



# 2017 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 summary of forage yield and grazing tolerance trials conducted in Kentucky over the past 12 to 15 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](http://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-conserving, cool-season grass that is grown on approximately 5.5 million acres in Kentucky. This grass, used for both hay and pasture, is the forage base for most of Kentucky's livestock enterprises, particularly beef cattle. The predominant variety, KY31, was developed in Kentucky for long-term persistence but contains a fungal endophyte that produces alkaloids detrimental to livestock production and reproductive health. Endophyte-free tall fescue varieties produce no detrimental alkaloids, but UK research shows that they are less persistent than KY31. New novel endophyte tall fescue varieties

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contain safe endophytes, which enhance stand persistence but cause no detrimental animal symptoms.

**Annual ryegrass** (*Lolium multiflorum*) and **perennial ryegrass** (*Lolium perenne*) are high-quality, productive, cool-season grasses used in Kentucky. Both have exceptionally high seedling vigor and are highly palatable to livestock. Annual ryegrasses are increasing in use across Kentucky as more winter-hardy varieties are released and promoted. Annual ryegrass is productive for six to eight months when planted early fall (late August/September) and is used primarily for late fall and early to late spring pasture. Perennial ryegrass can be used as a short-lived hay or pasture plant and has growth characteristics similar to tall fescue. It is less persistent than other cool-season grass species. There are both diploid (two sets of chromosomes) and tetraploid (four sets of chromosomes) varieties of perennial ryegrass. Tetraploids have larger tillers and seedheads and wider leaves. Tetraploid types tend to be taller and less dense than diploid types, even in early stages of regrowth. Diploid types produce more tillers, have better stand persistence, and are typically more tolerant to heavy grazing.

**Table 1. Summary of Kentucky white clover yield trials 2002-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Type	Proprietor	Lexington												Princeton		Quicksand		Eden Shale		Mean <sup>3</sup> (#trials)
			02 <sup>1,2</sup> 3yr <sup>4</sup>	03 3yr	04 3-yr	06 2-yr	07 2-yr	08 3yr	09 2yr	10 3yr	11 3yr	12 2yr	13 3yr	14 3yr	15 2yr	16 2yr	03 3yr	05 3-yr	03 2yr	03 2yr	
Advantage	Ladino	Allied Seed, L.L.C.	125																106	116(2)	
Alice	Intermediate	Barenbrug USA										105	120	81			86		98(4)		
Avoca	Dutch	DLF International Seeds			59											82			71(2)		
Barblanca	Intermediate	Barenbrug USA	92																		
Bombus	Ladino	Hood River												108							
Brianna	Ladino	DLF Pickseed USA												105							
CA ladino	Ladino	Public	100	124											103		98		106(4)		
Colt	Intermediate	Seed Research of OR	90	57												114			87(3)		
Common	Dutch	Public	100			53				98						78			82(4)		
Companion	Ladino	Orego Seeds						87	94	92									91(3)		
Crescendo	Ladino	Cal/West Seeds	105		140														118(3)		
Crusader II	Intermediate	Allied Seed, L.L.C.								90	50	54	75						67(4)		
Excel	Ladino	Allied Seed, L.L.C.		100																	
Domino	Ladino	Grassland Oregon														87					
Durana	Intermediate	Pennington	94			94	88	82	85	97	93	84	97	89	78	96	87	83	95	90(16)	
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		99					107(3)	
Kopu II	Intermediate	Ampac Seed	97			97	95	95	103	96	80	90								94(8)	
KY Select	Intermediate	KY Agric. Exp. Station									98	95								97(2)	
Neches	Intermediate	Barenbrug USA													79						
Ocoee	Ladino	Allied Seed, L.L.C.									89	74									
Patriot	Intermediate	Pennington	103			87	104	113	95	117	117	99	82	78	88	104	104	100	99	82(2)	
Pinnacle	Ladino	Allied Seed, L.L.C.			120													111		104(16)	
Rampart	Ladino	Allied Seed, L.L.C.					80	89	97	83										116(2)	
Regal	Ladino	Public	99	96	92		125	100	116	118	129	147	123					107	100	87(4)	
RegalGraz	Ladino	Cal/West Seeds				127	140	102	103						111	134				112(13)	
Renovation	Intermediate	Smith Seed Services																		120(6)	
Resolute	Intermediate	Southern States			63										83	85	85			85(3)	
Rivendel	Intermediate	DLF Pickseed USA																			
Seminole	Ladino	Saddle Butte Ag, Inc		108	70	79									40						
Super Haifa	Intermediate	Allied Seed, L.L.C.		77										114						93(4)	
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	123	143	140	145				133(13)	

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 spring 2010 was harvested three years, so the final report would be ~2012 Red and White Clover Report” archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> Number of years of data.

**Timothy** (*Phleum pratense*) is the fourth most widely sown cool-season perennial grass used in Kentucky for forage after tall fescue, orchardgrass, and Kentucky bluegrass. Timothy is primarily harvested as hay, particularly for horses. In Kentucky, timothy behaves like a short-lived perennial, with stands usually lasting two years.

**Kentucky bluegrass** (*Poa pratensis*) is a high-quality, highly palatable, long-lived pasture plant with limited use for hay. It tolerates close, frequent grazing better than most grasses. It has low yields and low summer production and becomes dormant and brown during hot, dry summers. Kentucky bluegrass is best suited

for pastures where a dense sod is more important than high-forage production (e.g., horse pastures).

**Festuloliums** are hybrids between various fescues and ryegrasses with higher quality than tall fescue and improved stand survival over perennial ryegrass. Their use in Kentucky is limited because









**Table 4. Summary of Kentucky Roundup Ready alfalfa yield trials 2011-2017 (yield shown as a percentage of the mean of the commercial varieties in the test).**

Variety	Proprietor	FD	Variety Characteristics <sup>1</sup>					Lexington		Princeton			Quicksand	Mean <sup>5</sup> (# trials)
			Disease Resistance <sup>2</sup>					12 <sup>3,4</sup>	15	11	13	15	14	
			Bw	Fw	An	PRR	APH	5yr <sup>6</sup>	3yr	5yr	4yr	2yr	2yr	
Alfagraze 300 RR	America's Alfalfa	3	HR	R	HR	HR	HR	94	95	93	99	93		95(5)
Alfagraze 600 RR	America's Alfalfa	6		R	HR	R	R		102			85	93	93(3)
Ameristand 405T RR	America's Alfalfa	4	HR	HR	HR	HR	HR	98	105	97	100	98	93	99(6)
Ameristand 433T RR	America's Alfalfa	3	HR	R	R	HR	HR	91	97		95	96	107	97(5)
Ameristand 445TQ RR	America's Alfalfa	4	HR	HR	HR	HR	HR	104	101		100			102(3)
AphaTron RR	Croplan Genetics	4	HR	HR	HR	HR	HR	100			98			99(2)
Consistency 4.10 RR	Croplan Genetics	4	HR	HR	HR	HR	HR	99		102				101(2)
DKA-41-18 RR	Monsanto	4	HR	HR	HR	HR	HR	98		101		100		100(3)
DKA 44-16 RR	Monsanto	4	HR	HR	HR	HR	HR	105			100			103(2)
Stratica RR	Croplan Genetics	4	HR	HR	HR	HR	HR	98			96			97(2)
Tonnica RR	Crop Genetics	5	HR	HR	HR	HR	HR	106			101			104(2)
WL 355 RR	W-L Research	4	HR	HR	HR	HR	HR	100		102		110		104(3)
WL 356HQ RR	W-L Research	5	HR	HR	HR	HR	HR	100	99		96			98(3)
WL 372HQ RR	W-L Research	5	HR	HR	HR	HR	HR	102			106			104(2)
428 RR	Allied Seed	4	HR	HR	HR	HR	HR		93		104		111	103(3)
54R02 RR	Dupont Pioneer	4	HR	HR	HR	HR	HR	98	109	104		102	97	102(5)
55VR06 RR	Dupont Pioneer	5	HR	R	HR	HR	HR		90				99	95(2)
55VR08 RR	Dupont Pioneer	5	-	HR	HR	HR	HR		108					-
6516R RR	NEXGROW	5	HR	-	HR	HR	HR	106			109			108(2)

<sup>1</sup> 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.

<sup>2</sup> Disease resistance: S = susceptible, LR = low resistance, MR = moderate resistance, R = resistance, HR = high resistance.

<sup>3</sup> Year trial was established.

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

<sup>5</sup> Mean only presented when respective variety was included in two or more trials.

<sup>6</sup> Number of years of data.

dangrass regrows quickly after harvest and can be grazed several times during summer and early fall.

**Sorghum-sudangrass** hybrids are more vigorous and slightly higher yielding than sudangrass. A larger stem size makes these hybrids less useful for hay; therefore, they are commonly used for baleage and grazing.

**Forage sorghum** is used primarily as silage for livestock and is typically a one cut crop. It grows 6-12 feet tall and is typically harvested when the seed is in the milk to soft dough stage.

**Pearl millet** (*Pennisetum glaucum*) is the most widely grown type of millet. It is well adapted to production systems characterized by drought, low soil fertility, and high temperature. It is higher yielding than foxtail millet and regrows rapidly after harvest if an 8- to 10-inch stubble height is left. Dwarf varieties, which are leafier and better suited for grazing, are available.

The brown midrib or BMR trait is outward expression of a genetic mutation in forage sorghum, sorghum-sudangrass, sudangrass and pearl millet. In most cases, plants possessing the BMR trait

contain less or altered lignin, making the plant more digestible and increasing animal production. Therefore, it is desirable to seed summer annuals which have the BMR trait in addition to other desirable characteristics like high yield. With BMR varieties, the midrib of the leaf appears brown or tannish in color.

**Teff**, also referred to as Summer Lovegrass (*Eragrostis tef*), is a warm-season annual grass native to Ethiopia and has been used as a grain crop for thousands of years. Recently, there has been considerable interest in teff as a forage crop. It is high quality, palatable, and fine stemmed and therefore makes excellent hay.

## Important Selection Considerations

**Local adaptation and seasonal yield.** Choose a variety/species that is adapted to your region of Kentucky, as indicated by good performance across years and locations in replicated yield trials. Also, look for varieties that are productive in the desired season of use. For management recommendations, check with your county Extension agent or see the forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

The following comprehensive bulletins may be especially useful:

- Grain and Forage Crop Guide for Kentucky (AGR-18)
- Establishing Forage Crops (AGR-64)
- Rotational Grazing (ID-143)
- Extending Grazing and Reducing Stored Feed Needs (AGR-199)
- Forage Identification and Use Guide (AGR-175)
- Lime and Fertilizer Recommendations (AGR-1)

**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 typically fertilized with 60 pounds of actual N per acre in March, after the first cutting, and again in late summer for a total of up to 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. See the footnote in each table to determine which yearly report should be referenced.

## 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 2017 reports on the forage Web site. See below for specific reports. The forage Web site contains all reports from 2001 through 2017.

## Yield and Grazing Tolerance Reports

Individual forage species reports can be found at [www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm](http://www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm).

- 2017 Alfalfa Report (PR-727)
- 2017 Red and White Clover Report (PR-728)
- 2017 Orchardgrass Report (PR-729)
- 2017 Tall Fescue and Bromegrass Report (PR-730)
- 2017 Timothy and Kentucky Bluegrass Report (PR-731)
- 2017 Annual and Perennial Ryegrass and Festulolium Report (PR-732)
- 2017 Alfalfa Grazing Tolerance Report (PR-733)
- 2017 Red and White Clover Grazing Tolerance Report (PR-734)
- 2017 Cool-Season Grass Grazing Tolerance Report (PR-735)
- 2017 Cool-Season Grass Horse Grazing Report (PR-736)
- 2017 Annual Grass Report: Warm Season and Cool Season (Cereals) (PR-737)
- 2017 Long-Term Summary of Kentucky Forage Variety Trials (PR-738)

## About the Authors

G.L. Olson is a research specialist, S.R. Smith is an Extension professor, and C.D. Teutsch is an Extension associate professor of Forages.

**Table 5. Summary of Kentucky tall fescue yield trials 2000-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor	Lexington							Princeton							Quicksand				Mean <sup>3</sup> (#trials)						
		01 <sup>1,2</sup> 3-yr <sup>4</sup>	03 2-yr	05 3-yr	07 3-yr	09 3-yr	11 3-yr	12 3-yr	13 3-yr	14 3-yr	15 2-yr	00 2-yr	02 3-yr	04 3-yr	06 3-yr	08 3-yr	10 3-yr	12 3-yr	15 2-yr		01 2-yr	03 2-yr	05 4-yr	13 3-yr		
Atlas Select	ProSeeds Marketing														95										—	
Aprilia	ProSeeds Marketing														93										—	
Baguala	Allied Seed																		96						94(2)	
BarElite	Barenbrug USA				96			100									92								95(3)	
Bariane	Barenbrug USA		87	99																			95		94(3)	
Barolex	Barenbrug USA			90																					—	
BarOptima PLUS E34 <sup>5</sup>	Barenbrug USA			122	99			107	108	102	99	113							96						103(11)	
Bronson	Ampac Seed			88	97	105		102	99	99							101	91	103				102		99(10)	
Brutus	Saddle Butte Ag. Inc.																								—	
Bull	Improved Forages		98	102					100																—	
Cajun II	Smith Seed Services							97		105	99	99						104						97	95	
Carmine	DLF International	99																			97				100(8)	
Cowgirl	Rose-AgriSeeds								94																90	
Dominante	Allied Seed											92													99(7)	
Drover	Barenbrug USA																								98(2)	
DuraMax GOLD <sup>5</sup>	DLF International											105	117												96(2)	
Enhance	Allied Seed													106											111(2)	
Estancia ArkShield <sup>5</sup>	Mountain View Seeds																								104(2)	
Festival	Pickseed West	107	102						106										107						100(2)	
Flourish	Allied Seed								92											102					103(4)	
FSG 402TF	Farm Science Genetics																					103				105(3)
Goliath	Ampac Seed					100																			97(2)	
Hoedown	DLF International	104								104									106						98(2)	
Hymark	Fraser Seeds																				106				101(3)	
Jesup EF	Pennington Seed							91																	105(2)	
Jesup MaxQ <sup>5</sup>	Pennington Seed							98	105																100(4)	
Johnstone	ProSeeds Marketing			98	101	110				103	100	103	94												100(16)	
KENHY	KY Agric. Exp Sta.	108																							—	
Kentucky 32	Oregro Seeds												89												—	
								93	94			101													96(6)	

*continued*



**Table 5. continued**

Variety	Proprietor	Lexington										Princeton										Quicksand					Mean <sup>3</sup> (#trials)
		01 <sup>1,2</sup>	03	05	07	09	11	12	13	14	15	00	02	04	06	08	10	12	15	01	03	05	13				
		3-yr <sup>4</sup>	2-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	2-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	2-yr	2-yr	2-yr	4-yr	3-yr				
Kokanee	Ampac Seed	89																									88(2)
KY31+ <sup>5</sup>	KY Agric Exp Sta.	118	112	108	102	102	93	95	103	100	96	108	104		104	93	112	101	92	124	98	110	110	110	110	104(21)	
Lacefield MaxQ II <sup>5</sup>	Pennington Seed				109				97	104	93				101	106		105								104(8)	
Maximize	Turf-Seed	95																		93						97(4)	
Martin2 Protek <sup>5</sup>	DLF International						104																			-	
Nanryo	Jap. Grassland ForageSeed/				96																					-	
Noria	ProSeeds Marketing				98																					-	
RAD-ERF50	Radix Research, Inc.															113										-	
Resolute	Ampac Seed	90																		65						78(2)	
Savory	DLF International													91												-	
Seine	Advanta Seeds													96												-	
Select	Southern States	106	94	99	99	98	90	100	97	103	100	105	97	105	102	105	99	100	99	112	102	91	99	99	100(22)		
SS-0705TFSL	Southern States									99	98								103							100(3)	
Stockman	Seed Research of OR		108											101	97						105					103(4)	
Teton II	Mountain View Seeds						107	105		96							99									103(4)	
Texoma MaxQ II <sup>5</sup>	Pennington Seed			95																						-	
TF0203G	Seed Research of OR				87																					-	
Tower Protek <sup>5</sup>	DLF International						98																			-	
Tuscany	Forage Genetics	112																								-	
Tuscany II	Seed Research of OR								97																	100(3)	
5CAN	Brett Young					86												106								-	

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2012 was harvested three years, so the final report would be "2015 Tall Fescue Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> Number of years of data.

<sup>5</sup> KY31+ contains the toxic endophyte. Jesup MaxQ, Texoma MaxQ II, Lacefield MaxQ II, DuraMax GOLD, Martin2 Protek, Tower Protek 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.

**Table 6. Summary of Kentucky orchardgrass yield trials 2002-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor	Lexington										Princeton										Quicksand			Mean <sup>3</sup> #trials			
		2003 <sup>1,2</sup> 3-yr <sup>4</sup>	2006 4-yr	2007 3-yr	2009 3-yr	2011 3-yr	2012 3-yr	2013 3-yr	2014 3-yr	2015 2-yr	2015 3-yr	2002 3-yr	2004 3-yr	2006 3-yr	2008 3-yr	2010 3-yr	2012 3-yr	2015 3-yr	2003 3-yr	2005 4-yr	2010 3-yr	2013 3-yr						
Abertop	Pennington																											
Ambassador	DLF International Seeds																											
Amrosia	American Grass Seed Prod.																											
Benchmark	Southern States																											
Benchmark Plus	Southern States																											
Bounty	Allied Seed																											
Century	Seed Research of Oregon																											
Checkmate	Seed Research of Oregon																											
Christoss	Proseeds Marketing																											
Command	Seed Research of Oregon																											
Crown	Donley Seed																											
Crown Royale Plus	Donley Seed																											
Elise	Rose-AgriSeed																											
Endurance	DLF International Seeds																											
Extend	Allied Seed																											
Hallmark	James VanLeeuwen																											
Harvestar	Columbia Seeds																											
Haymaster	Southern States																											
Haymate	Southern States																											
Icon	Seed Research of Oregon																											
Inavale	DLF Pickseed USA																											
Intensiv	Barenbrug																											
Lazuly	Proseeds Marketing																											
LG-31	DLF International Seeds																											
Lyra	Hood River Seed																											
Megabite	Turf-Seed																											
Niva	DLF International Seeds																											
Olathe	DLF Pickseed USA																											
Paiute	DLF International Seeds																											
Persist	Smith Seed																											
Potomac	Public																											
Prairie	Turner Seed																											
Prodigy	Caudill Seed																											
Profit	Ampac Seed																											
RAD-LCF 25	Radix Research																											
Shawnee	Rose-AgriSeed																											
Shiloh II	Proseeds Marketing																											
SS0708OGDT	Southern States																											
Takena	Smith Seed																											
Tekena II	Smith Seed																											
Tekapo	Ampac Seed																											
Treposno	Hood River Seed																											
Tucker	Oregro Seeds																											
Udder	Improved Forages																											
Vaillant	Proseeds Marketing																											
Vision	Cropmark Seeds																											

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 fall 2012 was harvested three years, so the final report would be "2015 Orchardgrass Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://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 7. Summary of Kentucky timothy yield trials 2000-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington												Quicksand		Princeton		Mean <sup>3</sup> (#trials)
		00 <sup>1,2</sup> 2yr <sup>4</sup>	01 3yr	02 4yr	06 3yr	07 3yr	08 3yr	09 3yr	11 3yr	12 3yr	13 3yr	14 3yr	15 2yr	99 2yr	01 2yr	00 3yr	04 2yr	
Alma	Newfield Seeds Co/Caudill Seed Co.															81		
Auroro	General Feed and Grain	100												98				99(2)
Barfleo	Barenbrug USA							95	91	101		108	81					95(5)
Barpenta	Barenbrug USA					74			82	82								79(3)
Clair	Ky Agric. Exp. Station		104	113	107	95	107	104	112	99	97	111	103		106		122	106(13)
Classic	Cebeco International Seeds	100		86										86				91(3)
Climax	Canada Agr. Res. Station				79	102	104	98	102	100	82	96	88					95(9)
Colt	FS Growmark	105		100	90									112			99	101(5)
Common	Public		95															-
Comtral	Caudill Seed									92	92							92(2)
Derby	Southern States				112	111		106	112	108	112	119	127				124	115(9)
Dolina	DLF International	99		90														95(2)
Express	Seed Research of Oregon			95		91		97	95									95(4)
Hokuei	Snow Brand Seed	103																-
Hokusei	Snow Brand Seed	96												99				98(2)
Joliette	Newfield Seeds Co/Caudill Seed Co.						86	89									90	88(3)
Jonaton	Newfield Seeds Co/Caudill Seed Co.																84	-
KY Early	Smith Seed/Central Farm Supply	102	103	115			102				119			104	103			107(7)
Outlaw	Grassland West Company															107		-
Richmond	Pickseed Canada Inc.	100												103				102(2)
Summergraze	Brett Young										96							-
Summit	Allied Seed, L.L.C.			112														-
Talon	Seed Research of Oregon				110	112		108	106	109								109(5)
Tenho	Barenbrug USA											84						-
Treasure	Seed Research of Oregon				103	115		103	101	108								106(5)
Tundra	DLF International	95																-
Tuukka	Ampac Seed Company		94	88											91	93		92(4)
Varis	Mountain View Seeds											83						-
Zenyatta	DLF International										103							-

<sup>1</sup> Year trial was established.  
<sup>2</sup> 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 fall 2012 was harvested three years, so the final report would be "2015 Timothy and Kentucky Bluegrass Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).  
<sup>3</sup> Mean only presented when respective variety was included in two or more trials.  
<sup>4</sup> Number of years of data.

**Table 8. Summary of Kentucky bluegrass yield trials at Lexington 1996-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington												Mean <sup>3</sup> (#trials)				
		96 <sup>1,2</sup> 3yr <sup>4</sup>	03 2yr	04 3yr	06 4yr	07 3yr	08 3yr	09 3yr	10 3yr	11 3yr	12 3yr	13 3yr	14 3yr					
Adam 1	Radix Research			98														-
Barderby	Barenbrug USA					94		101	91	98	87	103	101					95(7)
Big Blue	Rose-AgriSeed							82			95							89(2)
Common	Public				71	66	68											68(3)
Ginger	ProSeeds Marketing		89		118	119	114	118	112	107	110	107	95					109(10)
Kenblue	Public	90		102	133				96	95	118	95	100					104(8)
Lato	Turf Seed Inc.	110				122												116(2)
Park (certified)	Public										90	95	104					96(3)
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															-

<sup>1</sup> Year trial was established.  
<sup>2</sup> 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 fall 2012 was harvested three years, so the final report would be "2015 Timothy and Kentucky Bluegrass Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage). The 96 and 03 Lexington results are in the appropriate Tall Fescue Reports.  
<sup>3</sup> Mean only presented when respective variety was included in two or more trials.  
<sup>4</sup> Number of years of data.

Table 9. Summary of Kentucky annual ryegrass yield trials 2000-2017 (yield shown as a percentage of the yield value of Marshall).

Variety	Type	Proprietor	Lexington <sup>1</sup>										Princeton		Mean <sup>4</sup> (#trials)							
			03 <sup>2,3</sup>	04	05	06	07	08	09	10	10	11	12	12		13	14	15	16	00	02	
Abundant	tetraploid	Ampac Seed				12																
Acrobat	-	Proseeds Marketing					144															
AE110	Westerwold tetraploid	Pickseed USA, Inc.								89	100									95(2)		
Amp	Westerwold tetraploid	Columbia Seeds											75						97	-		
Andy	Westerwold tetraploid	DLF International																		-		
Assist	Westerwold diploid	SaddleButte												88						-		
Attrain	Westerwold tetraploid	Smith Seed Services							111											90(2)		
Avance	Westerwold diploid	DLF International															107			-		
Barextra	Italian tetraploid	Barenbrug USA																		-		
Barmultra II	Italian tetraploid	Barenbrug USA							133							125	108			117(4)		
Big Bang	-	Brett Young													67					-		
Big Boss	Westerwold tetraploid	Smith Seed Services							98											86(3)		
Big Daddy	Westerwold tetraploid	FFR/Sou. St.							86	98	82							88	87	88(5)		
Bill	Westerwold diploid	Smith Seed Services													62					-		
Branqu	Italian tetraploid	KB SeedSolutions							94											-		
Bruiser	Westerwold diploid	Ampac Seed					65	105	100	104	86					100	95	86		93(8)		
Common	-	Public																		83	87	85(2)
Centurion	Westerwold diploid	Mountain View Seeds																			110(3)	
DH-3	Italian tetraploid	Allied Seed								89											69(3)	
Diamond T	Italian tetraploid	Orego Seeds					8			91	27										-	
Dixie Gold	Westerwold tetraploid	Caudill Seed																			-	
Domino	Westerwold tetraploid	DLF International													19						-	
Dyna-Gain	Westerwold diploid	Columbia Seeds																			-	
Ed	Westerwold diploid	Smith Seed Services																			98(2)	
Fantastic	Westerwold diploid	Ampac Seed					48	84											88		86(3)	
Feast II	Italian tetraploid	Ampac Seed																			85(10)	
Flying A	Westerwold diploid	Orego Seeds					35	113	109	81	93	71	47	56	88	80					-	
Fox	Italian diploid	DLF International					39														-	
Fria	Westerwold diploid	Allied Seed							109												-	
GR-AS10	Italian	Ampac Seed							95	87	89			104	81	85	98				89(6)	
Graze-N-Gro	Westerwold diploid	Seed Research of OR							113												-	
Green Farm	Westerwold diploid	Smith Seed Services																			91(2)	
Gulf	Westerwold diploid	Public																			-	
Hercules	Westerwold tetraploid	Barenbrug USA																			71(11)	
HS-1	Italian diploid	KB SeedSolutions																	108		100(2)	
Jackson	Westerwold diploid	The Wax Co.							72												-	
Jumbo	Westerwold tetraploid	Barenbrug USA																			92(14)	
KB Royal	Italian diploid	KB SeedSolutions																			-	
Kospeed	Westerwold diploid	Smith Seed Services							83												86(2)	
Kowineary	Westerwold diploid	Smith Seed Services																			96(2)	

continued

Table 9. continued

Variety	Type	Proprietor	Lexington <sup>1</sup>										Princeton		Mean <sup>4</sup> (#trials)					
			03-2.3	04	05	06	07	08	09	10	10	11	12	12		13	14	15	16	00
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(18)
Maximo	Intermediate tetraploid	Pickseed USA, Inc.									101									
Melquatro	Italian tetraploid	Hood River Seed													135					
Meroa	Westerwold diploid	Smith Seed Services												93	102					98(2)
MX 108	Westerwold tetraploid	Pickseed USA, Inc.									95	114								105(2)
Nelson	Westerwold tetraploid	The Wax Co.									86		93	65	77	105	97			90(5)
Oryx	Italian diploid	Hood River Seed													100					
Passerel Plus	Westerwold diploid	Pennington Seed																103		
Primecut	Westerwold brand	Oregro Seeds									94									
Rio	Westerwold diploid	-																98	99	99(2)
Spark	tetraploid	DLF International																		
Stockaid	diploid	-				82														
Striker	Westerwold tetraploid	Seed Research of OR					90													
TAMTBO	Italian tetraploid	Tex. Ag Exp Sta.					47		101		108	95				79				86(5)
Tam 90	Italian diploid	Tex. Ag Exp Sta.					49								78				88	72(3)
TetraPrime	Italian tetraploid	Mountain View Seeds										101			96	104	91			98(4)
TetraPro	Italian tetraploid	Tex. Ag Exp Sta.					40													
TillageRootMax	Westerwold diploid	Cover Crop Solutions									82	90								86(2)
TillageMax-Bristol <sup>5</sup>	Westerwold diploid	Cover Crop Solutions									90	91								91(2)
TillageMax-INDY <sup>5</sup>	Westerwold diploid	Cover Crop Solutions									89	90								90(2)
T-Rex	Westerwold tetraploid	SaddleButte					11													
Ugne	Italian tetraploid	Hood River Seed														102				
Verdure	Westerwold tetraploid	Smith Seed Services									86									72(2)
Winterhawk	Westerwold diploid	Oregro Seeds									104	117	92							108(4)
Winter Star	Italian tetraploid	Ampac Seed																	99	
Zorro	Italian tetraploid	DLF International																132	134	133(2)

<sup>1</sup> 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.

<sup>2</sup> Year trial was established.

<sup>3</sup> 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 fall 2015 was harvested one year, so the final report would be "2016 Annual and Perennial Ryegrass and Festulolium Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>4</sup> Mean only presented when respective variety was included in two or more trials.

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



**Table 10. Summary of Kentucky perennial ryegrass yield trials 2000-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Type	Proprietor	Lexington															Princeton		Bowling Green		Mean <sup>3,4</sup> (#trials)	
			01 <sup>1,2</sup>	03	04	05	06	07	08	09	10	11	12	13	14	15	00	02	00	03			
			2yr <sup>5</sup>	2yr	3yr	3yr	2yr	3yr	3yr	3yr	2yr	3yr	3yr	3yr	2yr	2yr	2yr	3yr	2yr	2yr			
Aires	diploid	Ampac Seed	95																	93			94(2)
Albion	tetraploid	Grasslands Oregon												105	103								104(2)
Amazon	tetraploid	AgriBioTech			99															107			103(2)
Anaconda	tetraploid	Caudill Seed																	95		103		99(2)
Aubisque	tetraploid	Seed Research of OR		144																		99	122(2)
Bandit	tetraploid	Grassland West																	106		114		110(2)
Barvitra	diploid	Barenbrug USA																104					-
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	84	85	81							84(7)
Bison	hybrid tetraploid	International Seeds																				140	-
Boost	tetraploid	Allied Seed						130	125	120	143	110	103	102									119(7)
Boxer	tetraploid	AgriBioTech																	106				-
Calibra	tetraploid	DLF International							96	109	81	99	103	96	87	100				112			98(9)
CAS MP64	diploid	Cascade International	97																				-
Citadel	tetraploid	Aq Canada																	94	113	103		103(3)
Crave	tetraploid	Ampac Seed												95									-
Derby	-	Public																			74		-
Elena DS	tetraploid	Allied Seed												110									-
Eurostar	tetraploid	Seed Research of OR						112															-
Everlast	diploid	Caudill Seed												104									-
Feeder	diploid	Seed Research of OR						76															-
Grand Daddy	tetraploid	Smith Seed	118				101	109		76	92	84	86		107					111			98(9)
Green Gold	tetraploid	Grasslands Oregon					96																-
Herbal	-	ProSeeds Marketing								77													-
Impressario	tetraploid	DLF International									107			92									100(2)
Kentaur	tetraploid	DLF International										106		117									112(2)
Lactal	tetraploid	Brett Young									102												-
Lasso	diploid	DLF International	98																				-
LHT-102	tetraploid	Ampac Seed												114									-
Linn (certified)	diploid	Public	98	98	102		98	85	84	101	92	93	80	95	83	89	87	88	77				91(16)
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												101	103	99							101(3)
Polly II	tetraploid	FS Growmark																	110		125		118(2)
Polly Plus	hybrid tetraploid	Allied Seed		64																		60	62(2)
Power	tetraploid	Ampac Seed						110	103	102	100	109	104	95	101	107							104(9)
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																-
Remington	tetraploid	Barenbrug USA													95	117							106(2)
Remington PLUS NEA2	tetraploid	Barenbrug USA													119	99							109(2)
Sierra	diploid	Lewis Seed Co.			89																		-
TetraGain	tetraploid	Pure Seed												111									-
TetraMag	tetraploid	Mountain View Seeds												110		136							123(2)
Tonga	tetraploid	Kings AgriSeeds			96					103													100(2)
Verseka	tetraploid	Allied Seed												75									-
Victorian	diploid	Caudill Seed														104	83						94(2)
Yatsyn	diploid	Barenbrug USA																	89				-

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2012 was harvested three years, so the final report would be "2015 Annual and Perennial Ryegrass and Festulolium Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

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

<sup>5</sup> Number of years of data.

**Table 11. Summary of Kentucky festulolium yield trials 2001-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).<sup>1</sup>**

Variety	Type <sup>2</sup>	Proprietor	Lexington										Mean <sup>5</sup> (#trials)	
			2001 <sup>3,4</sup>	2005	2008	2009	2010	2011	2012	2013	2014	2015		
			2yr <sup>6</sup>	3yr	3yr	3yr	3yr	3yr	2yr	3yr	2yr	2yr		
Agula	MF x IR	Allied Seed					94			–				
Barfest	MF x PR	Barenbrug USA					105	101	107	119	91	97	103(6)	
Bonus	MF x IR	Allied Seed					93	46	32	34			51(4)	
Duo	MF x PR	Ampac Seed		89	98	99	95	106	103	96	96	89	97(9)	
Felina	(TF x IR) x TF	DLF International	104				132	118	134	114	96		116(6)	
Fojtan	(TF x IR) x TF	DLF International					112	101	124	92	72	86	98(6)	
Gain	MF x IR	Allied Seed					103	77	52	75			77(4)	
Hostyn	MF x IR	DLF International							107	110	106		108(3)	
Hykor	(TF x IR) x TF	DLF International					133	141	153	131	119	107	131(6)	
Lofa	(TF x Int) x Int	DLF International					105	107	110	128	112	95	110(6)	
Mahulena	(TF x IR) x TF	DLF International							131	109	107		116(3)	
Meadow Green	–	Pure Seed							37	34			36(2)	
Perseus	MF x IR	DLF International					132	114	126	123	110	116	120(6)	
Perun	MF x IR	DLF International					127	114	107	131	110	106	116(6)	
Rebab	(TFxIR) xTF	DLF International								94	77		86(2)	
Spring Green	MF x PR	Turf-Seed	96	111	114	101	113	112	114	110	103	106	108(10)	
Sweet Tart	MF x IR	ProSeeds Marketing			88		82	63	62				74(4)	

<sup>1</sup> The festuloliums were in fescue trials from 2001-2005 and in perennial ryegrass trials from 2008-2009.

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

<sup>3</sup> Year trial was established.

<sup>4</sup> 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 fall 2012 was harvested three years, so the final report would be “2015 Annual and Perennial Ryegrass and Festulolium Report” archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>5</sup> Mean only presented when respective variety was included in two or more trials.

<sup>6</sup> Number of years of data.

**Table 12. Summary of Kentucky bromegrass yield trials at Lexington 2006-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial.)**

Variety	Type	Proprietor/KY Distributor	2006 <sup>1,2</sup>	2008	2010	2012	2014	2015	Mean <sup>3</sup> (#trials)
			4-yr <sup>4</sup>	3-yr	3-yr	3-yr	3-yr	2-yr	
AC Knowles	hybrid	Agriculture Canada	85		82	102	89		89(4)
Bigfoot	hybrid	Grassland Oregon	108	116	105				110(3)
Canterbury	mountain	Barenbrug USA		79					–
Carlton	smooth	Pickseed USA				82	95		91(2)
Doina	smooth	Barenbrug USA		114	108				111(2)
Fleet	meadow	Agriculture Canada	110			109			110(2)
Hakari	Alaska	Barenbrug USA		85	85				85(2)
MacBeth	meadow	Cisco Seeds		136	119	107	116	106	117(5)
Olga	smooth	Barenbrug USA		116	101				109(2)
Peak	smooth	Allied Seed		97		100		94	97(3)
Persister	prairie	DLF International		72					–
RAD-BI29	smooth	Columbia Seeds	96	86					91(2)

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2012 was harvested three years, so the final report would be “2015 Tall Fescue and Brome Report” archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> Number of years of data.

**Table 13. Summary of Kentucky sudangrass yield trials 2008-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington										Princeton	Mean <sup>3</sup> (#trials)			
		2008 <sup>1,2</sup>	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017				
		All trials are 1 year yields														
AS9301 BMR <sup>4</sup>	Alta Seeds/Ramer Seed					118										
AS9302 BMR (Brachytic Dwarf)	Alta Seeds/Ramer Seed											124	119		122(2)	
Enorma BMR	Cal/West Seeds			99	94	92	91	83	91	98					93(7)	
FSG 1000 BMR	Farm Science Genetics									101	124	110			112(3)	
Hayking BMR	Central Farm Supply	111	112	91	97	97	96	92	94	90	80		99		96(11)	
Monarch V	Public	104	96	102	97	93	98	110	99	82					98(9)	
Piper	Public	90	91	97	94	104	105	89	94	85	81		86		92(11)	
ProMax BMR	Ampac Seed	95	101	110	115	96	103	100	111	111	106		96		104(11)	
SS130 BMR	Cal/West Seeds			101	103			107	106	110	109		99		105(7)	
Trudan Headless	Chromatin							118							–	

<sup>1</sup> Establishment year.

<sup>2</sup> Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine actual forage production. The 2017 Annual Grass Report contains yield data from 2013, 2014, 2015, 2016, and 2017.

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> BMR (brown midrib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

**Table 14. Summary of Kentucky sorghum-sudangrass yield trials 2008-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington										Princeton	Mean <sup>3</sup> (#trials)		
		2008 <sup>1,2</sup>	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017			
		All trials are 1 year yields													
AS6402 BMR <sup>6</sup> (Brachytic Dwarf)	Alta Seeds/Ramer Seed					91						78	98		89(3)
AS6503 BMR	Alta Seeds/Ramer Seed						96	103	90						96(3)
AS6504 BMR (Dry Stalk)	Alta Seeds/Ramer Seed											105	114		110(2)
FSG 208 BMR	Farm Science Genetics			75											–
FSG 214 BMR	Farm Science Genetics						99	108	112				109		107(4)
FSG 215 BMR	Farm Science Genetics								112						–
Greengrazer V	Farm Science Genetics			166			122	107	92	103	110				117(6)
GW300 BMR	Gayland Ward Seed				88	78	88	81	73	101	100	79			86(8)
HyGain	Turner Seed	104	105	118							110	127	130		116(6)
KFSugar-Pro555	Byron Seed											110			–
MS 202 BMR	Farm Science Genetics			106											–
Nutra-King BMR	Gayland Ward Seed									110	108	96	108		103(4)
NutraPlus BMR	Public	106	97	94	103	106	109	106	96						102(8)
Sordan Headless	Chromatin							105							–
Special Effort	Public	109	110	93	94	115	120	91	111						105(8)
SS211	Southern States				104	93	114	103	118	111	121		109		109(8)
SS220 BMR	Southern States		107	84		112									101(3)
Surpass BMR	Turner Seed	81	80	64							79	84	88		79(6)
Super Sugar	Gayland Ward Seed				102	117	107			125	85		91		105(6)
Super Sugar BMR	Gayland Ward Seed										107				–
Super Sugar (Delayed Maturity)	Gayland Ward Seed							101	82			89	95		92(4)
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		77	104	106	77			85(6)
SweetSix BMR	Gayland Ward Seed						93	101		91					95(3)
SweetSix BMR (Dry Stalk)	Gayland Ward Seed								102		72	103			92(3)
Vita-Cane	Gayland Ward Seed					121									–

<sup>1</sup> Establishment year.

<sup>2</sup> Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine actual forage production. The 2017 Annual Grass Report contains yield data from 2013, 2014, 2015, 2016, and 2017.

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> BMR (brown midrib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

**Table 15. Summary of Kentucky pearl millet yield trials 2013-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington					Princeton	Mean <sup>3</sup> (#trials)
		2013 <sup>1,2</sup>	2014	2015	2016	2017	2017	
		All trials are 1 year yields						
FSG 300 Hybrid	Farm Science Genetics			109	99	109	117	109(4)
FSG 315 BMR <sup>4</sup> (Dwarf)	Farm Science Genetics			101	102	81	97	95(4)
Leafy22 Hybrid	Turner Seed				105	124	115	115(3)
Pennleaf Hybrid	Pennington Seed	93	91	94	96	87	84	91(6)
PP102M Hybrid	Cisco	93	93	90	79	90	77	87(6)
SS501	Southern States	90	99	96	86	94	89	92(6)
SS635	Southern States	108	112	101	116	94	107	106(6)
Tifleaf III Hybrid	Gayland Ward Seed	116	106	108	116	120	114	113(6)

<sup>1</sup> Establishment year.

<sup>2</sup> Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine actual forage production. The 2017 Annual Grass Report contains yield data from 2013, 2014, 2015, 2016, and 2017.

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> BMR (brown midrib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

**Table 16. Summary of Kentucky forage sorghum yield trials 2013-2017 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington					Mean <sup>3</sup> (#trials)
		2013 <sup>1,2</sup>	2014	2015	2016	2017	
		All trials are 1 year yields					
AF7201 BMR <sup>4</sup>	Alta Seed/Ramer Seed	89	81	101	89		90(4)
AF7203 BMR (Brachytic Dwarf)	Alta Seed/Ramer Seed					74	-
AF7401 BMR (Brachytic Dwarf)	Alta Seed/Ramer Seed	76	94	90	83	86	85(5)
Emsilemaster	Caudill Seed	125	90	101	106	111	107(5)
FSG114 BMR	Farm Science Genetics		94	128	93	125	110(4)
FSG115 BMR (Brachytic Dwarf)	Farm Science Genetics		51	31	72	81	59(4)
GW2120	Gayland Ward Seed	117	89	113	84	107	104(5)
GW400 BMR	Gayland Ward Seed	93	79	128	78	91	94(5)
GW600 BMR	Gayland Ward Seed		107	111	90		103(3)
KFiber-Pro70FS	Byron Seed					65	-
NK300	Chromatin		126	110	101	116	113(4)
SD1741 BMR	Chromatin		133	92	103	81	102(4)
SilageKing BMR (Dwarf)	Gayland Ward Seed		48				-
SiloPro BMR (Dwarf)	Gayland Ward Seed			24	74		49(2)
SS405	Chromatin		188	183	207	138	179(4)
1990	Chromatin		121	89	118	125	113(4)

<sup>1</sup> Establishment year.

<sup>2</sup> Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine actual forage production. The 2017 Annual Grass Report contains yield data from 2013, 2014, 2015, 2016, and 2017.

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> BMR (brown midrib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

**Table 17. Summary of Kentucky teff yield trials 2008-2016 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Princeton		Lexington									Mean <sup>3</sup> (#trials)
	2008 <sup>1,2</sup>	2009	2008	2009	2010	2011	2012	2013	2014	2015	2016	
	All trials are 1 year yields											
Corvallis	94	112	81	101	91	101	96	100	110	96	102	99(11)
Dessie	102	87	99	92	96	94	95	97	101	104	105	97(11)
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	104	82	94(11)
Moxie								94	96	105	107	101(4)
Pharaoh	95	101	105	85	106	106	97	101	93	97	94	98(11)
Rooiberg	102	107	112	109	113	108	115	102	88			106(9)
Summer Delight		90		91	96	88	93	100	119	101	104	98(9)
Tiffany	102	106	102	93	82	93	102	98	104	97	105	99(11)
VA T1 Brown		89		99	87	91	94	98	104	97	101	96(9)
Velvet		94		100	97	98	95	103	95	99	100	98(9)
Witkope	94	100	93	101	115	103	101	104	107			102(9)

<sup>1</sup> Establishment year.

<sup>2</sup> Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine actual forage production. The 2017 Annual Grass Report contains yield data from 2013, 2014, 2015, 2016, and 2017.

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

**Table 18. Summary of 2002-2017 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 <sup>1,2</sup> 2yr <sup>6</sup>	2004 4yr	2006 <sup>3</sup> 2yr	2006 2yr	2008 <sup>4</sup> 3yr	2008 4yr	2009 4yr	2010 4yr	2011 4yr	2012 4yr	2013 4yr	2014 3yr	2015 2yr	Mean <sup>5</sup> (#trials)
Alice	Intermediate	Barenbrug USA		59	98									93	101	88(4)
Barblanca	Intermediate	Barenbrug USA		118	91	151										120(3)
Canterbury	Dutch	Allied Seed										51	93			72(2)
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	126	86	81	113	107	103(11)
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	112	86	106	93	100	100(10)
KY Select	Intermediate	KY Agr Ex. Sta.						105		83						94(2)
Neches	–	Barenbrug USA													105	–
Patriot	Intermediate	Pennington		110	137	122		100	111	110	123	102	132	109	111	115(11)
Pinnacle	Ladino	Allied Seed									87					–
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	72	94	81	102	88	89(11)
Renovation	Intermediate	Smith Seed											102	100	86	96(3)
Resolute	Intermediate	Southern States			101	106					65					91(3)
Seminole	Ladino	Saddle Butte Ag. Inc.		75		97	91						89	85		97(5)
Tillman II	Ladino	Caudill Seed	92													–
WBDX	Dutch	Saddle Butte Ag. Inc.								70						–
Will	Ladino	Allied Seed			117	87	107	105	108	143	115	133	157	111	103	117(11)

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2010 was grazed for four years so the final persistence report would be “2014 Red and White Clover Grazing Tolerance Report” archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> This trial was planted in the spring of 2006 due to poor establishment of the fall 2005 planting.

<sup>4</sup> This trial was planted in the spring of 2008 due to poor establishment of the fall 2007 planting.

<sup>5</sup> Mean only presented when respective variety was included in two or more trials.

<sup>6</sup> Number of years of data.



**Table 19. Summary of Kentucky alfalfa grazing trials 1998-2017 (stand persistence shown as a percent of the grazing tolerant Alfagraze).**

Variety	Proprietor	FD	Variety Characteristics <sup>1</sup>																		Mean <sup>5</sup> (#trials)				
			Disease Resistance <sup>2</sup>						Lexington																
			Bw	Fw	An	PRR	APH	1998 <sup>3,4</sup>	2000	2000	2001	2004	2005	2006	2008	2009	2010	2011	2012	2013		2014			
ABT 350	W-L Research	3	HR	HR	HR	HR	HR	HR	HR	HR														73(2)	
ABT 405	W-L Research	4	HR	HR	HR	HR	R																	100(14)	
Alfagraze	America's Alfalfa	2	MR	R	MR	R	—																		
Alfagraze 300 RR	America's Alfalfa	3	HR	R	HR	HR	HR																110		
Alfagraze 600 RR	America's Alfalfa	6	—	R	HR	R	R															12			
Amerigrade 401+Z	America's Alfalfa	4	HR	HR	HR	HR	R	56	26	85	125													73(4)	
Ameristand 403T	America's Alfalfa	4	HR	HR	HR	HR	HR	HR						141	144	50			91			144	118	65	108(7)
Ameristand 403TPlus	America's Alfalfa	4	HR	HR	HR	HR	HR												133					90	112(2)
Ameristand 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR								136										89(3)
Apollo	America's Alfalfa	4	R	R	R	R	—	47	17	31	25				36	27	25	17	27	70	55	86	24	37(13)	
Archer III	America's Alfalfa	5	HR	HR	HR	HR	HR	HR																	58(2)
Baralfa 54	Barenbrug USA	—	R	HR	HR	HR	HR	HR	78																—
Bulldog-505	Univ. of GA	5	—	HR	—	R	—															144	100	57	100(3)
FK 421	Donley Seed Co.	4	HR	H	H	H	H				100														—
Feast	Garst Seeds	3	HR	HR	HR	HR	R				87	92													90(2)
Gold Plus	PGI Alfalfa	4	HR	HR	HR	HR	R	81																	—
Grakeng	Southern States	5	MR	HR	HR	R	S				50														—
Haygrazer	Great Plains Research	4	HR	HR	HR	R	MR																		—
Integrity	PGI Alfalfa	4	HR	HR	HR	HR	HR							172											44(2)
LegenDairy5.0	Croplan Genetics	3	HR	HR	HR	HR	HR																		—
PGI 424	Producers Choice	4	HR	HR	HR	HR	HR															87			—
PGI 459	Producers Choice	4	HR	HR	HR	HR	HR												45						55(2)
Pioneer 98	Pioneer	3	HR	R	HR	R	—	56											17						—
ProGro	MBS Inc.	4	HR	HR	R	HR	MR	81																	—
Rebel	Target Seed	4	HR	HR	HR	HR	HR														79				—
Rugged	Target Seed	3	HR	HR	HR	HR	HR														146				—
Saranac AR (cert.)	Public	4	MR	R	HR	LR	—				100														—
Spredor 3	Syngenta	1	HR	HR	R	MR	S	75													68				72(2)
Spredor 4	Syngenta	2	HR	HR	HR	HR	R																		—
TS 4007	Producers Choice	4	HR	R	HR	HR	HR															25			—
TS 4010/A4535	Producers Choice	4	HR	R	HR	HR	HR																		—
Triple Trust 450	ABI/America's Alfalfa	5	HR	HR	HR	HR	HR															83	145	120	116(3)
Wintergreen	ABI Alfalfa	3	HR	HR	HR	HR	R	72						145											—
WL 326GZ	W-L Research	4	HR	HR	HR	HR	HR	88																	—
115 Brand	Monsanto	3	HR	HR	R	HR	R																		71(2)
5432	Pioneer	4	HR	HR	—	MR	—														51				—

1 Variety characteristics: FD = fall dormancy, Bw = bacterial wilt, Fw = bacterial 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 fall 2011 was grazed for four years so final persistence report would be "2015 Alfalfa Grazing Tolerance Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://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 20. Summary of 2000-2017 Kentucky tall fescue grazing tolerance trials (stand persistence shown as a percent of the stand rating of KY 31+).**

Variety	Proprietor	Lexington														Princeton	Mean <sup>3</sup> (#trials)	
		2000 <sup>1,2</sup> 4yr <sup>4</sup>	2001 4yr	2002 4yr	2003 4yr	2004 4yr	2005 4yr	2006 4yr	2007 4yr	2008 4yr	2009 4yr	2010 4yr	2011 4yr	2012 4yr	2013 4yr	2014 3yr		2002 4yr
Advance MaxQ <sup>5</sup>	Pennington Seed							94										-
Bariane	Barenbrug USA				89		75	47	29									60(4)
BarElite	Barenbrug USA								96									-
Barolex	Barenbrug USA						78	101	86									88(3)
BarOptima PLUS E34 <sup>5</sup>	Barenbrug USA						100		97			98	100	98	100	100		99(7)
Bronson	Ampac Seed										98	98						98(2)
Bull	Caudill Seed													96				-
Cajun II	Smith Seed Services											98				98		93(3)
Cattle Club	Green Seed	93	91															92(2)
Carmine	DLF-Jenks		90															-
Cowgirl	Rose Agri-Seed					99								99				99(2)
Festival	Pickseed West		100	101													89	97(3)
Flourish	Allied Seed													98				-
Goliath	Ampac Seed											98						-
Hoedown	DLF-Jenks	88																-
HyMark	Fraser Seeds									95			100					98(2)
Jesup MaxQ <sup>5</sup>	Pennington Seed			103	97		68	102	97	97	99	98	100	99	99	99	105	97(13)
Johnstone	Proseeds		92															-
KY31+ <sup>5</sup>	KY Agri. Exp Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(16)
KY31- <sup>5</sup>	KY Agri. Exp Sta.		98	103	98	100	83	101	100	98	99	99	100	100	99	100	105	99(15)
Kokanee	Ampac Seed	43																-
Lacefield MaxQ II <sup>5</sup>	Pennington Seed						82	102	99	98	98	97			100	99		97(8)
Maximize	Rose Agri-Seed		99															-
Nanryo	Japanese Grassland For.Seed								100									-
Orygun	-			99														-
Resolute	Ampac Seed		23															-
Select	Southern States	107	101	100	100		67	100	93	95	97	100	100	99	99	99	98	97(15)
SS0705TFSL	Southern States														100			-
Stargrazer	Southern States	86	89															79(4)
Stockman	Seed Res. of OR					102												-
Texoma MaxQ II <sup>5</sup>	Pennington Seed						88	100	98									95(3)
Tuscany II	Seed Res. of OR							101										-
Verdant	Am.Grass Seed							97										-

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2010 was grazed four years so the final report would be "2014 Cool-Season Grass Grazing Tolerance Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> Number of years of data.

<sup>5</sup> KY 31- is the variety KY31 from which the toxic endophyte has been removed. KY31+ contains the toxic endophyte. Jesup MaxQ, Advance MaxQ, Texoma MaxQ II, and Lacefield MaxQ II 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 21. Summary of 2000-2017 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 <sup>4</sup> (#trials)
		2000 <sup>1,2</sup> 4yr <sup>5</sup>	2001 4yr	2002 4yr	2003 4yr	2004 4yr	2005 <sup>3</sup> 4yr	2007 4yr	2009 4yr	2010 4yr	2011 4yr	2012 4yr	2013 <sup>3</sup> 4yr	2014 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										-
Benchmark	Southern States	118	123	114										133	122(4)	
Benchmark Plus	Southern States			120		152	135	106	106	108	115	146	131	133	119(8)	
Boone	Public	102													-	
Command	Seed Research of OR					81									-	
Crown Royale	Donley Seed		100												-	
Crown Royale Plus	Donley Seed			124										83	104(2)	
Elise	Pure Seed										97				-	
Hallmark	James VanLeeuwen		115		113									83	104(3)	
Harvestar	Columbia Seeds						75		89	94		51	57		79(4)	
Haymate	Southern States	53	115	100	118									83	94(5)	
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	96	115	102	121		107(6)	
Potomac (certified)	Public			116		119								117	117(3)	
Prairie	Turner Seed	127	121							94		131	96	83	104(5)	
Prodigy	Caudill Seed											109	121		-	
Profile	Scott Seed			116											-	
Profit	Ampac Seed							95	99	102	94	95	80		94(5)	
Tekapo	Ampac Seed		55	74	118		50	103	95	105	106	80	66	86	100	92(10)
Takena	Smith Seed		99												-	
Seco	Southern States						85								-	
SS0708OGDT	Southern States												106		-	

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2010 was grazed four years so the final report would be "2014 Cool-Season Grass Grazing Tolerance Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Due to high variation during 2005 and 2013 trials these values are not included in the overall mean.

<sup>4</sup> Mean only presented when respective variety was included in two or more trials.

<sup>5</sup> 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 22. Summary of 2000-2017 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	Type	Proprietor	2000 <sup>1,2</sup> 4yr <sup>4</sup>	2001 3yr	2003 4yr	2007 4yr	2008 4yr	2010 4yr	2011 4yr	2012 4yr	2013 4yr	2014 3yr	Mean <sup>3</sup> (#trials)
AGR1P103	—	AgResearch USA	128		86								107(2)
Aries	diploid	Ampac Seed		139									—
Barfest (FL)	MF x PR <sup>6</sup>	Barenbrug USA						116	112				114(2)
Boost	tetraploid	Allied Seed				101		83	95	104			96(4)
Calibra	tetraploid	DLF International								120		88	104(2)
Citadel	tetraploid	Donley Seed	107										—
Duo (FL)	MF x PR <sup>6</sup>	Ampac Seed	116				95	72	90	115			98(5)
Grand Daddy	tetraploid	Smith Seed Services		121		82		100	81	103		99	98(6)
Lasso	diploid	DLF-Jenks		130									—
Linn (certified)	diploid	Public	112	129	63		95	108	95	103	96	87	99(9)
Maverick	tetraploid	Ampac Seed		36									—
Meadow Green (FL)	MF x IR <sup>6</sup>	Pure Seed								15			—
PayDay	tetraploid	Mountain View Seeds									101	92	97(2)
Polly II	tetraploid	FS Growmark	36	68									52(2)
Power	tetraploid	Ampac Seed				158		107	112	109	89	94	112(6)
Quartet	tetraploid	Ampac Seed		77		59							60(3)
Remington	tetraploid	Barenbrug USA			151							118	135(2)
Remington PLUS NEA2 <sup>5</sup>	tetraploid	Barenbrug USA										122	—
Spring Green (FL)	MF x PR <sup>6</sup>	Rose Agri-Seed	101				109	115	115	120			112(5)
TetraGain	tetraploid	Pure Seed								112			—
Victorian	diploid	Caudill Seed									114		—

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2010 was grazed four years so the final report would be “2014 Cool-Season Grass Grazing Tolerance Report” archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

<sup>3</sup> Mean only presented when respective variety was included in two or more trials.

<sup>4</sup> Number of years of data.

<sup>5</sup> Remington PLUS NEA2 contains a non-toxic endophyte.

<sup>6</sup> MF = meadow fescue, PR = perennial ryegrass, IR = Italian ryegrass.

**Table 23. Summary of 1999-2017 Kentucky tall fescue horse grazing tolerance trials in Lexington (stand persistence shown as a percent of the stand rating of KY 31<sup>1</sup>).**

Variety	Proprietor/KY Distributor	1999 <sup>1,2</sup>		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		Mean <sup>3</sup> (#trials)					
		3-yr <sup>4</sup>		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr		4-yr							
BarOptima PLUS E34 <sup>5</sup>	Barenbrug																107					101	101	101	101	95	104	99	101(6)								
Bronson	Ampac Seed	80																																			
Cajun II	Smith Seed																																				
Cattle Club	Green Seed	95																								99											
Cowgirl	Rose Agri-Seed																		105																		
Festorina	Advanta Seed	102																																			
Jesup MaxQ <sup>5</sup>	Pennington Seed					98							78																								
Johnstone	ProSeeds			88																																	
KY31+ <sup>5</sup>	KY Agri. Exp.Sta.			105									102	109	120	107	101	101	101	101	101	101	101	101	99	105	105	99	104(11)								
KY31- <sup>5</sup>	KY Agri. Exp.Sta.			100		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(15)						
Lacefield MaxQ II <sup>5</sup>	Pennington Seed												105	110	110																						
Nanryo	Japanese Grassland For. Seed																72																				
Seine	Seed Research of OR										135																										
Select	Southern States	82		109		109	94	94		99	73	104	76	108	98	100	101	98	108	98	100	100	101	101	98	98	98	97	96(14)								
Stargrazer	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 fall 2010 was grazed four years so the final report would be "2014 Cool-Season Grass Horse Grazing Tolerance Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://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 Lacefield MaxQII contain a non-toxic endophyte. BarOptima PLUS E34 contains a beneficial endophyte, but is not recommended in pastures with late term mares since it produces low levels of ergovaline. The other fescue varieties in this table do not contain an endophyte.



**Table 24. Summary of 1999-2017 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 <sup>1,2</sup>	2000	2001	2002	2005 <sup>3</sup>	2006	2009	2010	2011	2012	2013	2014	Mean <sup>4</sup> (#trials)
		3-yr <sup>5</sup>	4-yr	4-yr	4-yr	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	Southern States	104			85									95(2)
Benchmark Plus	Southern States				111	157	139	111	114	121	121	137	101	119(8)
Crown Royale	Grassland Oregon			95										–
Crown Royale Plus	Grassland Oregon				97									–
Elise	Pure Seed									87				–
Haymate	Southern States	96	85		97									93(3)
Persist	Smith Seed					114		103	101	92	112	146	117	112(6)
Potomac	Public				117									–
Prairie	Turner Seed			100										–
Prodigy	Caudill Seed											54		–
Profit	Ampac Seed							93	86		92		78	87(4)
SS-0708OGDT	Southern States									104			105	105(2)
Tekapo	Ampac Seed	101	115		93	30		92	100	83	87	63		92(8)

<sup>1</sup> Year trial was established.

<sup>2</sup> 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 fall 2010 was grazed four years so the final report would be "2014 Cool-Season Grass Horse Grazing Tolerance Report" archived in the KY Forage website at [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

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

<sup>4</sup> Mean only presented when respective variety was included in two or more trials.

<sup>5</sup> Number of years of data.