

2014 Long-Term Summary of Kentucky Forage Variety Trials

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Introduction

Forage crops occupy approximately 7 million acres in Kentucky. Forages provide a majority of the nutrition for beef, dairy, horse, goat, sheep, and wildlife in the state. In addition, forage crops play an environmentally friendly role in soil conservation, water quality,

and air quality. There are over 60 forage species adapted to the climate and soil conditions of Kentucky. Only 10 to 12 of these species occupy the majority of the acreage, but within these species there is a tremendous variation in varieties.

This publication was developed to provide a user-friendly guide to choosing the best variety for producers based on a

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Table 1. Summary of Kentucky white clover yield trials 2002-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Type	Proprietor	Lexington										Princeton		Quicksand		Eden Shale	Mean ³ (#trials)	
			02 ^{1,2}	03	04	06	07	08	09	10	11	12	03	05	98	03	03		
			3yr ⁴	3yr	3-yr	2-yr	2-yr	3yr	2yr	3yr	3yr	2yr	3yr	3-yr	3yr	2yr	2yr		
Advantage	Ladino	Allied Seed, L.L.C.		125														106	116(2)
Alice	Intermediate	Barenbrug USA															86		-
Avoca	Dutch	DLF International Seeds				59										82			71(2)
Barblanca	Intermediate	Barenbrug USA		92															-
CA ladino	Ladino	Public	100		124									103		100	98		105(5)
Colt	Intermediate	Seed Research of OR		90		57									114				87(3)
Common	Dutch	Public	100				53				98				78				82(4)
Companion	Ladino	Oregro Seeds						87	94	92									91(3)
Crescendo	Ladino	Cal/West Seeds	105			140										109			118(3)
Crusader II	Intermediate	Allied Seed, L.L.C.								90	50	54							65(3)
Excel	Ladino	Allied Seed, L.L.C.			100														-
Durana	Intermediate	Pennington		94		94	88	82	85	97	93	84	87	83			101	95	90(12)
GWC-AS10	Ladino	Ampac Seed										102							-
Insight	Ladino	Allied Seed, L.L.C.				128													-
Ivory	Intermediate	Cebeco	96																-
Ivory II	Intermediate	DLF International Seeds					86			101	127								105(3)
Jumbo	Ladino	Ampac Seed	93																-
Jumbo II	Ladino	Ampac Seed										121	101						111(2)
Kopu II	Intermediate	Ampac Seed	97			97	95	95	103	96	80	90							94(8)
KY Select	Intermediate	Saddle Butte Ag. Inc									98	95							97(2)
Ocoee	Ladino	Allied Seed, L.L.C.								89	74								82(2)
Patriot	Intermediate	Pennington		103		87	104	113	95	117	117	99	104	100			98	99	103(12)
Pinnacle	Ladino	Allied Seed, L.L.C.				120									111				116(2)
Rampart	Ladino	Allied Seed, L.L.C.					80	89	97	83									87(4)
Regal	Ladino	Public	99	96	92		125	100	116	118	129	147	107	100	100	104			118(13)
RegalGraze	Ladino	Cal/West Seeds				127	140	102	103										118(4)
Resolute	Intermediate	FFR/Southern States				63													-
Seminole	Ladino	Saddle Butte Ag. Inc			108	70	79												86(3)
Super Haifa	Intermediate	Allied Seed, L.L.C.			77														-
Tillman II	Ladino	Caudill Seed	103																-
WBDX	Dutch	Saddle Butte Ag. Inc									72								-
Will	Ladino	Allied Seed, L.L.C.	107			162	150	132	107	119	137	130		136					131(9)

¹ Year trial was established.

² 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 trial. For example, the Lexington trial planted in 2002 was harvested 3 years, so the final report would be "2004 Red and White Clover Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

summary of forage yield and grazing tolerance trials conducted in Kentucky over the past 10 to 12 years. Detailed variety reports and forage management publications are available from your local county agent or at the University of Kentucky forage Web site at www.uky.edu/Ag/Forage by clicking on the "Forage Variety Trial" link.

Species in This Report

Red clover (*Trifolium pratense* L.) is a high-quality, short-lived, perennial legume that is used in mixed or pure stands for pasture, hay, silage, green chop, soil improvement, and wildlife habitat. This species is adapted to a wide range of climatic and soil conditions and therefore is versatile as a forage crop. Stands of improved varieties are generally productive for two to three years, with the highest yields occurring in the year following establishment. Red clover is used primarily as a renovation legume for grass pastures. It is a dominant forage legume in Kentucky because it is relatively easy to establish and has high forage quality and high yield.

White clover (*Trifolium repens* L.) is a low-growing, perennial pasture legume with white flowers. It differs from red clover in that the stems (stolons) grow along the surface of the soil and can form adventitious roots that may lead to the development of new plants. White clover is classified into ladino, Dutch, and intermediate types. The intermediate types combine the higher yield of ladino with the grazing tolerance of the Dutch types.

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 and wildlife habitat. Choosing a good alfalfa variety is a key step in establishing a stand of alfalfa. The choice of variety can impact yield, stand persistence, insect and disease resistance, and grazing tolerance.

Orchardgrass (*Dactylus glomerata*) is a high-quality, productive, cool-season grass that is well adapted to Kentucky conditions. This grass is used for pasture, hay, green chop, and silage, but it requires better management than tall fescue for higher yields, quality, and long stand life. It produces an open, bunch-type sod, making it very compatible with alfalfa or red clover as a pasture and hay crop or as habitat for wildlife.

Tall fescue (*Festuca arundinacea*) is a productive, well-adapted, persistent, soil-

Table 2. Summary of Kentucky red clover yield trials 2000-2014 (yield shown as a percentage of the mean of the named commercial varieties in the trial).

Variety	Proprietor	Lexington												Princeton												Eden Shale						Mean ³ (#trials)
		00 ^{1,2} 3yr ⁴	00	01	02	03	04	06	08	09	10	11	12	00	03	05	08	10	01	03	05	08	10	00	03	08	10					
AA117ER	ABI/Alfalfa						110																						96(3)			
Acclaim	Allied Seed				92																								-			
Arlington	WI Agr. Exp. Sta.				72																								-			
Belle	Agribiotech	88			82																								85(2)			
Cherokee	FL Agr. Exp. Sta.	78			65																								72(2)			
Cinnamon	FFR/Sou.St.	111			108																								110(2)			
Cinnamon Plus	FFR/Sou.St.				97																								109(17)			
Common O	Public																												109(17)			
Dominion	Seed Research of OR																												77			
Duration	Cisco Co.				86	100																							100(5)			
Emarwan	Turf-Seed				91																								97(3)			
Freedom!	Barenbrug USA	108	105	127	123	96	118	91	100	108	106	109	99																103(5)			
Freedom!MR	Barenbrug USA				118	115	102	114	114	112																			109(28)			
FSG 402	Allied Seed																												112(14)			
FSG 9601	Allied Seed					89																							-			
Gallant	Turner Seed																												-			
Impact	Specialty Seeds	106	97																										-			
Juliet	Caudill Seed								84																				100(3)			
Kenland (cert.)	KY Ag. Exp. Sta.	110	111	127	139	118	117	117	99	111	99	116	114																82(5)			
Kenland (uncert)	Public										82																		110(28)			
Kenstar	KY Ag. Exp. Sta.		105																										77(6)			
Kenton	KY Ag. Exp. Sta.	100	93	119	109	90	95	112	121																				105(2)			
Kenway	KY Ag. Exp. Sta.	106	104	111	134		97	119	118																				102(19)			
LS 9703	Lewis Seed											107																	106(15)			
Morning Star	Cal/West Seeds																												96(2)			
Plus	Allied Seed	113																											90(2)			
Plus II	Allied Seed																												108(3)			
																													114(2)			

continued

Table 3. (continued)

Variety	Proprietor	Variety Characteristics ¹										Lexington										Princeton					Bowling Green ²			Eden Shale	
		FD	Bw	Fw	An	PRR	APH	00 ^{4,5}	5yr ⁸	02	04	06	08	11	01	05	08	09	11	116	03	06	03	04	05	06	07	Mean ⁷	(# trials)		
Phirst	Uni/South Genetics	4	HR	HR	HR	HR	R								105			94						102		104(2)					
Phoenix	FFR/So. States.	5	HR	HR	HR	HR	R		113	99	102					101									96		101(6)				
Radiance HD	Ampac Seed/Cisco	4	HR	HR	HR	HR	HR										105	103									104(2)				
Radiant-AM	Ampac Seed	4	HR	HR	HR	HR	HR			97																	-				
Rebound 5.0	Croplan Genetics	4	HR	HR	HR	HR	HR				103						103							108		104(3)					
Rebound 6.0	Croplan Genetics	4	HR	HR	HR	HR	HR					105						101								103(2)					
Regal	Great Plains	5	HR	HR	R	HR	MR													103						94	99(2)				
Reward II	PGI/Alfalfa	4	HR	HR	R	HR	R								99	103										103	100(4)				
Saranac AR (certified)	Public	4	MR	R	HR	LR	-	93	87	77	85	86	93	92	95	88	92	82							99	89	90(14)				
Summer Gold	Beck's Hybrids	4	HR	HR	HR	HR	HR		107																		-				
TripleTrust 450	ABI Alfalfa	5	HR	HR	HR	HR	HR						106		100									105			103(2)				
TripleTrust 500	Central Farm Supply	5	HR	HR	HR	HR	HR																				-				
USG 681HY	Uni/South Genetics	6	HR	HR	HR	HR	-									113											-				
Vernal	Public	2	R	MR	-	-	-	93																			94(2)				
Withstand	FFR/So. States.	4	HR	HR	HR	HR	HR			100	90					100		87						114			98(5)				
WL 319HQ	W-L Research	3	HR	HR	HR	HR	HR	108																			-				
WL 327	W-L Research	4	HR	HR	HR	HR	HR	105																			-				
WL 338SR	W-L Research	4	HR	HR	HR	HR	HR	101																	99		-				
WL 343HQ	W-L Research	4	HR	HR	HR	HR	HR			101	110					100											104(3)				
WL 348AP	W-L Research	4	HR	HR	HR	HR	HR																				-				
WL 354HQ	W-L Research	4	HR	HR	HR	HR	HR																				-				
WL 355RR	W-L Research	4	HR	HR	HR	HR	HR																				-				
WL 357HQ	W-L Research	5	HR	HR	HR	HR	HR		123						106				100	102							101(3)				
WL 363HQ	W-L Research	5	HR	HR	HR	HR	HR				105	103					105										109(4)				
4m76	FFR/Sou. St.	4.7	HR	HR	R	HR	R	116																			104(3)				
5-star	Croplan Gen.	5	R	HR	R	R	R																				-				
53H92	Pioneer	3	HR	HR	HR	HR	HR					96															98(2)				
54R02 RR	Pioneer	4	HR	HR	HR	HR	HR											105	107								-				
54Q32	Pioneer	4	HR	HR	HR	HR	HR																				106(2)				
54V46	Pioneer	4	R	HR	HR	HR	R																				-				
55V48	Pioneer	5	HR	HR	HR	HR	HR																				99				
54V54	Pioneer	4	HR	HR	HR	HR	HR	98	94																		-				
54V56	Pioneer	-	-	-	-	-	-								105												99(3)				
6400HT	NEXGROW	4	HR	HR	HR	HR	HR		108																98		-				
6415	NEXGROW	4	HR	HR	HR	HR	HR								103												102(2)				
6417	NEXGROW	4	HR	HR	HR	HR	HR				105														105		104(2)				
6420	NEXGROW	4	HR	R	HR	R	HR	106																			-				
6422Q	NEXGROW	4	HR	HR	HR	HR	HR																				-				
6530	NEXGROW	5	HR	HR	HR	HR	HR											102									106(2)				
6552	NEXGROW	5	HR	HR	HR	HR	HR				105														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 2002 was harvested for 5 years, so the final yield report would be "2006 Alfalfa Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

⁶ This is a Roundup Ready alfalfa trial.

⁷ Mean only presented when respective variety was included in two or more trials.

⁸ Number of years of data.

Table 4. (continued)

Variety	Proprietor	Lexington						Princeton						Quicksand			Mean ³ (#trials)					
		99 2 2-yr ⁴	01 3-yr	03 2-yr	05 3-yr	07 3-yr	09 3-yr	11 2-yr	12 2-yr	98 2-yr	00 2-yr	02 3-yr	04 3-yr	06 3-yr	08 3-yr	10 3-yr		12 2-yr	99 2-yr	01 2-yr	03 2-yr	05 4-yr
KY31+ ⁵	KY Agric Exp Sta.	102	118	112	108	105	102	93	99	122	108	104	104	104	93	112	100	107	124	98	110	106(19)
Maximize	Turf-Seed	96	95														105	93				97(4)
Martin2 647	DLF International							104														-
Nanryo	Jap. Grassland Forage Seed/ USDA-ARS, El Reno, OK					99																-
Noria	ProSeeds Marketing					100																-
RAD-ERF50	Radix Research, Inc.													113								-
Resolute	Ampac Seed				90													65				78(2)
Savory	DLF International													92								-
Seine	Advanta Seeds	99												96								98(2)
Select	FFR/Sou. St.	106	106	94	99	102	98	90	100	105	105	97	105	102	105	99	100	107	112	102	91	101(20)
Stockman	Seed Research of OR			108					107				101	98			100			105		103(4)
Teton II	Mountain View Seeds																					103(3)
Texoma MaxQ II	Pennington Seed				95																	-
TF0203G	Seed Research of OR					90																-
TF33	Barenbrug USA									70												-
Tower 647	DLF International							98														-
Tuscany	Forage Genetics		112																			-
Tuscany II	Seed Research of OR								101											106		-
Vulcan	International Seeds									97												-
5CAN	Brett Young						86															-

¹ Year trial was established.

² 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 trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Tall Fescue Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

⁵ KY31+ contains the toxic endophyte. Jesup MaxQ, Texoma MaxQ II, DuraMax GOLD, Martin2 647, Tower 647 and Estancia Arkshield contain a non-toxic endophyte. BarOptima PLUS E34 contains a beneficial endophyte. The other fescue varieties in this table do not contain an endophyte.

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. Other information on the label will include the test date (which must be within the past 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.

Description of the Tests

Yield trials. Plots were seeded at the recommended seeding rate per acre and were planted into a prepared seedbed with a disk drill. Plots were 5 feet by 15 feet in a randomized complete block design with four replications. Grass plots were fertilized with 60 pounds of actual N per acre in March, after the first cutting, and again in late summer for a total of 180 pounds per acre per season. Other fertilizers (lime, P, and K) were applied as needed according to the University of Kentucky soil test recommendations. The tests were harvested using a sickle-type forage plot harvester to simulate a spring cut hay/summer grazing/fall stockpile management system. Fresh weight samples were taken at each harvest to calculate percent dry matter production. Management practices for establishment, fertility, weed control, and harvest timing were in accordance with University of Kentucky recommendations.

Grazing trials. Plots were 5 feet by 15 feet in a randomized complete block design, with each variety replicated six times. Plots were seeded at the recommended seeding rate per acre and were planted into a prepared seedbed using a disk drill. Grazing was continuous from April to October.

Plots were grazed down to below 4 inches quickly and were maintained at 2 to 4 inches (sometimes less) for the remainder of the grazing season. Supplemental hay was fed during periods of slowest growth. Visual ratings of percent stand were made in the fall several weeks after the cattle were removed to check stand survival after the grazing season and in the spring prior to grazing to check on winter survival and spring

growth. Because trials were seeded in rows, persistence ratings were based on density within a row and not total ground cover. Grass plots were fertilized with 60 pounds of actual N per acre in the spring and 30 to 40 pounds of actual N in early November after cattle or horses were removed from the pasture. Other fertilizers (lime, P, and K) were applied as needed according to the University of Kentucky soil test recommendations. Management practices for establishment, fertility, and weed control were in accordance with University of Kentucky recommendations.

Results and Discussion

These tables summarize long-term yield and stand persistence data of commercial varieties that have been entered in the University of Kentucky trials. The data are 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. For the grazing trials, varieties with percentages over 100 persisted better than average, and varieties with percentages less than 100 persisted less than average. Also in the grazing trials, the alfalfa varieties were compared to Alfagraze, and the fescue varieties were compared to KY31+ instead of the mean of all the commercial varieties. In the horse grazing trials, the fescue varieties were compared to KY31- instead of the mean of all the commercial varieties. Direct, statistical comparisons of varieties cannot be made using the summary tables, 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. To determine to which yearly report to refer, see the footnote in each table.

Table 5. Summary of Kentucky orchardgrass yield trials 1999-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor	Lexington						Princeton						Quicksand						Mean ³ (#trials)							
		1999 ^{1,2} 2-yr ⁴	2001 2-yr	2003 3-yr	2006 4-yr	2007 3-yr	2009 3-yr	2011 3-yr	2012 2-yr	1998 2-yr	2000 2-yr	2002 3-yr	2004 3-yr	2006 3-yr	2008 3-yr	2010 3-yr	2012 2-yr	1999 2-yr	2001 2-yr		2003 3-yr	2005 4-yr	2010 3-yr				
Abertop	Pennington																										
Albert	Univ. of Wis.		103															106								105(2)	
Amba	DLF International Seeds		96															80								88(2)	
Ambassador	DLF International Seeds											95															
Ambrosia	American Grass Seed Prod.																										
Athos	DLF International Seeds		98																								
Benchmark	FFR/Sou. St.	103																								102(2)	
Benchmark Plus	FFR/Sou. St.				100	108	100	108	105	105	106	97														104(5)	
Boone	Public																									104(13)	
Bronc	Grassland West																									104(2)	
Bounty	Allied Seed				101																						
Century	Seed Research of Oregon				98																					100(2)	
Checkmate	Seed Research of Oregon																									101(2)	
Christoss	Proseeds Marketing					102																				106(3)	
Command	Seed Research of Oregon					92																					
Crown	Donley Seed	101																									
Crown Royale	Donley Seed							97																		101(6)	
Crown Royale Plus	Donley Seed																										
Eastwood	Ampac Seed																									103(2)	
Elsie	Rose-AgriSeed		86																							86(2)	
Endurance	DLF International Seeds																									91(2)	
Extend	Allied Seed																										
Hallmark	James VanLeeuwen		102	102																						105(4)	
Harvestar	Columbia Seeds				91	97																				100(6)	
Haymaster	FFR/Sou. St.				94																					99(4)	
Haymate	FFR/Sou. St.	106																								96(2)	
Icon	Seed Research of Oregon																									103(7)	
Intensiv	Barenbrug																										102(2)
Lazuly	Proseeds Marketing																										

continued

Table 5. (continued)

Variety	Proprietor	Lexington						Princeton						Quicksand						Mean ³ (#trials)				
		1999 ^{1,2} 2-yr ⁴	2001 2-yr	2003 3-yr	2006 4-yr	2007 3-yr	2009 3-yr	2011 3-yr	2012 2-yr	1998 2-yr	2000 2-yr	2002 3-yr	2004 3-yr	2006 3-yr	2008 3-yr	2010 3-yr	2012 2-yr	1999 2-yr	2001 2-yr		2003 3-yr	2005 4-yr	2010 3-yr	
LG-31	DLF International Seeds																							
Mammoth	DLF International Seeds		102															104						103(2)
Megabite	Turf-Seed	94	105								81						101							102(4)
Niva	DLF International Seeds																							
Patute	DLF International Seeds					108																		
Persist	Smith Seed			123	105	106	107	112	108			101									108	101	102	107(12)
Potomac	Public	104				103	96	95			98						99						94	99(10)
Prairie	Turner Seed		101		107	101	109	106	113		104		100	104	99	103	102				105	107	120	105(16)
Prodigy	Caudill Seed					101		99						103		101								101(4)
Profit	Ampac Seed					107	96	98	107					103		103							115	103(8)
RAD-LCF 25	Radix Research																						102	101(2)
Renegade	Grassland West																95							
Shawnee	Rose-AgriSeed																							
Shiloh	Proseeds Marketing																109							
Shiloh II	Proseeds Marketing																							
Spanish Pink	DLF International Seeds																							
Spanish Red	DLF International Seeds	101																						
Takana	Smith Seed		107																					98(2)
Tekena II	Smith Seed			110	102																108			105(3)
Tekapo	Ampac Seed	88			91	81	82	78	83			109									106	104		106(5)
Tucker	Oregro Seeds							96													105	91	81	88(15)
Udder	Improved Forages			100	107																		85	95(5)
Vaillant	Proseeds Marketing					96															102	102		103(6)
Vision	Cropmark Seeds			63																		67		

1 Year trial was established.

2 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 trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Orchardgrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

4 Number of years of data.

Summary

Selecting a good forage variety is an important first step in establishing a productive stand of forage. Proper management, beginning with seedbed preparation and continuing throughout the life of the stand, is necessary for even the highest-yielding variety to produce to its genetic potential. For more detailed information on yield and grazing tolerance within species, go to individual 2014 reports on the forage Web site. See below for specific reports. The forage Web site contains all reports from 2001 through 2014.

Yield and Grazing Tolerance Reports

Reports can be found at www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm.

- 2014 Alfalfa Report (PR-676)
- 2014 Red and White Clover Report (PR-677)
- 2014 Orchardgrass Report (PR-678)
- 2014 Tall Fescue and Bromegrass Report (PR-679)
- 2014 Timothy and Kentucky Bluegrass Report (PR-680)
- 2014 Annual and Perennial Ryegrass and Festulolium Report (PR-681)
- 2014 Alfalfa Grazing Tolerance Report (PR-682)
- 2014 Red and White Clover Grazing Tolerance Report (PR-683)
- 2014 Cool-Season Grass Grazing Tolerance Report (PR-684)
- 2014 Cool-Season Grass Horse Grazing Report (PR-685)
- 2014 Summer Annual Grass Report (PR-686)
- 2014 Long-Term Summary of Kentucky Forage Variety Trials (PR-687)

About the Authors

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Table 6. (continued)

Variety	Type	Proprietor	Lexington ¹													Princeton		Bowling Green		Mean ⁴ (#trials)		
			03 ^{2,3}	04	05	06	07	08	09	10	10	11	11	12	12	13	00	02	00		03	
Jumbo	Westerwold tetraploid	Barenbrug USA	112																	97	105(2)	
KB Royal	Italian diploid	KB SeedSolutions						83														
LHT-102	Intermediate	Ampac Seed									100											
Marshall	Westerwold diploid	The Wax Co.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(15)
Maximo	Intermediate tetraploid	Pickseed USA, Inc.										101										
MX 108	Westerwold tetraploid	Pickseed USA, Inc.										95										105(2)
Nelson	Westerwold tetraploid	The Wax Co.										86										89(3)
Passerel Plus	Westerwold diploid	Pennington Seed																		103		
Primecut	Westerwold brand	Oregro Seeds													94							
Rio	Westerwold diploid	-																				
Spark	tetraploid	DLF International																				96(3)
Stockaid	diploid	-				82																
Striker	Westerwold tetraploid	Seed Research of OR					90															
TAMTBO	Italian tetraploid	Tex. Ag Exp Sta.						47				101										88(4)
Tam 90	Italian diploid	Tex. Ag Exp Sta.						49														84(2)
TetraPro	Italian tetraploid	Tex. Ag Exp Sta.						40														
TillageRootMax	Westerwold diploid	Cover Crop Solutions																				86(2)
TillageMax-Bristol ⁵	Westerwold diploid	Cover Crop Solutions																				91(2)
TillageMax-INDY ⁵	Westerwold diploid	Cover Crop Solutions																				90(2)
T-Rex	Westerwold tetraploid	SaddleButte																				
Verdure	Westerwold tetraploid	Smith Seed Services					11															
Winterhawk	Westerwold diploid	Oregro Seeds																				
Winter Star	Italian tetraploid	Ampac Seed											104									104(3)
Zorro	Italian tetraploid	DLF International																				123(3)

¹ In annual ryegrass, low yielding varieties usually result from winterkill. Note: Due to severe winterkill, yield results from the 2006 and 2013 plantings were not included in the overall mean.

² Year trial was established.

³ 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 trial. For example, the Lexington trial planted in 2003 was harvested 1 year, so the final report would be "2004 Annual and Perennial Ryegrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

⁴ Mean only presented when respective variety was included in two or more trials.

⁵ These are TillageRootMax that included crimson clover and/or tillage radish.

Table 7. Summary of Kentucky Timothy Yield Trials 2000-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington										Quicksand		Princeton		Mean ³ (#trials)		
		00 ^{1,2}	01	02	06	07	08	09	11	12	99	01	00	04				
		2yr ⁴	3yr	4yr	3yr	3yr	3yr	3yr	3yr	2yr	2yr	2yr	2yr	2yr				
Alma	Newfield Seeds Co/Caudill Seed Co.												81					-
Auroro	General Feed and Grain	100												98				99(2)
Barfleo	Barenbrug USA							95	91	104								97(3)
Barpenta	Barenbrug USA					74			82	84								80(3)
Clair	Ky Agric. Exp. Station		109	115	107	95	108	104	112	95		108			122			108(10)
Classic	Cebeco International Seeds	100		88										87				92(3)
Climax	Canada Agr. Res. Station				79	102	105	98	102	98								97(6)
Colt	FFR Cooperative	105		101	90									112			99	101(5)
Common	Public		96															-
Comtral	Caudill Seed									94								-
Derby	FFR Cooperative				112	111		106	112	108					124			112(6)
Dolina	DLF-Trifolium	100		91														96(2)
Express	Seed Research of Oregon			97		91		97	95									95(4)
Hokuei	Snow Brand Seed	103																-
Hokusei	Snow Brand Seed	97												99				98(2)
Joliette	Newfield Seeds Co/Caudill Seed Co.						87	89									90	89(3)
Jonaton	Newfield Seeds Co/Caudill Seed Co.																84	-
Outlaw	Grassland West Company													107				-
Richmond	Pickseed Canada Inc.	100												103				102(2)
Summit	Allied Seed, L.L.C.			114														-
Talon	Seed Research of Oregon				110	112		108	106	107								109(5)
Treasure	Seed Research of Oregon				103	115		103	101	111								107(5)
Tundra	DLF-Trifolium	95																-
Tuukka	Ampac Seed Company		95	90										92	93			93(4)

¹ Year trial was established.

² 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 trial. For example, the Lexington trial planted in 2000 was harvested 2 years, so the final report would be "2002 Timothy Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

Table 8. Summary of Kentucky Bluegrass Yield Trials at Lexington 1996-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	96 ^{1,2}	03	04	06	07	08	09	10	11	12	Mean ³ (#trials)
		3yr ⁴	2yr	3yr	4yr	3yr	3yr	3yr	3yr	3yr	2yr	
Adam 1	Radix Research			98								-
Barderby	Barenbrug USA					94		101	91	98	89	95(5)
Big Blue	Rose-AgriSeed							82			92	87(2)
Common	Public				71	66	68					68(3)
Ginger	ProSeeds Marketing		89		118	119	114	118	112	107	113	111(8)
Kenblue	Public	90		102	133				96	95	120	106(6)
Lato	Turf Seed Inc.	110				122						116(2)
Park	Public										86	-
RAD-5	Radix Research				103							-
RAD-339	Radix Research				101							-
RAD-643	Radix Research				94							-
RAD-731zx	Radix Research				87							-
RAD-762	Radix Research				94							-
RAD-1039	Radix Research						118					-
Slezanka	DLF International Seeds		111									-

¹ Year trial was established.

² 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 trial. For example, the Lexington trial planted in 2004 was harvested 3 years, so the final report would be "2007 Timothy and Kentucky Bluegrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>. The 96 and 03 Lexington results are in the appropriate Tall Fescue Reports.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

Table 9. Summary of Kentucky perennial ryegrass yield trials 1999-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Type	Proprietor	Lexington												Princeton		Bowling Green		Mean ^{3,4} (#trials)	
			99 ^{1,2}	01	03	04	05	06	07	08	09	10	11	12	00	02	00	03		
			2yr ⁵	2yr	2yr	3yr	3yr	2yr	3yr	3yr	3yr	2yr	3yr	2yr	2yr	3yr	2yr	2yr		
Aires	diploid	Ampac Seed		95													93			94(2)
Amazon	tetraploid	AgriBioTech	108			99											107			104(3)
Anaconda	tetraploid	Caudill Seed	113													95		103		104(3)
Aubisque	tetraploid	Seed Research of OR			144														99	122(2)
Bandit	tetraploid	Grassland West														106		114		110(2)
Bastion C-2	tetraploid	Seed Research of OR				91														-
Bestfor	tetraploid	Improved Forages														113	107	120		113(3)
Best for Plus	hybrid tetraploid	Improved Forages			116	108	118												136	120(4)
BG-34	diploid	Barenbrug USA					83	85					86		87					85(4)
Bison	hybrid tetraploid	International Seeds																	140	-
Boost	tetraploid	Allied Seed							130	125	120	143	110	104						122(6)
Boxer	tetraploid	AgriBioTech	121													106				114(2)
Calibra	tetraploid	DLF International								96	109	81	99	103		112				100(6)
CAS MP64	diploid	Cascade International		97																-
Citadel	tetraploid	Ag Canada	101													94	113	103		103(4)
Crave	tetraploid	Ampac Seed													100					-
Derby	-	Public																74		-
Elena DS	tetraploid	Allied Seed														110				-
Eurostar	tetraploid	Seed Research of OR							112											-
Feeder	diploid	Seed Research of OR							76											-
Grand Daddy	tetraploid	Smith Seed		118				101	109		76	92	84	90		111				98(8)
Green Gold	tetraploid	Grasslands Oregon					96													-
Herbal	-	ProSeeds Marketing								77										-
Impressario	tetraploid	DLF International											107			89				98(2)
Kentaur	tetraploid	DLF International												106						-
Lactal	tetraploid	Brett Young										102								-
Lasso	diploid	DLF International		98																-
LHT-102	tetraploid	Ampac Seed													119					-
Linn	diploid	Public	87	98	98	102		98	85	84	101	92	93	83	87	88	77			91(14)
Manhattan	diploid	-														85				-
Mara	diploid	Barenbrug USA															85			-
Matrix	diploid	Cropmark seeds			77														64	-
Maverick Gold	hybrid tetraploid	Ampac Seed		97												71				84(2)
Orantas	diploid	DLF International									82									-
Ortet	tetraploid	Oregro Seeds								114										-
PayDay	tetraploid	Mountain View Seeds													103					-
Polly II	tetraploid	FFR/Sou. St.	104													110		125		113(3)
Polly Plus	hybrid tetraploid	Allied Seed			64														60	62(2)
Power	tetraploid	Ampac Seed							110	103	102	100	109	97						104(6)
Polim	tetraploid	DLF International										106								-
Quartermaster	tetraploid	Radix Research					122													-
Quartet	tetraploid	Ampac Seed		97			56		46								113			78(4)
RAD-CPS212	hybrid tetraploid	Radix Research					134													-
RAD-MI125	hybrid tetraploid	Mountain View Seeds						120												-
Sampson	diploid	International Seeds	87																	-
Sierra	diploid	Lewis Seed Co.					89													-
TetraGain	tetraploid	Pure Seed													114					-
TetraMag	tetraploid	Mountain View Seeds													111					-
Tonga	tetraploid	Kings AgriSeeds					96				103									100(2)
Verseka	tetraploid	Allied Seed													89					-
Yatsyn	diploid	Barenbrug USA	80													89				85(2)

¹ Year trial was established.

² 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 trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Annual and Perennial Ryegrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ In perennial ryegrass, low yielding varieties usually result from winterkill or summer mortality.

⁵ Number of years of data.

Table 10. Summary of Kentucky festulolium yield trials 1999-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).¹

Variety	Type ²	Proprietor	Lexington									Princeton		Quicksand		Mean ⁵ (#trials)		
			1999 ^{3,4}	2001	2003	2005	2007	2008	2009	2010	2011	2012	2000	2001	2003			
			2yr ⁶	3yr	2yr	3yr	3yr	3yr	3yr	3yr	3yr	2yr	2yr	2yr	2yr			
Agula	MF x IR	Allied Seed								94								-
Barfest	MF x PR	Barenbrug USA								105	101	107						104(3)
Bonus	MF x IR	Allied Seed								93	46	36						58(3)
Duo	MF x PR	Ampac Seed	104			84		103	99	95	106	104						99(7)
Felina	(TF x IR) x TF	DLF International		101						132	118	125						125(3)
Fojtan	(TF x IR) x TF	DLF International								112	101	115						109(3)
Gain	MF x IR	Allied Seed								103	77	56						79(3)
Hostyn	MF x IR	DLF International										110						-
Hykor	(TF x IR) x TF	DLF International			98					133	141	141				98		128(4)
Lofa	(TF x Int) x Int	DLF International								105	107	112						108(3)
Mahulena	(TF x IR) x TF	DLF International										120						-
Meadow Green	-	Pure Seed										45						-
Perseus	MF x IR	DLF International								132	114	129						125(3)
Perun	MF x IR	DLF International								127	114	111						117(3)
Spring Green	MF x PR	Turf-Seed		88		105	100	114	101	113	112	116				97		105(9)
Sweet Tart	MF x IR	ProSeeds Marketing						88		82	63	71						76(4)
Vorage	-	Improved Forages											99					-

¹ The festuloliums were in fescue trials from 1999-2005.

² MF = meadow fescue, TF = tall fescue, IR = Italian ryegrass, PR = perennial ryegrass, Int = intermediate ryegrass.

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 trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Tall Fescue Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁶ Number of years of data.

Table 11. Summary of Kentucky sudangrass yield trials 2008-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington							Mean ³ (#trials)
		2008 ^{1,2}	2009	2010	2011	2012	2013	2014	
		All trials are 1 year yields							
AS9301 BMR ⁴	Alta Seeds/Ramer Seed					118			-
Enorma BMR	Cal/West Seeds			99	94	92	91	83	92(5)
Hayking BMR	Central Farm Supply	111	112	91	97	97	96	92	99(7)
Monarch V	Public	104	96	102	97	93	98	110	100(7)
Piper	Public	90	91	97	94	104	105	89	96(7)
ProMax BMR	Ampac Seed	95	101	110	115	96	103	100	103(7)
SS130 BMR	Cal/West Seeds			101	103		107	106	104(4)
Trudan Headless	Chromatin							118	-

¹ Establishment year.

² Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.

³ Mean only presented when respective variety was included in two or more trials.

⁴ BMR (Brown Mid-rib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

Table 12. Summary of Kentucky sorghum-sudangrass yield trials 2008-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington							Mean ³ (#trials)
		2008 ^{1,2}	2009	2010	2011	2012	2013	2014	
		All trials are 1 year yields							
AS6402 BMR ⁴	Alta Seeds/Ramer Seed					91			–
AS6503 BMR6	Alta Seeds/Ramer Seed						96	103	100(2)
FSG 208 BMR	Farm Science Genetics			75					–
FSG 214 BMR6	Farm Science Genetics						99	108	104(2)
Greengrazer V	Farm Science Genetics			166			122	107	131(3)
GW300 BMR	Gayland Ward Seed				88	78	88	81	84(4)
HyGain	Turner Seed	104	105	118					109(3)
MS 202 BMR	Farm Science Genetics			106					–
NutraPlus BMR	Cisco	106	97	94	103	106	109	106	103(7)
Sordan Headless	Chromatin							105	–
Special Effort	Cisco	109	110	93	94	115	120	91	105(7)
SS211	Southern States				104	93	114	103	104(4)
SS220 BMR	Southern States		107	84		112			101(3)
Surpass BMR-6	Turner Seed	81	80	64					75(3)
Super Sugar	Gayland Ward Seed				102	117	107		109(3)
Super Sugar Delayed maturity	Gayland Ward Seed							101	–
Super Sugar Sterile	Gayland Ward Seed							94	–
Sweet-For-Ever	Gayland Ward Seed				110	107	81		99(3)
Sweet-For-Ever BMR	Gayland Ward Seed					78	70		74(2)
SweetSix BMR	Gayland Ward Seed						93	101	97(2)
Vita-Cane	Gayland Ward Seed					121			–

¹ Establishment year.

² Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.

³ Mean only presented when respective variety was included in two or more trials.

⁴ BMR (Brown Mid-rib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

Table 13. Summary of Kentucky teff yield trials 2008-2014 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Princeton		Lexington							Mean ³ (#trials)
	2008 ^{1,2}	2009	2008	2009	2010	2011	2012	2013	2014	
	All trials are 1 year yields									
Corvallis	94	112	81	101	91	101	96	100	110	98(9)
Dessie	102	87	99	92	96	94	95	97	101	96(9)
Excaliber	109	111	109	104	125	108	106	103		109(8)
Highveld	111	115	100	121	106	101	109	103	102	108(9)
HorseCandi	91	84	99	105	89	108	94	97	80	94(9)
Moxie								94	96	95(2)
Pharaoh	95	101	105	85	106	106	97	101	93	99(9)
Rooiberg	102	107	112	109	113	108	115	102	88	106(9)
Summer Delight		90		91	96	88	93	100	119	97(7)
Tiffany	102	106	102	93	82	93	102	98	104	98(9)
VA T1 Brown		89		99	87	91	94	98	104	95(7)
Velvet		94		100	97	98	95	103	95	97(7)
Witkope	94	100	93	101	115	103	101	104	107	102(9)

¹ Establishment year.

² Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.

³ Mean only presented when respective variety was included in two or more trials.

Table 14. Summary of 2002-2014 Kentucky white clover grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the test).

Variety	Type	Proprietor	2002 ^{1,2}	2004	2006 ³	2006	2008 ⁴	2008	2009	2010	2011	2012	Mean ⁵ (#trials)
			2yr ⁶	4yr	2yr	2yr	3yr	4yr	4yr	4yr	3yr	2yr	
Alice	Intermediate	Barenbrug USA		59	98								79(2)
Barblanca	Intermediate	Barenbrug USA		118	91	151							120(3)
Colt	Intermediate	Seed Research of OR		114	134	122							123(3)
Crescendo	Ladino	Cal/West	84			72							78(2)
Durana	Intermediate	Pennington		83	105	103		115	102	107	133	86	104(8)
GWC-AS10	–	Ampac Seed								77			–
Insight	Ladino	Allied Seed				77							–
Ivory	Intermediate	DLF International	132	142									137(2)
Ivory II	Intermediate	DLF International					102						–
Kopu II	Intermediate	Ampac Seed			77	122	96		93	113	99	79	98(7)
KY Select	Intermediate	KY Agr Ex. Sta./ Saddle Butte						105		83			94(2)
Patriot	Intermediate	Pennington		110	137	122		100	111	110	121	106	115(8)
Pinnacle	Ladino	Allied Seed									85		–
Rampart	–	Oregro Seeds						90					–
Regal	Ladino	Public	92		57	54		93		103			80(5)
Regal Graze	Ladino	Cal/West			84	87	105	90	87	93	85	86	92(8)
Resolute	Intermediate	FFR/Southern States				101	106				65		91(3)
Seminole	Ladino	Saddle Butte Ag. Inc.		75		97	91						88(3)
Tillman II	Ladino	Caudill Seed	92										–
WBDX	Dutch	Saddle Butte Ag. Inc.								70			–
Will	Ladino	Allied Seed			117	87	107	105	108	143	113	144	116(8)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific test. For example, the trial planted in 2002 was grazed for 2 years so the final persistence report would be “2004 Red and White Clover Grazing Tolerance Report” archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ This trial was replanted in the spring of 2006 due to poor establishment in the fall of 2005.

⁴ This trial was replanted in the spring of 2008 due to poor establishment in the fall of 2007.

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

⁶ Number of years of data.

Table 15. Summary of 2000-2014 Kentucky perennial ryegrass and festulolium (FL) grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the trial).

Variety	Proprietor	2000 ^{1,2}	2001	2003	2005	2007	2008	2010	2011	Mean ³ (#trials)
		4yr ⁴	3yr	4yr	3-yr	4yr	4yr	4yr	3yr	
AGRLP103	AgResearch USA	128		86						107(2)
Aries	Ampac Seed		139							–
Barfest (FL)	Barenbrug USA							111	104	108(2)
BG 34	Barenbrug USA				176 ⁵	145 ⁵		129	110	140(4)
Boost	Allied Seed						101	79	97	92(3)
Citadel	Donley Seed	107								–
Duo (FL)	Ampac Seed	116					95	68	75	89(4)
Grand Daddy	Smith Seed Services		121			70		95	101	97(4)
Lasso	DLF-Jenks		130							–
Linn	Public	112	129	63			95	103	104	101(6)
Maverick	Ampac Seed		36							–
Polly II	FFR/Southern States	36	68							52(2)
Power	Ampac Seed					134		102	104	113(3)
Quartet	Ampac Seed		77		63	50				60(3)
Remington	Barenbrug USA			151 ⁵						–
Spring Green (FL)	Rose Agri-Seed	101					109	109	104	105(4)
Tonga	Ampac Seed				61					–

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2000 was grazed 4 years so the final report would be “2004 Cool-Season Grass Grazing Tolerance Report” archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

⁵ Grazing tolerance values for these entries may have been elevated due to the low survival of the other commercial varieties in the trials for these years.

Table 16. Summary of Kentucky alfalfa grazing trials 1994-2014 (stand persistence shown as a percent of the grazing tolerant Alfagraze).

Variety	Variety Characteristics ¹							Lexington												Mean's (#trials)		
	Disease Resistance ²							1994 ^{3,4}			2000			2006			2011					
	FD	Bw	Fw	An	PRR	APH	R	3yr ⁶	3yr	2yr	3yr	3yr	4yr	3yr	4yr	3yr	4yr	3yr	4yr		3yr	4yr
ABT 205	2	HR	HR	HR	HR	HR	R	94														89(2)
ABT 350	3	HR	HR	HR	HR	HR	HR			46												-
ABT 405	4	HR	HR	HR	HR	HR	R	71	129	69	46	100										83(5)
Alfagraze	2	MR	R	MR	R	-	-	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(14)
Alfagraze 300 RR	3	HR	R	HR	HR	HR	HR															-
Amerigraze 401+Z	4	HR	HR	HR	HR	HR	R		120	53	56	125										78(6)
Ameristand 403T	4	HR	HR	HR	HR	HR	HR						141	144	50							107(4)
Ameristand 403T Plus	4	HR	HR	HR	HR	HR	HR															119
Ameristand 407TQ	4	HR	HR	HR	HR	HR	HR						136									126(2)
Apollo	4	R	R	R	R	-	-	48	75	33	47	31	25	36	27	25	17	27	71	36	71	95(3)
Arc (certified)	4	LR	MR	HR	-	-	-		38													102
Archer III	5	HR	HR	HR	HR	HR	HR															126(2)
Baralfa 54	-	R	HR	HR	HR	HR	HR				78						33					102
Cut-n-Graze	3	HR	HR	HR	HR	HR	R	68														95(3)
FK 421	4	HR	H	H	H	H	H					100										102
Feast	3	HR	HR	HR	HR	HR	R		146			92										36(13)
Fortress	3	R	R	R	R	R	R	40	71													108(3)
Gold Plus	4	HR	HR	HR	HR	HR	R				81											56(2)
Grazing	5	MR	HR	HR	R	S	S															-
Haygrazer	4	HR	HR	HR	R	MR	R		91	41		50										61(3)
Integrity	4	HR	HR	HR	HR	HR	HR		75	39		38										51(3)
Legacy	4	R	R	R	R	R	R	32														-
Legendairy5.0	3	HR	HR	HR	HR	HR	HR									0						112
Magnagaze	3	HR	HR	HR	R	HR	-	56														56(2)
Pasture Plus	3	HR	HR	HR	R	MR	MR	60														-
PGI 424	4	HR	HR	HR	HR	HR	HR															-
PGI 459	4	HR	HR	HR	HR	HR	HR															-
Pioneer 98	3	HR	R	HR	R	-	-											45				106
ProGro	4	HR	HR	HR	R	MR	MR															62(2)
Quantum	2	HR	HR	HR	HR	HR	R	71														-
Rebel	4	HR	HR	HR	HR	HR	HR								79							-
Rugged	3	HR	HR	HR	HR	HR	HR								146							-
Rushmore	4	HR	HR	HR	HR	HR	HR															-
Saranac AR (cert.)	4	MR	R	HR	LR	-	-		77			100										-
Spredor 3	1	HR	HR	R	MR	S	S	71	123		75			68								89(2)
Spredor 4	2	HR	HR	HR	HR	HR	R										25					96(4)
Stampede	3	HR	R	R	R	R	R		73													-
TS 4007	4	HR	R	HR	HR	HR	HR															-
TS 4010/A4535	4	HR	R	HR	HR	HR	HR												82			-
Triple Trust 450	5	HR	HR	HR	HR	HR	HR						145									118(3)
Wintergreen	3	HR	HR	HR	HR	HR	R	95	57	72												-
WL 326GZ	4	HR	HR	HR	HR	HR	HR		118													75(3)
115 Brand	3	HR	HR	HR	R	HR	R															103(2)
5373	4	HR	HR	HR	HRT	MR	LR	21														71(2)
5432	4	HR	HR	HR	-	MR	-						51									-

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 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 stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific test. For example, the Lexington trial planted in 1996 was grazed for 3 years so final persistence report would be "1999 Alfalfa Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.
5 Mean only presented when respective variety was included in two or more trials.
6 Number of years of data.

Table 17. Summary of 1996-2014 Kentucky tall fescue grazing tolerance trials (stand persistence shown as a percent of the stand rating of KY 31+).

Variety	Proprietor	Lexington												Princeton		Mean ³ (#trials)			
		1996 ^{1,2} 3yr ⁴	1997 4yr	1998 3yr	1999 4yr	2000 4yr	2001 4yr	2002 4yr	2003 4yr	2004 4yr	2005 4yr	2006 4yr	2007 4yr	2008 4yr	2009 4yr		2010 4yr	2011 3yr	2002 4yr
Advance MaxQ	Pennington Seed																		
Bariane	Barenbrug USA																		
Barcel	Barenbrug USA	92						89											
BarElite	Barenbrug USA											96							
Barolex	Barenbrug USA										78	101	86						
BarOptima PLUS E34	Barenbrug USA										100		97			98	100		
BAR9TMO	Barenbrug USA						75												
Bronson	Ampac Seed			39												98	98		
Cajun II	Smith Seed Services															98			
Cattle Club	Green Seed		37	98	70	93	91												
Carmine	DLF-Jenks						90												
Cowgirl	Rose Agri-Seed										99								
Dovey	Barenbrug USA	92																	
Festival	Pickseed West								100	101								89	
Festorina	Advanta Seeds	98	86	27	57														97(3)
Fuego	Advanta Seeds																		80(3)
Goliath	Ampac Seed								88							98			
Hoedown	DLF-Jenks																		
HyMark	Fraser Seeds													95					
Jesup EF	Pennington Seed		63	91							99							100	98(2)
Jesup MaxQ	Pennington Seed			114	79						103	97						100	90(5)
Johnstone	Proseeds		65	107						92								105	96(12)
KY31+ ⁵	KY Agri. Exp Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(17)
KY31- ⁵	KY Agri. Exp Sta.	94	90	102	84			98	103	98	100	82	100	100	98	99	100	105	97(16)
Kenhy	Public			116															
Kokanee	Ampac Seed								43										
Martin II	International Seeds		59																
Maximize	Rose Agri-Seed									99									
Nanryo	Japanese Grassland For.Seed												100						
Orygun																			
Resolute	Ampac Seed									99									
Select	FFR/Sou. St.			109	69	107	101	100	100	100	100	67	100	93	95	97	99	100	98
Southern Cross			25																95(14)
Stargrazer	FFR/Sou. St.	90			52	86	89												79(4)
Stockman	Seed Res. of OR										102								
TF33	Barenbrug USA			34															
Tuscany II	Seed Res. of OR											100							
Verdant	Am.Grass Seed											97							
Vulcan	International Seeds			109															

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 1997 was grazed 4 years so the final report would be "2001 Cool-Season Grass Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

⁵ KY 31- is the variety KY31 from which the toxic endophyte has been removed. KY31+ contains the toxic endophyte. Jesup MaxQ and Advance MaxQ contain a non-toxic endophyte. BarOptima PLUS E34 contains a beneficial endophyte. The other fescue varieties in this table do not contain an endophyte.

Table 18. Summary of 1998-2014 Kentucky orchardgrass grazing tolerance trials (stand persistence shown as a percent of the mean of the commercial varieties in the trial).

Variety	Proprietor	Lexington												Princeton	Mean ⁴ (#trials)	
		1998 ^{1,2} 3yr ⁵	1999 4yr	2000 4yr	2001 4yr	2002 4yr	2003 4yr	2004 4yr	2005 ³ 4yr	2007 4yr	2009 4yr	2010 4yr	2011 3yr	2002 4yr		
Abertop	Pennington Seed					38										-
Albert	Univ. of Wisconsin				115											-
Amba	DLF-Jenks				71											-
Ambrosia	Pennington Seed									94						-
Athos	DLF-Jenks				93				60							77(2)
Benchmark	FFR/Sou. States	115	94	118	123	114								133		116(6)
Benchmark Plus	FFR/Sou. States					120			152	135	106	106	104	133		117(6)
Boone	Public	131		102												117(2)
Cheyenne	Western Prod. Inc.	94														-
Command	Seed Research of OR							81								-
Crown	Donley Seed	96														-
Crown Royale	Donley Seed				100											-
Crown Royale Plus	Donley Seed					124								83		104(2)
Hallmark	James VanLeeuwen	104	103		115		113							83		104(5)
Harvestar	Columbia Seeds									75		89	93			86(3)
Haymate	FFR/Sou. States	102	96	53	115	100	118							83		95(7)
Intensiv	Barenbrug USA						51									-
Mammoth	DLF-Jenks				115											-
Megabite	Turf Seed				77											-
Niva	DLF-Jenks					76								83		80(2)
Persist	Smith Seed								138	107	103	100	103			103(4)
Pizza	Advanta Seeds	63														-
Potomac	Public					116		119						117		117(3)
Prairie	Turner Seed			127	121									102	83	108(4)
Profile	Scott Seed					116										-
Profit	Ampac Seed										95	99	98			97(3)
Tekapo	Ampac Seed	92	104		55	74	118		50	103	95	105	103	100		95(10)
Takena	Smith Seed				99											-
Seco	FFR/Sou. States									85						-
WP300	Western Prod. Inc.	94														-

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 1999 was grazed 4 years so the final report would be "2004 Cool-Season Grass Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Due to high variation during 2005 these values are not included in the overall mean.

⁴ Mean only presented when respective variety was included in two or more trials.

⁵ Number of years of data.

Stand thinning may have been greater for preferred varieties due to closer grazing. See individual trial tables for preference ratings.

Table 19. Summary of 1999-2014 Kentucky tall fescue horse grazing tolerance trials in Lexington (stand persistence shown as a percent of the stand rating of KY 31-).

Variety	Proprietor/KY Distributor	1999 ^{1,2}	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Mean ³ (#trials)
		3-yr ⁴	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	3-yr	
BarOptima PLUS E34	Barenbrug								107			101	100	103(3)
Bronson	Ampac Seed	80												–
Cattle Club	Green Seed	95												–
Cowgirl	Rose Agri-Seed									105				–
Festorina	Advanta Seed	102												–
Jesup MaxQ	Pennington Seed			98			78			104	97	100	100	96(6)
Johnstone	ProSeeds		88											–
KY31+ ⁵	KY Agri. Exp.Sta.		105				102	109	120	107	101	101	100	106(8)
KY31- ⁵	KY Agri. Exp.Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100(12)
Nanryo	Japanese Grassland For. Seed								72					–
Seine	Seed Research of OR					135								–
Select	FFR/Southern States	82		109	94	99	73	104	76	108	98	100	100	95(11)
Stargrazer	FFR/Southern States	70												–
Stockman	Seed Research of OR					125								–

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in in 2001 was grazed 4 years so the final report would be "2005 Cool-Season Grass Horse Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Mean only presented when respective variety was included in two or more trials.

⁴ Number of years of data.

⁵ KY 31- is the variety KY31 from which the toxic endophyte has been removed. KY31+ contains the toxic endophyte. Jesup MaxQ contains a non-toxic endophyte. BarOptima PLUS E34 contains a beneficial endophyte. The other fescue varieties in this table do not contain an endophyte.

Table 20. Summary of 1999-2014 Kentucky orchardgrass horse grazing tolerance trials in Lexington (stand persistence shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	1999 ^{1,2}	2000	2001	2002	2005 ³	2006	2009	2010	2011	Mean ⁴ (#trials)
		3-yr ⁵	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	3-yr	
Albert	Univ. of Wisconsin			95							–
Ambrosia	Amer.Grass Seed Prod.						61				–
Benchmark	FFR/Southern States	104			85						95(2)
Benchmark Plus	FFR/Southern States				111	157	139	111	114	105	116(5)
Crown Royale	Grassland Oregon			95							–
Crown Royale Plus	Grassland Oregon				97						–
Haymate	FFR/Southern States	96	85		97						93(3)
Persist	Smith Seed					114		103	101	95	100(3)
Potomac	Public				117						–
Prairie	Turner Seed			100							–
Profit	Ampac Seed							93	86		90(2)
Tekapo	Ampac Seed	101	115		93	30		92	100	100	100(6)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in in 2005 was grazed 4 years so the final report would be "2009 Cool-Season Grass Horse Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

³ Due to high variation during 2005 these values are not included in the overall mean.

⁴ Mean only presented when respective variety was included in two or more trials.

⁵ Number of years of data.



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