

# 2012 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 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](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. Choosing a good alfalfa variety is a key step in establishing a stand of alfalfa. The choice of variety can impact yield, stand persistence, and insect and disease resistance.

**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

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fescue varieties produce no detrimental alkaloids, but UK research shows that they are less persistent than KY31. New novel endophyte tall fescue varieties 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 four to six months 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 more tolerant to heavy grazing.

**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 lasting two to four 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 they do not survive as long as tall fescue.

**Sudangrass** (*Sorghum bicolor* ssp. *drummondii*) is a rapidly growing annual grass in the sorghum family. It is medium yielding and well suited for grazing or hay because of its smaller stem size. Sudangrass regrows quickly after harvest and can be grazed several times during summer and early fall.

**Sorghum x 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.

**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,

**Table 1. Summary of Kentucky white clover yield trials 1998-2012 (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>	03	04	06	07	08	09	10	11	03	05	98	03	03			
			3yr <sup>4</sup>	3yr	3yr	2yr	2yr	3yr	2yr	3yr	2yr	3yr	3yr	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	62								76(2)
Excel	Ladino	Allied Seed, L.L.C.			100														-
Durana	Intermediate	Pennington		94		94	88	82	85	97	82	87	83			101	95		89(11)
GWC-AS10	Ladino	Ampac Seed									101								-
Insight	Ladino	Allied Seed, L.L.C.				128													-
Ivory	Intermediate	Cebeco	96																-
Ivory II	Intermediate	DLF International Seeds					86			101	104								97(3)
Jumbo	Ladino	Ampac Seed	93																-
Jumbo II	Ladino	Ampac Seed									122								-
Kopu II	Intermediate	Ampac Seed	97			97	95	95	103	96	86								96(7)
KY Select	Intermediate	Saddle Butte Ag. Inc									107								-
Ocoee	Ladino	Allied Seed, L.L.C.								89	92								91(2)
Patriot	Intermediate	Pennington		103		87	104	113	95	117	112	104	100			98	99		103(11)
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	128	107	100	100	104				107(12)
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									80								-
Will	Ladino	Allied Seed, L.L.C.	107			162	150	132	107	119	124		136						130(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 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 three years, so the final report would be "2004 Red and White Clover Report" archived in the KY Forage Web site 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.

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 Web site 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)
- 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 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.

## 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 2012 reports on the forage Web site. See below for specific reports. The forage Web site contains all reports from 2001 through 2012.

## Yield and Grazing Tolerance Reports

Reports can be found at [www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm](http://www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm).

- 2012 Alfalfa Report (PR-643)
- 2012 Red and White Clover Report (PR-644)
- 2012 Orchardgrass Report (PR-645)
- 2012 Tall Fescue and Bromegrass Report (PR-646)
- 2012 Timothy and Kentucky Bluegrass Report (PR-647)
- 2012 Annual and Perennial Ryegrass and Festulolium Report (PR-648)
- 2012 Alfalfa Grazing Tolerance Report (PR-649)
- 2012 Red and White Clover Grazing Tolerance Report (PR-650)
- 2012 Cool-Season Grass Grazing Tolerance Report (PR-651)
- 2012 Cool-Season Grass Horse Grazing Report (PR-652)
- 2012 Summer Annual Grass Report (PR-653)

## About the Authors

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**Table 2. Summary of Kentucky red clover yield trials 2000-2012 (yield shown as a percentage of the mean of the named commercial varieties in the trial).**

Variety	Proprietor	Lexington										
		00 <sup>1,2</sup> 3yr <sup>4</sup>	00 3yr	01 3yr	02 3yr	03 3yr	04 3yr	06 2yr	08 3yr	09 2yr	10 3yr	11 2yr
AA117ER	ABI Alfalfa							110				
Acclaim	Allied Seed				92							
Arlington	WI Agr. Exp.Sta.				72							
Belle	Agribiotech	88			82							
Cherokee	FL Agr. Exp. Sta.	78			65							
Cinnamon	FFR/Sou.St.	111			108							
Cinnamon Plus	FFR/Sou.St.					97		109	112	123	117	94
Common O	Public										96	94
Dominion	Seed Research of OR							102				
Duration	Cisco Co.			86	100							
Emarwan	Turf-Seed						91			117		
Freedom!	Barenbrug USA	108	105	127	123	96	118	91	100	108	106	109
Freedom!MR	Barenbrug USA				118	115	102	114	114		112	
FSG 9601	Allied Seed						89					
Impact	Specialty Seeds	106	97									
Juliet	Caudill Seed									84		
Kenland (cert.)	KY Ag.Exp Sta.	110	111	127	139	118	117	117	99	111	99	116
Kenland (uncert)	Public										82	
Kenstar	KY Ag.Exp Sta.		105									
Kenton	KY Ag.Exp Sta.	100	93	119	109	90	95	112	121			
Kenway	KY Ag.Exp Sta.	106	104	111	134		97	119	118			
Morning Star	Cal/West Seeds											
Plus	Allied Seed	113			113							
Plus II	Allied Seed								130			
Prima	Public	92			74							
Quinequeli	Caudill Seed									92		
Red Gold	Proseeds Marketing							81				
Red Gold Plus	Turner Seed		97	97			95					
RedlanGraze	ABI Alfalfa	95										
RedlanGraze II	Americas Alfalfa			91	104							
Redland Max	ABI Alfalfa						95					
Redstart	Syngenta	102			78							
Robust	Scott Seed	92										
Robust II	Seed Research of OR											
Rocket	Seed Research of OR											
Rojo Diablo	Great Plains			99								
Royal Red	FFR/Sou.St.	108	92		91							
Rustler	Oregro Seeds								83		101	87
Scarlet	Dairyland	95										
Sienna	Great Plains			91								
Solid	Production Service	97	102		98	84		79				
Starfire	Ampac Seed	97	93		99							
Starfire II	Cal/West & Ampac								101		111	
Triple Trust 350	ABI Alfalfa							101				
Vesna	DLF-Jenks			53								
Wildcat	Brett Young Seeds									101		

<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 2000 was harvested three years, so the final report would be "2002 Red and White Clover Report" archived in the KY Forage Web site at <[www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)>.

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

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**Table 2. continued**

Variety	Princeton						Quicksand					Eden Shale				Mean <sup>3</sup> (#trials)
	00 3yr	03 3yr	05 2yr	08 3yr	09 2yr	11 2yr	01 2yr	03 2yr	05 3yr	08 3yr	10 3yr	00 3yr	03 2yr	08 3yr	10 3yr	
AA117ER			87						92							96(3)
Acclaim																-
Arlington																-
Belle																85(2)
Cherokee																72(2)
Cinnamon																110(2)
Cinnamon Plus			112	102	102	100			103	108	124			108	122	109(15)
Common O											72				77	85(4)
Dominion			95	102					93					109		100(5)
Duration							106									97(3)
Emarwan					106		101				99					103(5)
Freedom!	105	110	136	107	116	95	111	103	119	106	115	102	102	100	140	110(26)
Freedom!MR		106	101		108			94	111		128		118		125	112(14)
FSG 9601																-
Impact	98															100(3)
Juliet				93	90									84	59	82(5)
Kenland (cert.)	104	102	92	113	106	106	111	88	105	104	123	104	98	110	138	110(26)
Kenland (uncert)				74			83				67			66	92	77(6)
Kenstar	104															105(2)
Kenton	98	95	105	112	94		93	99	106	98		102	98			102(19)
Kenway	100		94	106	103		100		103	94		102				106(15)
Morning Star				90										90		90(2)
Plus												97				108(3)
Plus II									97							114(2)
Prima																83(2)
Quinequeli					80										57	76(3)
Red Gold				89										102		91(3)
Red Gold Plus	95						98					98				97(6)
RedlanGraze																-
RedlanGraze II							93									96(3)
Redland Max																-
Redstart																90(2)
Robust																-
Robust II				110										108		109(2)
Rocket				106										108		107(2)
Rojo Diablo							101									100(2)
Royal Red												96				97(4)
Rustler										94	99				104	95(6)
Scarlet																-
Sienna							106									99(2)
Solid	98	87	86						76			105	84			91(11)
Starfire	98											95				96(5)
Starfire II				112						110	112			115	111	110(7)
Triple Trust 350			92						92							95(3)
Vesna							96									75(2)
Wildcat					107						98					102(3)

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











**Table 5. Summary of Kentucky orchardgrass yield trials 1999-2012 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor	Lexington					
		1999 <sup>1,2</sup>	2001	2003	2006	2007	2009
		2yr <sup>3</sup>	2yr	3yr	4yr	3yr	3yr
Abertop	Pennington						
Albert	Univ. of Wis.		103				
Amba	DLF International Seeds		96				
Ambassador	DLF International Seeds						
Ambrosia	American Grass Seed Prod.						
Athos	DLF International Seeds		98				
Benchmark	FFR/Sou. St.	103					
Benchmark Plus	FFR/Sou. St.				100	108	105
Boone	Public						
Bronc	Grassland West						
Bounty	Allied Seed				101		
Century	Seed Research of Oregon				98		
Checkmate	Seed Research of Oregon					102	
Christoss	Proseeds Marketing					92	
Command	Seed Research of Oregon						
Crown	Donley Seed	101					97
Crown Royale	Donley Seed						
Crown Royale Plus	Donley Seed						
Eastwood	Ampac Seed		86				
Elsie	Rose-AgriSeed						
Endurance	DLF International Seeds						
Extend	Allied Seed						
Hallmark	James VanLeeuwen		102	102			
Harvestar	Columbia Seeds				91	97	
Haymaster	FFR/Sou. St.				94		
Haymate	FFR/Sou. St.	106					
Icon	Seed Research of Oregon				105		
Intensiv	Barenbrug			102			
Lazuly	Proseeds Marketing						
LG-31	DLF International Seeds						
Mammoth	DLF International Seeds		102				
Megabite	Turf-Seed	94	105				
Niva	DLF International Seeds						
Paiute	DLF International Seeds					108	
Persist	Smith Seed			123	105	106	107
Potomac	Public	104					103
Prairie	Turner Seed		101		107	101	109
Prodigy	Caudill Seed						101
Profit	Ampac Seed					107	96
RAD-LCF 25	Radix Research						
Renegade	Grassland West						
Shawnee	Rose-AgriSeed						
Shiloh	Proseeds Marketing						
Shiloh II	Proseeds Marketing						
Spanish Pink	DLF International Seeds						
Spanish Red	DLF International Seeds	101					
Takena	Smith Seed		107				
Tekena II	Smith Seed			110	102		
Tekapo	Ampac Seed	88			91	81	82
Tucker	Oregro Seeds						
Udder	Improved Forages			100	107		
Vailliant	Proseeds Marketing					96	
Vision	Cropmark Seeds			63			

<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 1999 was harvested two years, so the final report would be "2001 Orchardgrass Report" archived in the KY Forage Web site at <[www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)>.

<sup>3</sup> Number of years of data.

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Table 5. continued

Variety	Princeton							Quicksand					Mean <sup>4</sup> (#trials)
	1998 2yr	2000 2yr	2002 3yr	2004 3yr	2006 3yr	2008 3yr	2010 2yr	1999 2yr	2001 2yr	2003 3yr	2005 4yr	2010 2yr	
Abertop			71										-
Albert									106				105(2)
Amba									80				88(2)
Ambassador				95									-
Ambrosia					90								-
Athos									105				102(2)
Benchmark	101	97	113					106					104(5)
Benchmark Plus			107		107	104	99			107	102	91	103(10)
Boone	103	104											104(2)
Bronc		98											-
Bounty											98		100(2)
Century											104		101(2)
Checkmate													-
Christoss													-
Command				87									-
Crown	105		101			105		97					101(6)
Crown Royale									110				-
Crown Royale Plus			108							97			103(2)
Eastwood									86				86(2)
Elsie						98							-
Endurance					104								-
Extend				100			103					109	-
Hallmark			103	98					101	96			100(6)
Harvestar					106						100		99(4)
Haymaster											97		96(2)
Haymate	93	100	106					108	104	103			103(7)
Icon											98		102(2)
Intensiv													-
Lazuly						97							-
LG-31				92									-
Mammoth									104				103(2)
Megabite						106		101					102(4)
Niva			81										-
Paiute													-
Persist				101			105			108	101	96	106(9)
Potomac			98			108	102	99				94	100(7)
Prairie		95	104		100	104	95		102	105	107	118	104(13)
Prodigy						103							102(2)
Profit						103	104					119	106(5)
RAD-LCF 25							101					107	104(2)
Renegade		95											-
Shawnee						86							-
Shiloh	109												-
Shiloh II				117									-
Spanish Pink	82												-
Spanish Red								94					98(2)
Takena			100						108				105(3)
Tekena II				109						106	104		106(5)
Tekapo					98	86	93	94	92	105	91	81	90(12)
Tucker					96	102	99					86	96(4)
Udder		102	102							106	99		103(6)
Vailliant													-
Vision										67			65(2)

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

**Table 6. Summary of Kentucky timothy yield trials 2000-2012 (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	99 2yr	01 2yr	00 3yr	04 2yr	
Alma	Newfield Seeds Co/Caudill Seed Co.											81	-
Auroro	General Feed and Grain	100							97				99(2)
Barfleo	Barenbrug USA							95					-
Barpenta	Barenbrug USA					74							-
Clair	Ky Agric. Exp. Station		108	113	107	95	107	104		104		122	108(8)
Classic	Cebeco International Seeds	100		86					86				91(3)
Climax	Canada Agr. Res. Station				79	102	104	98					96(4)
Colt	FFR Cooperative	105		100	90				112			99	101(5)
Common	Public		95										-
Derby	FFR Cooperative				112	111		106				124	113(4)
Dolina	DLF-Trifolium	99		90									95(2)
Express	Seed Research of Oregon			95		91		97					94(3)
Hokuei	Snow Brand Seed	103											-
Hokusei	Snow Brand Seed	96							98				97(2)
Joliette	Newfield Seeds Co/Caudill Seed Co.						86	89				90	88(3)
Jonaton	Newfield Seeds Co/Caudill Seed Co.											84	-
KY Early	Central Farm Supply	102	103	115			102		104	105			105(6)
Outlaw	Grassland West Company										107		-
Richmond	Pickseed Canada Inc.	100							103				102(2)
Summit	Allied Seed, L.L.C.			112									-
Talon	Seed Research of Oregon				110	112		108					110(3)
Treasure	Seed Research of Oregon				103	115		103					107(3)
Tundra	DLF-Trifolium	95											-
Tuukka	Ampac Seed Company		94	88						91	93		92(4)

<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 2000 was harvested two years, so the final report would be "2002 Timothy Report" archived in the KY Forage Web site 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 7. Summary of Kentucky bluegrass yield trials 1996-2012 (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)	
		96 <sup>1,2</sup> 3yr <sup>4</sup>	03 2yr	04 3yr	06 4yr	07 3yr	08 3yr	09 3yr	10 2yr	02 3yr		
Adam 1	Radix Research			98								-
Barderby	Barenbrug USA					94		101	85	114		99(4)
BigBlue	Rose-AgriSeed							82				-
Common	Public				71	66	68					68(3)
Ginger	ProSeeds Marketing		89		118	119	114	118	112			112(6)
Kenblue	Public	90		102	133				104			107(4)
Lato	Turf Seed Inc.	110				122						116(2)
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 2004 was harvested two years, so the final report would be "2006 Timothy and Kentucky Bluegrass Report" archived in the KY Forage Web site at <[www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)>. The 96 and 03 Lexington and 02 Princeton 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 8. continued**

Variety	Type	Proprietor	Lexington <sup>1</sup>													Bowling Green			Mean <sup>4</sup> (#trials)	
			992.3	01	03	04	05	06	07	08	09	10	11	11	00	02	04	00		03
			All trials are 1 year yields																	
Rio	Westerwold diploid		88											100	97		102		97(4)	
Spark	tetraploid	DLF International	87														83		85(2)	
Stockaid	diploid					181														
Striker	Westerwold tetraploid	Seed Research of OR					104													
TAMTBO	Italian tetraploid	Tex. Ag Exp Sta.						80		103		115							99(3)	
Tam 90	Italian diploid	Tex. Ag Exp Sta.						82							85				84(2)	
TetraPro	Italian tetraploid	Tex. Ag Exp Sta.						67												
Tetrelite II	Intermediate	DLF International														122				
TillageRootMax	Westerwold diploid	Cover Crop Solutions										87								
TillageMax-Bristol	Westerwold diploid	Cover Crop Solutions										96								
TillageMax-INDY	Westerwold diploid	Cover Crop Solutions										95								
T-Rex	Westerwold tetraploid	SaddleButte																		
Verdure	Westerwold tetraploid	Smith Seed Services				25														
Winterhawk	Westerwold diploid	Oregro Seeds								87										
Winter Star	Italian tetraploid	Ampac Seed										123							115(2)	
Zorro	Italian tetraploid	DLF International	120	127										135	130		118		126(5)	

<sup>1</sup> In annual ryegrass, low yielding varieties usually result from winterkill. Note: Due to severe winterkill, yield results from the 2006 planting 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 1999 was harvested one year, so the final report would be "2000 Annual and Perennial Ryegrass Report" archived in the KY Forage Web site 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.

**Table 9. Summary of Kentucky perennial ryegrass yield trials 1999-2012 (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)
			99 <sup>1,2</sup>	01	03	04	05	06	07	08	09	10	00	02	00	03	
			2yr <sup>5</sup>	2yr	2yr	3yr	3yr	2yr	3yr	3yr	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				85(3)
Bison	hybrid tetraploid	International Seeds														140	-
Boost	tetraploid	Allied Seed							130	125	120	143					130(4)
Boxer	tetraploid	AgriBioTech	121											106			114(2)
Calibra	tetraploid	DLF International								96	109	81			112		99(4)
CAS MP64	diploid	Cascade International		97													-
Citadel	tetraploid	Ag Canada	101											94	113	103	103(4)
Derby		Public														74	-
Eurostar	tetraploid	Seed Research of OR							112								-
Feeder	diploid	Seed Research of OR							76								-
Granddaddy	tetraploid	Smith Seed		118				101	109		76	92			111		101(6)
Green Gold	tetraploid	Grasslands Oregon						96									-
Herbal		ProSeeds Marketing								77							-
Impressario	tetraploid	DLF International										107					-
Lactal	tetraploid	Brett Young										102					-
Lasso	diploid	DLF International		98													-
Linn	diploid	Public	87	98	98	102		98	85	84	101	92	87	88	77		91(12)
Manhatten	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							-
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					104(4)
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										-
Tonga	tetraploid	Kings AgriSeeds					96					103					100(2)
Yatsyn	diploid	Barenbrug USA	80										89				85(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 1999 was harvested two years, so the final report would be "2001 Annual and Perennial Ryegrass Report" archived in the KY Forage Web site 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 10. Summary of Kentucky festulolium yield trials 1999-2012 (yield shown as a percentage of the mean of the commercial varieties in the trial).<sup>1</sup>**

Variety	Proprietor	Lexington								Princeton	Quicksand		Mean <sup>4</sup> (#trials)
		1999 <sup>2,3</sup> 2yr <sup>5</sup>	2001 3yr	2003 2yr	2005 3yr	2007 3yr	2008 3yr	2009 3yr	2010 2yr	2000 2yr	2001 2yr	2003 2yr	
Agula	Allied Seed								90				-
Barfest	Barenbrug USA								107				-
Bonus	Allied Seed								86				-
Duo	Ampac Seed	104			84		103	99	93				97(5)
Felina	DLF International		101						101				101(2)
Fojtan	DLF International								84				-
Gain	Allied Seed								94				-
Hykor	DLF International			98					100			98	99(3)
Lofa	DLF International								106				-
Perseus	DLF International								129				-
Perun	DLF International								117				-
Spring Green	Turf-Seed		88		105	100	114	101	106			97	102(7)
Sweet Tart	ProSeeds Marketing						88		88				88(2)
Vorage	Improved Forages									99			-

<sup>1</sup> The festuloliums were in fescue trials from 1999-2005.

<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 1999 was harvested two years, so the final report would be "2001 Tall Fescue Report" archived in the KY Forage Web site 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> Number of years of data.

**Table 11. Summary of Kentucky sudangrass yield trials 2008-2012 (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)
		2008 <sup>1,2</sup>	2009	2010	2011	2012	
All trials are 1 year yields							
AS9301	Alta Seeds/Ramer Seed					118	–
Enorma BMR	Cal/West Seeds			99	94	92	95(3)
Hayking BMR	Central Farm Supply	111	112	91	97	97	102(5)
Monarch V	Public	104	96	102	97	93	98(5)
Piper	Public	90	91	97	94	104	95(5)
ProMax BMR	Ampac Seed	95	101	110	115	96	103(5)
SS130 BMR	Cal/West Seeds			101	103		102(2)

<sup>1</sup> Establishment year.

<sup>2</sup> 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.

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

**Table 12. Summary of Kentucky sorghum-sudangrass yield trials 2008-2012 (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)
		2008 <sup>1,2</sup>	2009	2010	2011	2012	
All trials are 1 year yields							
AS6402	Alta Seeds/Ramer Seed					91	–
FSG 208 BMR	Farm Science Genetics			75			–
Greengrazer V	Farm Science Genetics			166			–
GW300 BMR	Gayland Ward Seed				88	78	83(2)
GW 2120	Gayland Ward Seed					83	–
HyGain	Turner Seed	104	105	118			109(3)
MS 202 BMR	Farm Science Genetics			106			–
NutraPlus BMR	Cisco	106	97	94	103	106	101(5)
Special Effort	Cisco	109	110	93	94	115	104(5)
SS211	Southern States				104	93	99(2)
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	110(2)
Sweet-For-Ever	Gayland Ward Seed				110	107	109(2)
Sweet-For-Ever BMR	Gayland Ward Seed					78	–
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 tables in this report to determine statistical differences in forage yield between varieties.

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

**Table 13. Summary of Kentucky teff yield trials 2008-2012 (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
	All trials are 1 year yields							
Corvallis	94	112	81	101	91	101	96	97(7)
Dessie	102	87	99	92	96	94	95	95(7)
Excaliber	109	111	109	104	125	108	106	110(7)
Highveld	111	115	100	121	106	101	109	109(7)
HorseCandi	91	84	99	105	89	108	94	96(7)
Pharaoh	95	101	105	85	106	106	97	99(7)
Rooiberg	102	107	112	109	113	108	115	109(7)
Summer Delight		90		91	96	88	93	92(5)
Tiffany	102	106	102	93	82	93	102	97(7)
VA T1 Brown		89		99	87	91	94	92(5)
Velvet		94		100	97	98	95	97(5)
Witkope	94	100	93	101	115	103	101	101(7)

<sup>1</sup> Establishment year.

<sup>2</sup> 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.

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

**Table 14. Summary of Kentucky white clover grazing trials 2002-2012 (stand persistence shown as a percent of the mean of the commercial varieties in the test).**

Variety	Type	Proprietor	2002 <sup>1,2</sup>	2004	2006 <sup>3</sup>	2006	2008 <sup>4</sup>	2008	2009	2010	Mean <sup>5</sup> (#trials)
			2yr <sup>6</sup>	4yr	2yr	2yr	3yr	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	97	126	105(6)
GWC-AS10	–	Ampac Seed								98	–
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		74	116	97(5)
KY Select	Intermediate	KY Agr Ex. Sta./Saddle Butte						105		81	93(2)
Patriot	Intermediate	Pennington		110	137	122		100	113	119	117(6)
Rampart	–	Oregro Seeds						90			–
Regal	Ladino	Public	92		57	54		93		116	82(5)
Regal Graze	Ladino	Cal/West			84	87	105	90	97	74	89(6)
Resolute	Intermediate	FFR/Southern States			101	106					104(2)
Seminole	Ladino	Saddle Butte Ag. Inc.		75		97	91				88(3)
Tillman II	Ladino	Caudill Seed	92								–
WBDX	Dutch	Saddle Butte Ag. Inc.								63	–
Will	Ladino	Allied Seed			117	87	107	105	118	109	107(6)

<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 2002 was grazed for two years so the final persistence report would be "2004 Red and White Clover Grazing Tolerance Report" archived in the KY Forage Web site at <[www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage)>.

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

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

<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 15. Summary of Kentucky alfalfa grazing trials 1994-2012 (stand persistence shown as a percent of the grazing tolerant Alfagraz).**

Variety	Variety Characteristics <sup>1</sup>										Lexington										Mean <sup>5</sup> (#trials)
	Disease Resistance <sup>2</sup>					FD	1994 <sup>3,4</sup>					2000 3yr	2000 2yr	2001 3yr	2004 4yr	2005 4yr	2006 3yr	2008 4yr	2009 3yr		
	Bw	Fw	An	PRR	APH		3yr <sup>6</sup>	1996 3yr	1997 4yr	1998 3yr	2000 3yr										
ABT 205	W-L Research	2	HR	HR	HR	R	HR	HR	HR	R	94								89(2)		
ABT 350	W-L Research	3	HR	HR	HR	HR	HR	HR	HR	R	46										
ABT 405	W-L Research	4	HR	HR	HR	HR	HR	HR	HR	R	71	129	69						83(5)		
Alfagraz	Americas Alfalfa	2	MR	R	MR	R	R	R	R	-	100	100	100	100	100	100	100	100	100(12)		
Amerigraze 401+Z	Americas Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	R		120	53	56					78(6)		
Ameristand 403T	Americas Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	HR					141	144	50		112(3)		
Ameristand 403TPlus	Americas Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	HR							135				
Ameristand 407TQ	Americas Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	HR					136			43	90(2)		
Apollo	Americas Alfalfa	4	R	R	R	R	R	R	R	-	48	75	33	47	17	31	25	57	38(11)		
Arc (certified)	Public	4	LR	MR	HR	HR	-	-	-	-	38										
Archer III	Americas Alfalfa	5	HR	HR	HR	HR	HR	HR	HR	HR							48				
Baralfa 54	Barenbrug USA	-	R	HR	HR	HR	HR	HR	HR	HR			78								
Cut-n-Graze	Americas Alfalfa	3	HR	HR	HR	HR	HR	HR	HR	R	68										
FK 421	Donley Seed Co.	4	HR	H	H	H	H	H	H	H						100					
Feast	Garst Seeds	3	HR	HR	HR	HR	HR	HR	HR	R	146	87	92						108(3)		
Fortress	Syngenta	3	R	R	R	R	R	R	R	R	40	71							56(2)		
Gold Plus	PGI Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	R											
Grazeking	FFR/Southern States	5	MR	HR	HR	HR	R	S					50						61(3)		
Haygrazer	Great Plains Research	4	HR	HR	R	R	R	MR		MR	75	39		38					51(3)		
Integrity	PGI Alfalfa	4	HR	HR	HR	HR	HR	HR	HR	HR				172							
Legacy	Green Seed	4	R	R	R	R	R	R	R	R	32										
LegenDairy5.0	Croplan Genetics	3	HR	HR	HR	HR	HR	HR	HR	HR						0					
Magnagraz	Dairyland Seed Co.	3	HR	HR	R	HR	HR	-			56										
Pasture Plus	MBS	3	HR	HR	R	HR	MR	MR		MR	60										
Pioneer 98	Pioneer	3	HR	R	HR	R	-	-				56									
PGI 459	Producers Choice	4	HR	HR	HR	HR	HR	HR	HR	HR							30				
ProGro	MBS Inc.	4	HR	HR	R	HR	MR	MR		MR											
Quantum	ABI Alfalfa	2	HR	HR	HR	HR	HR	R		R	71										
Rebel	Target Seed	4	HR	HR	HR	HR	HR	HR	HR	HR					79						
Rugged	Target Seed	3	HR	HR	HR	HR	HR	HR	HR	HR					146						
Rushmore	Syngenta	4	HR	HR	HR	HR	HR	HR	HR	HR	32										
Saranac AR (cert.)	Public	4	MR	R	HR	LR	-	-			77								89(2)		
Spredor 3	Syngenta	1	HR	HR	R	MR	S	S		S	71	123	75		68				96(4)		
Spredor 4	Syngenta	2	HR	HR	HR	HR	HR	R		R						25					
Stampede	Allied Seed	3	HR	R	R	HR	HR	R		R	73										
TS 4010/A4535	Producers Choice	4	HR	R	HR	HR	HR	HR	HR	HR							74				
Triple Trust 450	ABI/America's Alfalfa	5	HR	HR	HR	HR	HR	HR	HR	HR				145							
Wintergreen	ABI Alfalfa	3	HR	HR	HR	HR	HR	HR	HR	R	95		57	72					75(3)		
WL 326GZ	W-L Research	4	HR	HR	HR	HR	HR	HR	HR	HR		118	88						103(2)		
115 Brand	Monsanto	3	HR	HR	R	HR	R	HR	R	R		56	85						71(2)		
5373	Pioneer	4	HR	HR	HRT	MR	LR	LR	LR	LR	21										
5432	Pioneer	4	HR	HR	HR	-	MR	-	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 three years so final persistence report would be "1999 Alfalfa Grazing Tolerance Report" archived in the KY Forage Web site 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 16. Summary of 1996-2012 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)		
		1996 <sup>1,2</sup> 3yr <sup>4</sup>	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 3yr	2012 4yr
Advance MaxQ	Pennington Seed																
Bariane	Barenbrug USA							89			75	47	29				60(4)
Barcel	Barenbrug USA	92															
BarElite	Barenbrug USA												96				
Barolex	Barenbrug USA										78	101	86				88(3)
BarOptima PLUS E34	Barenbrug USA										100		97				99(2)
BAR9TMPO	Barenbrug USA				75												
Bronson	Ampac Seed			39											98		69(2)
Cattle Club	Green Seed		37	98	70	93	91										78(2)
Carmine	DLF-Jenks						90										
Cowgirl	Rose Agri-Seed												99				
Dovey	Barenbrug USA	92															
Festival	Pickseed West					100	101										
Festorina	Advanta Seeds	98	86		57											89	97(3)
Fuego	Advanta Seeds			27													80(3)
Hoedown	DLF-Jenks					88											
HyMark	Fraser Seeds															95	
Jesup EF	Pennington Seed		63	91				99									84(3)
Jesup MaxQ	Pennington Seed			114	79			103	97		68	102	97		100	105	96(10)
Johnstone	Proseeds		65	107						92							88(3)
KY31+ <sup>5</sup>	KY Agri. Exp Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(15)
KY31-5	KY Agri. Exp Sta.	94	90	102	84			98	98	98	82	100	100	98	99	105	97(14)
Kenhy	Public			116													
Kokanee	Ampac Seed					43											
Martin II	International Seeds																
Maximize	Rose Agri-Seed		59							99							
Nanryo	Japanese Grassland For.Seed/ USDA-ARS,EIReno,OK												100				
Orygun									99								
Resolute	Ampac Seed									23							
Select	FFR/Sou. St.			109	69	107	101	100	100	100	67	100	93	95	98	98	95(12)
Southern Cross			25														
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 four years so the final report would be "2001 Cool-Season Grass Grazing Tolerance Report" archived in the KY Forage Web site 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 2000-2012 Kentucky perennial ryegrass and festulolium (FL) grazing tolerance trials (stand persistence shown as a percent of the mean of the commercial varieties in the trial).**

Variety	Proprietor	2000 <sup>1,2</sup>	2001	2003	2005	2007	2008	Mean <sup>3</sup> (#trials)
		4yr <sup>4</sup>	3yr	4yr	3yr	4yr	3yr	
AGRLP103	AgResearch USA	128		86				107(2)
Aries	Ampac Seed		139					–
BG 34	Barenbrug USA				1765	145 <sup>5</sup>		185(2)
Boost	Allied Seed						101	–
Citadel	Donley Seed	107						–
Duo (FL)	Ampac Seed	116					95	106(2)
Granddaddy	Smith Seed Services		121			70		89(2)
Lasso	DLF-Jenks		130					–
Linn	Public	112	129	63			95	100(4)
Maverick	Ampac Seed		36					–
Polly II	FFR/Southern States	36	68					52(2)
Power	Ampac Seed					134		–
Quartet	Ampac Seed		77		63	50		60(3)
Remington	Barenbrug USA			151 <sup>5</sup>				–
Spring Green (FL)	Rose Agri-Seed	101					109	105(2)
Tonga	Ampac Seed				61			–

<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 2000 was grazed four years so the final report would be “2004 Cool-Season Grass Grazing Tolerance Report” archived in the KY Forage Web site 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> 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 19. Summary of 1999-2012 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 <sup>1,2</sup>	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean <sup>3</sup> (#trials)
		3yr <sup>4</sup>	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	3yr	
BarOptima PLUS E34	Barenbrug								107			–
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	100	95(4)
Johnstone	ProSeeds		88									–
KY31+ <sup>5</sup>	KY Agri. Exp.Sta.		105				102	109	120	107	101	107(6)
KY31- <sup>5</sup>	KY Agri. Exp.Sta.	100	100	100	100	100	100	100	100	100	100	100(10)
Nanryo	Japanese Grassland For. Seed/ USDA-ARS, El Reno, OK								72			–
Seine	Seed Research of OR					135						–
Select	FFR/Southern States	82		109	94	99	73	104	76	108	98	94(9)
Stargrazer	FFR/Southern States	70										–
Stockman	Seed Research of OR					125						–

<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 2001 was grazed four years so the final report would be “2005 Cool-Season Grass Horse Grazing Tolerance Report” archived in the KY Forage Web site 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 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 1999-2012 Kentucky orchardgrass horse grazing tolerance trials in Lexington (stand persistence shown as a percent of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	1999 <sup>1,2</sup>	2000	2001	2002	2005	2006	2009	Mean <sup>3</sup> (#trials)
		3yr <sup>4</sup>	4yr	4yr	4yr	4yr	4yr	3yr	
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	103	127(4)
Crown Royale	Grassland Oregon			95					–
Crown Royale Plus	Grassland Oregon				97				–
Haymate	FFR/Southern States	96	85		97				93(3)
Persist	Smith Seed					114		98	106(2)
Potomac	Public				117				–
Prairie	Turner Seed			100					–
Profit	Ampac Seed							99	–
Tekapo	Ampac Seed	101	115		93	30		99	88(5)

<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 2005 was grazed four years so the final report would be "2009 Cool-Season Grass Horse Grazing Tolerance Report" archived in the KY Forage Web site 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.



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