

2023 Yield Results of New York Alfalfa Cultivar Trials; Cornell University;

Trials Planted in 2020, 2021 and 2023

Note: 2022 trials were replanted in 2023.

School of Integrative Plant Science, Plant Breeding and Genetics Section

t/a = tons per acre dry matter

Ithaca, South Central New York

USDA Plant Hardiness Zone 5b

[2020 Commercial and Experimental Trial](#)

[2020 Roundup Ready Trial](#)

[2020 No Insecticide Trial](#)

[2021 Commercial and Experimental Trial](#)

[2023 Commercial and Experimental Trial](#)

[2023 No Insecticide Trial](#)

Web Link to Cornell Forage Yield Trials reports and applications:

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

Web Link to Cornell Field Crops Events including field days at Ithaca:

<https://cals.cornell.edu/field-crops/about/news-events>

Alfalfa Trial Protocol and Notes:

Alfalfa and other forage trials are planted in New York each spring. Alfalfa trials planted in Ithaca NY on the Cornell University Agricultural Experiment Station each year are to test conventional trial entries (cultivars and experimental populations), roundup ready trial entries, and insect resistant entries. A field day is held in Ithaca each year either just before or just after July 4th (<https://cals.cornell.edu/field-crops/about/news-events>).

Trials are seeded with a 6 row seeder and harvested with a Carter Harvester with a 1 meter cutting width head. The trials are planted in randomized complete block designs if the number of trial entries are 8 or less. If there are 9 or more trial entries, then the trial design is an incomplete block design. All trials are planted with five replicates. Trials are harvested 3 or 4 times each year. At each harvest, one third to one fifth of the plots are sampled for dry matter determination. A digital hanging scale is used to measure plot weights. A portable platform scale is used to weigh the samples taken for dry matter determination. Samples are oven dried for 7 days at 55 degrees C.

Forage cultivar trial applications and summaries are found at: <https://blogs.cornell.edu/varietytrials/forage/>

2023 Notes: In 2022, new alfalfa plot seedings were planted in mid-late May rather than in late-April/early-May. By fall 2022, alfalfa stands were not acceptable due to late planting followed by low precipitation and poor herbicide activity. The 2022 alfalfa trials were replanted in spring 2023. Trials planted in 2020 and 2021 successfully overwintered although there were only 58 out of 151 days with 1 inch or more of snow from November 2022 to March 2023 and snowfall was 22.3 inches below normal. In 2023, April was a warm dry month and was followed by cooler temperatures and low precipitation in May and early June. May 17-18 had a deep freeze that impacted area fruit farms. Starting June 13, Ithaca had 6.6 inches of rain for the remainder of the month, followed by a rainy July (6.5 inches or 2.6 inches above normal precipitation). Forage yields were 3.98 tons per acre over the 4 trials in this report. Yields at third harvest for the trials planted in 2020 were too variable due to rain soaked soils and poor plant health. Thanks to the harvesting crew: Jesse Chavez, Ryan Crawford, Jamie Crawford, Abby Nonnenberg, Miguel Barrera, Ashton Pihl, Emileen Flores, Thomas Jacquot and CUAES CAF and Musgrave Farm Crews, including Farm managers Gene Sczepanski and Jeff Stayton. Julie Hansen JLH17@cornell.edu.

2023 New York Alfalfa Yield Trials

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

Sown August 2020

Released And Experimental Varieties	2023 Harvest (yields reported in tons/acre)		2023 Total t/a	2022 Total t/a	2021 Total t/a	3-Yr. Total t/a	% of Checks Mean	
	5-Jun	12-Jul					2023 Total	3-Yr. Total
SW5520Y	2.76	1.52	4.29	4.29	5.19	13.79	134	134
SW5509	2.91	1.45	4.35	4.22	5.18	13.77	136	134
FSG 420BR*	2.86	1.32	4.19	4.06	5.41	13.68	131	133
SW4506	2.93	1.43	4.37	4.05	5.18	13.62	137	132
AFX174084*	2.89	1.30	4.19	3.97	5.29	13.45	131	131
SW3407	2.73	1.33	4.05	4.13	5.28	13.44	127	130
AFX174082*	2.89	1.44	4.32	3.89	4.80	13.00	136	126
SW4107	2.81	1.28	4.09	4.01	4.84	12.94	128	126
SW4412Y	2.78	1.31	4.09	3.86	4.92	12.86	128	125
SW4513	2.65	1.24	3.89	3.89	4.98	12.75	122	124
54VR10	2.71	1.32	4.04	3.77	4.81	12.63	127	123
MVS4220Q	2.53	1.31	3.84	3.74	5.02	12.60	121	122
MAGNUM 8-WET	2.60	1.20	3.80	3.79	4.78	12.34	119	120
REGEN	2.64	1.10	3.74	3.54	4.54	11.85	117	115
ALFABAR	2.45	1.06	3.51	3.40	4.66	11.54	110	112
ONEIDA VR	2.38	1.01	3.39	2.95	4.28	10.62	106	103
VERNAL	2.17	0.82	2.99	3.01	3.99	9.97	94	97
							Ck. Mean	Ck. Mean
Mean	2.66	1.23	3.89	3.72	4.78	12.39	3.19 t/a	10.30 t/a
5% LSD	0.22	0.11	0.30	0.25	0.40	0.76		
CV (%)	6.6	7.0	6.0	5.2	6.6	4.9		

^Variety means are LSMEANS derived from incomplete block statistical analysis. Therefore, season or multiple-year totals will not be the arithmetic sum of individual cuts or years, respectively.

*EXPERIMENTAL ENTRIES Overall means are for 20 trial entries.

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2023 New York Alfalfa Yield Trials

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

Sown May 2021

Released And Experimental Varieties	2023 Harvest (yields reported in tons/acre)			2023 Total t/a	2022 Total t/a	2-Yr. Total t/a	% Stand 12-Oct-23	% of Checks Mean	
	20-Jun	14-Jul	5-Sep					2023 Total	2-Yr. Total
55V50	2.26	1.26	1.21	4.76	3.24	8.05	74	110	114
54Q29	2.28	1.30	1.27	4.84	3.08	7.94	74	112	113
HybriForce-4420/Wet	2.28	1.12	1.18	4.60	3.30	7.89	71	106	112
SW4515	2.26	1.24	1.17	4.66	3.03	7.69	68	108	109
SW5614*	2.16	1.27	1.19	4.63	3.03	7.66	68	107	109
FF42.A3	2.22	1.18	1.14	4.53	3.05	7.57	71	105	108
FSG 450	2.19	1.10	1.17	4.45	3.00	7.45	68	103	106
WL 349HQ	2.10	1.13	1.13	4.35	3.08	7.43	69	100	106
SW5606*	2.14	1.15	1.13	4.41	2.95	7.34	73	102	104
SW5615	1.98	1.14	1.17	4.34	2.92	7.25	69	100	103
ONEIDA VR	2.26	1.01	1.16	4.41	2.82	7.24	69	102	103
54Q16	2.10	1.11	1.16	4.39	2.77	7.16	71	101	102
6453Q	1.91	1.17	1.08	4.16	3.00	7.13	69	96	101
AFX 439	1.96	1.24	1.08	4.24	2.60	6.85	70	98	97
VERNAL	2.10	0.91	1.07	4.25	2.48	6.83	56	98	97
BISON	1.88	0.90	1.16	3.92	2.61	6.54	54	91	93
								Ck. Mean	Ck. Mean
Mean	2.14	1.13	1.16	4.44	2.91	7.36	67	4.33 t/a	7.04 t/a
5% LSD	0.26	0.13	0.13	0.41	0.31	0.72	7		
CV (%)	9.7	9.3	8.7	7.3	8.5	7.7	7.8		

^Variety means are LSMEANS derived from incomplete block statistical analysis. Therefore, season or multiple-year totals will not be the arithmetic sum of individual cuts or years, respectively.

*EXPERIMENTAL ENTRIES Overall means are for 21 trial entries.

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2023 New York Alfalfa Yield Trials - Roundup Ready Varieties

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

Sown August 2020

Released And Experimental Varieties	2023 Harvest (yields reported in tons/acre)		2023 Total t/a	2022 Total t/a	2021 Total t/a	3-Yr. Total t/a	% of Checks Mean	
	5-Jun	12-Jul					2023	3-Yr.
	Total	Total					Total	Total
54VR10	2.85	1.44	4.29	4.05	5.41	13.75	107	109
AFX463-RR	2.74	1.22	3.95	3.87	5.05	12.87	98	102
AFX455-HVX	2.49	1.24	3.73	3.38	4.01	11.12	93	88
							Trial Mean	
Mean	2.71	1.31	4.02	3.75	4.83	12.60	4.02 t/a	12.60 t/a
5% LSD	0.40	0.20	0.56	0.31	0.31	0.70		
CV (%)	10.6	11.2	10.1	5.4	4.6	4.0		

^Variety means are LSMEANS derived from incomplete block statistical analysis. Therefore, season or multiple-year totals will not be the arithmetic sum of individual cuts or years, respectively.

*EXPERIMENTAL ENTRIES Overall means are for 4 trial entries.

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2023 New York Alfalfa Yield Trials - Trials not sprayed with Insecticides

Cornell University Agricultural Experiment Station, Tompkins County, Ithaca, Central New York

Sown August 2020

Released And Experimental Varieties	2023 Harvest (yields reported in tons/acre)		2023 Total t/a	2022 Total t/a	2021 Total t/a	3-Yr. Total t/a	% of Trial Mean		2023 PLH Damage Score
	5-Jun	12-Jul					2023	3-Yr.	
	Total	Total					Total	Total	
55H96	2.80	1.21	4.01	3.77	4.90	12.69	112	111	1.2
SW4602LH*	2.67	1.26	3.94	3.69	4.65	12.28	110	108	1.1
BLUEBIRD	2.46	1.00	3.46	3.49	4.42	11.38	97	100	3.0
ONEIDA VR	2.43	0.97	3.40	3.06	4.26	10.72	95	94	4.1
VERNAL	2.30	0.87	3.17	3.32	3.99	10.47	88	92	4.4
							Trial Mean		
Mean	2.54	1.04	3.58	3.45	4.36	11.39	3.58 t/a	11.39 t/a	2.3
5% LSD	0.31	0.12	0.42	0.36	0.36	1.03			0.8
CV (%)	8.7	8.1	8.2	7.3	6.6	6.3			23.5

Potato leafhopper (PLH) damage score was from 1 (no damage) to 5 (severe damage), means are for 13 trial entries.

Overall means are for 13 trial entries.

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2022 Trials: Trials were replanted in 2023

2023 New York Alfalfa Yield Trials

Cornell University Agricultural Experiment Station, Tompkins County, Ithaca, Central New York

Sown May 2023

Released And Experimental Varieties	Breeding Co./ Marketer
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ONEIDA VR	check
VERNAL	check
WL 349HQ	check
FF 42.A3	La Crosse Seeds
03JR	Legacy Seeds
08JV	Legacy Seeds
13JX	Legacy Seeds
06DR	Legacy Seeds
11DX	Legacy Seeds
02BX	Legacy Seeds
03BX	Legacy Seeds
04FV	Legacy Seeds
FINCH	Albert Lea
374HD	Albert Lea
394AP	Albert Lea
SW5615	S&W
54VR12	Pioneer
54Q16	Pioneer
54Q29	Pioneer
FSG 450	Seedway
AFX184024	Alforex
AFX184021	Alforex
AFX184035	Alforex
REGEN	Seedway

2023 New York Alfalfa Yield Trials - Trials not sprayed with Insecticides

Cornell University Agricultural Experiment Station, Tompkins County, Ithaca, Central New York

Sown May 2023

Released And Experimental Varieties	Breeding Co./ Marketer
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55H96	Pioneer
SW525LH	S&W
SW4602LH	S&W
WL 358LH	Seedway
FSG 421LH	Seedway
ONEIDA VR	check
VERNAL	check
342 LH	Albert Lea

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