

Ithaca, South Central New York	New York Locations Other than Ithaca
USDA Plant Hardiness Zone 5b	
2018 Commercial and Experimental Seeding	Cobleskill, Eastern New York, USDA Plant Hardiness Zone 5b 2018 Commercial and Experimental Seeding
2018 No Insecticide Seeding	
2019 Commercial and Experimental Seeding	Aurora, Central New York, USDA Plant Hardiness Zone 6a 2019 Commercial and Experimental Seeding
2019 No Insecticide Seeding	
2020 Commercial and Experimental Seeding	
2020 No Insecticide Seeding	
2020 Roundup Ready Seeding	
2021 Commercial and Experimental Seeding	
2021 No Insecticide Seeding	

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. 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>). A conventional entry trial is also planted at a second location away from Ithaca. These locations are on commercial farms, at State University of New York College farms, or at William H. Miner Institute Agricultural Research Institute in Northern New York.

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.

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

2021 Notes: Trials planted in 2018, 2019 and 2020 successfully overwintered as noted in spring 2021. New alfalfa plot seedings were planted in mid-May rather than in late-April/early-May due to above average rainfall and below average temperatures this spring. Following the summer of 2020 when it was quite dry and warm, the summer of 2021 was quite rainy and warm. From April 2021 to October 2021, the average precipitation per month was 5.4 inches. From April 2021 to October 2021, the average temperature was 2 degrees F over the 30 year normal (1990-2020). June, August and October were all above average for temperature. The trial check cultivar 'Vernal' had major stand reduction in 2021, due to low disease resistance in this cultivar. In 2021, trial yields were greater than normal. Some COVID-19 restrictions remained in place for 2021. Thanks to the harvesting crew: Jesse Chavez, Jason Schiller, Ryan Crawford, Jamie Crawford, Johanna Gertin, Christina McMillan, Adrian Driesbaugh, Ileana Katzman, and CUAES Campus Area Farms and Musgrave Farm Crews, including Farm managers Gene Sczepanski and Paul Stachowski, and SUNY Cobleskill Farm manager Kane Seamon.

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2021 New York Alfalfa Yield Trials

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

Sown May 2018

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)							% of Checks Mean		
				2021	2020	2019	3-Yr.	% Stand	2021	3-Yr.
	23-Jun	28-Jul	27-Sep	Total t/a	Total t/a	Total t/a	Total t/a	17-Nov-21	Total	Total
AFX164046*	3.28	1.06	0.79	5.14	4.00	5.53	14.69	75	133	125
AFX164047*	2.97	0.87	0.66	4.51	4.06	5.46	14.04	66	116	120
AFX164048*	2.87	0.99	0.72	4.58	4.02	5.43	14.02	72	118	120
PERSIST III	3.10	0.90	0.70	4.70	3.90	5.42	14.00	67	121	119
SW1517*	2.79	1.21	0.77	4.76	3.96	5.21	13.93	76	123	119
SW4107	2.93	1.12	0.72	4.77	3.95	5.11	13.84	70	123	118
54VQ52	2.86	1.03	0.77	4.66	3.85	5.14	13.66	78	120	117
REGEN	3.18	0.69	0.57	4.43	3.86	5.06	13.35	61	114	114
DYNAMO	2.68	1.04	0.75	4.47	3.87	4.85	13.20	70	115	113
SW1520*	2.48	1.08	0.75	4.32	3.75	5.10	13.16	73	111	112
SW5210	2.77	0.99	0.68	4.43	3.67	5.02	13.13	69	114	112
FORTUNE	2.85	0.81	0.58	4.23	3.75	5.07	13.05	63	109	111
PLUSS III	2.63	1.04	0.67	4.34	3.69	4.68	12.72	67	112	109
AFX 460	2.70	1.11	0.67	4.48	3.74	4.49	12.70	72	115	108
GEMSTONE II	2.64	1.05	0.60	4.30	3.72	4.57	12.59	66	111	107
ONEIDA VR	2.73	0.74	0.56	4.04	3.51	4.63	12.20	62	104	104
VERNAL	2.67	0.52	0.52	3.72	3.32	4.22	11.24	38	96	96
									Ck. Mean (t/a)	Ck. Mean (t/a)
Mean (t/a)	2.88	0.92	0.66	4.46	3.79	4.99	13.24	66	3.88	11.72
5% LSD	0.22	0.15	0.14	0.38	0.19	0.30	0.70	8		
CV (%)	6.0	12.5	16.5	6.7	4.1	4.7	4.2	9.3		

*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.

Alfalfa Check Cultivars are VERNAL, ONEIDA VR

*EXPERIMENTAL ENTRIES

Overall means are for 24 trial entries.

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2021 New York Alfalfa Yield Trials

SUNY Cobleskill, Schoharie County, Cobleskill, Eastern New York

Sown May 2018

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)			2021 Total t/a	2020 Total t/a	2019 Total t/a	3-Yr. Total t/a	% Stand 10-Sep-21	% of Checks Mean	
	10-Jun	15-Jul	10-Sep						2021 Total	3-Yr. Total
SW5210	2.79	1.66	1.89	6.33	5.62	5.82	17.72	66	120	120
54VQ52	2.78	1.68	2.04	6.54	5.38	5.78	17.60	66	124	119
SW4107	2.61	1.58	1.97	6.14	5.32	5.63	17.11	60	116	116
PERSIST III	2.71	1.50	2.03	6.23	5.15	5.65	17.09	60	118	116
DYNAMO	2.44	1.77	2.08	6.29	5.39	5.20	16.85	68	119	114
PLUSS III	2.59	1.62	1.90	6.12	5.01	4.99	16.20	64	116	110
ONEIDA VR	2.47	1.36	1.79	5.62	4.68	5.49	15.82	54	106	107
REGEN	2.44	1.39	1.65	5.49	4.72	5.52	15.70	56	104	106
VERNAL	2.37	1.23	1.37	4.96	4.01	4.74	13.72	50	94	93
SW315LH	1.71	1.03	1.06	3.79	3.93	4.91	12.63	34	72	86
Mean (t/a)	2.41	1.43	1.72	5.55	4.81	5.26	15.63	55	Ck. Mean (t/a) 5.29	Ck. Mean (t/a) 14.77
5% LSD	0.36	0.15	0.25	0.51	0.32	0.38	1.01	10		
CV (%)	11.9	8.4	11.4	7.3	5.3	5.7	5.1	14.2		

^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.

Alfalfa Check Cultivars are VERNAL, ONEIDA VR

*EXPERIMENTAL ENTRIES

Overall means are for 19 trial entries.

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2021 New York Alfalfa Yield Trials

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

Sown June 2019

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)			2021 Total t/a	2020 Total t/a	2-Yr. Total t/a	% Stand 10-Nov-21	% of Checks Mean	
	29-Aug	26-Jul	13-Sep					2021 Total	2-Yr. Total
AFX174085*	2.28	1.41	0.98	4.65	3.46	8.09	84	126	126
AFX174083*	2.25	1.43	0.97	4.63	3.43	8.08	85	126	126
SW4107	2.10	1.42	0.98	4.50	3.26	7.77	86	122	121
3510-SD-1*	2.13	1.41	0.96	4.47	3.27	7.77	85	122	121
RELOAD*	2.20	1.29	0.91	4.42	3.33	7.72	84	120	120
MARINER V	2.06	1.34	0.94	4.41	3.24	7.70	85	120	120
154-FL-2*	2.18	1.36	0.91	4.43	3.26	7.67	87	120	120
PERSIST III	2.22	1.24	0.94	4.38	3.30	7.67	81	119	120
SW3407	2.12	1.43	0.89	4.44	3.17	7.62	86	121	119
154-SD-1*	2.14	1.30	0.88	4.41	3.17	7.59	80	120	118
VIKING 394AP	2.16	1.33	0.90	4.35	3.24	7.59	81	118	118
REGEN	2.38	1.23	0.77	4.44	3.07	7.55	80	121	118
F2F6C-418	2.18	1.30	0.88	4.33	3.19	7.53	80	118	117
54VQ52	2.12	1.33	0.91	4.37	3.15	7.52	84	119	117
154-FL-1*	2.11	1.34	0.90	4.33	3.17	7.52	86	118	117
SW5511*	2.01	1.37	0.90	4.28	3.22	7.50	85	116	117
RED FALCON BR	2.23	1.23	0.82	4.30	3.19	7.48	83	117	117
3510-FL-2*	2.10	1.33	0.90	4.31	3.16	7.46	84	117	116
3510-FL-1*	2.02	1.36	0.97	4.35	3.08	7.44	86	118	116
VIKING 374HD	1.93	1.32	0.94	4.18	3.21	7.41	85	114	116
154-ANS*	2.10	1.32	0.90	4.28	3.11	7.41	81	116	116
F2F6C-418NC	2.16	1.22	0.83	4.22	3.18	7.39	80	115	115
SW16XCA32*	1.85	1.41	0.91	4.18	3.20	7.36	86	114	115
WL 349HQ	1.86	1.35	0.99	4.21	3.07	7.27	83	114	113
QUICKLOAD*	1.90	1.35	0.96	4.21	3.06	7.26	86	114	113
3510-ANS*	1.99	1.30	0.86	4.17	3.01	7.14	85	113	111
ONEIDA VR	2.13	1.08	0.74	3.96	2.91	6.84	78	107	107
SIGNATURE	1.82	1.24	0.90	3.92	2.89	6.84	85	107	107
BARRICADE II*	1.88	1.13	0.81	3.78	2.94	6.73	79	103	105
ACE*	1.92	1.28	0.87	4.06	2.67	6.71	83	110	105
ORGANIC VIKING 5200	1.64	1.11	0.66	3.44	2.72	6.13	72	93	96
VERNAL	2.11	0.81	0.48	3.40	2.58	5.98	52	92	93
Mean (t/a)	2.09	1.28	0.87	4.23	3.10	7.33	81	3.68	6.41
5% LSD	0.12	0.10	0.07	0.33	0.17	0.41	7		
CV (%)	4.7	6.3	6.8	6.1	4.3	4.5	6.6		

^aVariety 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.

Alfalfa Check Cultivars are VERNAL, ONEIDA VR

*EXPERIMENTAL ENTRIES

Overall means are for 36 trial entries.

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2021 New York Alfalfa Yield Trials

Cornell U. Agricultural Experiment Station, Cayuga Co., Aurora, NY

Sown June 2019

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)						2-Yr. Total t/a	% Stand 19-Oct-21	% of Checks Mean	
	2021			2020		2021			2-Yr.	
	7-Jun	16-Jul	21-Sep	Total t/a	Total t/a	Total			Total	
F2F6C-418	2.47	1.57	0.83	4.87	3.12	7.98	95	111	113	
PERSIST III	2.43	1.52	0.81	4.76	3.05	7.81	90	109	110	
REGEN	2.47	1.53	0.81	4.82	2.90	7.72	90	110	109	
F2F6C-418NC	2.41	1.54	0.80	4.75	2.94	7.70	91	109	109	
RELOAD*	2.30	1.52	0.81	4.64	3.04	7.68	93	106	109	
VIKING 394AP	2.40	1.56	0.74	4.70	2.86	7.57	94	108	107	
SW3407	2.27	1.56	0.71	4.55	2.88	7.42	94	104	105	
SW4107	2.27	1.56	0.74	4.56	2.81	7.36	93	104	104	
BARRICADE II*	2.11	1.47	0.86	4.44	2.86	7.29	88	102	103	
VIKING 374HD	2.14	1.53	0.70	4.38	2.86	7.23	92	100	102	
54VQ52	2.24	1.51	0.71	4.46	2.75	7.21	94	102	102	
SKYLARK	2.35	1.38	0.76	4.49	2.73	7.21	89	103	102	
ONEIDA VR	2.21	1.41	0.80	4.42	2.71	7.13	93	101	101	
ORGANIC VIKING 5200	1.69	1.59	0.94	4.23	2.88	7.11	87	97	100	
VERNAL	2.26	1.33	0.73	4.32	2.72	7.03	93	99	99	
WL 349HQ	2.06	1.49	0.69	4.23	2.64	6.87	93	97	97	
ACE*	2.07	1.39	0.65	4.11	2.29	6.41	91	94	91	
								Ck. Mean (t/a)	Ck. Mean (t/a)	
Mean (t/a)	2.23	1.48	0.77	4.48	2.81	7.29	91	4.37	7.08	
5% LSD	0.14	0.09	0.07	0.27	0.23	0.45	3			
CV (%)	4.9	5.0	7.5	4.7	6.5	4.8	3.0			

*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.

Alfalfa Check Cultivars are VERNAL, ONEIDA VR

*EXPERIMENTAL ENTRIES

Overall means are for 21 trial entries.

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2021 New York Alfalfa Yield Trials

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

Sown August 2020

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)				2021 Total t/a	% Stand 28-Oct-21	% of Checks Mean 2021 Total
	11-Jun	19-Jul	8-Sep				
AFX174085*	2.27	1.77	1.39	5.41		95	131
AFX174084*	2.15	1.78	1.35	5.29		94	128
SW3407	2.05	1.83	1.39	5.28		94	127
SW5520Y	1.91	1.83	1.46	5.19		95	125
SW5509	1.97	1.79	1.42	5.18		94	125
SW4506	1.98	1.78	1.44	5.18		95	125
HVS4220Q	1.96	1.67	1.38	5.02		94	121
SW4513	1.94	1.76	1.28	4.98		95	120
SW4412Y	1.91	1.72	1.29	4.92		94	119
SW4107	1.91	1.65	1.27	4.84		95	117
54VR10	1.86	1.64	1.30	4.81		95	116
AFX174082*	1.82	1.75	1.24	4.80		94	116
MAGNUM 8-WET	1.80	1.70	1.28	4.78		94	115
ALFABAR	2.07	1.47	1.13	4.66		92	113
REGEN	1.90	1.48	1.18	4.54		93	110
ONEIDA VR	1.85	1.33	1.10	4.28		93	103
VERNAL	1.80	1.19	0.99	3.99		88	96
							Ck. Mean (t/a)
Mean (t/a)	1.92	1.61	1.25	4.78		93	4.14
5% LSD	0.18	0.14	0.13	0.40		3	
CV (%)	7.5	7.1	8.1	6.6		2.1	

^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.

Alfalfa Check Cultivars are VERNAL, ONEIDA VR

*EXPERIMENTAL ENTRIES Overall means are for 20 trial entries.

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2021 New York Alfalfa Yield Trials - Roundup Ready Varieties

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

Sown August 2020

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)			2021 Total t/a	% Stand 28-Oct-21	% of Trial Mean
	11-Jun	19-Jul	8-Sep			2021 Total
54VR10	2.06	1.82	1.53	5.41	95	112
AFX463-RR	2.02	1.65	1.38	5.05	95	105
AFX455-HVX	1.53	1.4	1.08	4.01	93	83
						Trial Mean (t/a)
Mean (t/a)	1.86	1.63	1.34	4.83	95	4.83
5% LSD	0.17	0.1	0.12	0.31	2	
CV (%)	6.7	4.3	6.3	4.6	1.4	

^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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2021 New York Alfalfa Yield Trials - Trials not sprayed with Insecticides

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

Sown May 2018

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)			2021 Total t/a	2020 Total t/a	2019 Total t/a	3-Yr Total t/a	% Stand 17-Nov-21	% of Trial Mean		2021 PLH Damage Score
	24-Jun	29-Jul	7-Oct						2021 Total	3-Yr Total	
FSG 421LH	3.22	1.05	0.64	4.91	3.85	5.94	14.70	66	109	106	1.0
NRGEE	3.37	1.11	0.64	5.11	3.89	5.44	14.43	66	113	104	3.6
SW315LH	2.94	0.72	0.55	4.21	3.59	5.87	13.67	46	93	98	2.8
ONEIDA VR	3.14	0.82	0.57	4.53	3.60	5.21	13.34	55	101	96	4.6
SCIMITAR*	2.85	0.91	0.53	4.29	3.63	5.26	13.18	59	95	95	2.2
VERNAL	2.98	0.71	0.45	4.14	3.68	5.08	12.91	40	92	93	5.0
	Trial Means (t/a)										
Mean (t/a)	3.10	0.84	0.57	4.51	3.70	5.67	13.88	53	4.51	13.88	2.7
5% LSD	0.34	0.14	0.08	0.46	0.25	0.44	0.96	10			0.8
CV (%)	8.5	13.2	11.5	8.0	5.3	6.0	5.4	13.9			24.0

Potato leafhopper (PLH) damage score was from 1 (no damage) to 5 (severe damage), means are for 11 trial entries.

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2021 New York Alfalfa Yield Trials - Trials not sprayed with Insecticides

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

Sown June 2019

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)			2021 Total t/a	2020 Total t/a	2-Yr Total t/a	% Stand 10-Nov-21	% of Trial Mean		2021 PLH Damage Score
	16-Jun	27-Jul	9-Sep					2021 Total	2-Yr Total	
SCEPTER	2.30	1.78	0.90	4.99	3.90	8.92	74	111	114	1.0
SW315LH	2.55	1.44	0.85	4.84	3.81	8.68	62	108	111	1.2
BLUEJAY 4HR	2.32	1.48	0.86	4.66	3.67	8.35	72	104	107	2.5
431RRLH	2.09	1.66	0.93	4.68	3.54	8.24	74	104	105	1.0
ONEIDA VR	2.26	1.37	0.84	4.47	3.30	7.80	72	100	99	4.5
NRGEE	2.29	1.44	0.93	4.65	3.02	7.70	75	104	98	4.1
VERNAL	2.24	1.17	0.70	4.11	3.05	7.18	48	92	92	4.1
GO-2018-FU*	2.27	1.14	0.66	4.08	2.74	6.85	33	91	87	2.6
TRIADE*	1.70	1.32	0.89	3.91	2.76	6.70	66	87	85	5.0
PAOLA*	1.69	1.25	0.81	3.75	2.77	6.55	69	84	84	4.8
								Trial Means (t/a)		
Mean (t/a)	2.23	1.42	0.84	4.49	3.35	7.84	64	4.49	7.84	2.8
5% LSD	0.18	0.18	0.13	0.40	0.40	0.64	13			0.7
CV (%)	6.3	10.1	11.7	6.9	9.5	6.4	16.5			18.5

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

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2021 New York Alfalfa Yield Trials - Trials not sprayed with Insecticides

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

Sown August 2020

Released And Experimental Varieties	2021 Harvest (yields reported in tons/acre)			2021 Total t/a	% Stand 28-Oct-21	% of Trial Mean	2021 PLH Damage Score
	11-Jun	20-Jul	8-Sep			2021 Total	
55H96	2.04	1.63	1.23	4.90	112	119	1.5
SW16ZPD02*	1.78	1.72	1.15	4.65	107	113	1.0
BLUEBIRD	1.98	1.38	1.07	4.42	101	107	3.2
ONEIDA VR	1.97	1.24	1.06	4.26	98	103	5.0
VERNAL	1.81	1.19	0.99	3.99	91	97	5.0
						Trial Mean (t/a)	
Mean (t/a)	1.92	1.41	1.04	4.36	91	4.36	2.7
5% LSD	0.61	0.12	0.13	0.36	4		0.8
CV (%)	8.0	6.9	9.6	6.6	3.6		22.7

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

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2021 Trials: DATA WERE NOT COLLECTED IN 2021 DUE TO LATE PLANTING.

2021 New York Alfalfa Yield Trials

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

Sown May 2021

Released And Experimental	
Varieties	Source

54Q16	Pioneer
54Q29	Pioneer
55V50	check
6453Q	NEXGROW
AFX 439	Alforex
BISON	Thomas Ag Services, LLC
FF42.A3	DLF Pickseed
FSG 450	Seedway
HYBRIFORCE-4420/WET	Alforex
ONEIDA VR	check
SW4515	S&W
SW4615	S&W
SW5606*	S&W
SW5614*	S&W
VERNAL	check
WL 349HQ	check

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2021 New York Alfalfa Yield Trials - Trials not sprayed with Insecticides

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

Sown May 2021

Released And Experimental	
Varieties	Source

55H96	Pioneer
FSG421LH	check
ONEIDA VR	check
SW4602LH*	S&W
SW525LH*	S&W
VERNAL	check
WL 358LH	check

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