

NEW YORK FORAGE LEGUME AND GRASS VARIETY YIELD TRIALS

SUMMARY FOR 2022 – SEASON TOTALS



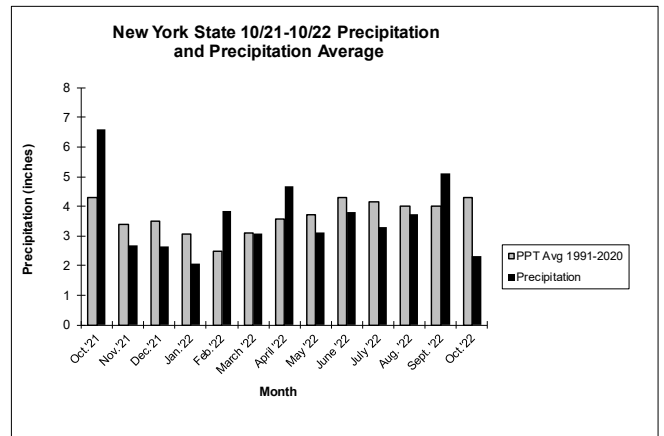
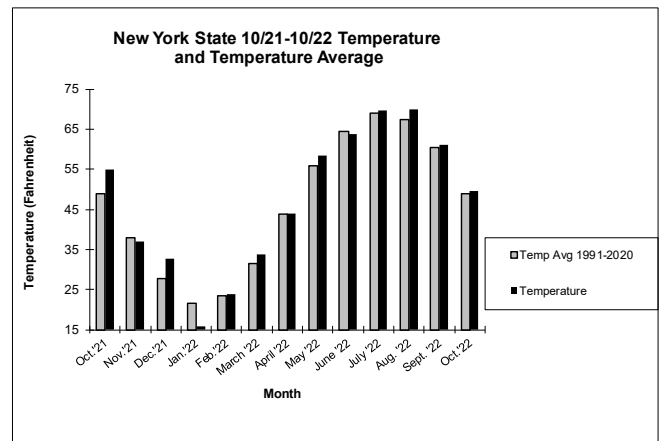
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<https://blogs.cornell.edu/varietytrials/forage/> Photo: Fall Harvest in Ithaca NY, Cornell Univ. Ag. Experiment Station.

Introduction Forage variety total season yields from New York in the 2022 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 from Cornell University Agricultural Experiment Station and from the companies that submitted the varieties/cultivars in the trials. Most perennial forage trials are managed for four years; seeding year and three production years. For 2022, Cornell permitted research to manage and harvest perennial forage trials with minimal constraints due to COVID pandemic.

Alfalfa yields for 2022 averaged 3.2 tons per acre dry matter (1.5 tons less than 2021), red clover yields (first production year trial) averaged 3.7 tons per acre dry matter (0.4 tons per acre more than 2021), and perennial forage grass yields averaged 3.5 tons per acre dry matter (1.6 tons per acre less than 2021).

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 10/21 to 10/22 temperature and precipitation, avg. from 1991 to 2020. Weather data from the Northeast Regional Climate Center at Cornell U.
<http://www.nrcc.cornell.edu/regional/tables/tables.html>

Weather and the 2022 Season: Trials planted in 2019, 2020 and 2021 successfully overwintered even though 2021 was a challengingly wet year. New alfalfa plot seedings were planted in mid-May rather than in late-April/early-May due delayed field work in fall 2021. Following the summer of 2021 when it was quite rainy, the summer of 2022 was low in precipitation from March through the end of July. From March 2022 to July 2022, the average precipitation per month was 2.6 inches compared to a normal of 3.5 inches per month. Also, July, August, and September averaged 66.7 degrees F or 1.2 degrees F higher than normal. Forage yields were lower than normal in 2022 due to low rainfall. Thanks to the harvesting crew: Jesse Chavez, Ryan Crawford, Gabriel Sanchez, Jamie Crawford, Abby Nonnenberg, Anna McGrade, Logan Gibbs-Porter, Leo Pieples, Miguel Barrera and CUAES CAF and Musgrave Farm Crews, including Farm managers Gene Szczepanski and Paul Stachowski.

Alfalfa (Tables 1 and 2, pages 3-6) 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.

The 2022 alfalfa trials established well but then the plants were struggling the remainder of the growing season due to drought conditions. We expect to harvest these trials from 2023 to 2025. A limited number of potato leafhopper (PLH) resistant alfalfa varieties are tested in trials that are not sprayed with insecticide (page 5).

Red Clover (Table 3, page 7) 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 and the clover root borer are destructive pests on clover, eating the roots and destroying the plants in the later production years. 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. Commercial entry birdsfoot trefoil variety trials were not harvested in 2022.

Grass yield (Tables 4, 5, and 6, pages 8-13) trials were fertilized with 315 lb/A ammonium sulfate in early April and after first, second and third harvests. Forage grass trials were harvested three or four times between May 31st and October 21st. Grass yields by species for production year trials harvested 2022 are listed in summary **Table 4, pages 8-10**.

Also listed are visual estimates 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 2021 for the trials planted in 2019 and 2020 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 on the day of harvest and replicate samples on the day of heading. Forage quality estimates from 2022 for trials planted in 2020 and 2021 will be available late winter.

Table 7 (page 13) is a summary of grasses planted in 2022, and annual grass trial results.

See [2023 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. Also, thanks to the seed companies and forage breeding companies who test their forages in New York.

Trial applications for 2023 will be emailed to past trial participants in late January 2023. The applications will also be posted to the web: <https://blogs.cornell.edu/varietytrials/forage/>

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Table 1: NY Alfalfa Cultivar Yield Trial Results - 2022 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 the cultivars Oneida VR, Vernal.

Summary of Conventional Alfalfa Cultivar Performance 2020 - 2022			
Cultivars (listed alphabetically)	Yielded in the Top 50% in the Trial(s)*		
	Avg. %	No. of	Total No.
	of Cks	harvests	of harvests
54Q29	116	3	3
54VQ52	120	9	18
55V50	122	3	3
6453Q	113	3	3
F2F6C-418	119	18	18
F2F6C-418NC	110	9	18
FF42.A3	115	3	3
FSG 450	113	3	3
HYBRIFORCE-4420/Wet	124	3	3
MARINER V	124	9	9
MVS4220Q	123	6	6
PERSIST III	118	18	18
REGEN	115	18	24
SW3407	121	24	24
SW4107	118	24	24
SW4412Y	123	6	6
SW4506	130	6	6
SW4513	125	6	6
SW4515	114	3	3
SW5509	133	6	6
SW5520Y	133	6	6
VIKING 374HD	114	18	18
VIKING 394AP	117	18	18
WL 349HQ	116	3	21

*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 2022.

Cks. = Check Cultivars are Oneida VR, Vernal.

Ithaca, Tompkins County, Sown May 2019			
Cultivars	2022 Total	3-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
VIKING 394AP	3.54	11.13	125
SW4107	3.34	11.11	125
PERSIST III	3.41	11.09	124
SW3407	3.44	11.05	124
MARINER V	3.32	11.03	124
VIKING 374HD	3.54	10.95	123
F2F6C-418	3.35	10.87	122
REGEN	3.16	10.73	120
54VQ52	3.18	10.70	120
RED FALCON BR	3.18	10.65	119
WL 349HQ	3.27	10.55	118
F2F6C-418NC	3.00	10.39	116
SIGNATURE	3.11	9.95	112
ONEIDA VR	2.76	9.60	108
ORGANIC VIKING 5200	2.60	8.73	98
VERNAL	2.25	8.23	92
Mean	3.22	10.55	Ck. Mean t/a 8.92
5% LSD	0.28	0.60	
CV (%)	6.9	4.6	

Summary Statistics are for 36 trial entries.

Trial, Seeding Year	Soil series, elevation, # of harvests 2022
Ithaca, 2019	Rhinebeck silt loam, 965 feet, 3 harvests
Aurora, 2019	Honeoye silt loam, 840 feet, 3 harvests
Ithaca, 2020	Williamson silt loam, 950 feet, 3 harvests
Ithaca, 2021	Bath and Valois, 1050 feet, 3 harvests
Ithaca, 2022	Williamson silt loam, 950 feet, 0 harvests

Ithaca, Tompkins County, Sown May 2019 PART I			
Experimental Populations	2022 Total	3-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
AFX174083*	3.65	11.73	132
FSG 420BR*	3.43	11.53	129
3510-SD-1*	3.56	11.34	127
RELOAD*	3.57	11.29	127
154-FL-2*	3.52	11.20	126
154-SD-1*	3.38	10.98	123
154-FL-1*	3.42	10.95	123
3510-FL-1*	3.47	10.91	122
<i>Continued next box to right</i>			Ck. Mean t/a
Mean	3.22	10.55	8.92
5% LSD	0.28	0.60	
CV (%)	6.9	4.6	

Con't. - Ithaca, Tompkins County, Sown May 2019 PART II			
Experimental Population	2022 Total	3-Yr	
		Total Season	% of Cks.
- tons per acre dry matter -			
3510-FL-2*	3.44	10.89	122
154-ANS*	3.41	10.82	121
SW5511*	3.31	10.81	121
SW16XCA32*	3.26	10.62	119
3510-ANS*	3.45	10.58	119
QUICKGOLD*	3.18	10.45	117
BARRICADE II*	2.98	9.71	109
ACE*	2.77	9.47	106
Mean	3.22	10.55	Ck. Mean t/a 8.92
5% LSD	0.28	0.60	
CV (%)	6.9	4.6	

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

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Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2022 Forage Yields

Aurora, Cayuga County			
Sown May 2019		3-Yr	
Cultivars	2022 Total	Total Season	% of Cks.
- tons per acre dry matter -			
F2F6C-418	2.30	10.28	116
PERSIST III	2.19	10.00	112
F2F6C-418NC	2.10	9.80	110
REGEN	2.06	9.79	110
VIKING 394AP	2.14	9.70	109
SW3407	2.06	9.49	107
SW4107	2.11	9.46	106
VIKING 374HD	2.19	9.42	106
ORGANIC VIKING 5200	2.21	9.33	105
54VQ52	2.04	9.25	104
SKYLARK	1.87	9.08	102
WL 349HQ	2.09	8.96	101
ONEIDA VR	1.81	8.94	101
VERNAL	1.83	8.86	100
			Ck. Mean t/a
Mean	2.01	9.30	8.90
5% LSD	0.18	0.59	
CV (%)	7.1	5.0	
Aurora 2019 Experimentals			
RELOAD*	2.14	9.83	110
BARRICADE II*	2.03	9.33	105
ACE*	2.01	8.42	95

Summary statistics are for 21 trial entries.

Ithaca, Tompkins County			
Sown August 2020		2-Yr	
Cultivars	2022 Total	Total Season	% of Cks.
- tons per acre dry matter -			
SW5520Y	4.29	9.48	133
SW5509	4.22	9.42	133
SW3407	4.13	9.40	132
SW4506	4.05	9.25	130
SW4513	3.89	8.86	125
SW4107	4.01	8.85	125
SW4412Y	3.86	8.77	123
MVS4220Q	3.74	8.76	123
54VR10	3.77	8.59	121
MAGNUM 8-WET	3.79	8.55	120
REGEN	3.54	8.09	114
ALFABAR	3.40	8.04	113
ONEIDA VR	2.95	7.23	102
VERNAL	3.01	6.99	98
			Ck. Mean t/a
Mean	3.72	8.50	7.11
5% LSD	0.25	0.58	
CV (%)	5.2	5.4	
Ithaca 2020 Experimentals			
FSG 420BR*	4.06	9.48	133
AFX174084*	3.97	9.26	130
AFX174082*	3.89	8.69	122

Summary statistics are for 20 trial entries.

Ithaca, Tompkins County			Ithaca, Tompkins County (continued)		
Sown May 2021			Sown May 2021		
Cultivars	2022 Total	% of Cks.	Cultivars	2021 Total	% of Cks.
- tons per acre dry matter -			- tons per acre dry matter -		
HYBRIFORCE-4420/Wet	3.30	124	BISON	2.61	98
55V50	3.24	122	AFX 439	2.60	98
WL 349HQ	3.08	116	VERNAL	2.48	93
54Q29	3.08	116			Ck. Mean t/a
FF42.A3	3.05	115	Mean	2.91	2.65
SW4515	3.03	114	5% LSD	0.31	
FSG 450	3.00	113	CV (%)	8.5	
6453Q	3.00	113	Ithaca Experimentals - 2021		
SW5615	2.92	110	SW5614*	3.03	114
ONEIDA VR	2.82	107	SW5606*	2.95	111
54Q16	2.77	104			

Summary statistics are for 21 trial entries

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Table 1 (con't): NY Alfalfa Cultivar Yield Trial Results - 2022 Forage Yields

LSD = Least Significant Difference.

t/a = tons per acre dry matter

ROUNDUP READY ALFALFA TRIALS

Ithaca, Tompkins County

Sown May 2020

Released And Experimental Varieties	2022 Total	% Trial Mean 2022 Total
	t/a	
54VR10	4.05	108
AFX463-RR	3.87	103
AFX455-HVX	3.38	90
	Trial Mean (t/a)	
Mean (t/a)	3.75	3.75
5% LSD	0.31	
CV (%)	5.4	

Summary statistics are for 4 trial entries.

INSECT RESISTANT ALFALFA TRIALS ; Sown Ithaca NY 2019 to 2022

Trials harvested 3 times per production year; 2019 trial on Rhinebeck silt loam; 2020 trial on Williamson silt loam, 2021 trial was replanted in 2022.

PLH populations were at moderate levels in 2022.

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

* Entered as Experimental Population

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

Sown May 2019

Sown August 2020

Released And Experimental Varieties	2022 Total	3-Yr Total	PLH Damage Score
	-- tons per acre dry matter --		
SW315LH	3.48	12.13	1.2
SCEPTER	3.16	12.05	1.0
431RRLH	3.64	11.86	1.0
NRGEE	4.02	11.69	2.8
BLUEJAY 4HR	3.30	11.63	2.1
ONEIDA VR	3.47	11.24	2.8
TRIADE*	3.68	10.35	4.0
PAOLA*	3.77	10.29	4.0
VERNAL	3.11	10.27	2.5
GO-2018-FU*	1.60	8.43	1.2
Mean (t/a)	3.40	11.17	2.1
5% LSD	0.38	0.80	0.6
CV (%)	7.8	5.0	18.8

PLH (Potato leafhopper) Damage - 1=minor /no damage; 5=severe damage

Summary statistics are for 13 trial entries.

Released And Experimental Varieties	2022 Total	2-Yr Total	PLH Damage Score
	-- tons per acre dry matter --		
55H96	3.77	8.67	1.0
SW16ZPD02*	3.69	8.34	1.0
BLUEBIRD	3.49	7.92	1.6
ONEIDA VR	3.06	7.32	2.4
VERNAL	3.32	7.31	2.6
Mean	3.45	7.81	1.5
5% LSD	0.36	0.72	0.6
CV (%)	7.3	6.4	26.3

PLH (Potato leafhopper) Damage - 1=minor /no damage; 5=severe damage

Summary statistics are for 13 trial entries.

ALFALFA CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Table 2: Alfalfa Cultivar Features

For more information log on to the Web:

<https://blogs.cornell.edu/varietytrials/forage/>

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	Disease Resistance Ratings*						Marketing Co.	
		FD	BW	VW	FW	AN	PRR	Phone Number	Web or E-mail Address
ORGANIC VIKING 5200	Albert Lea	5	HR	HR	HR	HR	HR	800-352-5247	www.alseed.com
VIKING 374HD	Albert Lea	4	HR	HR	HR	HR	HR		
VIKING 394AP	Albert Lea	4	HR	HR	HR	HR	HR		
AFX 439	Alforex	4	HR	HR	HR	HR	HR	877-560-5181	www.alforexseeds.com
AFX455-HVX	Alforex	4	HR	HR	HR	HR	R		
AFX463-RR	Alforex	4	HR	HR	HR	HR	HR		
QUICKGOLD	Alforex	5	HR	HR	HR	HR	HR		
ALFABAR	Barenbrug	4,3,2	HR	HR	HR	HR	HR	800-547-4101	www.barusa.com
ACE	BrettYoung	4	HR	HR	HR	HR	HR	800-665-5015	www.brettyoung.ca/
BARRICADE II	BrettYoung	4	HR	HR	HR	HR	HR		
RELOAD	BrettYoung	4	HR	HR	HR	HR	HR		
BLUEBIRD	Blue River Organic Seed	5	HR	HR	HR	HR	HR	800-370-7979	www.blueriverorgseed.com
BLUEJAY 4HR	Blue River Organic Seed	3	HR	HR	HR	HR	HR		
SKYLARK	Blue River Organic Seed	4	HR	HR	HR	HR	HR		
RED FALCON BR	Blue River Organic Seed	4	HR	HR	HR	HR	HR		
HYBRIFORCE-4420 WET	Dairyland Seed Co.	4	HR	HR	HR	HR	HR	800-236-0163	www.dairylandseed.com
MAGNUM 8 WET	Dairyland Seed Co.	4	HR	HR	HR	HR	HR		
F2F6C-418	Farm Business Network							844-200-3276	www.fbn.com
F2F6C-418NC	Farm Business Network								
431RRLH	GROWMARK FS/Seedway	4	HR	HR	HR	HR	HR	800-338-4769	www.fsseed.com
MARINER V	GROWMARK FS	4	HR	HR	HR	HR	HR		
SCEPTER	GROWMARK FS	4	HR	HR	HR	HR	HR		
SIGNATURE	GROWMARK FS	4	HR	HR	HR	HR	HR		
PAOLA	Interlake Forage Seeds	5	HR	HR	HR	HR	HR	800-990-1390	www.interlakeforageseeds.com
TRIADE	Interlake Forage Seeds	5	HR	HR	HR	HR	HR		
FF 42.A3	LaCrosse Seed	4	HR	HR	HR	HR	HR	800-328-1909	www.lacrosseseed.com
MVS4220Q	Mountain View Seeds	4	HR	HR	HR	HR	HR	503-588-7333	www.mtviewseeds.com
6453Q	Nexgrow	4	HR	HR	HR	HR	HR	800-568-5424	www.plantnexgrow.com
54Q16	Pioneer Hi-Bred	4	HR	HR	HR	HR	HR	800-247-6803	www.pioneer.com
54Q29	Pioneer Hi-Bred	4	HR	HR	R	HR	HR		
54VQ52	Pioneer Hi-Bred	4	HR	HR	R	HR	HR		
54VR10	Pioneer Hi-Bred	4	HR	HR	R	HR	HR		
55H96	Pioneer Hi-Bred	5	HR	R	HR	HR	HR		
PERSIST III	Seed Consultants	4	HR	HR	HR	HR	HR	800-708-2676	www.seedconsultants.com
REGEN	Seedway	3	R	HR	HR	HR	R	800-836-3710	www.seedway.com
FSG 450	Seedway	4	HR	HR	HR	HR	HR		
BISON	Thomas Ag Services	3	R	R	R	R	R	541-497-5010	
SW3407	Alfalfa Partners	3	HR	HR	HR	HR	HR	720-506-9191	www.alfalfapartners.com
SW4107	Alfalfa Partners	4	HR	HR	HR	HR	HR		
SW4412Y	Alfalfa Partners	4	HR	HR	HR	HR	HR		
SW4506	Alfalfa Partners	4	HR	HR	HR	HR	HR		
SW4515	Alfalfa Partners	4	HR	HR	HR	HR	HR		
SW5509	Alfalfa Partners	5	HR	HR	HR	HR	HR		
SW5511	Alfalfa Partners	5	HR	HR	HR	HR	HR		
SW5520Y	Alfalfa Partners	5	HR	HR	HR	HR	HR		
SW5615	Alfalfa Partners	5	HR	HR	HR	HR	HR		
WL 349HQ	Seedway; Crop Prod. Services; W-L	4	HR	HR	HR	HR	HR	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-Anthracoise, Prr-Phytophthora root rot

Table 3: Red Clover Cultivar Yield Trials- 2022 Cornell University Ag. Experiment Station, Ithaca, NY 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 cultivars are Marathon and Cinnamon Plus

Released And Experimental Cultivars	Marketing Company	2022 Harvest (yields reported in tons/acre)				% Stand 11/2/2022	% of Cks Mean 2022 Total
		10-Jun	13-Jul	11-Oct	Total		
Sown May 2021							
Freedom!MR	Barenbrug	2.50	0.58	0.79	3.86	80	107
BAR TP10	Barenbrug	2.54	0.47	0.81	3.82	80	106
Cinnamon Plus	check	2.37	0.57	0.86	3.80	81	105
Raptor	Columbia Seeds	2.40	0.58	0.80	3.77	82	105
RC08	Bailey Seed and Grain	2.36	0.56	0.85	3.76	86	104
Blaze	Mountain View Seeds	2.50	0.42	0.81	3.73	82	103
Evolve	DLF Pickseed	2.44	0.47	0.81	3.73	83	103
CW30091	Barenbrug	2.40	0.42	0.88	3.71	84	103
TP-12	DLF Pickseed	2.29	0.68	0.69	3.67	76	102
Redkin	DLF Pickseed	2.36	0.43	0.81	3.60	80	100
CW040040	Barenbrug	2.21	0.51	0.80	3.51	85	97
Marathon	check	2.30	0.39	0.74	3.42	82	95
Barduro	Barenbrug	2.13	0.43	0.75	3.30	80	91
	Mean	2.36	0.49	0.80	3.66	83	Ck. Mean (t/a) 3.61
	5% LSD	0.31	0.14	0.11	0.37	7	
	CV (%)	9.4	20.8	9.6	7.1	5.6	

Marathon and Cinnamon Plus are the check cultivars for Cornell Red Clover Trials.

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2022 New York Red Clover Yield Trials

Cornell U. Agricultural Experiment Station, Tompkins Co., Ithaca, NY

Planted May 2022. Trial was not harvested for yield in seeding year.

Released And Experimental Varieties	Company
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20-LARC-1	
BY-RC31	Brett Young
Cinnamon Plus	check
Evolve	DLF Pickseed
Marathon	check
Medallion	DLF Pickseed
Redkin	DLF Pickseed
Ruby Red	Albert Lea Seed

Trial will be harvested in 2023.

Marketing Company*	Phone	Web address
Albert Lea Seed	800-352-5247	www.alseed.com
Allied Seed, L.L.C.	208-250-6321	www.alliedseed.com
Bailey Seed and Grain	800-407-7713	www.baileyseed.com
Barenbrug	800-547-4101	www.barusa.com
Blue River Organic Seed	800-370-7979	www.blueriverorgseed.com
Brett Young	800-665-5015	www.brettyoung.ca
Columbia Seeds	888-681-7333	www.columbiaseeds.com
DLF Pickseed USA Inc.	800-445-2251	www.dlfis.com/
Grassland Oregon	503-566-9900	www.grasslandoregon.com
GROWMARK FS	800-787-2767	www.growmarkfs.com/midatlantic
LaCrosse Seed	800-328-1909	www.lacrosseseed.com
Mountain View Seeds	503-588-7333	www.mtviewseeds.com/
OreGro	541-258-1001	www.oregroseeds.com/
Preferred Seed	716-895-7333	www.preferredseed.com
Pure Seed	503-651-2130	www.pureseed.com
S&W Seed Co.	855-767-4486	www.swseedco.com
Seedway	800-836-3710	www.seedway.com
Smith Seed Services	888-550-2930	www.smithseed.com

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Table 4: 2022 Perennial Forage Grass Yield Summary
Ithaca, Tompkins Co., Sown 2019, 2020, 2021, 2022

(T/A - tons per acre dry matter)

Heading date is date when 5 heads in a 3.5 x 16 foot plot were visible.

Ammonium sulfate was applied at 315 lb/acre after each harvest.

LSD(0.05) = to claim statistically significant yield differences between two cultivars, the yield difference must be equal to or greater than the LSD.

Species/Cultivar	Marketer	2022			2021			2020			2 or 3 Yr Yield
		Total Season	% Stand Oct./Nov.	Heading Date	Total Season	% Stand Oct./Nov.	Heading Date	Total Season	% Stand Oct./Nov.	Heading Date	
		T/A			T/A			T/A		T/A	
Orchardgrass		Sown May 22, 2019									
Persist II	Smith Seed Services	3.65	68	18-May	4.88	79	20-May	3.04	88	24-May	11.57
Persist	Smith Seed Services	3.34	70	14-May	4.83	74	18-May	3.19	89	22-May	11.35
Pennlate	check	3.17	65	18-May	5.02	79	20-May	3.12	90	24-May	11.32
Potomac	check	3.08	68	18-May	4.86	80	18-May	2.89	90	24-May	10.82
DLFPS-OG 79	DLFPickseed	3.04	65	18-May	4.71	71	22-May	2.89	90	26-May	10.64
Albert	OreGro	2.70	65	18-May	4.81	79	20-May	2.89	84	26-May	10.40
Bighorn	Mountain View Seeds	2.97	68	18-May	4.72	79	22-May	2.65	86	27-May	10.33
Devour	Mountain View Seeds	2.99	65	21-May	4.56	73	23-May	2.76	88	28-May	10.30
DLFPS-OG 70	DLFPickseed	2.71	66	21-May	4.53	79	22-May	2.85	86	28-May	10.09
DLFPS-OG 96	DLFPickseed	2.73	61	21-May	4.35	79	22-May	2.84	88	28-May	9.92
Alpine II	Mountain View Seeds	2.79	58	21-May	4.53	73	22-May	2.57	85	31-May	9.89
DLFPS-OG 80	DLFPickseed	2.84	61	18-May	4.35	71	20-May	2.65	83	28-May	9.84
BARDGL 48	Barenbrug	2.96	66	18-May	4.32	81	20-May	2.33	90	24-May	9.61
Barlegro	Barenbrug	2.41	66	25-May	4.38	79	28-May	2.81	88	31-May	9.59
BAR DGLBLD	Barenbrug	2.37	64	25-May	4.35	78	28-May	2.66	88	29-May	9.37
	LSD(.05)	0.30	8		0.43	5.9		0.39	5		0.85
Orchardgrass		Sown August 10, 2020									
Pennlate	check	4.54	74	14-May	6.04	80	18-May				10.58
Potomac	check	4.35	79	14-May	6.17	78	17-May				10.52
Harvestar	Columbia Seeds/ Radix	4.15	75	17-May	6.35	80	20-May				10.50
OG 96	DLF Pickseed	4.08	74	19-May	6.26	76	22-May				10.33
OG 80	DLF Pickseed	4.00	70	19-May	6.13	74	22-May				10.14
Ammo	Barenbrug	4.04	80	14-May	5.90	84	17-May				9.94
Intensiv	Barenbrug	3.52	75	25-May	5.85	80	23-May				9.37
BAR DGLF 2095	Barenbrug	3.99	74	29-May	5.08	76	28-May				9.07
BAR DGLF 2094	Barenbrug	3.75	76	27-May	5.09	78	26-May				8.84
	LSD(.05)	0.25	5		0.33	5.8					0.44
Orchardgrass		Sown May 18, 2021									
Bighorn	Mountain View Seeds	5.10	79	4-Jun							
Pennlate	check	4.97	79	17-May							
Persist	Smith Seeds	4.96	79	14-May							
Rushmore II	Mountain View Seeds	4.93	75	4-Jun							
Potomac	check	4.91	78	21-May							
OG 96	DLF Pickseed	4.81	73	2-Jun							
Alpine	Mountain View Seeds	4.74	74	29-May							
Persist II	Smith Seeds	4.69	83	14-May							
OG 0703	Seedway	4.65	79	21-May							
Captur	DLF Pickseed	4.55	74	29-May							
	LSD(.05)	0.36	5								
Meadow Fescue		Sown May 22, 2019									
BAR FPF79	Barenbrug	3.37	63	25-May	4.50	65	28-May	2.95	78	31-May	10.81
Driftless	Barenbrug	3.12	55	25-May	4.67	65	25-May	2.93	73	29-May	10.72
Pradel	check	2.44	66	25-May	4.75	71	23-May	2.81	81	28-May	10.00
BAR FPFBLD	Barenbrug	2.43	64	25-May	4.57	71	23-May	2.75	76	29-May	9.74
Pradel	Barenbrug	2.19	70	25-May	4.70	74	23-May	2.77	83	28-May	9.66
	LSD(.05)	0.35	8		0.37	8		0.33	8		0.76
Meadow Fescue		Sown August 10, 2020									
Pradel	Barenbrug	3.88	74	21-May	6.65	76	22-May				10.52
BAR81d	Barenbrug	3.93	74	25-May	6.43	71	22-May				10.36
Pradel	check	3.73	75	21-May	6.61	75	22-May				10.34
BAR FPF 82	Barenbrug	3.78	81	21-May	5.97	84	22-May				9.74
Driftless	Barenbrug	3.71	73	21-May	5.94	73	23-May				9.65
BAR FPF 77-2	Barenbrug	3.75	83	25-May	5.69	89	23-May				9.44
BAR FP 2044	Barenbrug	2.58	76	21-May	6.55	83	23-May				9.12
	LSD(.05)	0.29	6		0.49	7					0.67

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Table 4: 2022 Perennial Forage Grass Yield Summary
Ithaca, Tompkins Co., Sown 2019, 2020, 2021, 2022

(T/A - tons per acre dry matter)

Heading date is date when 5 heads in a 3.5 x 16 foot plot were visible. Ammonium sulfate was applied at 315 lb/acre after each harvest.
 LSD(0.05) = to claim statistically significant yield differences between two cultivars, the yield difference must be equal to or greater than the LSD.

Species/Cultivar	Marketer	2022			2021			2020			2 or 3 Yr Yield
		Total Season	% Stand Oct./Nov.	Heading Date	Total Season	% Stand Oct./Nov.	Heading Date	Total Season	% Stand Oct./Nov.	Heading Date	
		T/A			T/A			T/A		T/A	
Tall Fescue		Sown May 22, 2019									
K-32	OreGro Seeds	4.31	58	20-May	6.38	64	21-May	4.03	75	25-May	14.71
Velvet	OreGro Seeds	4.40	60	25-May	5.97	58	23-May	3.64	80	28-May	14.01
Armory	Barenbrug	4.36	58	21-May	6.15	63	23-May	3.40	83	28-May	13.90
BAR FABLD	Barenbrug	4.06	64	25-May	5.56	68	28-May	3.52	83	29-May	13.14
KY 31+	check	4.24	59	21-May	6.32	63	22-May	2.47	74	28-May	13.03
Bariane	Barenbrug	3.51	60	27-May	5.47	60	28-May	3.40	83	31-May	12.37
PST-5SLF	Pure Seed Testing	3.75	65	27-May	5.20	65	28-May	2.87	83	31-May	11.82
	LSD(.05)	0.38	8		0.44	7		0.41	9		0.87
Tall Fescue		Sown August 10, 2020									
FTF 118	DLF Pickseed	4.92	66	17-May	7.69	75	22-May				12.61
FTF 119	DLF Pickseed	4.87	73	19-May	7.19	73	20-May				12.06
Aprilia	BrettYoung	4.67	71	21-May	7.35	71	22-May				12.02
Armory	Barenbrug	4.45	78	19-May	7.29	83	20-May				11.74
BAR FAF 146	Barenbrug	4.59	71	21-May	7.02	78	22-May				11.61
BAR FAF 137	Barenbrug	4.66	80	25-May	6.94	81	23-May				11.59
BAR FAF 135	Barenbrug	4.36	76	25-May	6.61	80	23-May				10.97
Bariane	Barenbrug	4.23	73	27-May	6.48	78	25-May				10.71
7 FACF 82	Barenbrug	4.07	74	25-May	6.58	78	25-May				10.65
BAR FAFL 239	Barenbrug	4.16	76	21-May	6.36	81	22-May				10.51
BAR FA 9125	Barenbrug	3.34	79	25-May	5.27	81	25-May				8.61
	LSD(.05)	0.27	4		0.34	7					0.47
Tall Fescue		Sown May 18, 2021									
Triumphant	DLF Pickseed	5.32	83	17-May							
Dominate	Seedway	5.32	80	17-May							
Teton II	Mountain View Seeds	5.30	81	17-May							
Greendale	DLF Pickseed	5.19	81	21-May							
FTF 96	DLF Pickseed	5.12	80	21-May							
Cajun II	Smith Seeds	5.10	83	17-May							
KY-31+	check	5.06	84	17-May							
SETFPC-5BK	Smith Seeds	5.01	84	19-May							
SETFN97	Smith Seeds	4.99	85	19-May							
Ranchero	Smith Seeds	4.67	83	19-May							
Fawn	check	4.37	81	17-May							
	LSD(.05)	0.26	4								
Festulolium and M. Fescue		Sown May 22, 2019									
DLFPS-FPF 6	DLFPickseed	3.70	65	21-May	6.14		23-May	3.66	80	28-May	13.49
Fojtan	DLFPickseed	3.57	68	21-May	5.80		23-May	3.40	81	28-May	12.78
DLFPS-FPF 5	DLFPickseed	3.45	65	21-May	5.71		22-May	3.56	84	28-May	12.72
Hipast	DLFPickseed	3.11	55	25-May	5.51		25-May	3.40	79	1-Jun	12.02
Petrarca (MF)	DLFPickseed	1.72	45	21-May	3.99		23-May	2.84	74	28-May	8.55
MerifestMF (MF)	DLFPickseed	1.70	45	21-May	3.90		22-May	2.65	71	28-May	8.25
Spring Green	check	1.70	46	27-May	3.54		25-May	2.92	70	28-May	8.16
ORRUS	OreGro	1.41	46	27-May	3.35		28-May	2.64	69	4-Jun	7.40
	LSD(.05)	0.68	14		0.56			0.45	8		1.24
Festulolium		Sown May 18, 2021									
FPF 8	DLF Pickseed	4.94	81	25-May							
FPF 7	DLF Pickseed	4.65	81	17-May							
Tatran	Columbia Seeds	4.62	75	27-May							
Pradel	check	4.58	75	21-May							
Lenor	Columbia Seeds	4.41	78	27-May							
Spring Green	check	3.70	74	25-May							
Sugarcrest	Mountain View Seeds	3.32	69	25-May							
	LSD(.05)	0.46	7								

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Table 4: 2022 Perennial Forage Grass Yield Summary

(T/A - tons per acre dry matter)

Ithaca, Tompkins Co., Sown 2019, 2020, 2021, 2022

Heading date is date when 5 heads in a 3.5 x 16 foot plot were visible.

Ammonium sulfate was applied at 315 lb/acre after each harvest.

LSD(0.05) = to claim statistically significant yield differences between two cultivars, the yield difference must be equal to or greater than the LSD.

Species/Cultivar	Marketer	2022			2021			2020			2 or 3 Yr Yield
		Total Season	% Stand Oct./Nov.	Heading Date	Total Season	% Stand Oct./Nov.	Heading Date	Total Season	% Stand Oct./Nov.	Heading Date	
		T/A			T/A			T/A			T/A
Perennial Ryegrass		Sown May 22, 2019									
Boost	OreGro	1.92	43	25-May	3.70	61	25-May	2.00	71	28-May	7.61
Tetragain SLT	Pure Seed Testing	1.40	53	27-May	3.55	60	28-May	2.07	73	29-May	7.02
Tribal	BrettYoung	1.46	60	27-May	3.26	79	28-May	1.52	83	1-Jun	6.24
PI2B2	OreGro	1.50	58	26-May	3.01	71	25-May	1.66	81	31-May	6.17
Linn	check	1.50	45	18-May	2.89	63	21-May	1.47	78	26-May	5.86
Calibra	check	1.24	55	27-May	2.87	70	28-May	1.65	78	4-Jun	5.76
	LSD(.05)	0.35	17		0.38	11		0.29	6		0.71
Perennial Ryegrass		Sown August 10, 2020									
Spring Green	check	2.74	71	25-May	6.79	83	23-May				9.53
Remington	Barenbrug	2.91	75	2-Jun	5.97	89	28-May				8.88
Remington NEA2	Barenbrug	2.43	81	2-Jun	5.66	89	28-May				8.09
Calibra	check	2.81	75	27-May	5.23	84	25-May				8.04
TetraSweet	MVS/ Peak Plant	2.42	73	25-May	5.53	84	23-May				7.95
Linn	check	2.78	75	17-May	5.00	84	20-May				7.78
	LSD(.05)	0.59	5		0.35	5					0.58
Perennial Ryegrass		Sown May 18, 2021									
Tetramag	Mountain View Seeds	4.00	65	27-May							
UGA E+	Mountain View Seeds	3.60	81	2-Jun							
GPT14021	Mountain View Seeds	3.40	84	2-Jun							
Tetrasweet	Mountain View Seeds	3.39	74	27-May							
Remington	Barenbrug	3.37	83	2-Jun							
Remington NEA2	Barenbrug	3.31	84	2-Jun							
	LSD(.05)	0.37	5								
Timothy		Sown May 18, 2021									
KY-Early	check	5.00	80	23-May							
Valor	DLF Pickseed	4.67	70	23-May							
Conquest	Seedway	4.65	78	23-May							
Carson	Mountain View Seeds	4.41	78	27-May							
Express II	Seedway	4.41	75	4-Jun							
Zenyatta	DLF Pickseed	4.38	78	23-May							
Barleo	Barenbrug	3.96	69	2-Jun							
PolarKing	BrettYoung	3.78	70	2-Jun							
Climax	check	3.73	80	4-Jun							
Baronaise	Barenbrug	3.72	75	4-Jun							
	LSD(.05)	0.54	12								
Bromegrass		Sown May 18, 2021									
Stratus	Allied Seed, LLC	3.90	75	18-May							
Peak	Allied Seed, LLC	3.45	81	18-May							
S9549	BrettYoung	3.44	78	18-May							
Barricade	Barenbrug	3.43	68	18-May							
S9356M	BrettYoung	3.15	73	18-May							
	LSD(.05)	0.69	6								

Sown May 26, 2022 Part I				
Variety	Marketing Company	H1 Yield 2022	H2 Yield 2022	Total 2022
		T/A	T/A	T/A
Feast II	check	1.07	0.79	1.85
ThS2x18BK	Smith Seed Services	1.01	0.79	1.80
Mantis	Smith Seed Services	0.95	0.85	1.80
Halsey	Smith Seed Services	0.89	0.90	1.80
AMP	Columbia / Peak	0.82	0.88	1.70
DynaPlus	Columbia / Peak	0.85	0.80	1.64
SELWD19-7	Smith Seed Services	0.92	0.71	1.63
KAIR DS	Burlingham Seeds.	0.81	0.81	1.62
SELWTDWL 1	Smith Seed Services	0.72	0.85	1.57
FrostProof	Smith Seed Services	0.68	0.83	1.51
	LSD(0.05)	0.44	0.15	0.48

Sown May 26, 2022 Part II				
Variety	Marketing Company	H1 Yield 2022	H2 Yield 2022	Total 2022
		T/A	T/A	T/A
Meroa	Smith Seed Services	0.65	0.85	1.50
KAIR12 TE	Burlingham Seeds.	0.59	0.91	1.50
KAIR 12DT	Burlingham Seeds.	0.68	0.80	1.47
SELWT19-9	Smith Seed Services	0.73	0.74	1.47
Mervana	BrettYoung	0.64	0.73	1.36
Green Spirit	Barenbrug	0.59	0.73	1.32
GrazeKeeper	Smith Seed Services	0.63	0.67	1.30
Dexter	Smith Seed Services	0.58	0.70	1.28
Gulf	Smith Seed Services	0.66	0.61	1.27
SATSUKIBARE EX	Burlingham Seeds.	0.59	0.61	1.20
	LSD(0.05)	0.44	0.15	0.48

Continued --->

PERENNIAL FORAGE GRASS CULTIVAR YIELD TRIAL SUMMARY - NEW YORK - 2022

Perennial Forage Grass Varieties - 2021 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 2022 will be analyzed and reported on in 2023.

Table 5: Spring Forage Quality Data for Grass Varieties (2021 Trial Samples)

	Trial Sown 2019			Trial Sown 2020			
	Boot Stage in 2021			Boot Stage in 2021			
	Date at Boot Stage	% NDF	% NDFD	Date at Boot Stage	% NDF	% NDFD	
Perennial Ryegrass							
Linn	21-May	46.9	82.7	Linn	20-May	51.1	79.7
PI2B2	25-May	52.5	82.9	TetraSweet	23-May	51.0	81.8
Boost	25-May	52.4	83.2	Spring Green (festulolium)	23-May	52.8	80.9
Calibra	28-May	48.9	78.9	Calibra	25-May	51.5	82.6
Tribal	28-May	50.1	75.3	Remington	28-May	52.6	80.5
PST-2TETS	28-May	53.9	80.5	Remington NEA2	28-May	54.7	80.1
Tall Fescue							
K-32	21-May	55.4	78.3	Armory	20-May	55.6	72.1
KY 31+	22-May	55.4	79.1	FTF 119	20-May	51.7	71.2
Velvet	23-May	55.0	80.8	BAR FAF 146	22-May	57.5	72.6
Armory	23-May	55.8	78.7	BAR FAFL 239	22-May	59.8	69.7
Bariane	28-May	59.4	67.0	Aprilia	22-May	56.1	73.2
BAR FABLD	28-May	60.8	67.1	FTF 118	22-May	58.0	71.3
PST-5SLF	28-May	59.6	69.3	BAR FAF 135	23-May	57.5	73.6
				BAR FAF 137	23-May	55.0	68.9
				BAR FA 9125	25-May	51.8	78.7
				7 FACF 82	25-May	57.3	73.7
				Bariane	25-May	58.7	71.7
Meadow Fescue							
Pradel	23-May	55.1	81.7	BAR81d	22-May	56.0	78.2
Pradel	23-May	54.9	82.5	BAR FPF 82	22-May	57.9	80.3
BAR FPFBLD	23-May	54.7	85.6	Pradel	22-May	56.2	77.2
Driftless	25-May	60.1	81.4	Pradel	22-May	54.9	78.2
BAR FPF79	28-May	61.4	76.9	BAR FP 2044	23-May	49.4	79.8
				Driftless	23-May	59.3	80.0
				BAR FPF 77-2	23-May	59.2	80.4
Orchardgrass							
Persist	18-May	58.3	77.4	Ammo	17-May	56.1	77.2
Potomac	18-May	59.1	75.8	Potomac	17-May	56.9	72.9
Albert	20-May	58.4	79.9	Pennlate	18-May	56.9	77.3
BARDGL 48	20-May	59.2	77.8	Harvestar	20-May	59.1	76.8
DLFPS-OG 80	20-May	58.1	79.2	OG 96	22-May	63.7	75.5
Persist II	20-May	59.1	75.8	OG 80	22-May	62.7	75.7
Pennlate	20-May	61.0	77.5	Intensiv	23-May	64.0	76.0
DLFPS-OG 70	22-May	60.6	78.7	BAR DGLF 2094	26-May	67.9	71.3
DLFPS-OG 79	22-May	64.8	76.3	BAR DGLF 2095	28-May	70.1	68.9
DLFPS-OG 96	22-May	63.6	76.3				
Alpine II	22-May	63.2	76.9				
Bighorn	22-May	64.9	77.2				
Devour	23-May	66.0	77.5				
Barlegro	28-May	65.6	73.1				
BAR DGLBLD	28-May	68.9	71.8				
Festulolium and Meadow Fescue (MF)							
DLFPS-FPF 5	22-May	52.8	75.9				
Merifest (MF)	22-May	54.3	86.3				
DLFPS-FPF 6	23-May	54.5	77.9				
Fojtan	23-May	57.2	77.5				
Petrarca (MF)	23-May	57.2	80.1				
Hipast	25-May	57.6	77.5				
Spring Green	25-May	53.8	82.3				
ORRUS	28-May	53.6	80.3				

Perennial Forage Grass Varieties - 2021 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 2022 will analyzed and forage quality reported in 2023.

Table 6: 2021 Spring, First Harvest Forage Quality Data for Grass Varieties

	Trial Sown 2019					Trial Sown 2020					
	First Harvest in 2021- May 27			% Seed	2021	First Harvest in 2021- May 27			% Seed	2021	
	Yield (t/a)	%	%	Heads at	Aftermath	Yield (t/a)	%	%	Heads at	Aftermath	
	Harvest 1	NDF	NDFD	Harvest 2	Forage Yield (t/a)	Harvest 1	NDF	NDFD	Harvest 2	Forage Yield (t/a)	
Perennial Ryegrass						Perennial Ryegrass					
Linn	1.87	61.1	71.0	7	1.02	Linn	2.99	62.7	72.6	53	2.02
PI2B2	1.63	57.8	74.2	23	1.38	TetraSweet	2.68	54.3	81.1	53	2.85
Boost	2.27	60.2	75.1	55	1.43	Spring Green (festulolium)	3.35	60.0	73.7	90	3.45
Calibra	1.69	48.9	78.9	6	1.18	Calibra	2.74	56.6	79.4	53	2.49
Tribal	1.81	50.1	75.3	2	1.45	Remington	2.59	55.5	80.1	65	3.39
PST-2TETS	2.24	53.9	80.5	50	1.32	Remington NEA2	2.30	54.7	82.1	80	3.36
Tall Fescue						Tall Fescue					
K-32	2.58	64.0	66.5	0	3.80	Armory	2.96	65.8	70.1	0	4.34
KY 31+	2.50	60.0	71.9	0	3.82	FTF 119	2.54	63.6	66.8	0	4.65
Velvet	2.24	59.8	71.7	0	3.73	BAR FAF 146	2.64	64.3	68.1	0	4.38
Armory	2.46	61.2	68.8	0	3.70	BAR FAFL 239	2.43	65.5	67.0	0	3.92
Bariane	2.08	59.4	67.0	0	3.39	Aprilia	2.70	63.7	67.4	0	4.65
BAR FABLD	2.06	60.8	67.1	0	3.50	FTF 118	2.79	62.6	67.3	0	4.90
PST-5SLF	1.81	59.6	69.3	0	3.39	BAR FAF 135	2.49	61.4	71.4	0	4.13
						BAR FAF 137	2.54	61.9	68.6	0	4.40
						BAR FA 9125	1.78	56.1	74.9	0	3.49
						7 FACF 82	2.28	57.5	71.1	0	4.30
						Bariane	2.26	62.9	67.6	0	4.22
						Meadow Fescue					
Meadow Fescue						BAR81d	2.56	66.4	71.8	0	3.87
Pradel	1.93	59.6	76.6	0	2.83	BAR FPF 82	2.97	67.4	72.9	0	3.00
Pradel	1.95	60.2	74.2	0	2.75	Pradel	2.78	65.2	69.5	0	3.87
BAR FPFBLD	1.93	60.0	77.0	0	2.63	Pradel	2.83	63.8	68.9	0	3.78
Driftless	2.05	62.6	76.1	0	2.63	BAR FP 2044	2.83	57.6	76.3	90	3.72
BAR FPF79	1.84	61.4	76.9	0	2.66	Driftless	2.24	64.9	73.2	0	3.71
						BAR FPF 77-2	2.69	66.1	77.4	0	3.00
						Orchardgrass					
Orchardgrass						Ammo	2.76	73.0	67.6	0	3.14
Persist	2.54	72.4	65.2	0	2.29	Potomac	2.35	73.6	67.2	0	3.82
Potomac	2.75	71.9	66.8	0	2.12	Pennlate	2.37	74.8	65.2	0	3.68
Albert	2.66	71.0	70.4	0	2.16	Harvestar	2.67	71.4	69.7	0	3.68
BARDGL 48	2.45	72.9	69.1	0	1.87	OG 96	2.22	71.1	69.9	0	4.03
DLFPS-OG 80	2.02	67.9	70.1	0	2.32	OG 80	2.29	71.1	69.3	0	3.84
Persist II	2.58	72.1	66.2	0	2.30	Intensiv	2.36	72.1	68.9	0	3.49
Pennlate	2.69	72.5	70.3	0	2.33	BAR DGLF 2094	1.80	70.5	72.0	0	3.29
DLFPS-OG 70	2.22	67.8	74.8	0	2.31	BAR DGLF 2095	1.76	72.7	67.4	0	3.33
DLFPS-OG 79	2.28	68.7	72.3	0	2.43						
DLFPS-OG 96	1.92	68.2	71.0	0	2.43						
Alpine II	2.15	68.4	71.1	0	2.38						
Bighorn	2.31	70.0	70.5	0	2.41						
Devour	2.16	69.7	72.2	0	2.39						
Barlegro	2.15	65.6	73.1	0	2.23						
BAR DGLBLD	2.09	68.9	71.8	0	2.26						
Festulolium and Meadow Fescue (MF)											
DLFPS-FPF 5	2.13	58.4	70.7	0	3.58						
Merifest (MF)	1.80	64.1	77.2	0	2.10						
DLFPS-FPF 6	2.30	57.9	74.0	0	3.84						
Fojtan	2.43	62.0	68.2	0	3.38						
Petrarca (MF)	1.92	61.3	74.3	0	2.08						
Hipast	1.92	62.0	69.8	0	3.59						
Spring Green	2.11	57.5	78.0	50	1.44						
ORRUS	1.93	53.6	80.3	45	1.43						

Table 7: Perennial Cool Season Grass Trials Sown on May 26, 2022.

2022 Perennial Grass Trials

Variety	Marketing Co.	Yield Oct. 12, 2022	Variety	Marketing Co.	Yield Oct. 12, 2022
Orchardgrass		T/A	Timothy		
Potomac	check	0.63	Zenyatta	DLF Pickseed	No
OG 96	DLF Pickseed	0.57	Valor	DLF Pickseed	Harvest
Captur	DLF Pickseed	0.54	Sahara DT	DLF Pickseed	in
Pennlate	check	0.51	Hertta	BrettYoung	2022
BAR DGL 22098	Barenbrug	0.49	Climax	check	
RAD-LCF54	Bailey Seed & Grain	0.47	BAR PHL 22SEN	Barenbrug	
BAR DGL 22099	Barenbrug	0.47	BAR PHL 22KOO	Barenbrug	
Ammo	Barenbrug	0.44	BarFleo	Barenbrug	
Intensiv	Barenbrug	0.43	Baronaise	Barenbrug	
Barlegro	Barenbrug	0.40			
	LSD (0.05)	0.10	Bromegrass		
Tall Fescue			Arsenal	Barenbrug	No
Triumphant	DLF Pickseed	0.41	Artillery	Barenbrug	Harvest
RAD-ERFH82	Columbia Seeds	0.38	Baruzzo	Barenbrug	in
RGT Onctuosa	BrettYoung	0.38	Peak	Allied	2022
Fawn	check	0.36	Barricade	Barenbrug	
FTF 96	DLF Pickseed	0.30	S9549	BrettYoung	
KY-31	check	0.30	S9356M	BrettYoung	
Hyperbola	DLF Pickseed	0.30	Stratus	Allied	
Greendale	DLF Pickseed	0.28			
Kiowa	BrettYoung	0.27			
	LSD (0.05)	0.11			
					Yield Oct. 12, 2022
Festulolium		T/A	Festulolium (continued)		T/A
Tatran	Columbia Seeds	0.60	FPF 8	DLF Pickseed	0.37
Spring Green	check	0.52	Hyperbola	DLF Pickseed	0.31
Sugarcrest	Mountain View Seeds	0.48	Pradel	check	0.28
FPF 7	DLF Pickseed	0.42		LSD (0.05)	0.09
Lenor	Columbia Seeds	0.38			

Company - Grasses	Phone	Web address	Company - Grasses	Phone	Web address
Albert Lea Seeds	800-352-5247	www.alseed.com	Mountain View Seeds	503-588-7333	www.mtviewseeds.com
Allied Seed, L.L.C.	208-250-6321	www.alliedseed.com	OreGro	541-258-1001	www.oregroseeds.com
Barenbrug USA	800-547-4101	www.barusa.com	Preferred Seed	716-895-7333	www.preferredseed.com
Brett Young	800-665-5015	www.brettyoung.ca	Pure Seed	503-651-2130	www.pureseed.com
Columbia Seeds	888-681-7333	www.columbiaseeds.com	S&W Seed Co.	855-767-4486	www.swseedco.com
DLF Pickseed USA Inc.	800-445-2251	www.dlfi.com/	Seedway	800-836-3710	www.seedway.com
Grassland Oregon	503-566-9900	www.grasslandoregon.com	Smith Seed	888-550-2930	www.smithseed.com

Cornell University Forage Project - 2022 Cooperators and Cornell Student Research Assistants and Seasonal Employees.

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CUAES: Cornell University Agricultural Experiment Station <https://cuaes.cals.cornell.edu/>

Alfalfa	Page(s)	Alfalfa (con't.)	Page(s)	Orchardgrass	Page(s)	Tall Fescue	Page(s)
154-ANS*	3	SW4506	3,4,6	Albert	8,11,12	7 FACF 82	9,11,12
154-FL-1*	3	SW4513	3,4	Alpine	8	Aprilia	9,11,12
154-FL-2*	3	SW4515	3,4,6	Alpine II	8,11,12	Armory	9,11,12
154-SD-1*	3	SW5509	3,4,6	Ammo	8,11,12,13	BAR FA 9125	9,11,12
3510-ANS*	3	SW5511	3,6	BAR DGL 22098	13	BAR FABLD	9,11,12
3510-FL-1*	3	SW5520Y	3,4,6	BAR DGL 22099	13	BAR FAF 135	9,11,12
3510-FL-2*	3	SW5606*	4	BAR DGLBLD	8,11,12	BAR FAF 137	9,11,12
3510-SD-1*	3	SW5614*	4	BAR DGLF 2094	8,11,12	BAR FAF 146	9,11,12
431RRLH	5,6	SW5615	4,6	BAR DGLF 2095	8,11,12	BAR FAFL 239	9,11,12
54Q16	4,6	TRIADE	5,6	BARDGL 48	8,11,12	Bariane	9,11,12
54Q29	3,4,6	VERNAL	3,4,5	Barlegro	8,11,12,13	Cajun II	9
54VQ52	3,4,6	VIKING 374HD	3,4,6	Bighorn	8,11,12	Dominate	9
54VR10	4,5,6	VIKING 394AP	3,4,6	Captur	8,13	Fawn	9,13
55H96	5,6	WL 349HQ	3,4,6	Devour	8,11,12	FTF 118	9,11,12
55V50	3,4			DLFPS-OG 70	8,11,12	FTF 119	9,11,12
6453Q	3,4,6			DLFPS-OG 79	8,11,12	FTF 96	9,13
ACE*	3,4,6	Red Clover	Page(s)	DLFPS-OG 80	8,11,12	Greendale	9,13
AFX 439	4,6	20-LARC-1	7	DLFPS-OG 96	8,11,12	K-32	9,11,12
FSG 420BR*	3,4	BAR TP10	7	Harvestar	8,11,12	Kiowa	13
AFX174082*	4	Barduro	7	Intensiv	8,11,12,13	KY 31+	9,11,12,13
AFX174083*	3	Blaze	7	OG 0703	8	PST-5SLF	9,11,12
AFX174084*	4	BY-RC31	7	OG 80	8,11,12	RAD-ERFH82	13
AFX455-HVX	5,6	Cinnamon Plus	7	OG 96	8,11,12,13	Ranchero	9
AFX463-RR	5,6	CW040040	7	Pennlate	8,11,12,13	RGT Onctuosa	13
ALFABAR	4,6	CW30091	7	Persist	8,11,12	SETFN97	9
BARRICADE II*	3,4,6	Evolve	7	Persist II	8,11,12	SETFPC-5BK	9
BISON	4,6	Freedom!MR	7	Potomac	8,11,12,13	Teton II	9
BLUEBIRD	5,6	Marathon	7	RAD-LCF54	13	Triumphant	9,13
BLUEJAY 4HR	5,6	Medallion	7	Rushmore II	8	Velvet	9,11,12
F2F6C-418	3,4,6	Raptor	7				
F2F6C-418NC	3,4,6	RC08	7	Perennial Ryegrass	Page(s)	Timothy	Page(s)
FF 42.A3	3,4,6	Redkin	7	Boost	10,11,12	BAR PHL 22KOO	13
FSG 450	3,4,6	Ruby Red	7	Calibra	10,11,12	BAR PHL 22SEN	13
GO-2018-FU*	5	TP-12	7	GPT14021	10	Barfleo	10,13
HYBRIFORCE-4420/Wet	3,4,6			Linn	10,11,12	Baronaise	10,13
MAGNUM 8 WET	4,6	Bromegrass	Page(s)	PI2B2	10,11,12	Carson	10
MARINER V	3,6	Arsenal	13	PST-2TETS	11,12	Climax	10,13
MVS4220Q	3,4,6	Artillery	13	Remington	10,11,12	Conquest	10
NRGEE	5	Barricade	10	Remington NEA2	10,11,12	Express II	10
ONEIDA VR	3,4,5	Barricade	13	Remington SLT	10	Hertta	13
ORGANIC VIKING 5200	3,4,6	Baruzzo	13	Tetragain	10	KY-Early	10
PAOLA	5,6	Peak	10,13	Tetramag	10	PolarKing	10
PERSIST III	3,4,6	S9356M	10,13	TetraSweet	10,11,12	Sahara DT	13
QUICKGOLD*	3,6	S9549	10,13	Tribal	10,11,12	Valor	10,13
RED FALCON BR	3,6	Stratus	10,13	UGA E+	10	Zenyatta	10,13
REGEN	3,4,6			Meadow Fescue	Page(s)	Annual Grass	Page(s)
RELOAD	3,4,6	Festulolium	Page(s)	BAR FP 2044	8,11,12	AMP	10
SCEPTER	5,6	DLFPS-FPF 5	9,11,12	BAR FPF 77-2	8,11,12	Dexter	10
SIGNATURE	3,6	DLFPS-FPF 6	9,11,12	BAR FPF 82	8,11,12	DynaPlus	10
SKYLARK	4,6	Fojtan	9,11,12	BAR FPF79	8,11,12	Feast II	10
SW16XCA32*	3	FPF 7	9,13	BAR FPFBLD	8,11,12	FrostProof	10
SW16ZPD02*	5	FPF 8	9,13	BAR81d	8,11,12	GrazeKeeper	10
SW315LH	5	Hipast	9,11,12	Driftless	8,11,12	Green Spirit	10
SW3407	3,4,6	Hyperbola	13	Hyperbola	13	Gulf	10
SW4107	3,4,6	Lenor	9,13	MerifestMF	9,11,12	Halsey	10
SW4412Y	3,4,6	ORRUS	9,11,12	PetrarcaMF	9,11,12	KAIR 12DT	10
		Spring Green	9,10,11,12,13	Pradel	8,9,11,12,13	KAIR DS	10
		Sugarcrest	9,13			KAIR12 TE	10
		Tatran	9,13			Mantis	10
						Meroa	10
						Mervana	10
						SATSUKIBARE EX	10
						SELWD19-7	10
						SELWT19-9	10
						SELWTDWL 1	10
						ThS2x18BK	10