



2021 Alfalfa Report

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Introduction

Alfalfa (*Medicago sativa*) has historically been the highest-yielding, highest-quality forage legume grown in Kentucky. It is an important part of Kentucky's cash hay enterprise and is an important component in dairy, horse, beef, and sheep diets. Choosing a good variety is a key step in establishing a stand of alfalfa. The choice of variety can impact yield, thickness of stand, and persistence.

This report provides yield data on alfalfa varieties included in current yield trials in Kentucky as well as guidelines for selecting alfalfa varieties. Tables 12 and 13 (Roundup Ready varieties) show a summary of all alfalfa varieties tested in Kentucky during the past 18 years. The UK Forage Extension website (<https://forages.ca.uky.edu>) contains electronic versions of all forage variety testing reports from Kentucky and surrounding states as well as a large number of other forage publications.

Considerations in Selecting an Alfalfa Variety

Local adaptation and persistence. High yields in variety tests over a range of years and locations are the best indication that a variety is locally adapted and persistent. Several varieties are adapted for use in Kentucky as determined from results in this report.

Winter-hardiness. Each variety has a fall dormancy (FD) rating that ranges from 1 (very dormant) to 9 (non-dormant). In general, varieties with lower dormancy ratings are more winter-hardy but are slower to initiate growth in the spring and show reduced fall growth. Fall dormancy can lead to reduced annual yields compared to less-dormant varieties. Generally, alfalfa varieties with FD ratings of 3 to 5 will show good winter survival in Kentucky. Varieties with ratings of 6 and above are usually not winter-hardy under Kentucky conditions. Many Kentucky producers have found that FD 4 varieties provide the best combination of yield and winter survival. In recent years some companies also have begun to report a winter survival index (WS) that ranges from 1 to 6. Varieties with a WS of 1 show superior winter survival, and varieties with a WS of 6 are not winter-hardy.

Disease and pest resistance. In Kentucky, producers should use varieties that are resistant (R) or highly resistant (HR) to *aphanomyces* root rot (APH), *phytophthora* root rot (PRR), and anthracnose (AN) and have at least a moderate resistance (MR) to bacterial wilt (Bw) and fusarium wilt (Fw). Kentucky research indicates that *aphanomyces* root rot is a widespread problem in the state during stand establishment and resistance is beneficial, particularly in soils also infested with *phytophthora* root rot.

Phytophthora root rot is a fungal disease associated with poorly drained soils or excessive rainfall. This disease causes yellowish- to reddish-brown areas on roots and crowns that eventually become black and rotten. The top growth of infected plants appears stunted and yellow.

Table 1. Temperature and rainfall at Lexington, Kentucky, in 2016, 2017, 2018, 2019, 2020, and 2021 ²											
2016		2017		2018		2019		2020		2021 ²	
Month	Temp °F	Rainfall IN	Temp °F	Rainfall IN	Temp °F	Rainfall IN	Temp °F	Rainfall IN	Temp °F	Rainfall IN	Temp °F
	DEP ¹	DEP	DEP	DEP	DEP	DEP	DEP	DEP	DEP	DEP	DEP
JAN	32	+1	0.80	-2.06	40	+9	6.81	+3.95	31	0	2.01
FEB	38	+3	6.09	+2.88	47	+12	4.46	+1.25	45	+10	9.77
MAR	52	+8	4.07	-0.33	48	+4	3.34	-1.06	42	-2.	5.16
APR	57	+2	3.97	+0.09	62	+7	4.17	+0.29	50	-5	5.52
MAY	64	0	9.17	+4.70	66	+2	7.74	+3.27	73	+9	8.39
JUN	76	+4	5.09	+1.43	73	+1	7.68	+4.02	76	+4	6.42
JUL	79	+3	7.43	+2.43	76	0	4.49	-0.51	77	+1	6.15
AUG	79	+4	4.37	+0.44	74	-1	6.66	+2.73	77	+2	6.45
SEP	74	+6	2.18	-1.02	69	+1	4.72	+1.52	74	+6	12.88
OCT	64	+7	0.37	-2.20	60	+3	6.06	+3.49	59	+2	6.54
NOV	51	+6	1.94	-1.45	47	+2	3.09	-0.30	42	-3	5.64
DEC	37	+1	9.4	+5.42	35	-1	2.66	-1.32	40	+4	7.35
Total			54.88	+10.33			61.88	+17.33			82.28
											55.20
											+10.65
											+1.37
											45.92
											+9.14

¹ DEP is departure from the long-term average.
² 2021 data is for ten months through October.

Anthracnose is a fungal disease that attacks the stems of alfalfa, preventing water flow to the rest of the shoot and causing sudden wilting. These wilted shoots have a characteristic "shepherd's crook" appearance. Anthracnose can also cause a bluish-black crown rot. Bacterial wilt and fusarium wilt are infections of the water-conducting tissues of alfalfa roots and do not cause any noticeable root rot. These diseases prevent water flow to leaves, resulting in wilting of shoots and the eventual death of infected plants. Roots infected with bacterial wilt often have a yellowish-brown discoloration of the inner woody cylinder of the taproot. Fusarium infection can be recognized by brown to red streaks in the inner woody cylinder of the taproot.

Aphanomyces root rot is another fungal disease associated with poorly drained soils or excessive rainfall. Affected seedlings will be stunted but remain upright, unlike those with symptoms of damping off. In established plants, root symptoms are not as well defined as those for phytophthora root rot, but brown lesions on the taproot indicate where lateral roots were destroyed. This disease can be associated with phytophthora root rot, and together they may form a root disease complex. Aphanomyces root rot is known to affect new seedings in Kentucky, but it is unclear how it affects established alfalfa. In years with overly cool and wet spring weather, alfalfa stands have suffered great damage due to aphanomyces when planted with varieties susceptible to this disease. Producers who have experienced stand losses at the seedling stage in their fields are advised to choose varieties with resistance to both Aphanomyces Race 1 and Race 2. Ask your local seed supplier for more information or download the complete disease and insect ratings for all U.S. varieties at www.alfalfa.org/pdf/2021_Alfalfa_Variety_Leaflet.pdf. The Alfalfa Analyst publication also provides good information on diagnosing disease and insect damage. Download from alfalfa.org (under the "Education" tab, select "Publications.")

Certain alfalfa varieties are reported to have resistance to sclerotinia crown and stem rot. However, research at the University of Kentucky has shown that some of these varieties have only limited resistance when conditions are ideal for disease development. Therefore, the best prevention against sclerotinia is to plant by mid-August if fall seeding or plant in the spring.

Seed quality. Buy premium-quality seed that is high in germination and purity and free from weed seed. Buy certified seed or proprietary seed of an improved variety. An improved variety is one that has performed well in independent trials, such as those that are reported in this publication or others like it. Other information on the label will include the test date, which must be within the previous nine months, the level of germination, and the percentage of other crop and weed seed. Order seed well in advance of planting time to assure it will be available when needed.

Table 2. Dry matter yields and stand persistence of alfalfa varieties sown April 5, 2016, at Lexington, Kentucky.

Variety	FD ¹	Percent Stand										Yield (tons/acre)										6-year Total			
		Jun 16	Sep 27	Feb 23	Sep 26	Mar 14	Sep 25	Mar 28	Oct 11	Sep 24	Mar 24	Sep 30	Total	2016	2017	2018	2019	2020	2021	May 6	Jun 10	Jul 12	Aug 11	Sep 16	Total
Commercial Varieties-Available for Farm Use																									
Rebound 6XT	4	96	94	93	94	94	93	89	86	84	76	79	2,04	7,30	5,67	4,18	4,12	1,17	1,21	1,46	0,72	0,78	5,26	28,56*	
GA-497HD	5	97	97	96	96	94	90	89	85	79	78	2,14	7,50	5,73	4,09	3,73	1,13	1,09	1,10	0,49	0,77	4,61	27,79*		
Contender	5	96	94	93	94	93	92	89	91	88	81	64	1,90	7,74	5,66	4,08	3,74	1,12	1,05	1,07	0,45	0,64	4,30	27,43*	
FSG 415BR	4	92	89	91	91	91	92	87	91	84	75	55	2,26	7,68	5,46	3,83	3,89	1,24	0,92	0,96	0,44	0,73	4,28	27,42*	
Ameristand 403T Plus	4	97	93	91	92	91	92	89	91	87	75	59	61	2,31	7,69	5,24	3,94	3,96	1,30	1,08	0,94	0,49	0,77	4,08	27,22*
Evermore	5	97	97	96	96	94	90	86	71	61	60	2,20	6,95	5,73	4,31	3,78	1,13	1,04	0,93	0,51	0,67	4,18	27,14		
Caliber	4	96	95	94	95	95	94	91	88	83	73	75	1,88	7,39	5,17	3,66	3,55	1,01	1,22	1,09	0,54	0,74	4,60	26,26	
WL 365HQ	5	98	95	94	95	95	96	93	89	88	83	83	2,10	7,07	4,97	3,95	3,42	0,90	1,12	1,39	0,66	0,66	4,74	26,25	
Bulldog 505	5	93	91	90	90	89	90	89	71	53	40	1,46	7,62	5,49	3,51	3,07	0,98	0,83	0,86	0,35	0,71	3,47	24,61		
Saranac AR (certified)	4	94	92	91	91	91	85	88	75	58	33	1,84	6,90	5,36	3,29	2,81	0,86	0,68	0,78	0,28	0,70	3,08	23,29		
Experimental Varieties																									
AFX095026	4	92	91	90	92	93	94	93	91	86	78	75	1,96	7,77	6,18	4,20	4,32	1,25	1,13	1,50	0,72	0,95	5,62	30,05*	
AFX095005	5	95	93	92	94	95	94	93	91	86	70	74	1,66	7,42	6,08	3,85	3,64	0,96	1,16	1,21	0,63	0,67	4,51	27,16	
AM-14-900	4	93	92	92	95	94	93	88	87	85	75	60	55	1,97	7,68	5,42	3,40	3,41	1,00	1,24	1,07	0,51	0,78	4,73	26,61
LS905	4	95	95	96	96	96	94	95	92	85	74	75	1,79	6,93	5,24	3,99	3,70	1,00	1,10	1,18	0,55	0,70	4,36	26,01	
AM-09-600	4	95	94	94	94	94	94	91	92	88	83	70	58	1,60	7,73	5,43	3,74	3,33	0,83	1,06	0,89	0,45	0,67	4,09	25,92
NF11ALF006	6	95	93	91	92	91	86	84	79	63	60	1,38	5,65	5,05	3,10	3,39	0,89	0,95	1,32	0,53	0,73	4,17	22,74		
Mean		95	93	93	94	93	91	90	87	79	66	63	1,91	7,31	5,49	3,82	3,62	1,05	1,06	1,11	0,52	0,77	4,38	26,53	
CV%		4	4	4	3	3	3	5	5	7	11	20	21	21,81	11,89	9,53	12,64	11,42	16,78	18,96	22,55	26,65	18,11	13,11	7,62
LSD,0.05		5	6	5	4	4	4	6	6	8	12	19	19	0,59	1,24	0,75	0,69	0,59	0,25	0,29	0,36	0,20	0,19	0,82	2,88

¹ FD = Fall Dormancy.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Description of the Tests

The current alfalfa variety tests shown in this report were established at Lexington (2016, 2017, 2018, 2019, 2020, and 2021) as part of the forage variety testing program. The summary reports also contain past years' results from alfalfa tests in Princeton and Quicksand as well as Lexington. The soils in Lexington (Maury), Princeton (Crider) and Quicksand (Nolan) are well-drained silt loams and are well suited for alfalfa production.

Plots were 5 feet by 20 feet in a randomized complete block design with four replications with a harvested plot area of 5 feet by 15 feet. In each test, 20 pounds of seed per acre were planted into a prepared seedbed using a disk drill. Plots were harvested with a sickle-type forage plot harvester. First cuttings in the seeding year were delayed to allow alfalfa to reach maturity, indicated by full bloom. Otherwise, harvests were taken when the alfalfa was in the bud to early flower stage. Fresh weight samples were taken at each harvest to calculate percentage of dry matter production. Management of all tests for establishment, fertility (P, K, Boron, and lime based on regular soil tests), pest control, and harvest management was according to Kentucky Cooperative Extension recommendations. Pests (weeds and insects) were controlled so that they would not limit yield or persistence. Roundup was applied for weed control in the Roundup Ready trials.

Results and Discussion

Weather data for Lexington is presented in Table 1. Yield data (on a dry matter basis) for all tests are reported in tables 2 through 10. Stated yields are adjusted for percentage of weeds; therefore, the value listed is for the crop only. Varieties are listed in order from highest to lowest total production (for the life of the test). Experimental varieties are listed separately at the bottom of the tables and are not available commercially. Yields are given by cutting date for 2021 and as total annual production.

Statistical analyses were performed on all alfalfa yield data (including experimentals) to determine if the apparent differences are due to variety. Varieties not significantly different from the highest numerical value in a column are marked with an asterisk (*). To determine if two varieties are statistically different, compare the difference between the two varieties to the least significant difference (LSD) at the bottom of the column. If the difference is equal to or greater than the LSD, the varieties are truly different when grown under the conditions at a given location. The coefficient of variation (CV), a measure of the variability of the data, is included for each column of means. Low variability is desirable; increased variability within a study results in higher CVs and larger LSDs.

Table 11 shows information about proprietors, fall dormancy, and disease resistance for all the varieties included in the tests discussed in this report. Varieties are listed in alphabetical order with the experimental varieties at the bottom. Remember that experimental varieties are not available for farm use; commercial varieties can be purchased through dealerships.

Table 3. Dry matter yields and stand persistence of Roundup Ready alfalfa varieties sown April 5, 2016, at Lexington, Kentucky.¹

Variety	Commercial Varieties-Available for Farm Use	Percent Stand												Yield (tons/acre) ³											
		FD ²	Jun 16	Sep 27	Feb 23	Sep 26	Mar 14	Sep 25	Mar 28	Oct 11	Mar 24	Sep 24	Mar 29	2021	2017	2018	2019	2020	May 10	Jun 10	Jul 12	Aug 12	Sep 16	Total	5-year Total
55VR08 RR	5	99	94	94	94	94	93	93	91	90	86	67	7.73	4.95	3.98	3.82	1.02	1.31	1.36	0.61	0.77	0.77	5.07	25.56*	
Stratica RR	4	96	94	94	95	93	92	89	89	86	82	71	74	7.53	4.92	3.40	3.60	0.94	1.06	1.29	0.69	0.67	0.67	4.64	24.08*
428 RR	4	98	86	86	87	88	88	85	85	80	79	75	7.06	4.75	3.36	3.39	0.90	1.16	1.15	0.46	0.83	0.83	4.50	23.06*	
Ameristand 433T RR	3	97	93	92	95	93	92	91	91	89	86	78	76	7.38	4.67	3.39	3.51	0.71	1.00	1.20	0.52	0.64	0.64	4.06	23.00*
Alfagraze 300 RR	3	99	99	98	98	98	96	95	96	92	88	83	83	7.32	4.91	3.16	3.29	0.78	0.89	1.16	0.48	0.60	0.60	3.90	22.58*
54R02 RR	4	96	92	92	91	89	87	87	85	81	76	74	7.05	4.55	3.09	3.20	0.91	1.07	1.01	0.49	0.59	0.59	4.07	21.96	
Ameristand 405T RR	4	94	88	89	90	87	86	84	81	76	70	68	6.53	4.02	3.07	2.97	0.82	0.79	1.17	0.45	0.70	0.70	3.93	20.52	
Mean		97	92	93	92	91	90	90	87	84	78	74	7.25	4.68	3.35	3.41	0.85	1.03	1.19	0.52	0.68	0.68	4.28	22.97	
CV%		3	9	9	8	7	7	8	8	9	10	12	25	9.82	13.69	15.56	17.82	20.67	18.52	19.76	27.70	25.40	11.59	9.91	
LSD0.05		4	12	11	10	9	9	10	10	11	12	14	26	0.96	0.91	0.74	0.86	0.25	0.27	0.33	0.21	0.24	0.24	0.70	3.22

¹ This trial was sprayed with Roundup twice in 2016, once in 2017, 2018, and 2019, and twice in 2020 and 2021.

² FD = Fall Dormancy.

³ Due to variability in yields, the 2016 harvest data is not reported.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

How to Interpret the Summary Tables

Tables 12 and 13 (Roundup Ready varieties) are summaries of yield data from 2004 to 2021 of commercial varieties that have been entered in the Kentucky trials. The data is listed as a percentage of the mean of the commercial varieties entered in each specific trial. In other words, the mean for each trial is 100 percent—varieties with percentages over 100 yielded better than average, and varieties with percentages less than 100 yielded lower than average. Direct statistical comparisons of varieties cannot be made using the summary tables 12 and 13, but these comparisons do help to identify varieties for further consideration. Varieties that have performed better than average over many years and at several locations have stable performance; others may have performed well in wet years or on particular soil types. See footnotes in tables 12 and 13 to determine which yearly report should be referenced.

Summary

Consistent production of high yields of alfalfa is the result of good variety selection along with the implementation of good management techniques. For further information about alfalfa management, refer to the following College of Agriculture publications, available at the local county Extension office or in the “Publications” section of the UK Forage website (<https://forages.ca.uky.edu>).

- Alfalfa: The Queen of the Forage Crops (AGR-76)
- Establishing Forage Crops (AGR-64)
- Inoculation of Forage Legumes (AGR-90)
- Grain and Forage Crop Guide for Kentucky (AGR-18)
- Lime and Fertilizer Recommendations (AGR-1)
- Weed Control Strategies for Alfalfa and Other Forage Legume Crops (AGR-148)
- Insect Management Recommendations for Field Crops and Livestock (ENT-17)
- Alfalfa Hay: Quality Makes the Difference (AGR-137)
- Fertilizer Management in Alfalfa (AGR-210)
- “Emergency” Inoculation for Poorly Nodulated Legumes (PPFS-AG-F-04)
- Common Alfalfa Seedling Diseases and Disorders (PPFS-AG-F-03)
- Managing Diseases of Alfalfa (PPFS-AG-F-09)
- Managing Legume-Induced Bloat in Cattle (ID-186)
- Growing Alfalfa in the South, a publication of the National Alfalfa & Forage Alliance: www.alfalfa.org/pdf/alfalfainthesouth.pdf
- Alfalfa Management Guide: www.crops.org/files/publications/alfalfa-management-guide.pdf
- Alfalfa Analyst (ID guide to alfalfa disease and insect damage and soil fertility deficiencies): www.alfalfa.org/pdf/AlfalfaAnalyst.pdf
- Alfalfa Variety Ratings, Winter Survival, Fall Dormancy & Pest Resistance Ratings for Alfalfa Varieties: www.alfalfa.org/variety-Leaflet.php

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Variety	FD ¹ Sep 26	Percent Stand										Yield (tons/acre)										5-year Total	
		2017			2018			2019			2020			2021			2017			2018			
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019	
Commercial Varieties-Available for Farm Use																							
Evermore	5	93	93	94	96	96	94	87	81	80	1,96	5,24	3,11	2,96	0,86	1,06	1,18	0,41	0,96	4,47	17,75*		
Ameristand 403T Plus	4	96	97	96	95	93	90	84	86	2,27	4,75	3,22	2,98	0,70	0,92	1,34	0,47	1,03	4,46	17,67*			
Fierce	4	96	96	95	96	95	93	83	85	1,89	4,67	3,27	3,08	0,85	1,08	1,15	0,52	1,04	4,64	17,57*			
Caliber	4	95	95	94	94	94	90	86	83	81	2,00	4,65	3,14	3,05	0,84	0,88	1,13	0,50	0,98	4,34	17,18*		
Contender	5	94	94	93	93	88	83	76	71	70	2,10	4,67	2,85	2,95	0,65	1,06	1,08	0,41	0,90	4,10	16,68*		
Bulldog 505	5	92	90	90	88	89	89	88	79	79	1,66	4,33	2,93	2,55	0,41	0,88	1,06	0,39	1,00	3,73	15,20*		
Saranac AR (certified)	4	87	87	86	86	84	83	48	34	1,83	4,65	2,70	2,43	0,46	0,92	0,71	0,26	0,73	3,08	14,70			
Experimental Varieties																							
NF11ALF006	6	93	90	90	89	84	83	79	76	83	1,65	4,64	3,11	2,80	0,66	1,25	1,34	0,38	1,00	4,63	16,84*		
Mean		93	93	92	93	91	89	83	75	75	1,92	4,70	3,04	2,85	0,68	1,01	1,12	0,42	0,96	4,18	16,70		
CV%		5	6	6	7	9	10	11	13	12	24,18	10,87	10,16	20,42	44,15	28,70	24,90	28,46	16,23	15,87	10,98		
LSD _{0.05}		7	8	8	9	12	13	13	14	13	0,68	0,75	0,45	0,86	0,44	0,43	0,41	0,17	0,23	0,98	2,70		

¹ FD = Fall Dormancy.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 5. Dry matter yields, seedling vigor, and stand persistence of alfalfa varieties sown April 12, 2018, at Lexington, Kentucky.

Variety	FD ¹	Seedling Vigor ²		2018		2019		2020		2021		2018		2019		2020		2021		Yield (tons/acre)	
		May 22	May 22	Mar 25	Mar 28	Oct 11	Mar 17	Sep 24	Mar 24	Sep 29	Mar 24	Sep 24	May 10	Total	4-year Total						
Commercial Varieties-Available for Farm Use																					
Ameristand 4031 Plus	4	4.8	100	98	96	93	91	73	70	1.30	2.28	3.35	1.31	1.00	0.94	0.45	0.86	4.56	11.49*		
Saranac AR (certified)	4	4.0	99	98	95	93	86	76	38	45	1.53	2.07	2.29	1.01	0.78	0.65	0.34	0.92	3.69	9.59	
Experimental Varieties																					
BY5028	-	5.0	100	98	98	95	94	88	75	78	1.43	2.03	2.45	1.64	0.90	0.83	0.53	1.02	4.93	10.83*	
NF11ALF006	6	4.8	99	98	93	79	72	64	63	68	1.45	2.00	2.55	1.26	0.90	0.99	0.56	1.09	4.80	10.80*	
Mean		4.6	99	98	95	91	86	80	62	65	1.43	2.10	2.66	1.30	0.89	0.85	0.47	0.97	4.49	10.68	
CV%		6.7	1	2	4	11	16	16	13	21	16.18	18.91	17.02	16.17	26.97	26.83	24.51	31.16	12.34	10.36	
LSD,0.05		0.5	2	4	5	16	22	20	13	22	0.37	0.63	0.72	0.34	0.38	0.37	0.18	0.48	0.89	1.77	

¹ FD = Fall Dormancy.

² Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.
*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 6. Dry matter yields, seedling vigor, and stand persistence of alfalfa varieties sown April 2, 2019, at Lexington, Kentucky.

Variety	FD ¹	Seedling Vigor ²		Percent Stand			2019			2020			2021			Yield (tons/acre)			3-year Total			May 10			Jun 10			Jul 12			Aug 13			Sep 16			Total		
		May 3, 2018		2019			2020			2021			2019			Yield (tons/acre)			May 10			Jun 10			Jul 12			Aug 13			Sep 16			Total					
		Commercial Varieties-Available for Farm Use		Percent Stand			2019			2020			2021			Yield (tons/acre)			May 10			Jun 10			Jul 12			Aug 13			Sep 16			Total					
GA-535	5	4.8	98	98	94	94	94	94	94	95	1.51	4.39	1.41	1.41	1.51	1.60	1.80	0.95	1.22	7.08	12.89*																		
Ameristand 4031 Plus	4	4.5	100	99	95	95	95	95	95	95	1.53	4.31	1.63	1.63	1.83	0.95	1.04	1.04	6.98	12.80*																			
FSG415BR	4	5.0	100	100	100	98	98	98	98	98	1.29	4.02	1.71	1.56	1.81	0.88	1.04	1.04	7.00	12.30*																			
Rebound 6XT	4	4.9	100	100	99	97	97	97	97	97	1.30	4.18	1.25	1.61	1.66	0.98	1.19	1.19	6.68	12.16*																			
Charger	5	4.4	99	98	95	95	96	96	96	1.10	4.30	1.30	1.57	1.83	1.00	1.06	1.06	6.75	12.16*																				
GA-497HD	5	4.9	100	100	99	96	96	97	97	98	0.98	4.30	1.50	1.62	1.65	0.93	1.01	1.01	6.70	11.98*																			
Paola	5	5.0	100	100	99	91	93	93	93	93	1.47	4.21	1.09	1.37	1.64	0.88	0.97	0.97	5.95	11.63*																			
WL349HQ	4	4.6	99	99	99	96	98	98	98	98	0.94	3.91	1.36	1.55	1.82	1.02	0.99	0.99	6.74	11.60*																			
EE50	5	5.0	100	100	100	95	96	96	96	96	1.26	3.60	1.60	1.57	1.67	0.79	0.91	0.91	6.54	11.41*																			
Saranac AR (certified)	4	4.5	99	100	99	87	86	84	87	87	1.27	3.97	1.31	1.37	1.37	0.80	1.04	1.04	5.88	11.12																			
Triade	5	4.9	100	100	97	89	89	87	87	87	1.08	3.94	0.96	1.56	1.29	0.83	0.90	0.90	5.54	10.56																			
Alf grazie	3	4.1	99	99	98	74	78	78	78	78	0.96	3.38	1.27	1.19	1.38	0.73	0.96	0.96	5.53	9.87																			
Mean		4.7	99	99	99	92	93	93	93	93	1.21	4.04	1.37	1.52	1.64	0.90	1.03	1.03	6.45	11.71																			
CV%		4.9	1	1	2	7	5	6	23.72	15.30	20.96	15.49	17.46	21.31	15.40	11.60	10.38																						
LSD,0.05		0.3	1	1	3	9	6	8	0.41	0.89	0.41	0.34	0.41	0.27	0.23	1.08	1.08	1.08	1.08	1.08																			

¹ FD = Fall Dormancy.

² Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 7. Dry matter yields, seedling vigor, and stand persistence of alfalfa varieties sown April 3, 2020, at Lexington, Kentucky.¹

Variety	FD ¹	Seedling Vigor ² June 3, 2020	Percent Stand				Yield (tons/acre)							2-year Total
			2020		2021		2020	2021				Total		
			June 3	Sep 24	Mar 24	Sep 29	Total	May 10	Jun 15	Jul 14	Aug 13	Sep 17	Total	
Commercial Varieties-Available for Farm Use														
FSG415BR	4	4.9	100	100	99	99	2.56	1.98	1.95	1.52	1.06	1.19	7.70	10.27*
HVS4220Q	4	4.8	100	99	99	99	2.15	1.96	2.08	1.46	1.17	1.19	7.86	10.01*
Alfabar	3	4.1	97	96	96	96	2.53	1.95	1.71	1.48	1.10	1.22	7.46	9.99*
GA497HD	5	4.8	98	97	98	98	2.45	1.58	1.85	1.56	1.28	0.98	7.25	9.70*
Paola	5	4.8	99	98	98	99	2.38	1.49	1.71	1.60	1.19	1.22	7.20	9.58*
GA535	5	4.8	98	97	98	98	2.31	1.85	1.89	1.28	1.00	1.01	7.02	9.33*
Triade	5	5.0	100	100	100	100	2.34	1.22	1.70	1.53	1.40	1.14	6.99	9.33*
FSG527	5	4.3	97	98	98	98	1.95	1.65	2.03	1.28	1.16	1.08	7.21	9.16
Ameristand 403TPlus	4	4.3	99	98	97	97	2.21	1.51	1.86	1.37	1.15	1.04	6.93	9.14
Saranac AR (certified)	4	4.5	100	96	96	96	2.23	1.64	1.74	1.32	1.17	0.99	6.85	9.08
GA409	4	4.6	100	100	100	100	2.47	1.13	1.62	1.54	1.20	1.09	6.59	9.06
Alfagrazze	3	4.1	96	94	94	94	2.32	1.48	1.71	1.07	0.88	0.97	6.11	8.43
Mean		4.6	99	98	98	98	2.33	1.62	1.82	1.42	1.15	1.09	7.10	9.42
CV,%		9.5	2	2	2	2	11.28	18.42	12.25	24.48	21.09	10.78	8.75	7.08
LSD,0.05		0.6	3	3	3	3	0.38	0.43	0.32	0.50	0.35	0.17	0.89	0.96

¹ FD = Fall Dormancy.

² Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 8. Dry matter yield, seedling vigor, and stand persistence of Roundup Ready alfalfa varieties sown May 15, 2020, at Lexington, Kentucky.¹

Variety	FD ²	Seedling Vigor ³ June 11, 2020	Percent Stand				Yield (tons/acre)							2-year Total
			2020		2021		2020	2021				Total		
			Jun 11	Sep 24	Mar 24	Sep 29	Total	May 10	Jun 9	Jul 13	Aug 13	Sep 17	Total	
Commercial Varieties-Available for Farm Use														
438 RR	4	5	100	100	100	100	1.74	2.33	1.80	1.80	1.31	1.19	8.43	10.17*
Ameristand 405T RR	4	5	100	100	100	100	1.91	2.51	1.65	1.76	1.01	1.04	7.95	9.87*
Alfagrazze 300 RR	3	5	100	100	100	100	1.60	2.23	1.76	1.85	1.33	0.99	8.16	9.76*
Ameristand 433T RR	3	5	100	100	100	100	1.58	2.38	1.60	1.71	1.05	0.96	7.70	9.28*
Mean		5	100	100	100	100	1.68	2.36	1.68	1.77	1.15	1.03	7.59	9.67
CV,%		0	0	0	0	0	13.60	19.66	16.19	13.54	16.46	8.54	10.34	10.01
LSD,0.05		0	0	0	0	0	0.33	0.66	0.39	0.34	0.27	0.13	0.18	1.38

¹ This trial was sprayed with Roundup twice in 2020 and 2021.

² FD = Fall Dormancy.

³ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 9. Dry matter yields, seedling vigor, and stand persistence of alfalfa varieties sown April 5, 2021, at Lexington, Kentucky,¹

Variety	FD ¹	Seedling Vigor ² June 1, 2021	Percent Stand			Yield (tons/acre)				2021
			Jun 1	Sep 29	Jul 12	Aug 13	Sep 16	Total		
Commercial Varieties-Available for Farm Use										
54VQ52	4	5.0	99	99	0.91	0.39	0.89	2.20*		
HighFive	5	4.5	99	98	0.84	0.35	0.99	2.18*		
MarinerV	4	4.4	96	96	0.94	0.38	0.81	2.21*		
55H96	5	4.3	96	96	1.06	0.24	0.77	2.08*		
Alfagrazze	3	4.3	94	93	0.91	0.25	0.87	2.02*		
Ameristand 403TPlus	4	4.1	97	97	1.01	0.21	0.78	2.00*		
GA497	5	4.9	100	98	0.96	0.27	0.75	1.99*		
FSG450	4	4.8	96	92	0.99	0.25	0.74	1.98*		
Saranac AR (certified)	4	4.5	98	96	1.02	0.27	0.68	1.97*		
54Q29	4	4.8	100	98	0.90	0.27	0.80	1.97*		
54Q16	4	4.9	98	96	0.94	0.28	0.73	1.95*		
Signature	4	4.5	98	96	0.94	0.24	0.78	1.95*		
Mean		4.6	98	96	0.95	0.28	0.80	2.03		
CV,%		11.5	2	3	14.96	35.17	22.78	15.78		
LSD,0.05		0.8	3	4	0.20	0.14	0.26	0.46		

¹ FD = Fall Dormancy.

² Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 10. Dry matter yields, seedling vigor, and stand persistence of Roundup Ready alfalfa varieties sown April 5, 2021, at Lexington, Kentucky.¹

Variety	FD ²	Seedling Vigor ³ June 1, 2021	Percent Stand		Yield (tons/acre)			
			2021		2021			
			June 1	Sep 29	Jul 12	Aug 13	Sep 16	Total
Commercial Varieties-Available for Farm Use								
54VR10 RR	4	4.9	99	99	1.05	0.41	0.97	2.43*
Ameristand 405T RR	4	4.6	99	99	0.95	0.39	0.91	2.25*
Ameristand 433T RR	3	4.6	98	98	1.10	0.33	0.82	2.25*
438 RR	4	4.6	99	98	1.06	0.40	0.79	2.24*
Alfagraz 300 RR	3	4.6	98	97	0.95	0.34	0.81	2.10*
Mean		4.7	98	98	1.02	0.37	0.86	2.25
CV, %		9.2	1	1	14.85	23.15	17.84.	11.42
LSD, 0.05		0.7	2	2	0.23	0.13	0.24	0.40

¹ This trial was sprayed with Roundup twice in 2021.

² FD = Fall Dormancy.

³ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 11. Characterization and proprietors of alfalfa varieties in current trials in Kentucky.

Variety	Proprietor	Variety Characteristics ¹					
		FD ³	Disease Resistance ²				
			Bw	Fw	An	PRR	APH
Commercial Varieties-Available for Farm Use							
Alfabar	Barenbrug	3	HR	HR	HR	HR	HR/R
Alfagraz	America's Alfalfa	2	MR	R	MR	R	-
Ameristand 403TPlus	America's Alfalfa	4	HR	HR	HR	HR	HR
Bulldog-505	Univ. of Georgia	5	-	HR	-	R	-
Caliber	Beck's Hybrids	4	HR	HR	HR	HR	HR
Charger	Beck's Hybrids	5	HR	HR	HR	HR	HR
Contender	Beck's Hybrids	5	HR	HR	HR	HR	HR
Evermore	Allied Seed, L.L.C.	5	HR	HR	HR	HR	HR
Fierce	Beck's Hybrids	4	HR	HR	HR	HR	HR
FSG 415BR	Farm Science Genetics	4	HR	HR	HR	HR	HR
FSG 450	Allied Seed, L.L.C.	4	HR	HR	HR	HR	HR
FSG 527	Farm Science Genetics	5	HR	HR	HR	HR	HR
GA-409	Pref. Alfalfa Genetics	4	HR	HR	HR	HR	HR
GA-497HD	Pref. Alfalfa Genetics	5	HR	HR	HR	HR	HR
GA535	Pref. Alfalfa Genetics	5	HR	HR	HR	HR	HR
High Five	Allied Seed, L.L.C.	5	HR	HR	HR	HR	HR
HVS4220Q	MountainView Seeds	4	HR	HR	HR	HR	HR
Mariner V	Allied Seed, L.L.C.	4	HR	HR	HR	HR	HR
Paola	Interlake Forage Seeds	5	HR	HR	HR	HR	HR
Rebound 6XT	Croplan Genetics	4	HR	HR	HR	HR	HR
Saranac AR (certified)	Public	4	MR	R	HR	LR	-
Signature	Allied Seed, L.L.C.	4	HR	HR	HR	HR	HR
Triade	Interlake Forage Seeds	5	HR	HR	HR	HR	HR
WL349HQ	W-L Research	4	HR	HR	HR	HR	HR
WL 365HQ	W-L Research	5	HR	HR	HR	HR	HR
54Q16	Corteva Agriscience	4	HR	HR	HR	HR	HR
54Q29	Corteva Agriscience	4	HR	HR	HR	HR	R
54VQ52	Corteva Agriscience	4	HR	R	HR	HR	HR
55H96	Corteva Agriscience	5	HR	HR	HR	HR	HR
55V50	Pioneer	5	HR	R	HR	HR	HR
Experimental Varieties⁴							
AM-09-600	Ampac Seed /Cisco	4	HR	HR	HR	HR	HR
AM-14-900	Ampac Seed /Cisco	4	HR	HR	HR	HR	HR
AFX095005	Alforex Seeds	5	HR	HR	HR	HR	HR
AFX095026	Alforex Seeds	4	HR	HR	HR	HR	R
BYS5028	Brett Young	5	HR	HR	HR	HR	HR
LS 905	Legacy Seeds, Inc.	4	HR	HR	HR	HR	HR
NF11ALF0006	Noble Foundation	6	-	-	-	-	-

¹ Variety characteristics: FD = fall dormancy, Bw = bacterial wilt, Fw = fusarium wilt, An = anthracnose, PRR = phytophthora root rot, APH=aphanomyces root rot. Information provided by seed companies.

² Disease resistance: S = susceptible, LR = low resistance, MR = moderate resistance, R = resistance, HR = high resistance (more detailed disease and insect resistance ratings at www.alfalfa.org/pdf/2021_Alfalfa_Variety_Leaflet.pdf).

³ Fall dormancy-check varieties: 1 = Spredor 3, 2 = Vernal, 3 = Ranger, 4 = Saranac, 5 = DuPuits.

⁴ Experimental varieties are not available commercially, but provide an indication of the progress being made by forage breeding companies.

Table 12. Summary of Kentucky alfalfa yield trials 2004–2021 (yield shown as a percentage of the mean of the commercial varieties in the test).

Variety	Proprietor	Variety Characteristics ¹										Lexington									
		Disease Resistance ²					04 ³ ,4	06	08	11	12	15	16	17	18	19	05	08	09	11	13
		FD	Bw	Fw	An	PRR	5yr	6yr	7yr	6yr	5yr	6yr	5yr	6yr	5yr	4yr	3yr	5yr	6yr	4yr	Mean ⁵
A-4440	Producers Choice	4	HR	HR	HR	HR	HR	HR	HR	100								99			100(2)
A 5225	Producers Choice	5	HR	HR	HR	HR	R			104								107			106(2)
Adrenalin	Brett Young Seeds	4	HR	HR	HR	HR	HR	HR	HR									104			—
Alfagraze	America's Alfalfa	3	HR	HR	HR	HR	HR	HR	HR									84			—
Ameristand 403T	America's Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	99	91	102	94				100	101	107	99	99(8)
Ameristand 403T Plus	America's Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	104	102	106	109				94				104(6)
Ameristand 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	HR	HR								103	104			104(2)
Ameristand 427TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	HR	HR								109				—
Anchormate	ProSeed Marketing	—	—	—	—	—	—	—	—	100											—
Arc (certified)	Public	4	LR	MR	HR	—	—	76		93	92						95	86		95	90(6)
Archer III	America's Alfalfa	5	HR	HR	HR	HR	HR	HR	HR								104				—
Barlalfa 53HR	Barenbrug USA	5	HR	R	HR	HR	HR	HR	HR												—
Buffalo	Public	—	—	—	—	—	—	—	82	86	80	89	85				95	78	87	91	86(9)
Bulldog-505	Univ. of GA	5	—	HR	—	R	—					103	93	91			96		103		97(5)
Caliber	Beck's Hybrids	4	HR	HR	HR	HR	HR	HR	HR			99	105	103					99		101(5)
Charger	Beck's Hybrids	5	HR	HR	HR	HR	HR	HR	HR			104					106				—
Contender	Beck's Hybrids	5	HR	HR	HR	HR	HR	HR	HR			101	103	100							101(3)
DKA 43-13	Monsanto	4	HR	HR	HR	HR	HR	HR	HR			102									—
DKA 50-18	Monsanto	5	HR	HR	HR	HR	HR	HR	HR			110									—
DG4210	Crop Production	4	HR	HR	HR	HR	HR	HR	HR									101			101(3)
Dynapro Everlast	United Agr. Prod.	4	HR	HR	HR	HR	HR	HR	HR												—
Enforcer	Southern States	4	HR	HR	HR	HR	HR	HR	HR			100	102	106							—
Evermore	Southern States	5	HR	HR	HR	HR	HR	HR	HR			100									103(3)
Expedition	NEXGROW	5	HR	HR	R	RR	R	RR	R	107	112							96			105(3)
Feast +EV	NEXGROW	3	HR	HR	R	RR	HR	106													—
Fierce	Beck's Hybrids	4	HR	HR	HR	HR	HR	HR	HR			102	105								104(2)
FSG 403LR	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	HR	HR										102		—
FSG 408DP	Allied Seeds	4	HR	HR	HR	HR	HR	HR	HR	105								110			108(2)
FSG 415BR	Allied Seeds	4	HR	HR	HR	HR	HR	HR	HR			103					105				104(2)
FSG 424	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	HR	HR										109		—
FSG 426	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	HR	HR			103									—
FSG 524	Farm Sci. Genetics	5	HR	HR	HR	HR	HR	HR	HR										96		—
FSG 528SF	Lewis Seed Co.	5	HR	R	HR	HR	R	R	R	107											—
GA-497HD	Pref. Alf. Genetics	5	HR	HR	HR	HR	HR	HR	HR			104					102				103(2)
GA-535	Pref. Alf. Genetics	5	HR	HR	HR	HR	HR	HR	HR			110									—
Genoa	NEXGROW	4	HR	HR	HR	HR	HR	HR	HR	112	99							98	118		107(4)
Gunner	Croplan Genetics	5	HR	HR	HR	HR	HR	HR	HR									103			—
KingFisher 243	Cal/West	5	HR	HR	HR	HR	HR	HR	HR									98			—
Kingfisher 4020	Legacy Seeds	4	HR	HR	HR	HR	HR	HR	HR			101									—
L447HD	Legacy Seeds	4	HR	HR	HR	HR	HR	HR	HR	105											—
L449Aph2	Legacy Seeds	4	HR	HR	HR	HR	HR	HR	HR												—
L455HD	Legacy Seeds	4	HR	HR	HR	HR	HR	HR	HR												—
Lancer	Allied Seeds	4	HR	HR	HR	HR	HR	HR	HR											101	—
LegenDairy 5.0	Croplan Genetics	3	HR	HR	HR	HR	HR	HR	HR	99								103			101(2)
Mariner III	Allied Seeds	4	HR	HR	HR	HR	HR	HR	HR												—
Optimus	Brett Young Seeds	—	HR	HR	HR	HR	HR	HR	HR									99			98

continued

Table 12. continued

Variety	Proprietor	Variety Characteristics ¹										Lexington						Princeton												Mean ⁵ (# trials)								
		FD		Bw		Fw		An		PRR		APH		04 ^{3,4}		06		08		11		12		15		16		17		18		19						
		Bw	Fw	An	PRR	APH	04 ^{3,4}	06	08	11	12	15	16	17	18	19	05	08	11	13	09	11	13	08	09	11	13	09	11	08	09	11	13					
Paola	Interlake Forage Seeds	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	99	-					
Perform	Dairyland Research	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	-						
PG 459	Producers Choice	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	-						
Phirst	UniSouth Genetics	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	-					
Phoenix	Southern States	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	99	-					
Radiance HD	Ampac Seed/Cisco	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	-					
Radiant-AM	Ampac Seed	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	-					
Rebound 5.0	Croplan Genetics	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	103	-					
Rebound 6.0	Croplan Genetics	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	101	103(2)					
Rebound 6XT	Croplan Genetics	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	104	106(2)					
Reward II	PGI Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	-						
Saranac AR (certified)	Public	4	MR	R	MR	R	LR	-	77	85	86	91	97	92	88	88	91	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	90(15)			
Triade	Interlake Forage Seeds	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	107	-					
TripleTrust 450	ABI Alfalfa	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	103	-					
TripleTrust 500	Central Farm Supply	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	108	-					
USG 681HY	UniSouth Genetics	6	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	113	-					
Vernal	Public	2	R	MR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Withstand	Southern States	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	95	95(5)					
WL 343HQ	W-L Research	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	100	87					
WL 349HQ	W-L Research	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	99	104(3)					
WL 354HQ	W-L Research	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	115	-					
WL 357HQ	W-L Research	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	106	115(2)					
WL 363HQ	W-L Research	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	104(3)					
WL 365HQ	W-L Research	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	99	-					
4030	Brett Young Seeds	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	104	-					
53H92	Pioneer	3	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	95	-					
54Q32	Pioneer	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	99	-					
55V48	Pioneer	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	106	-					
55V50	Pioneer	5	HR	R	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	104(3)					
6400HT	NEXGROW	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	108	-					
6415	NEXGROW	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	103	-					
6417	NEXGROW	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	-					
6422Q	NEXGROW	4	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	112	-					
6552	NEXGROW	5	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	HR	105	-					

¹ Variety characteristics: FD = fall dormancy, Bw = bacterial wilt, Fw = fungal wilt, An = anthracnose, PRR = phytophthora root rot, APH=aphanomyces root rot. Information provided by seed companies.

² Disease resistance: S = susceptible, LR = low resistance, MR = moderate resistance, R = resistance, HR = high resistance. (more detailed disease and insect resistance ratings at www.alfalfa.org/pdf/2021_Alfalfa_Variety_Leaflet.pdf).

³ Year trial was established.

⁴ Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific test. For example, the Lexington trial planted in 2008 was harvested for six years, so the final yield report would be "2013 Alfalfa Report" archived in the UK Forage website (<https://forages.ca.uky.edu>).

⁵ Mean only presented when respective variety was included in two or more trials.

⁶ Number of years of data.

Table 13. Summary of Kentucky Roundup Ready alfalfa yield trials 2011-2021 (yield shown as a percentage of the mean of the commercial varieties in the test).

Variety	Proprietor	FD	Variety Characteristics ¹					Lexington			Princeton			Quicksand	Mean ⁵ (# trials)
			Disease Resistance ²					12 ^{3,4}	15	16	11	13	15	14	
			Bw	Fw	An	PRR	APH	6yr ⁶	6yr	5-yr	5yr	4yr	2yr	2yr	
Alfagraze 300 RR	America's Alfalfa	3	HR	R	HR	HR	HR	95	96	100	93	99	93		96(6)
Alfagraze 600 RR	America's Alfalfa	6		R	HR	R	R		97				85	93	92(3)
Ameristand 405T RR	America's Alfalfa	4	HR	HR	HR	HR	HR	100	100	89	97	100	98	93	97(7)
Ameristand 433T RR	America's Alfalfa	3	HR	R	R	HR	HR	92	98	100		95	96	107	98(6)
Ameristand 445TQ RR	America's Alfalfa	4	HR	HR	HR	HR	HR	105	104			100			103(3)
AphaTron RR	Croplan Genetics	4	HR	HR	HR	HR	HR	99					98		99(2)
Consistency 4.10 RR	Croplan Genetics	4	HR	HR	HR	HR	HR	101			102				102(2)
DKA-41-18 RR	Monsanto	4	HR	HR	HR	HR	HR	100			101		100		100(3)
DKA 44-16 RR	Monsanto	4	HR	HR	HR	HR	HR	104					100		102(2)
Stratica RR	Croplan Genetics	4	HR	HR	HR	HR	HR	97		105			96		99(3)
Tonnica RR	Crop Genetics	5	HR	HR	HR	HR	HR	105					101		103(2)
WL 355 RR	W-L Research	4	HR	HR	HR	HR	HR	99			102		110		104(3)
WL 356HQ RR	W-L Research	5	HR	HR	HR	HR	HR	100	99				96		98(3)
WL 372HQ RR	W-L Research	5	HR	HR	HR	HR	HR	102					106		104(2)
428 RR	Allied Seed	4	HR	HR	HR	HR	HR		100	100		104		111	104(4)
54R02 RR	Dupont Pioneer	4	HR	HR	HR	HR	HR	97	107	96	104		102	97	101(6)
55VR06 RR	Dupont Pioneer	5	HR	R	Hr	HR	HR		95					99	97(2)
55VR08 RR	Dupont Pioneer	5	–	HR	HR	HR	HR		103	111			110		108(3)
6516R RR	NEXGROW	5	HR	–	HR	HR	HR	106					109		108(2)

¹ Variety characteristics: FD = fall dormancy, Bw = bacterial wilt, Fw = fusarium wilt, An = anthracnose, PRR = phytophthora root rot, APH=aphanomyces root rot. Information provided by seed companies.

² Disease resistance: S = susceptible, LR = low resistance, MR = moderate resistance, R = resistance, HR = high resistance. (more detailed disease and insect resistance ratings at www.alfalfa.org/pdf/2021_Alfalfa_Variety_Leaflet.pdf).

³ Year trial was established.

⁴ Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific test. For example, the Princeton trial planted in 2011 was harvested for five years, so the final yield report would be "2015 Alfalfa Report" archived in the UK Forage website (<https://forages.ca.uky.edu>).

⁵ Mean only presented when respective variety was included in two or more trials.

⁶ Number of years of data.



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