PR-589

2009 Alfalfa Report

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Introduction

Alfalfa (*Medicago sativa*) has historically been the highest yielding, highest quality forage legume grown in Kentucky. It forms the basis 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. Table 12 shows a summary of all alfalfa varieties tested in Kentucky during the past 10-plus years. The UK Forage Extension website at www.uky.edu/Ag/Forage 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 (nondormant). 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. Therefore, fall dormancy can lead to reduced annual yields compared to less dormant varieties. Generally, alfalfa varieties with FD ratings of 2 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 have also begun to report a winter survival index (WS). It 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 have at least a moderate resistance (MR) rating to phytophthora root rot (PRR), anthracnose (An), bacterial wilt (Bw), and fusarium wilt (Fw), as well as a resistance (R) rating to aphanomyces root rot (APH). Kentucky research indicates that aphanomyces root rot is a widespread problem in the state during stand establishment and that 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.

Anthracnose, also caused by a fungus, 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 still 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 that are susceptible to this disease.

Although certain alfalfa varieties are reported to have resistance to sclerotinia crown and stem rot, research at the University of Kentucky has shown that most of these varieties only have 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 to plant in the spring. If seeding in the fall, sclerotinia resistant varieties can provide additional insurance.

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 amount of other crop and weed seed. Order seed well in advance of planting time to assure that it will be available when needed.

Table 1. Temperature and rainfall at Lexington, Kentucky in 2006, 2007, 2008 and 2009.

	2006				2007				2008				2009[2]			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP[1]	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	42	+11	4.77	+1.91	37	+6	2.93	+0.07	32	+2	3.91	+1.05	29	-2	4.32	+1.46
FEB	36	+1	2.13	-1.08	27	-8	1.83	-1.38	36	+1	6.11	+2.90	38	+3	2.53	-.068
MAR	44	0	3.05	-1.35	52	+8	1.97	-2.43	44	+1	6.51	+1.91	48	+4	2.39	-2.01
APR	59	+4	3.52	-0.36	53	-2	3.87	-0.01	55	0	5.89	+2.01	56	+1	4.79	+0.91
MAY	62	-2	2.99	-1.48	68	+4	1.45	-3.02	62	-2	4.33	+0.14	65	+1	6.04	+1.57
JUN	70	-2	1.82	-1.84	74	+2	1.77	-1.89	74	+2	3.59	-0.07	74	+2	5.19	+1.53
JUL	76	0	5.13	+0.13	74	-2	6.90	+1.90	76	0	3.41	-1.59	72	-4	7.57	+2.57
AUG	76	+1	3.23	-0.70	80	+5	2.56	-1.37	75	0	2.18	-1.75	73	-2	4.53	+0.60
SEP	64	-4	9.27	+6.07	72	+4	1.15	-2.05	72	+4	1.42	-1.78	69	+1	5.90	+2.70
OCT	54	-3	4.88	+2.31	63	+6	5.28	+2.71	57	0	1.53	-1.04	53	-4	5.77	+3.20
NOV	47	+2	1.78	-1.61	46	+1	2.86	--0.53	43	-2	2.53	-0.86				
DEC	42	+6	2.45	-1.53	40	+4	5.29	+1.31	35	-1	6.03	+2.05				
Total			45.02	+0.47			37.86	-6.69			47.24	+2.69			49.03	+11.85

[1] DEP is departure from the long-term average.
[2] 2009 data is for ten months through October.

Description of the Tests

Alfalfa variety tests were established at Lexington (2006 and 2008), Princeton (2005, 2008 and 2009) and Bowling Green (2006) as part of the forage variety testing program. Trials were planted in Lexington and Bowling Green in spring 2006 but failed due to poor establishment conditions. These were replanted in August 2006. The soils at most locations are well suited to alfalfa because they are generally well-drained silt loam soils (Maury, Crider, and Pembroke at Lexington, Princeton, and Bowling Green, respectively).

Plots were 5 by 20 feet in a randomized complete block design with four replications with a harvested plot area of 5 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, 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.

Results and Discussion

Weather data for Lexington, Princeton, and Bowling Green are presented in Tables 1 through 4.

Yield data (on a dry matter basis) for all tests are reported in Tables 5 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 for 2009 and by year for each prior year of production.

Statistical analyses were performed on all alfalfa yield data (including ex-

Table 2. Temperature and rainfall at Princeton, Kentucky in 2005, 2006, 2007, 2008 and 2009.

	2005				2006				2007				2008				2009[2]			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP[1]	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	41	+7	5.30	+1.50	46	+12	5.38	+1.58	40	+6	4.89	+1.09	37	+3	2.40	-1.40	33	-1	0.94	-2.86
FEB	43	+5	2.30	-2.13	38	0	2.66	-1.77	34	-4	2.99	-1.44	39	+1	6.76	+2.33	42	+4	3.28	-1.15
MAR	47	0	4.11	-0.83	51	+4	4.22	-0.72	58	+11	1.85	-3.09	48	+1	7.55	+2.61	53	+6	2.89	-2.05
APR	60	+1	4.61	-0.19	63	+4	4.02	-0.78	58	-1	3.95	-0.85	58	-1	6.56	+1.76	58	-1	5.35	+0.55
MAY	65	-2	1.54	-3.42	66	-1	5.42	+0.46	71	+4	2.29	-2.67	65	-2	6.19	+1.23	67	0	6.14	+1.18
JUN	76	+1	3.09	-0.76	75	0	3.39	-0.46	76	1	4.32	0.47	78	+3	1.24	-2.61	77	+2	7.97	+4.12
JUL	79	+1	2.39	-1.90	79	+1	3.79	-0.50	77	-1	1.77	-2.52	79	+1	5.12	+0.83	74	-4	7.45	+3.16
AUG	80	+3	11.54	+7.53	80	+3	2.58	-1.43	85	8	0.87	-3.14	77	0	0.69	-3.32	75	-2	2.44	-1.60
SEP	74	+2	2.17	-1.16	67	-4	9.80	+6.47	75	4	3.52	0.19	74	+3	0.61	-2.72	71	0	4.61	+1.28
OCT	60	+1	0.19	-2.86	57	-2	4.5	+1.45	65	+6	8.33	+5.28	60	+1	2.21	-0.84	55	-4	9.08	+6.03
NOV	50	+3	2.48	-2.15	49	+2	4.31	-0.32	49	+2	2.31	-2.73	46	-1	2.59	-2.04				
DEC	35	-4	1.92	-3.12	44	+5	4.76	-0.28	42	+3	10.83	+5.79	39	0	6.49	+1.95				
Total			42.55	-8.58			54.82	+3.69			47.92	-3.21			48.95	-2.18			50.12	+8.66

[1] DEP is departure from the long-term average.
[2] 2009 data is for ten months through October.

Table 3. Temperature and rainfall at Bowling Green, Kentucky (airport location) in 2006, 2007, 2008 and 2009.

	2006				2007				2008				2009[2]			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP[1]	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	45	+11	4.89	+1.07	39	+5	4.04	+0.22	35	+1	3.56	-0.26	34	0	2.93	-0.89
FEB	38	0	2.28	-1.85	34	-4	2.00	-2.13	40	+2	4.05	-0.08	43	5	3.33	-0.80
MAR	49	+3	2.75	-2.35	56	+10	1.34	-3.76	48	+2	5.86	+0.76	51	5	3.08	-2.02
APR	63	+6	4.51	+0.19	56	-1	3.65	-0.67	57	0	5.41	+1.09	58	1	4.44	+0.12
MAY	65	-1	3.63	-1.31	70	+4	3.57	-1.37	66	0	5.38	+0.44	68	2	6.66	+1.72
JUN	74	-1	2.66	-1.51	76	+1	2.65	-1.52	78	+3	1.20	-2.97	71	2	7.31	+3.14
JUL	79	+1	3.30	-1.44	78	0	2.02	-2.72	79	+1	5.52	+0.78	75	-3	9.08	+4.34
AUG	80	+3	5.97	+2.46	85	+8	0.94	-2.57	77	0	0.74	-2.77	76	-1	1.77	-1.74
SEP	67	-3	6.78	+3.06	75	+5	1.89	-1.83	73	+3	1.58	-2.14	72	2	5.73	+2.01
OCT	56	-2	4.01	+0.99	64	+6	8.38	+5.36	59	+1	3.75	+0.73	57	-1	7.60	+4.58
NOV	49	+3	3.07	-1.36	48	+2	3.95	-0.48	46	0	1.71	-2.72				
DEC	43	+5	3.54	-1.49	43	+5	7.1	+2.07	39	+1	6.12	+1.09				
Total			47.39	-3.54			41.53	-9.40			44.58	-6.05			51.93	+10.46

[1] DEP is departure from the long-term average.
[2] 2009 data is for ten months through October.

perimentals) to determine if the apparent differences are truly 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 truly 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), which is a measure of the variability of the data, is included for each column of means. Low variability is desirable, and increased variability within a study results in higher CVs and larger LSDs.

Table 11 summarizes information about fall dormancy, disease resistance, and yield performance across years and locations for all the varieties currently 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. In Table 11, open blocks indicate that the variety was not in that particular test (labeled at the top of the column); an X means that the variety was in the test but yielded significantly less than the top-yielding variety. A single asterisk (*) means that the variety was not significantly different from the top-yielding variety based on the 0.05 LSD. It is best to choose a variety that has performed well over several years and locations as indicated by the asterisks.

Table 4. Temperature and rainfall at the Western Kentucky University Farm at Bowling Green, Kentucky in 2008 and 2009.[1]

	2008				2009[2]			
	Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	34		4.11		32		5.86	
FEB	39		3.83		41		4.25	
MAR	47		6.45		50		3.20	
APR	56		5.05		56		4.45	
MAY	64		5.36		66		4.77	
JUN	76		1.73		75		5.12	
JUL	76		5.73		73		7.58	
AUG	75		0.64		74		1.99	
SEP	72		1.97		70		7.29	
OCT	58		4.24		55		6.11	
NOV	44		1.65					
DEC	38		6.74					
Total			47.50				50.62	

[1] Weather Station established in 2007 so no long term average data exists. Check Table 3 for comparison.
[2] 2009 data is for ten months through October.

Table 12 is a summary of yield data from 1995 to 2009 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 Table 12, 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 very stable performance; others may have performed very well in wet years or on particular soil types. These details may influence variety choice, and the information can be found in the yearly reports. See footnote in Table 12 to determine which yearly report to refer to.

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 at the UK Forage website, www.uky.edu/Ag/Forage:

- AGR-76—Alfalfa: The Queen of the Forage Crops
- AGR-64—Establishing Forage Crops
- AGR-90—Inoculation of Forage Legumes
- AGR-18—Grain and Forage Crop Guide for Kentucky
- AGR-1—Lime and Fertilizer Recommendations
- AGR-148—Weed Control Strategies for Alfalfa and Other Forage Legume Crops
- ENT-17—Insect Management Recommendations for Field Crops and Livestock
- PPA-10D—Kentucky Plant Disease Management Guide for Forage Legumes
- AGR-137—Alfalfa Hay: Quality Makes the Difference
- PPFS-AG-F-04—"Emergency" Inoculation for Poorly Nodulated Legumes

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Table 5. Dry matter yields, seedling vigor and stand persistence of alfalfa varieties sown April 15, 2005 at Princeton, Kentucky.

	Seedling Vigor[1]	Percent Stand									Yield (tons/acre)										
		2005	2006		2007		2008		2009		2005	2006	2007	2008	2009						5-year
Variety	Jun 13, 2005	Oct 6	Apr 5	Oct 30	Apr 3	Oct 18	Apr 17	Oct 31	Apr 17	Oct 28	Total	Total	Total	Total	May 11	Jun 22	Jul 23	Aug 22	Sep 29	Total	Total
Commercial Varieties—Available for Farm Use																					
WL357HQ	5.0	100	100	99	96	95	97	95	95	86	2.69	6.14	2.94	4.01	1.33	1.48	0.77	0.67	0.55	4.81	20.59*
Phirst	4.8	100	99	97	98	96	97	93	90	65	2.58	6.49	2.92	3.92	1.30	1.49	0.73	0.61	0.41	4.54	20.44*
Baralfa 53HR	5.0	100	99	97	89	91	93	90	89	65	2.62	6.50	2.75	3.94	1.18	1.44	0.74	0.64	0.46	4.46	20.27*
LegenDairy 5.0	5.0	100	100	99	97	95	97	95	96	84	2.62	5.67	2.80	4.14	1.33	1.35	0.83	0.71	0.57	4.78	20.01*
6415	5.0	100	100	99	95	92	95	96	91	85	2.56	6.01	2.78	4.00	1.22	1.42	0.77	0.59	0.58	4.58	19.93*
Reward II	4.5	100	100	99	97	94	96	97	95	83	2.56	5.95	2.90	3.77	1.38	1.46	0.74	0.56	0.59	4.74	19.92*
DynaGro Everlast	5.0	99	100	98	96	95	95	91	85	75	2.47	6.16	2.97	3.71	0.94	1.41	0.80	0.58	0.49	4.21	19.53*
TripleTrust 450	4.8	100	100	100	95	95	95	94	90	70	2.52	5.76	2.80	3.84	1.12	1.40	0.78	0.62	0.59	4.51	19.43*
Genoa	4.8	100	98	98	87	88	92	92	91	61	2.56	5.43	2.53	4.27	1.15	1.20	0.77	0.64	0.47	4.24	19.03
Expedition	4.8	100	98	96	90	93	88	94	90	68	2.44	5.34	2.67	3.98	1.14	1.30	0.70	0.63	0.50	4.28	18.72
Saranac AR (certified)	5.0	98	100	99	95	94	92	89	81	53	2.31	5.88	2.83	3.69	0.97	1.35	0.74	0.43	0.33	3.82	18.52
Buffalo	5.0	99	100	99	88	94	94	90	84	35	2.47	5.89	2.81	3.69	0.99	1.17	0.73	0.42	0.33	3.64	18.51
Vernal	4.8	98	100	96	89	90	90	88	78	63	2.30	6.12	2.88	3.38	0.91	1.23	0.68	0.54	0.37	3.72	18.40
Arc	4.8	98	100	97	91	89	86	80	84	45	2.31	6.08	2.54	3.72	1.12	1.27	0.65	0.41	0.29	3.74	18.39
Experimental Varieties																					
AA108E	5.0	99	100	99	95	96	95	94	93	78	2.50	5.86	2.95	3.82	1.05	1.40	0.84	0.58	0.51	4.39	19.52*
A-4440	4.5	100	100	98	96	94	97	90	89	68	2.50	6.08	2.61	3.76	1.13	1.38	0.77	0.58	0.43	4.29	19.24*
Mean	4.8	99.3	99.5	97.9	93.3	93.0	93.6	91.5	88.7	67.6	2.50	5.96	2.79	1.19	1.14	1.36	0.75	0.58	0.47	4.30	19.40
CV,%	8.0	2.0	2.0	1.7	5.0	5.1	7.0	6.0	8.5	29.9	8.12	9.47	15.58	8.56	13.33	11.34	11.45	14.78	26.79	10.11	5.53
LSD,0.05	0.5	2.8	2.8	2.3	6.6	6.7	9.3	7.8	10.8	28.8	0.29	0.80	0.62	0.15	0.22	0.22	0.12	0.12	0.18	0.62	1.53

[1] 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 August 14, 2006 at Lexington, Kentucky.

Variety	Seedling Vigor[1]	Percent Stand							Yield (tons/acre)								
		2006	2007		2008		2009		2007	2008	2009						3-year
	Oct. 17, 2006	Oct 17	Mar 26	Oct 11	Mar 27	Oct 13	Mar 24	Oct 7	Total	Total	May 18	Jun 17	Jul 20	Aug 17	Sep 18	Total	Total
Commercial Varieties—Available for Farm Use																	
Expedition	5.0	99	98	98	99	99	100	100	3.98	4.28	1.82	1.51	1.39	0.85	0.74	6.32	14.59*
L447HD	4.8	76	96	95	95	97	97	98	4.26	4.19	1.69	1.29	1.26	0.76	0.69	5.69	14.14*
PerForm	5.0	100	98	98	97	98	98	98	4.12	3.99	1.68	1.24	1.29	0.75	0.66	5.62	13.73*
WL 355RR	4.8	98	96	96	95	95	95	99	3.90	3.90	1.58	1.38	1.32	0.85	0.70	5.83	13.63*
DKA 41-18RR	4.3	99	98	98	98	99	98	100	4.06	3.95	1.48	1.32	1.32	0.82	0.68	5.62	13.63*
Phoenix	4.8	99	98	98	98	100	98	97	3.64	3.89	1.60	1.38	1.27	0.77	0.64	5.66	13.19
Withstand	4.8	100	97	98	97	99	99	99	3.50	3.72	1.79	1.42	1.30	0.79	0.57	5.87	13.09
LegenDairy 5.0	5.0	100	95	95	94	96	96	96	3.53	3.79	1.57	1.43	1.32	0.76	0.67	5.75	13.06
Ameristand 403T	5.0	100	98	98	99	99	99	98	3.69	3.74	1.62	1.29	1.22	0.80	0.64	5.57	13.01
Radiant-AM	5.0	100	97	96	97	98	96	96	3.79	3.73	1.46	1.36	1.28	0.74	0.63	5.48	12.99
WL 343HQ	4.3	99	100	100	100	100	100	100	3.69	3.92	1.32	1.22	1.28	0.85	0.67	5.34	12.95
Buffalo	5.0	99	99	98	99	99	99	97	3.67	3.63	1.63	1.08	0.87	0.61	0.50	4.69	11.99
Saranac AR	4.8	100	96	96	95	94	92	93	3.46	3.48	1.65	1.13	1.04	0.62	0.51	4.95	11.90
Experimental Varieties																	
DS617	5.0	99	97	97	96	98	98	99	3.82	4.03	1.81	1.37	1.30	0.73	0.63	5.84	13.70*
Mean	4.8	97.6	97.3	97.2	96.9	97.8	97.5	97.6	3.79	3.87	1.62	1.32	1.25	0.77	0.64	5.59	13.26
CV,%	7.6	12.3	2.7	2.8	4.1	2.9	3.1	2.5	9.36	10.7	10.69	11.01	12.13	13.67	11.38	7.87	6.64
LSD,0.05	0.5	17.2	3.8	3.9	5.7	4.1	4.3	3.5	0.51	0.59	0.25	0.21	0.22	0.15	0.10	0.63	1.26

[1] 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 August 24, 2006 at Bowling Green, Kentucky.

Variety	Seedling Vigor[1]	Percent Stand						Yield (tons/acre)								
		2006	2007		2008		2009	2007	2008	2009						3-year
	Oct 30, 2006	Oct 30	Mar 16	Oct 29	Apr 14	Oct 31	Nov 4	Total	Total	May 12	Jun 18	Jul 24	Aug 22	Sep 28	Total	Total
Commercial Varieties—Available for Farm Use																
Withstand	4.8	99	100	99	99	96	92	1.62	3.51	0.90	1.24	1.17	0.90	0.56	4.77	9.90*
LegenDairy 5.0	4.8	100	100	98	98	96	95	1.03	3.33	0.89	1.39	1.11	0.98	0.66	5.04	9.39*
Rebound 5.0	4.5	100	100	98	99	97	93	1.28	3.35	0.86	1.36	1.09	0.82	0.58	4.72	9.35*
TripleTrust 450	5.0	100	99	99	99	100	97	1.19	3.26	0.77	1.35	1.11	0.89	0.53	4.66	9.10*
CW 15030	5.0	100	99	98	96	98	93	1.17	3.25	0.79	1.21	1.05	0.91	0.69	4.65	9.07*
Evermore	4.8	100	100	99	100	97	78	1.33	3.43	0.76	1.13	1.01	0.82	0.53	4.26	9.02*
Phirst	4.8	100	99	98	97	97	95	0.98	3.34	0.93	1.33	0.90	0.95	0.56	4.67	8.99*
Integrity	5.0	100	100	100	100	99	95	1.16	3.25	0.81	1.33	1.01	0.81	0.54	4.50	8.91*
6415	5.0	100	100	100	97	99	94	1.05	3.23	0.80	1.27	1.05	0.85	0.56	4.54	8.82*
DynaGro Everlast	5.0	100	100	99	98	98	90	1.10	3.19	0.79	1.21	1.06	0.75	0.57	4.39	8.67*
WL 348AP	4.8	99	100	98	100	96	88	1.14	3.40	0.86	1.07	0.95	0.67	0.52	4.07	8.61
Phoenix	4.8	99	99	98	96	94	81	1.06	3.19	0.69	1.05	1.08	0.74	0.57	4.14	8.40
Saranac AR (certified)	4.5	100	100	98	97	95	76	0.89	2.98	0.77	1.09	1.00	0.69	0.48	4.04	7.92
Buffalo	4.3	100	99	99	98	92	75	1.01	2.70	0.63	0.94	0.84	0.64	0.47	3.51	7.23
Enforcer	4.0	97	96	97	92	83	68	0.98	2.76	0.56	0.93	0.84	0.67	0.46	3.45	7.19
Experimental Varieties																
MP04	4.8	100	100	100	100	99	94	1.23	3.41	1.08	1.23	1.13	0.79	0.59	4.82	9.46*
AA109E	4.5	99	100	100	99	98	95	1.09	3.28	0.79	1.29	1.09	0.88	0.55	4.60	8.96*
Mean	4.7	99.5	99.2	98.6	97.8	96.1	88.1	1.14	3.23	0.81	1.20	1.03	0.81	0.55	4.40	8.76
CV,%	9.4	1.6	1.0	1.8	3.7	5.3	13.2	26.19	8.48	18.00	15.22	14.61	14.13	17.89	12.50	10.11
LSD,0.05	0.6	2.3	1.4	2.5	5.1	7.3	16.6	0.42	0.39	0.21	0.26	0.21	0.16	0.14	0.78	1.26

[1] 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 yields and stand persistence of alfalfa varieties sown April 8, 2008 at Lexington, Kentucky.											
	Percent Stand			Yield (tons/acre)							
	2008	2009		2008	2009						2-year
Variety	Oct 21	Mar 24	Oct 7	Total	May 18	Jun 19	Jul 20	Aug 17	Sep 17	Total	Total
Commercial Varieties—Available for Farm use											
DKA 50-18	84	74	89	0.87	1.42	1.38	1.22	0.71	0.82	5.55	6.42*
FSG 528SF	89	93	93	0.72	1.35	1.33	1.25	0.78	0.83	5.54	6.26*
WL 343HQ	91	93	94	0.68	1.24	1.35	1.33	0.78	0.81	5.51	6.19*
Rebound 5.0	84	84	88	0.73	1.44	1.30	1.16	0.70	0.75	5.34	6.07*
Garst 6417	90	88	89	0.73	1.37	1.36	1.15	0.65	0.78	5.30	6.03*
DKA 43-13	84	83	89	0.58	1.33	1.27	1.19	0.74	0.87	5.39	5.97*
A5225	88	85	86	0.59	1.28	1.26	1.18	0.80	0.85	5.38	5.96*
Garst 6552	85	84	84	0.77	1.31	1.19	1.14	0.67	0.86	5.17	5.94*
Phoenix	91	89	90	0.57	1.34	1.29	1.16	0.74	0.82	5.36	5.93*
Genoa	73	68	79	0.61	1.42	1.30	1.00	0.67	0.85	5.25	5.86*
Anchormate	96	96	95	0.74	1.33	1.12	1.13	0.71	0.68	4.98	5.71*
PGI 459	93	90	93	0.53	1.28	1.22	1.10	0.78	0.81	5.18	5.71*
WL 363HQ	90	89	90	0.52	1.24	1.25	1.08	0.73	0.82	5.12	5.65*
A4440	88	89	91	0.65	1.28	1.16	1.11	0.70	0.71	4.95	5.61*
Buffalo	89	90	90	0.68	1.46	1.11	0.93	0.60	0.67	4.77	5.45
Withstand	76	78	76	0.52	1.33	1.15	1.01	0.63	0.67	4.79	5.30
Ameristand 403T	70	65	73	0.60	1.25	1.17	0.98	0.64	0.63	4.68	5.28
Saranac AR	88	85	85	0.73	1.36	1.09	0.86	0.57	0.67	4.54	5.27
Mean	85.9	84.4	87.3	0.66	1.34	1.24	1.11	0.70	0.77	5.16	5.81
CV,%	9.9	10.5	6.8	35.01	10.74	12.16	14.67	13.23	9.22	8.80	10.01
LSD,0.05	12.1	12.5	8.4	0.33	0.20	0.21	0.23	0.13	0.10	0.64	0.83
*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.											

Table 9. Dry matter yields and stand persistence of alfalfa varieties sown April 17, 2008 at Princeton, Kentucky.												
	Percent stand				Yield (tons/acre)							
	2008		2009		2008	2009						2-year
Variety	May 21	Oct 30	Apr 17	Oct 28	Total	May 11	Jun 22	Jul 23	Aug 22	Sep 29	Total	Total
Commercial Varieties—Available for Farm Use												
Genoa	99	97	95	93	0.58	0.91	1.23	0.88	0.67	0.50	4.19	4.77*
USG 681HY	100	93	94	91	0.59	0.82	1.20	0.86	0.63	0.48	3.99	4.57*
A5225	100	95	96	96	0.57	0.85	1.14	0.84	0.62	0.45	3.90	4.47*
FSG 408DP	100	94	95	91	0.51	0.84	1.16	0.75	0.54	0.38	3.69	4.20*
Ameristand 403T	98	88	83	84	0.56	0.61	1.24	0.79	0.59	0.39	3.62	4.19*
Phoenix	96	91	85	85	0.49	0.79	1.07	0.79	0.56	0.43	3.64	4.13*
Mariner III	98	90	86	86	0.47	0.66	1.10	0.80	0.57	0.42	3.55	4.03
Withstand	96	89	84	88	0.45	0.74	1.04	0.77	0.56	0.42	3.52	3.97
Arc	98	86	89	78	0.46	0.81	1.08	0.65	0.44	0.37	3.34	3.80
WL 343HQ	99	90	89	96	0.41	0.63	1.02	0.75	0.58	0.40	3.39	3.80
Buffalo	100	91	89	66	0.54	0.68	0.99	0.70	0.46	0.33	3.16	3.70
Saranac AR (certified)	99	86	83	79	0.49	0.61	0.88	0.63	0.41	0.40	2.92	3.41
Experimental Varieties												
CW 24027	99	94	95	96	0.61	0.85	1.19	0.90	0.64	0.48	4.06	4.67*
TS 4027	99	88	83	83	0.64	0.68	1.14	0.83	0.55	0.46	3.66	4.30*
Mean	98.5	90.8	88.8	86.4	0.53	0.75	1.11	0.78	0.56	0.42	3.62	4.14
CV,%	1.1	5.7	8.7	9.4	20.82	17.42	19.62	11.16	13.69	11.85	13.10	11.70
LSD,0.05	1.5	7.4	11.0	11.7	0.16	0.19	0.31	0.12	0.11	0.07	0.68	0.69
* 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 alfalfa varieties sown April 17, 2009 at Princeton, Kentucky.

Variety	Seedling Vigor[1] May 12, 2009	Percent Stand 2009 May 12	Percent Stand 2009 Oct 28	Yield (tons/acre) 2009 Jul 14	Aug 22	Sep 28	Total
Commercial Varieties—Available for Farm Use							
Ameristand 403T	3.3	98	94	0.84	0.85	0.40	2.09*
WL 363HQ	3.5	96	96	0.69	0.77	0.39	1.84*
Adrenalin	2.8	98	91	0.63	0.75	0.35	1.74*
LS605	2.8	99	96	0.59	0.75	0.37	1.72*
Ameristand 407TQ	4.3	100	97	0.62	0.66	0.36	1.65*
45M322	3.3	95	97	0.54	0.70	0.38	1.63*
Buffalo	3.3	100	91	0.58	0.67	0.36	1.61*
Saranac AR (certified)	3.3	99	91	0.56	0.66	0.38	1.60*
Ameristand 403TPlus	3.5	100	95	0.56	0.73	0.28	1.57
Archer III	3.0	98	97	0.52	0.64	0.37	1.53
Rebound 5.0	2.8	95	96	0.55	0.59	0.33	1.48
KingFisher	1.3	94	93	0.53	0.62	0.30	1.44
Experimental Varieties							
BYEXP723	3.8	98	98	0.78	0.88	0.50	2.16*
GA505	2.8	99	95	0.60	0.75	0.37	1.72*
TS 4010/A4535	3.5	100	98	0.58	0.69	0.40	1.68*
GA-APGC	4.0	98	91	0.67	0.66	0.30	1.63*
CW 055023/PGI 557	3.8	100	97	0.49	0.64	0.31	1.43
GA-MPX	1.8	96	92	0.50	0.66	0.27	1.42
Mean	3.1	97.8	94.6	0.60	0.70	0.36	1.66
CV,%	37.6	4.3	4.8	36.50	21.04	25.69	24.87
LSD,0.05	1.7	5.9	6.5	0.30	0.21	0.13	0.59

[1] 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 performance of alfalfa varieties across years and locations.

		Variety Characteristics[1]						Lexington					Princeton								Bowling Green		
			Disease Resisance[2]					2006[3]			2008		2005					2008		2009	2006		
Variety		FD[4]	Bw	Fw	An	PRR	APH	07	08	09	08	09	05	06	07	08	09	07	09	09	07	08	09
Commercial Varieties—Available for Farm Use																							
45M322	Syngenta Seeds	4	HR	HR	HR	HR	HR													*			
6415	Garst Seed Co.	4	HR	HR	HR	HR	HR						*	*	*	*	*				x[5]	*	*
6417	Garst Seed Co.	4	HR	HR	HR	HR	HR				*	*											
6552	Garst Seed Co.	5	HR	HR	HR	HR	HR				*	*											
A-4440	Producers Choice	4	HR	HR	HR	HR	HR				*	*	*	*	*	x	*						
A5225	Producers Choice	5	HR	HR	HR	HR	R				*	*						*	*				
Adrenalin	Brett Young	4	HR	HR	HR	HR	HR													*			
Ameristand 403T	America's Alfalfa	4	HR	HR	HR	HR	HR	x	*	x	*	x						*	*	*			
Ameristand 403TPlus	America's Alfalfa	4	HR	HR	HR	HR	HR													x			
Ameristand 407TQ	America's Alfalfa	4	HRT	HR	HR	HR	HR													*			
Anchormate	ProSeed Marketing	-	-	-	-	-	-				*	*											
Arc (certified)	Public	4	LR	MR	HR	-	-						x	*	*	x	x	x	x				
Archer III	America's Alfalfa	5	HR	HR	HR	HR	HR													x			
Baralfa 53HR	Barenbrug USA	5	HR	R	HR	HR	HR						*	*	*	*	*						
Buffalo	Public	-	-	-	-	-	-	x	x	x	*	x	*	*	*	x	x	*	x	*	x	x	x
CW 15030	Allied Seed, L.L.C.	5	HR	HR	R	HR	R														x	*	*
DKA 41-18RR	Monsanto	4	HR	HR	HR	HR	HR	*	*	*													
DKA 43-13	Monsanto	4	HR	HR	HR	HR	HR				*	*											
DKA 50-18	Monsanto	5	HR	HR	HR	HR	HR				*	*											
Dynagro Everlast	United Agri. Products	4	HR	HR	HR	HR	R						*	*	*	x	*				x	*	*
Enforcer	FFR/Southern States	4	HR	HR	HR	HR	HR														x	x	x
Evermore	FFR/Southern States	5	HR	HR	HR	HR	HR														*	*	*
Expedition	NK Brand/Syngenta Seeds	5	HR	HR	R	RR	R	*	*	*			*	x	*	*	*						
FSG 408DP	Lewis Seed Company	4	HR	HR	HR	HR	R											*	*				
FSG 528SF	Lewis Seed Company	5	HR	R	HR	RR	R				*	*											
Genoa	NK Brand/Syngenta Seeds	4	HR	HR	HR	RR	HR				*	*	*	x	*	*	*	*	*				
Integrity	PGI Alfalfa, Inc.	4	HR	HR	HR	HR	HR														x	*	*
KingFisher 243	Cal/West Seeds	5	HR	HR	HR	HR	HR													x			
L447HD	Legacy Seeds, Inc.	4	HR	HR	HR	HR	HR	*	*	*													
LegenDairy 5.0	Croplan Genetics	3	HR	HR	HR	HR	HR	x	*	*			*	x	*	*	*				x	*	*
LS 605	Legacy Seeds, Inc.	4	HR	HR	HR	HR	HR													*			
Mariner III	Allied Seed, L.L.C.	4	HR	HR	HR	HR	HR											x	*				
PerForm	Dairyland Research	4	HR	HR	HR	HR	HR	*	*	*													
Phirst	UniSouth Genetics, Inc.	4	HR	HR	HR	HR	R						*	*	*	*	*				x	*	*
Phoenix	FFR/Southern States	5	HR	HR	HR	HR	R	x	*	x	*	*						*	*		x	*	x
PGI 459	Producers Choice	4	HR	HR	HR	HR	R				x	*											
Rebound 5.0	Croplan Genetics	4	HR	HR	HR	HR	HR				*	*								x	*	*	*
Radiant-AM	Ampac Seed Company	4	HR	HR	HR	HR	HR	*	*	x													
Reward II	PGI Alfalfa, Inc.	4	HR	HR	R	HR	R						*	*	*	x	*						
Saranac AR (certified)	Public	4	MR	R	HR	LR	-	x	x	x	*	x	x	*	*	x	x	*	x	*	x	x	x
TripleTrust 450	ABI Alfalfa, Inc	5	HR	HR	HR	HR	HR						*	*	*	x	*				x	*	*
USG 681HY	UniSouth Genetics, Inc.	6	HR	HR	R	HR	-											*	*				
Vernal	Public	2	R	MR	-	-	-						x	*	*	x	x						
Withstand	FFR/Southern States	4	HR	HR	HR	HR	HR	x	*	*	x	x						x	*		*	*	*
WL 343HQ	W-L Research	4	HR	HR	HR	HR	HR	x	*	x	*	*						x	x				
WL 348AP	W-L Research	4	HR	HR	HR	HR	HR														x	*	x
WL 355RR	W-L Research	4	HR	HR	HR	HR	HR	*	*	*													
WL 357HQ	W-L Research	5	HR	HR	HR	HR	HR						*	*	*	*	*						
WL 363HQ	W-L Research	5	HR	HR	HR	HR	HR				x	*								*			

Table 11 continued on next page.

Table 11. Characterization and performance of alfalfa varieties across years and locations.

		Variety Characteristics[1]						Lexington					Princeton								Bowling Green		
			Disease Resisance[2]					2006[3]			2008		2005					2008		2009	2006		
Variety		FD[4]	Bw	Fw	An	PRR	APH	07	08	09	08	09	05	06	07	08	09	07	09	09	07	08	09
Experimental Varieties																							
AA108E	ABI Alfalfa, Inc												*	*	*	x	*						
AA109E	ABI Alfalfa, Inc																				x	*	*
BYEXP 723	Brett Young	4	HR	HR	HR	HR	HR													*			
CW 055023/PGI 557	Producers Choice	5	HR	HR	HR	HR	HR													x			
CW 24027	Cal/West Seeds	4	HR	HR	HR	HR	HR											*	*				
DS617	Dairyland Research	4	HR	HR	HR	HR	HR	*	*	*													
GA 505	Univ. of Georgia																			*			
GA-APGC	Univ. of Georgia																			*			
GA-MPX	Univ. of Georgia																			x			
MP04	Cimarron USA	5	HR	HR	HR	HR	R														*	*	*
TS 4010/A4535	Producers Choice																			*			
TS4027	Target Seed, LLC	4	HR	HR	HR	HR	R											*	*				

[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.
[3] Establishment year.
[4] Fall dormancy: 1=Spredor 3, 2=Vernal, 3=Ranger, 4=Saranac, 5=DuPuits.
[5] X in the box indicates the variety was in the test but yielded significantly less than the top-ranked variety in the test. Open boxes indicate the variety was not in the test.
* Not significantly different from the top-ranked variety in the test.

Table 12. Summary of Kentucky Alfalfa Yield Trials 1995-2009 (yield shown as a percentage of the mean of the commercial varieties in the test).

		Variety Characteristics[1]						Lexington								Princeton				Bowling Green[2]				Eden Shale		
			Disease Resistance[3]					95[4,5]	97	97	99	00	02	04	06	97	99	01	05	96	98	03	06	98	03	Mean[6]
Variety	Proprietor	FD	Bw	Fw	An	PRR	APH	6yr[7]	5yr	6yr	4yr	5yr	5yr	5yr	3yr	5yr	4yr	4yr	5-yr	7yr	7yr	3yr	3yr	5yr	4yr	(# trials)
A-4440	Producers Choice	4	Hr	HR	HR	HR	HR												99							–
Abilene +Z	America's Alf.	5	HR	HR	HR	HR	R					99					104									102(2)
ABT 205	W-L Research	2	HR	HR	HR	HR	R			100						97										99(2)
ABT 350	W-L Research	3	HR	HR	HR	HR	HR										98				105			101		101(3)
ABT 400SCL	W-L Research	4	HR	HR	HR	HR	HR										102				102					102(2)
ABT 405	W-L Research	4	HR	HR	HR	HR	R		101	101						108				101						103(4)
AC Longview	Newfield Seeds		HR											83												–
Affinity+Z	ABI Alfalfa	4	HR	HR	HR	HR	R			99							101			104						101(3)
Alfagraze	America's Alf.	2	MR	R	MR	R	–		99															97		98(2)
AmeriGraze 401+Z	America's Alf.	4	HR	HR	HR	HR	R		102			99				102	99							102		101(5)
AmeriStand 403T	America's Alf.	3	HR	HR	HR	HR	HR								98			97								98(2)
Ameriguard 302+Z	America's Alf.	3	HR	HR	HR	HR	HR				103															–
Apollo	America's Alf.	4	R	R	R	R	–	80	108											96						95(3)
Arc (certified)	Public	4	LR	MR	HR	–	–	98	101	87	99	91	96	76		96	100	99	95	91	90	98		94		94(15)
Baralfa 53HR	Barenbrug	5	HR	R	HR	HR	HR												104							–
Baralfa 54	Barenbrug	–	R	HR	HR	HR	HR														96			99		98(2)
Buffalo	Public	–	–	–	–	–	–						90	82	91				95	93			83		95	90(7)
Choice	FFR/Sou. St.	4	HR	R	R	HR	R	110		104						106				103	97			103		104(6)
Cimarron3i	Great Plains	4	HR	HR	HR	HR	HR			100											99			96		98(3)
Cimarron SR	Great Plains	4	HR	HR	HR	HR	MR				103						101									102(2)
Cimarron VR	Great Plains	5	HR	HR	R	R	MR			99																–
CW 15030	Allied Seeds	5	HR	HR	HR	HR	HR																104			
Demand	ABI Alfalfa	3	HR	HR	HR	HR	R													99						–
Depend+EV	ABI Alfalfa	–	–	–	–	–	–													104						–
DK 127	Monsanto	3	HR	HR	HR	HR	–	111												102						107(2)
DK 133	Monsanto	4	HR	HR	HR	HR	R	106												104						105(2)
DK 131HQ	Monsanto	3	HR	HR	HR	HR	R				105															–
DK 140	Monsanto	4	HR	HR	HR	HR	H			104			95				102	100			103			103		101(6)
DK 141	Monsanto	4	HR	HR	HR	HR	H			99							98				103					100(3)
DKA-41-18RR	Monsanto	4	HR	HR	HR	Hr	HR								103											–
Dominator	America's Alf.	4	HR	HR	HR	HR	HR	102																		–
Dynagro Everlast	United Agr. Prod.	4	HR	HR	HR	HR	R												101				100			101(2)
Emperor	ABI Alfalfa	4	HR	HR	HR	HR	HR														102			93		98(2)
Enforcer	FFR/Sou. St.	4	HR	HR	HR	HR	HR							90									83			–
Evermore	FFR/Sou. St.	5	HR	HR	HR	HR	HR															105	104		103	104(3)
Excalibur II	Allied Seeds	4	HR	HR	HR	HR	R	107																		–
Expedition	Syngenta	5	HR	HR	R	RR	R							107	110				96							104(3)
Feast	Garst Seeds	3	HR	HR	HR	HR	R		101							101										101(2)
Feast +EV	Garst Seeds	3	HR	HR	HR	R	HR							106								101			96	101(3)
FK 421	Donley Seed	4	HR	H	H	H	H											101								–
Fortress	Syngenta	3	R	R	R	HR	–		99	96						97				98				99		98(5)
FSG 406	Allied Seeds	4	HR	HR	HR	HR	HR															110				–
FSG 408DP	Allied Seeds	4	HR	HR	HR	HR	R							105												–
FSG 505	Allied Seeds	5	HR	HR	HR	HR	R															106			108	107(2)
Gem	FFR/Sou. St.	4	HR	HR	HR	HR	S			100						98				101				105		101(4)
Geneva	Syngenta	4	HR	HR	HR	HR	HR					106	103				99	104			101			102		103(6)
Genoa	Syngenta	4	HR	HR	HR	RR	HR							112					98							105(2)
GH 744	Golden Harvest	4	HR	HR	HR	HR	MR						104													–
Goldplus	PGI Alfalfa	4	HR	HR	HR	HR	R														90					–
Grazeking	FFR/Sou. St.	5	MR	HR	HR	R	S		100															102		101(2)
Haygrazer	Great Plains	4	HR	HR	R	R	MR		102															100		101(2)
HybridForce 400	Dairyland	4	HR	HR	R	HR	MR											106								–
Imperial	America's Alf.	3	HR	HR	HR	HR	R													104						–
Innovator+Z	America's Alf.	3	HR	HR	HR	HR	R													101						–
Integrity	PGI Alfalfa	4	HR	HR	HR	HR	HR																102			–
L447HD	Legacy Seeds	4	HR	HR	Hr	Hr	HR								107											–
Legacy	Green Seed	4	R	R	R	R	R	88												96						92(2)
LegenDairy 5.0	Croplan Genetics	3	HR	HR	HR	HR	HR								99				103				108			103(3)
LH4	Pioneer	3	HR	HR	HR	R	R				99															–
Magnum V	Dairyland	4	HR	HR	R	HR	HR					104														–
Magnum V-wet	Dairyland	3	HR	HR	R	HR	MR					105														–
Mountaineer 2.0	Croplan Gen.	5	Hr	HR	HR	RR	HR							108												–
Multiqueen	Cal/West	4	HR	HR	HR	HR	R	103																		–
Pasture Plus	MBS	3	HR	HR	R	HR	MR														108					–
Pegasus	FFR/Sou. St.	4	HR	HR	HR	HR	R											95								–

Table 12 continued on next page.

Table 12. Summary of Kentucky Alfalfa Yield Trials 1995-2009 (yield shown as a percentage of the mean of the commercial varieties in the test).

		Variety Characteristics[1]						Lexington								Princeton				Bowling Green[2]				Eden Shale		
			Disease Resistance[3]					95[4,5]	97	97	99	00	02	04	06	97	99	01	05	96	98	03	06	98	03	Mean[6]
Variety	Proprietor	FD	Bw	Fw	An	PRR	APH	6yr[7]	5yr	6yr	4yr	5yr	5yr	5yr	3yr	5yr	4yr	4yr	5-yr	7yr	7yr	3yr	3yr	5yr	4yr	(# trials)
PerForm	Dairyland Research	4	HR	HR	HR	HR	HR								104											–
Phirst	UniSouth Genetics	4	HR	HR	HR	HR	R												105				103			104(2)
Phoenix	FFR/Sou. St.	5	HR	HR	HR	HR	R							113	100								97			103(3)
ProGro	PGI Alfalfa	4	HR	HR	R	HR	MR														95					–
Radiant-AM	Ampac Seed	4	HR	HR	HR	HR	HR								98											–
Rebound 5.0	Croplan Genetics	4	HR	HR	HR	HR	HR																107			–
Regal	Great Plains	5	HR	HR	R	HR	MR															103			94	99(2)
Reward	PGI Alfalfa	4	HR	HR	R	HR	MR										98									–
Reward II	PGI Alfalfa	4	HR	HR	R	HR	R											99	103			94			103	100(4)
Rushmore	Syngenta	4	HR	HR	HR	HR	HR	108				95				103				99						101(4)
Saranac AR (certified)	Public	4	MR	R	HR	LR	–	103	99	95	96	93	87	77	90	93		92	95	101	90	99	91	101	95	94(17)
Spredor 3	Syngenta	1	HR	HR	R	MR	S		95															101		98(2)
Stampede	Allied Seeds	3	HR	R	R	HR	R		95															106		101(2)
Stellar	W-L Research	4	HR	HR	HR	HR	LR														94					–
Summer Gold	Beck's Hybrids	4	HR	HR	HR	HR	HR							107												–
Supercuts	ABI Alfalfa	4	HR	HR	HR	HR	S	104												103						104(2)
TMF Generation	Mycogen Seeds	4	HR	HR	HR	HR	R													103						–
TMF 4355LH	Mycogen Seeds	3	HR	R	HR	HR	R				100															–
TMF 4464	Mycogen Seeds	4	HR	HR	HR	HR	R										98									–
Triple Crown	FFR/Sou. St.	4	HR	HR	HR	HR	HR					102						100								101(2)
TripleTrust 450	ABI Alfalfa	5	HR	HR	HR	Hr	HR												100				105			103(2)
ValuePlus 1	Forage Genetics	4	HR	HR	HR	HR	R					106														–
Vernal	Public	2	R	MR	–	–	–						93						95		91			96		94(4)
Wintergreen	ABI Alfalfa	3	HR	HR	HR	HR	R			104						103								101		103(3)
Withstand	FFR/Sou. St.	4	HR	HR	HR	HR	HR								99								114			107(2)
WL 252HQ	W-L Research	2	HR	HR	HR	HR	LR													104						–
WL 319HQ	W-L Research	3	HR	HR	HR	HR	HR						108													–
WL 323	W-L Research	4	HR	HR	HR	HR	R	103																		–
WL 324	W-L Research	3	HR	HR	HR	HR	HR													106						–
WL 325HQ	W-L Research	3	HR	HR	HR	HR	R			103							101			99						101(3)
WL 326GZ	W-L Research	4	HR	HR	HR	HR	HR		99							97					98			99		98(4)
WL 327	W-L Research	4	HR	HR	HR	HR	HR						105				100									103(2)
WL 332SR	W-L Research	4	HR	HR	HR	HR	HR									93										–
WL 338SR	W-L Research	4	HR	HR	HR	HR	HR						101													–
WL 342	W-L Research	4	HR	HR	HR	HR	HR											102								–
WL 343HQ	W-L Research	4	HR	HR	HR	HR	HR								98											–
WL 348AP	W-L Research	4	HR	HR	HR	HR	HR																99			–
WL 357HQ	W-L Research	5	HR	HR	HR	HR	HR							123					106			101			106	109(4)
329	Cal/West	3	HR	HR	HR	HR	R	94																		–
4m76	FFR/Sou. St.	5	HR	HR	R	HR	R						116													–
5-star	Croplan Gen.	5	R	HR	R	R	R															97			99	98(2)
5246	Pioneer	2	R	R	HR	HR	R										98									–
5312	Public	3	HR	HR	HR	HR	HR					103														–
53H81	Pioneer	3	HR	HR	HR	R	HR					102														–
53Q60	Pioneer	3	HR	R	HR	HR	R										100									–
5454	Pioneer	4	R	HR	HR	HR	LR	96																		–
54H69	Pioneer	4	HR	HR	HR	HR	R				99															–
54V46	Pioneer	4	R	HR	HR	HR	R																		99	–
54V54	Pioneer	4	HR	HR	HR	HR	HR					98	94				104	105								100(4)
54V56	Pioneer																					98				–
630	Garst Seeds	3	HR	HR	MR	R	–	88																		–
631	Garst Seeds	4	HR	R	HR	R	HR			107						106				106						106(3)
6400HT	Garst Seeds	4	HR	HR	HR	HR	HR							108								96				103(2)
6415	Garst Seeds	4	HR	HR	HR	HR	HR												103				101			102(2)
6420	Garst Seeds	4	HR	R	HR	R	HR						106													–
645	Garst Seeds	4	HR	R	HR	HR	MR													103						–
6530	Garst Seeds	5	HR	HR	HR	HR	HR															92				–

[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] The Bowling Green test is on soil infested with phytophthora and aphanomyces root rots.

[3] Disease resistance: S=susceptible, LR=low resistance, MR=moderate resistance, R=resistance, HR=high resistance.

[4] Year trial was established.

[5] 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 1995 was harvested for 6 years, so the final yield report would be "2000 Alfalfa Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

[6] Mean only presented when respective variety was included in two or more trials.

[7] Number of years of data.

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