
AFX144174*	6.85	122
AFX144178*	6.55	117
SW4107*	6.44	115
SW5210*	6.23	111
SW5213*	6.09	109

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Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2017 Forage Yields

Ithaca, Tompkins County (continued from page 4)		
Sown May 2015	2-Yr	2-Yr
Experimental Pop.	Total	% of Cks.
- tons per acre -		
AFXH144108*	14.00	122
AFX134080*	13.30	116
AFX144117*	13.27	116
HYBRIFORCE-3400-OB1*	13.17	115
HYBRIFORCE-3400-OB2*	13.16	115
AFX133033*	12.98	113
AFX143009*	12.96	113
AFX134082*	12.91	113
RENEW +*	12.87	113
AFX134029*	12.58	110
AFX133032*	12.43	109
4H400*	12.14	106
		Ck Mean
		11.44

Ithaca, Tompkins County (continued from page 4)		
Sown May 2016	2017	2017
Experimental Pop.	Total	% of Cks.
- tons per acre -		
HYBRIFORCE 3430*	7.06	108
msSunstra-143146*	6.99	107
msSunstra-144108*	6.96	106
msSunstra-144110*	6.78	103
SW5210*	6.51	99
LS1302*	6.47	99
msSunstra-144109*	6.39	97
msSunstra-144123*	6.37	97
SW1412Y*	6.37	97
LS1401*	6.34	97
SW4209*	6.25	95
LS1004*	6.19	94
LS1104*	6.13	93
LS1103*	6.00	91
HS MULTI*	5.87	89
HF MULTI*	5.55	85
		Ck Mean
		6.56

ROUNDUP READY ALFALFA TRIALS; Sown Ithaca NY 2014 to 2017, and Cobleskill 2016

Sown May 2014

Released And Experimental Varieties	2017 Total	3-Yr Total
- tons per acre dry matter -		
54QR04	7.09	18.98
DKA43-22RR	6.68	17.81
DKA40-51RR	6.64	17.71
DKA44-16RR	6.17	17.22
DKA41-18RR	6.29	16.87
<i>Mean</i>	6.57	17.72
<i>5% LSD</i>	0.44	1.07
<i>CV (%)</i>	5.0	4.5

Sown May 2015

Released And Experimental Varieties	2017 Total	2-Yr Total
- tons per acre dry matter -		
DKA44-16RR	6.78	13.52
55VR06	6.95	13.45
DKA41-18RR	6.82	13.10
430 RR LH	6.79	12.91
DKA40-51RR	6.69	12.84
<i>Mean</i>	6.81	13.16
<i>5% LSD</i>	0.57	1.37
<i>CV (%)</i>	6.2	7.8

Sown May 2016

Ithaca

Released And Experimental Varieties	2017 Total
	T/A
DKA41-18RR	5.29
RR APHATRON 2XT	5.19
55VR08	5.00
DKA40-51RR	4.87
DKA44-16RR	4.85
<i>Mean</i>	5.04
<i>5% LSD</i>	0.23
<i>CV (%)</i>	3.4

Sown May 2016

Cobleskill

Released And Experimental Varieties	2017 Total
	T/A
55VR08	6.47
DKA41-18RR	6.13
DKA40-51RR	6.07
DKA44-16RR	6.05
<i>Mean</i>	6.18
<i>5% LSD</i>	0.63
<i>CV (%)</i>	7.4

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017

Table 1 (cont): NY Alfalfa Cultivar Yield Trial Results - 2017 Forage Yields

2017 Alfalfa Trials to Test Insect Resistant Cultivars; Trials in Ithaca NY*

Trials harvested 3 times per production year; 2016 trial on Erie Chippewa channery silt loam; 2015 trial on Williamson silt loam;

2014 trial on Rhinebeck silt loam.

PLH populations were at high levels in 2017.

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

Oneida VR, 5312, N-R-Gee, and Vernal are alfalfa cultivars susceptible to potato leafhopper.

Sown May 2014

Released And Experimental Varieties	2017 Total	3-Yr Total	PLH Avg. Damage Score 2-Aug-17
-- tons per acre dry matter --			
55H94	6.60	16.83	1.0
5312	6.42	16.83	3.1
ONEIDA VR	6.50	16.16	3.4
VERNAL	6.32	16.02	3.6
SW 315LH*	5.72	15.97	1.2
<i>Trial Mean</i>	<i>5.91</i>	<i>15.85</i>	Damage Score:
<i>LSD(0.05)</i>	<i>0.47</i>	<i>0.85</i>	1=none
<i>CV(%)</i>	<i>6.1</i>	<i>4.2</i>	5=severe

Sown May 2015

Released And Experimental Varieties	2017 Total	2-Yr Total	PLH Avg. Damage Score 18-Jul-17
-- tons per acre dry matter --			
55H94	7.36	13.82	1.4
WL 358LH	7.03	13.55	3.1
49H344	7.06	13.42	1.6
SW 315LH	6.77	13.29	1.1
430 RR LH	7.09	13.20	1.4
N-R-GEE	6.41	12.90	4.9
ONEIDA VR	6.51	12.88	5.0
VERNAL	6.45	12.62	4.7
<i>Mean</i>	<i>6.76</i>	<i>13.08</i>	Damage Score:
<i>LSD(.05)</i>	<i>0.47</i>	<i>0.76</i>	1=none
<i>CV(%)</i>	<i>5.5</i>	<i>4.5</i>	5=severe

Sown May 2016

Released And Experimental Varieties	2017 Total t/a	PLH Avg. Damage Score 26-Jul
SW 315LH	5.93	1.2
55H94	5.63	1.7
VERNAL	5.55	4.1
N-R-GEE	4.84	3.9
49H344	4.43	1.8
<i>Mean</i>	<i>5.51</i>	Damage Score:
<i>5% LSD</i>	<i>0.40</i>	1=none
<i>CV (%)</i>	<i>5.7</i>	5=severe

Sown May 2017

Released And Experimental Varieties	
SW 315LH	NO
SCIMITAR	HARVESTS
VERNAL	2017
N-R-GEE	
430 RR LH	
55H94	

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Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the National Institute of Food and Agriculture (NIFA) or the United States Department of Agriculture(USDA)

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017

Table 2: Alfalfa Cultivar Features

For more information log on to the Web:

<http://plbrgen.cals.cornell.edu/research-extension/forage-project/ny-forage-yield-results>

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*					PRR	Marketing Co. Phone Number	Web or E-mail Address
			BW	VW	FW	AN	PRR			
59W205	BrettYoung	5	R	HR	HR	HR	HR	1-800-665-5015	www.brettyoung.ca/	
KINGBIRD	Blue River Organic Seed	5	HR	HR	HR	HR	HR	1-800-370-7979	www.blueriverorgseed.com	
RED FALCON	Blue River Organic Seed	4	HR	HR	HR	HR	HR			
ROBIN	Blue River Organic Seed	5	HR	HR	HR	HR	HR			
RR APHATRON 2XT	CROPLAN	4	HR	HR	HR	HR	HR	1-651-765-5710	www.croplan.com	
REBOUND 6XT	CROPLAN	4	HR	HR	HR	HR	HR			
HYBRIFORCE-3400	Dairyland Seed Co.	4	HR	HR	HR	HR	HR	1-800-236-0163	www.dairylandseed.com	
HYBRIFORCE-3430	Dairyland Seed Co.	4	HR	HR	HR	HR	HR			
DKA40-51RR	Dekalb	4	HR	HR	HR	HR	HR	1-800-335-2676	www.monsanto.com	
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 III	Doebler's	4	HR	HR	HR	HR	HR	1-800-853-2676	www.doebler.com	
PLUSS III	Doebler's	4	HR	HR	HR	HR	HR			
SCIMITAR	GROWMARK FS	4	HR	HR	HR	HR	HR	1-800-338-4769	www.fsseed.com	
KF 406AP2	King's AgriSeeds	4	HR	HR	HR	HR	HR	1-717-687-6224	www.kinsagriseeds.com	
KF 425HD	King's AgriSeeds	4	HR	HR	HR	HR	HR			
GA-409	Legacy Seeds	4	HR	HR	HR	HR	HR	1-866-791-6390	www.legacyseeds.com	
L 455HD	Legacy Seeds	4	HR	HR	HR	HR	HR			
4H400	Mycogen Seeds	4	HR	HR	HR	HR	HR	1-800-MYCOGEN	www.mycogen.com	
54QR04	Pioneer Hi-Bred	4	HR	HR	HR	HR	HR	1-800-247-6803	www.pioneer.com	
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			
55VR06	Pioneer Hi-Bred	5	HR	HR	R	HR	HR			
55VR08	Pioneer Hi-Bred	5		HR	HR	HR	HR			
LIGHTNING BOLT	Preferred Seed Co.	4	HR	HR	HR	HR	HR	1-716-895-7333	www.preferredseed.com	
EZRA	Seedway	3	R	R	HR	HR	R	1-800-836-3710	www.seedway.com	
N-R-GEE	Seedway	4	HR	HR	HR	R	R			
REGEN	Seedway	3	R	HR	HR	HR	R			
Seedway 9558 SBR	Seedway	4	R	R	R	HR	MR			
SW 315LH	Seedway	3	R	HR	MR	HR	R			
FSG 415BR	Seedway	4	HR	HR	HR	HR	HR			
FSG 426	Seedway	4	HR	HR	HR	HR	HR			
430 RR LH	Seedway	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			HR			
WL 358LH	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR	1-717-917-1609	www.wlresearch.com	

*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- 2017 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 on May RED CLOVER		2017		2016		2015		3-Yr.	
Cultivar/Experimental	Marketing Company	Total Season	% of Cks.	Total Season	% of Cks.	Total Season	% of Cks.	Total	% of Cks
		T/A		T/A		T/A		T/A	
DLFPS RC 0702	DLF Pickseed USA Inc.	2.23	157	3.30	115	6.54	100	12.07	111
Gallant Red	Preferred	1.75	123	3.08	108	6.61	101	11.44	106
DLFPS RC 9806	DLF Pickseed USA Inc.	1.35	95	2.98	104	6.90	105	11.24	104
Cinnamon Plus	check/ Allied Seed, L.L.C.	1.62	114	2.93	102	6.64	101	11.18	103
Marathon	check	1.21	85	2.79	98	6.48	99	10.49	97
DLFPS TP12	DLF Pickseed USA Inc.	0.98	69	2.91	102	6.32	96	10.21	94
Emarwan	Pure Seed	1.00	70	2.77	97	6.28	96	10.05	93
GO-MER	Grassland Oregon	1.30	92	2.85	100	5.48	84	9.64	89
Dynamite	Grassland Oregon	0.68	48	2.03	71	5.60	85	8.30	77
			Ck. Mean		Ck. Mean		Ck. Mean		Ck. Mean
	Trial Mean	1.45	1.42	2.75	2.86	6.4	6.56	10.84	10.84
	5% LSD	0.36		0.37		0.32		0.71	

Sown on May RED CLOVER		2017			2016		2-Yr.	
Cultivar/Experimental	Marketing Company	Total Season	% of Cks.	% Stand	Total Season	% of Cks.	Total	% of Cks
		T/A			T/A		T/A	
FSG 402	Seedway	5.67	105	48	4.87	101	10.54	103
Cinnamon Plus	check/ Allied Seed, L.L.C.	5.48	101	40	4.82	100	10.29	101
Marathon	check	5.31	98	42	4.77	99	10.08	99
FF9615	La Crosse Seed	5.05	94	42	4.71	98	9.76	96
Dynamite	Grassland Oregon	4.07	75	18	4.3	90	8.37	82
			Ck. Mean			Ck. Mean		Ck. Mean
	Trial Mean	5.12	5.40	38	4.69	4.80	9.81	10.19
	5% LSD	1.07		8.74	0.42		1.23	

Sown on May 2016 RED CLOVER		2017		
Cultivar/Experimental	Marketing Company	Total Season	% of Cks.	% Stand
		T/A		
TP 12	DLF Pickseed USA Inc.	7.15	104	84
Cinnamon Plus	check/Allied Seed, L.L.C.	7.10	103	90
RC 0702	DLF Pickseed USA Inc.	7.04	102	90
Bearcat	Brett Young	6.87	100	90
EVOLVE	DLF Pickseed USA Inc.	6.81	99	88
Marathon	check	6.68	97	88
BAR TP10	Barenbrug	6.38	93	88
Aberclarret	Brett Young	6.07	88	90
			Ck. Mean	
	Trial Mean	6.76	6.89	89
	5% LSD	0.29		5

Sown on May 2017 RED CLOVER	
Cultivar/Experimental	Marketing Company
UNO	Mountain View Seeds
FSG402	Seedway
FF9615	La Crosse Seed
Cinnamon Plus	check/Allied Seed, L.L.C.
Marathon	check

Marketing Company*	Phone	Web address
Allied Seed, L.L.C.	1-208-250-6321	www.alliedseed.com
Barenbrug	1-800-547-4101	www.barusa.com
Brett Young	1-800-665-5015	www.brettyoung.ca
DLF Pickseed USA Inc.	1-800-445-2251	www.dlfis.com/
Grassland Oregon	1-503-566-9900	www.grasslandoregon.com
LaCrosse Seed	1-800-328-1909	www.lacrosseseed.com
Mountain View Seeds	1-503-588-7333	www.mtviewseeds.com/
Preferred Seed	1-716-895-7333	www.preferredseed.com
Pure Seed	1-503-651-2130	www.pureseed.com
Seedway	1-800-836-3710	www.seedway.com

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017**Table 4: 2017 Perennial Forage Grass Yield Summary**

Ithaca, Tompkins Co., Sown 2014,2015, 2016

T/A = tons per acre dry matter

Marketing contacts listed on page 10

5%LSD = claim statistically significant yield differences between two cultivars, 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 three times per year.

Soils: 2014 plantings Rhinebeck silt loam, 2015 plantings Hudson and Collamer silt loams, 2016 plantings Erie-Ellery Channery silt loam .

Species/ Cultivar	Marketer	2017			2016		2015		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	T/A	
Timothy		Sown May 12, 2014							
DLFPS TM0704DT	DLF Pickseed USA Inc.	6.82	62	29-May	4.03	29-May	6.22	29-May	17.06
DLFPS PHP6	DLF Pickseed USA Inc.	7.05	70	24-May	4.01	29-May	5.89	29-May	16.95
Clair	check	6.94	63	29-May	3.74	31-May	5.58	29-May	16.26
Zenyatta	DLF Pickseed USA Inc.	6.22	63	26-May	3.96	27-May	6.05	29-May	16.23
Richmond	DLF Pickseed USA Inc.	6.28	63	26-May	3.83	29-May	5.89	29-May	16.00
Ovation	Semican	6.64	63	26-May	3.61	29-May	5.57	27-May	15.83
Kara	Semican	6.84	60	3-Jun	3.46	31-May	5.40	29-May	15.70
Climax	check	6.37	70	3-Jun	3.29	2-Jun	4.91	3-Jun	14.56
Switch	BrettYoung	6.03	60	29-May	3.50	31-May	4.96	29-May	14.49
TM0603	FFR	6.14	57	8-Jun	3.38	6-Jun	4.93	8-Jun	14.44
	LSD(.05)	0.62	8		0.40		0.39		0.96
Timothy		Sown May 1, 2015							
GO-120X	Grassland Oregon	7.24	73	31-May	3.88	2-Jun			10.97
Clair	check	7.01	73	28-May	3.94	29-May			10.80
Switch	check	7.00	67	31-May	3.68	31-May			10.50
Climax	check	6.87	67	3-Jun	3.63	2-Jun			10.32
	LSD(.05)	1.34	17		0.23				1.53
Timothy		Sown May 11, 2016							
TM9704	Hood River Seed	8.39	78	26-May					
Summergraze	BrettYoung	7.59	70	31-May					
Climax	Check	7.51	75	3-Jun					
Varis	Mountain View Seed	7.10	73	31-May					
	LSD(.05)	0.39	6						
Orchardgrass		Sown May 12, 2014							
Pennlate	check	7.41	50	14-May	4.60	19-May	5.70	17-May	17.71
OG0604WH	FFR	7.79	48	19-May	4.52	20-May	5.35	19-May	17.66
Elise	check	7.52	53	14-May	4.34	19-May	5.77	17-May	17.63
Potomac	check	7.43	53	12-May	4.32	17-May	5.73	17-May	17.48
Persist	Smith Seeds	6.84	48	14-May	4.72	19-May	5.64	17-May	17.19
GO-MOSO	Grassland Oregon	6.67	43	16-May	4.45	22-May	5.45	20-May	16.57
GO-BxCR	Grassland Oregon	6.75	50	16-May	4.29	19-May	5.52	19-May	16.56
OG0506	FFR	6.83	40	14-May	4.19	19-May	5.45	20-May	16.46
	LSD(.05)	0.64	6		0.36		0.44		1.09
Orchardgrass		Sown May 1, 2015							
Penn Late	check	8.57	74	14-May	4.94	16-May			13.52
Potomac	check	8.27	70	12-May	4.99	16-May			13.26
Orca	DLF Pickseed USA Inc.	8.03	79	15-May	5.12	17-May			13.15
Extend	Seedway	8.13	75	14-May	4.93	16-May			13.06
Checkmate	DLF Pickseed USA Inc.	7.69	74	17-May	4.89	20-May			12.58
OG0707	FFR	7.34	83	15-May	4.99	20-May			12.33
BAR DGL 13047	Barenbrug	7.36	65	19-May	4.47	25-May			11.83
	LSD(.05)	0.89	11		0.43				1.14
Orchardgrass		Sown May 11, 2016							
ENDURANCE	DLF Pickseed USA Inc.	8.33	73	14-May					
INAVALE	DLF Pickseed USA Inc.	8.20	70	17-May					
ECHELON	DLF Pickseed USA Inc.	8.17	69	19-May					
Trail Burst	BrettYoung	8.12	75	15-May					
OLATHE	DLF Pickseed USA Inc.	7.90	70	15-May					
Rushmore II	Mountain View Seed	7.90	75	14-May					
OG 62	DLF Pickseed USA Inc.	7.72	65	14-May					
Potomac	Check	7.71	75	12-May					
PPG-OG-114	Smith Seed Services	7.64	70	19-May					
BAR DG82R01	Barenbrug	7.60	70	17-May					
Pennlate	Check	7.39	68	12-May					
Treposno	Hood River Seed	7.00	65	17-May					
Lyra	Hood River Seed	6.62	65	18-May					
	LSD(.05)	0.89	7						
Bromegrass		Sown May 1, 2015							
Newell	USDA-ARS	7.34	80	21-May	3.96	25-May			11.31
York	AMPAC	7.09	70	19-May	3.45	20-May			10.53
GO-12SBF	Grassland Oregon	7.20	75	19-May	3.29	20-May			10.49
Peak	Allied	6.57	73	19-May	3.27	20-May			9.84
	LSD(.05)	0.48	9		0.36				0.79
Bromegrass		Sown May 11, 2016							
GO12 SBF1	Grassland Oregon	6.74	85	17-May					
Newell	USDA-ARS	6.50	85	21-May					
Arid	Mountain View Seeds	6.29	75	19-May					
Peak	Allied Seed, L.L.C.	6.19	89	19-May					
	LSD(.05)	0.48	9						

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017**Table 4: 2017 Perennial Forage Grass Yield Summary**

Ithaca, Tompkins Co., Sown 2014, 2015, 2016

T/A = tons per acre dry matter

Marketing contacts listed on page 10

5%LSD = claim statistically significant yield differences between two cultivars, 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 three or four times per year.

Soils: 2014 plantings Rhinebeck silt loam, 2015 plantings Hudson and Collamer silt loams, 2016 plantings Erie-Ellery Channery silt loam .

Marketer	2017			2016		2015		3 or 2-Yr. Total	
	Total Season	Nov. % Stand	Heading Date	Total Season	Heading Date	Total Season	Heading Date		
Tall Fescue									
		T/A		T/A		T/A			
Sown May 12, 2014									
TF0705SL	FFR	8.84	65	19-May	4.42	25-May	6.98	20-May	20.23
TF0402	FFR	8.38	68	19-May	4.48	25-May	6.99	23-May	19.85
Cajun II	Smith Seeds	8.63	69	18-May	4.30	22-May	6.86	19-May	19.78
Brava	Allied Seed, L.L.C.	8.39	65	18-May	4.39	22-May	6.61	20-May	19.39
KY 31-	check	8.16	65	19-May	4.07	25-May	7.14	21-May	19.36
Cowgirl	Pure Seed	8.10	71	19-May	4.14	25-May	6.39	21-May	18.62
	LSD(.05)	0.50	7		0.39		0.49		0.92
Tall Fescue									
Sown May 1, 2015									
KY31 +	check	9.13	70	19-May	6.00	22-May			15.13
KYFA1103	KY	9.01	78	19-May	5.71	20-May			14.72
BAR FA 13131	Barenbrug	8.83	75	19-May	5.80	22-May			14.63
KYFA930VAR584C2	KY	8.34	65	19-May	5.92	20-May			14.25
KY 31-	check	8.64	73	19-May	5.61	20-May			14.25
Bardoux	Barenbrug	8.35	63	21-May	5.76	25-May			14.11
KYFA9821/AR584C1	KY	8.15	64	19-May	5.90	20-May			14.05
Bardelice	Barenbrug	8.06	63	22-May	5.41	27-May			13.47
Bariane	Barenbrug	7.94	63	26-May	5.27	29-May			13.21
	LSD(.05)	0.41	9		0.47				0.70
Tall Fescue									
Sown May 11, 2016									
FTF 73	DLF Pickseed USA Inc.	8.61	73	20-May	94				
KY 31-	Check	8.32	75	17-May	95				
FTF 70	DLF Pickseed USA Inc.	7.95	70	20-May	91				
Payload	BrettYoung	7.85	75	15-May	88				
TOWER	DLF Pickseed USA Inc.	7.84	68	20-May	90				
Teton II	Mountain View Seed	7.55	75	12-May	94				
Ontaria	Hood River Seed	7.11	68	20-May	91				
	LSD(.05)	0.50	7		4				
Meadow Fescue									
Sown May 1, 2015									
Liherold	check	7.02	73	19-May	5.16	20-May			12.17
Pradel	Barenbrug	7.10	65	19-May	4.86	25-May			11.95
BAR FPF32	Barenbrug	6.95	60	21-May	4.68	25-May			11.64
	LSD(.05)	0.44	6		0.36				0.75
Meadow Fescue									
Sown May 11, 2016									
Raskila	Hood River Seed	7.33	80	21-May					
Pardus	Hood River Seed	7.24	90	20-May					
Pradel	Check	7.23	83	21-May					
	LSD(.05)	0.29	5						
Perennial Ryegrass and Festulolium									
Sown May 12, 2014									
Tetragain	Pure Seed	6.34	48	24-May	3.22	29-May	4.80	27-May	14.37
Spring Green (Fest.)	check	5.92	48	22-May	3.35	27-May	4.99	27-May	14.25
Calibra	check	5.76	50	26-May	2.68	29-May	4.39	29-May	12.83
Linn	check	6.05	53	19-May	2.92	22-May	3.78	19-May	12.75
Albion	Grassland Oregon	5.44	45	15-Jun	2.80	10-Jun	4.18	8-Jun	12.42
2COW	Pure Seed		28	21-May	3.13	27-May	3.56	27-May	
	LSD(.05)	0.69	10		0.40		0.45		1.02
2COW had severe weed encroachment so was not included in the 2017 data summary.									
Perennial Ryegrass and Festulolium									
Sown May 1, 2015									
Barvitra	Barenbrug	7.12	63	19-May	6.55	25-May			13.67
Remington	Barenbrug	6.97	78	31-May	5.42	29-May			12.39
PPG-Fest 102 (Fest.)	Mountain View Seeds	6.26	58	19-May	5.98	20-May			12.24
Spring Green (Fest.)	check	6.40	63	21-May	5.84	25-May			12.23
LPTNEAROM	Barenbrug	6.53	74	31-May	4.54	29-May			11.08
Calibra	check	5.94	58	22-May	4.65	27-May			10.59
Linn	check	5.47	73	14-May	4.51	17-May			9.98
GO-AXT	Grassland Oregon	5.48	70	24-May	4.43	27-May			9.91
	LSD(.05)	0.53	6		0.55				0.87
Perennial Ryegrass and Festulolium									
Sown May 11, 2016									
Festulolium									
Spring Green	Check	8.11	68	20-May					
MAHULENA	DLF Pickseed USA Inc.	8.05	80	12-May					
FOJTAN	DLF Pickseed USA Inc.	7.80	83	17-May					
PPG-FEST102	Mountain View Seed	7.75	68	20-May					
	LSD(.05)	0.40	7						
Perennial Ryegrass									
BISON 2	DLF Pickseed USA Inc.	7.32	65	21-May					
Barvitra	Barenbrug	7.10	63	20-May					
MAXIMO	DLF Pickseed USA Inc.	7.02	58	21-May					
BAR LP 15261	Barenbrug	6.05	81	3-Jun					
GARBOR	DLF Pickseed USA Inc.	5.90	73	22-May					
DEXTER 1	DLF Pickseed USA Inc.	5.56	74	21-May					
Calibra	Check	5.02	75	22-May					
Melpetra	Hood River Seed	4.81	71	8-Jun					
Linn	Check	4.69	75	15-May					
	LSD(.05)	0.44	5						
Kentucky Bluegrass									
Sown May 1, 2015									
Ginger	Allied Seed, L.L.C.	6.40	90	1-May	5.15	pre-May 13			11.55
GO-13NF	Grassland Oregon	6.48	83	5-May	4.77	pre-May 13			11.24
GO-13F	Grassland Oregon	6.08	88	5-May	4.95	pre-May 13			11.03
	LSD(.05)	0.29	6		0.21				0.44

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2017

Perennial Forage Grass Varieties - 2016 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 2017 will be analyzed and reported on in 2018.

Table 5: Spring Forage Quality Data for Grass Varieties

	Trial Sown 2014 Boot Stage in 2016				Trial Sown 2015 Boot Stage in 2016		
	Date at Boot Stage	% NDF	% NDFD		Date at Boot Stage	% NDF	% NDFD
Perennial Ryegrass				Perennial Ryegrass			
Linn	22-May	39	83	Linn	17-May	45	82
Spring Green	27-May	43	81	PPG-Fest 102	20-May	40	83
2COW	27-May	42	81	Barvitra	25-May	46	75
Calibra	29-May	46	81	Spring Green	25-May	48	80
Tetragain	29-May	49	80	GO-AXT	27-May	42	83
Albion	10-Jun	47	75	Calibra	27-May	46	83
				Remington	29-May	51	81
				LPTNEAROM	29-May	49	82
Tall Fescue				Tall Fescue			
Cajun II	22-May	49	73	KYFA930VAR584C2	20-May	47	77
Brava	22-May	50	74	KYFA1103	20-May	48	78
TF0402	25-May	46	73	KYFA9821/AR584C1	20-May	48	75
TF0705SL	25-May	45	76	KY 31-	20-May	46	75
KY 31+	25-May	47	76	BAR FA 13131	22-May	51	73
KY 31-	25-May	46	76	KY31 +	22-May	50	73
Cowgirl	25-May	47	75	Bardoux	25-May	51	74
				Bardelice	27-May	56	71
				Bariane	29-May	57	70
Orchardgrass				Orchardgrass			
Potomac	17-May	51	83	Penn Late	16-May	53	82
GO-BxCR	19-May	49	82	Potomac	16-May	54	82
OG0506	19-May	49	82	Extend	16-May	54	82
Persist	19-May	53	79	Orca	17-May	54	82
Pennlate	19-May	50	80	OG0707	20-May	52	80
Elise	19-May	50	79	Checkmate	20-May	50	80
OG0604WH	20-May	50	82	BAR DGL 13047	25-May	57	78
GO-MOSO	22-May	53	80				
Timothy				Timothy			
Zenyatta	27-May	59	72	Clair	29-May	60	70
DLFPS PHP6	29-May	63	68	Switch	31-May	59	69
DLFPS TM0704DT	29-May	63	70	Climax	2-Jun	63	68
Richmond	29-May	61	70	GO-120X	2-Jun	61	68
Ovation	29-May	61	72	Meadow Fescue			
Switch	31-May	61	70	Liherold	20-May	47	82
Clair	31-May	63	69	BAR FPF32	25-May	51	84
Kara	31-May	62	69	Pradel	25-May	47	83
Climax	2-Jun	62	69	Bromegrass			
TM0603	6-Jun	69	66	GO-12SBF	20-May	51	85
				York	20-May	52	83
				Peak	20-May	52	82
				Newell	25-May	60	78
				Kentucky Bluegrass			
				GO-13F	pre-May 13	51	81
				GO-13NF	pre-May 13	53	81
				Ginger	pre-May 13	57	78

Perennial Forage Grass Varieties - 2016 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 2017 will be analyzed and forage quality reported in 2018.

Table 6: 2016 Spring, First Harvest Forage Quality Data for Grass Varieties

	Trial Sown 2014						Trial Sown 2015				
	First Harvest in 2016-May 23			% Seed Heads at Harvest 2	2016 Aftermath Forage Yield (t/a)		First Harvest in 2016-May 23			% Seed Heads at Harvest 2	2016 Aftermath Forage Yield (t/a)
	Yield (t/a) Harvest 1	% NDF	% NDFD				Yield (t/a) Harvest 1	% NDF	% NDFD		
Perennial Ryegrass						Perennial Ryegrass					
Linn	1.75	38	84	33	1.17	Linn	2.79	50	77	8	1.72
Spring Green	1.61	35	89	50	1.73	PPG-Fest 102	3.25	45	79	83	2.73
2COW	1.60	34	90	48	1.52	Barvitra	3.60	45	80	90	2.95
Calibra	1.13	31	91	53	1.56	Spring Green	3.14	43	85	63	2.70
Tetragain	1.66	36	89	40	1.56	GO-AXT	2.08	39	88	18	2.34
Albion	0.90	32	88	38	1.90	Calibra	2.38	40	89	10	2.26
						Remington	2.49	42	88	33	2.92
						LPTNEAROM	2.17	38	89	33	2.37
Tall Fescue						Tall Fescue					
Cajun II	1.63	46	75	0	2.67	KYFA930VAR584C2	2.19	51	75	0	3.73
Brava	1.80	45	77	0	2.58	KYFA1103	1.99	54	74	0	3.73
TF0402	1.62	42	78	0	2.86	KYFA9821/AR584C1	2.15	52	74	0	3.76
TF0705SL	1.66	44	77	0	2.75	KY 31-	2.01	51	77	0	3.60
KY 31+	1.88	44	79	0	2.59	BAR FA 13131	2.17	51	74	0	3.63
KY 31-	1.60	42	79	0	2.47	KY31 +	2.12	52	75	0	3.87
Cowgirl	1.82	42	78	0	2.31	Bardoux	1.82	50	75	0	3.94
						Bardelice	1.82	49	78	0	3.59
						Bariane	1.80	50	77	0	3.46
Orchardgrass						Orchardgrass					
Potomac	2.17	54	79	0	2.15	Penn Late	1.99	57	78	0	2.96
GO-BxCR	2.07	53	80	0	2.21	Potomac	1.95	56	79	0	3.04
OG0506	2.19	52	80	0	1.99	Extend	1.87	57	79	0	3.06
Persist	2.23	55	77	0	2.49	Orca	1.95	56	80	0	3.17
Pennlate	2.34	54	79	0	2.26	OG0707	2.02	56	78	0	2.96
Elise	2.18	55	78	0	2.16	Checkmate	1.93	57	79	0	2.96
OG0604WH	2.25	54	81	0	2.29	BAR DGL 13047	1.70	56	81	0	2.77
GO-MOSO	1.92	53	80	0	2.53						
Timothy						Timothy					
Zenyatta	2.45	54	80	0	1.51	Clair	2.06	52	82	11	1.88
DLFPS PHP6	2.33	53	78	0	1.71	Switch	1.99	53	80	5	1.69
DLFPS TM0704DT	2.28	54	81	0	1.72	Climax	2.00	52	84	3	1.63
Richmond	2.31	54	80	0	1.52	GO-120X	2.08	50	85	13	1.79
Ovation	2.12	53	83	0	1.49	Meadow Fescue					
Switch	2.06	53	80	0	1.45	Liherold	2.29	52	81	0	2.87
Clair	2.21	52	83	0	1.53	BAR FPF32	1.86	50	87	0	2.83
Kara	2.06	54	82	0	1.39	Pradel	2.09	48	84	0	2.76
Climax	1.91	52	83	0	1.37	Bromegrass					
TM0603	2.03	52	84	0	1.35	GO-12SBF	1.80	53	83	0	1.50
						York	1.82	54	83	0	1.63
						Peak	1.70	56	82	0	1.57
						Newell	2.18	56	84	0	1.79
						Kentucky Bluegrass					
						GO-13F	2.57	58	75	0	2.39
						GO-13NF	2.02	62	72	0	2.74
						Ginger	2.43	61	71	0	2.72

Table 7: Perennial Cool Season Grass Trials Sown on May 18, 2017.

2017 Perennial Grass Trials, cut off Aug. 28 and harvested Oct. 18.

Variety	Marketing Co.	Yield	Variety	Marketing Co.	Yield
Timothy		T/A	Tall Fescue		T/A
KY-Early	Smith Seed	1.20	KY 31+	Check	1.73
TM 9902	Mountain View Seeds	1.19	Dominate	Seedway	1.69
Rakel	Brett Young	1.07	HHG32	Healthy Herd	1.66
TRYGGVE	Preferred Seed	1.04	Florine	Albert Lea Seed	1.63
Climax	check	1.03	Swaj	Brett Young	1.63
	LSD(.05)	0.09	FTF 84	DLF Pickseed	1.63
Orchardgrass		T/A	FTF 89	DLF Pickseed	1.61
OG 80	DLF Pickseed	1.55	Pastoral	Mountain View Seeds	1.56
Captur	DLF Pickseed	1.54	PPG-FTF-112	Mountain View Seeds	1.53
Potomac	check	1.53	Softane	DLF Pickseed	1.48
Lucharm	Albert Lea Seed	1.50		LSD(.05)	0.19
OG 79	DLF Pickseed	1.47	Per. Ryegrass and Festulolium		
Lukir	Albert Lea Seed	1.39	Federo	Albert Lea Seed	1.78
Pennlate	check	1.34	FPF2	DLF Pickseed	1.59
	LSD(.05)	0.11	REMINGTON	Barenbrug	1.36
Meadow Fescue		T/A	Elena	Seedway	1.33
Tored	Brett Young	1.58	RAD-MFP141	Allied Seed, LLC	1.29
BAR FP 16058	Barenbrug	1.52	BAR LP 16237	Barenbrug	1.29
PRADEL	Barenbrug	1.47	Spring Green	check	1.22
SW Minto	Albert Lea Seed	1.41	Tomaso	Albert Lea Seed	1.14
Tetrax	check	1.35	Calibra	Check	1.00
	LSD(.05)	0.1	BAR LP 16238	Barenbrug	0.97
			Linn	Check	0.78
				LSD(.05)	0.21

Variety	Marketing Company	Yield 2017	Yield 2016
Annual Grasses	Sown May 11, 2016	T/A	T/A
Meroa	Smith Seed Services	6.38	2.40
Big Bang	BrettYoung	6.50	2.44
FIRKIN	DLF Pickseed USA Inc.	7.52	2.69
FOX	DLF Pickseed USA Inc.	7.15	2.50
NFCG07	Barenbrug	NA	3.44
Centurion	Mountain View Seed	6.34	2.13
Gulf	Check	5.22	1.71
Feast II	Check	6.58	2.56
BAR LM 13370	Barenbrug	8.00	2.95
BAR LM 15371	Barenbrug	7.47	2.66
Barextra	Barenbrug	6.85	2.23
	LSD(.05)	0.81	0.34

Variety	Marketing Company	Yield 2017
Annual Grasses	Sown May 18, 2017	T/A
Crabgrass		
Red River	check	1.51
NF-CG07-1	Barenbrug	1.32
Quick N Big	check	0.53
	LSD(.05)	0.25
Annual Grasses		
Gulf	check	5.17
BAR LM16370	Barenbrug	5.14
Feast II	check	5.10
BAREXTRA	Barenbrug	4.94
Meroa	Smith Seed	4.61
BAR LM16371	Barenbrug	4.58
SIRG-16MA	Smith Seed	4.17
	LSD(.05)	0.62

Company - Grasses	Phone	Web address
Albert Lea Seeds	1-800-352-5247	http://www.alseed.com
Allied Seed, L.L.C.	1-208-250-6321	www.alliedseed.com
AMPAC Seed Co.	1-541-928-1651	www.ampacseed.com/
Barenbrug USA	1-800-547-4101	www.barusa.com
Brett Young	1-800-665-5015	www.brettyoung.ca
DLF Pickseed USA Inc.	1-800-445-2251	www.dlfis.com/
Grassland Oregon	1-503-566-9900	www.grasslandoregon.com
Healthy Herd Genetics	1-315-280-0038	
Hood River	1-855-406-2696	www.hoodriverseed.com
LaCrosse Seed	1-800-328-1909	www.lacrosseseed.com
Mountain View Seeds	1-503-588-7333	www.mtviewseeds.com/
Preferred Seed	1-716-895-7333	www.preferredseed.com
Pure Seed	1-503-651-2130	www.pureseed.com
Seedway	1-800-836-3710	www.seedway.com
Semican	1-866-736-4226	www.semican.ca
Smith Seed	1-888-550-2930	www.smithseed.com

Cornell University Forage Project - 2017 Cooperators and Cornell Student Research Assistants and Seasonal Employees.*Many Thanks to our Summer & Seasonal Employees for help with Trial Harvests and Sampling.*

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John Conklin	CUAES Mechanic		
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Ken Paddock	Cornell Univ. Research Support Specialist	NYS Ag Experiment Station Staff, including S. Gordner and M. Christiansen	

Crop	Pages	Crop	Pages	Crop	Pages	Crop	Pages
Alfalfa		Alfalfa		Orchardgrass		Tall Fescue	
5312	3,4,6	N-R-GEE	3,4,6,7	BAR DG82R01	9	BAR FA 13131	10,11,12
430 RR LH	5,6,7	ONEIDA VR	3,4,6	BAR DGL 13047	9,11,12	Bardelice	10,11,12
49H344	6	PERSIST III	3,4,7	Captur	13	Bardoux	10,11,12
4H400	5,7	PLUSS III	3,4,7	Checkmate	9,11,12	Bariane	11,12
54QR04	5,7	REBOUND 6XT	3,4,7	ECHELON	9	Brava	10,11,12
55H94	3,4,6,7	RED FALCON	3,4,7	Elise	9,11,12	Cajun II	10,11,12
55Q27	3,4,7	REGEN	3,7	ENDURANCE	9	Cowgirl	10,11,12
55V50	3,4,7	RENEW +*	5	Extend	9,11,12	Dominate	13
55VR06	3,4,5,7	ROBIN	3,4,7	GO-BxCR	9,11,12	Florine	13
55VR08	5,7	RR APHATRON 2XT	5,7	GO-MOSO	9,11,12	FTF 70	10
59W205	4,7	SCIMITAR	6,7	INAVALE	9	FTF 73	10
AFX065033*	3	Seedway 9558 SBR	3,4,7	Lucharm	13	FTF 84	13
AFX083003*	3	SW 315LH	3,4,6,7	Lukir	13	FTF 89	13
AFX085029*	3	SW1412Y*	5	Lyra	9	HHG32	13
AFX094017*	3	SW4107*	4	OG 62	9	KY 31-	10,11,12
AFX133032*	5	SW4209*	5	OG 79	13	KY31 +	10,11,12,13
AFX133033*	5	SW5210*	4,5	OG 80	13	KYFA1103	10,11,12
AFX134029*	5	SW5213*	4	OG0506	9,11,12	KYFA930VAR584C2	10,11,12
AFX134080*	5	VERNAL	3,4,6	OG0604WH	9,11,12	KYFA9821/AR584C1	10,11,12
AFX134082*	5	WL 358LH	6,7	OG0707	9,11,12	Ontaria	10
AFX143009*	5	Red Clover		OLATHE	9	Pastoral	13
AFX144117*	5	Aberclarret	8	Orca	9,11,12	Payload	10
AFX144174*	4	BAR TP10	8	Penn Late	9,11,12	PPG-FTF-112	13
AFX144178*	4	Bearcat	8	Persist	9,11,12	Softane	13
AFXH134090*	3	Cinnamon Plus	8	Potomac	9,11,12,13	Swaj	13
AFXH134091*	3	RC 0702	8	PPG-OG-114	9	Teton II	10
AFXH134092*	3	RC 9806	8	Rushmore II	9	TF0402	10,11,12
AFXH144108*	5	TP12	8	Trail Burst	9	TF0705SL	10,11,12
BRADOR	3,7	Dynamite	8	Treposno	9	TOWER	10
DKA40-51RR	5,7	Emarwan	8	Bromegrass		Perennial Ryegrass	
DKA41-18RR	3,4,5,7	EVOLVE	8	Arid	9	2COW	10,11,12
DKA43-22RR	5,7	FF9615	8	GO-12SBF	9,11,12	Albion	10,11,12
DKA44-16RR	5,7	FSG 402	8	Newell	9,11,12	BAR LP 15261	10
EZRA	3,4,7	Gallant Red	8	Peak	9,11,12	BAR LP 16237	13
FSG 415BR	3,4,7	GO-MER	8	York	9,11,12	BAR LP 16238	13
FSG 426	3,4,7	Marathon	8	Meadow Fescue		Barvitra	10,11,12
GA-409	3,7	UNO	8	BAR FP 16058	13	BISON 2	10
HF MULTI*	5	Timothy		BAR PPF32	10,11,12	Calibra	10,11,12,13
HS MULTI*	5	Clair	9,11,12	Liherold	10,11,12	DEXTER 1	10
HYBRIFORCE 3430*	5,7	Climax	9,11,12	Pardus	10	Elena	13
HYBRIFORCE-3400	3,4,7	DLFPS PHP6	9,11,12	Pradel	10,11,12	Federo	13
HYBRIFORCE-3400-OB1*	5	DLFPS TM0704DT	9,11,12	Raskila	10	FOJTAN	10
HYBRIFORCE-3400-OB2*	5	GO-120X	9,11,12	SW Minto	13	FPF2	13
KF 406AP2	4,7	Kara	9,11,12	Tetrax	13	GARBOR	10
KF 425HD	4,7	KY-Early	13	Tored	13	GO-AXT	10,11,12
KINGBIRD	3,4,7	Ovation	9,11,12	Crabgrass		Linn	10,11,12,13
L-455HD	3,7	Rakel	13	Red River	13	LPTNEAROM	10,11,12
LIGHTNING BOLT	4,7	Richmond	9,11,12	NF-CG07-1	13	MAHULENA	10
LS1004*	5	Summergraze	9	Quick N Big	13	MAXIMO	10
LS1103*	5	Switch	9,11,12	Annual Grasses		Melpetra	10
LS1104*	5	TM 9902	13	BAR LM 13370	13	PPG-Fest 102	10,11,12
LS1302*	5	TM0603	9,11,12	BAR LM 15371	13	RAD-MFP141	13
LS1401*	5	TM9704	9	BAR LM16370	13	Remington	10,11,12,13
MASKA	3,7	TRYGGVE	13	BAR LM16371	13	Spring Green	10,11,12,13
msSunstra-143146*	5	Varis	9	Barextra	13	Tetragain	10,11,12
msSunstra-144108*	5	Zenyatta	9,11,12	Big Bang	13	Tomaso	13
msSunstra-144109*	5			Centurion	13		
msSunstra-144110*	5			Feast II	13		
msSunstra-144123*	5			FIRKIN	13		
				FOX	13		
				Gulf	13		
				Meroa	13		
				Meroa	13		
				SIRG-16MA	13		