

2011 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 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 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

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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 still 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, 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.

Table 1. Summary of Kentucky White Clover Yield Trials 1998-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial.)

Variety	Type	Proprietor	Lexington								Princeton			Quicksand		Eden Shale		Mean ³ (#trials)
			02 ^{1,2} 3yr ⁴	03 3yr	04 3-yr	06 2-yr	07 2-yr	08 3yr	09 2yr	10 2yr	03 3yr	05 3-yr	98 3yr	03 2yr	03 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			99		78						83(4)
Companion	Ladino	Oregro Seeds						87	94	90								90(3)
Crescendo	Ladino	Cal/West Seeds	105			140						109						118(3)
Crusader II	Intermediate	Allied Seed, L.L.C.								97								-
Excel	Ladino	Allied Seed, L.L.C.			100													-
Durana	Intermediate	Pennington		94		94	88	82	85	88	87	83		101	95			90(10)
Insight	Ladino	Allied Seed, L.L.C.				128												-
Ivory	Intermediate	Cebeco	96															-
Ivory II	Intermediate	DLF International Seeds					86			96								91(2)
Jumbo	Ladino	Ampac Seed	93															-
Kopu II	Intermediate	Ampac Seed	97			97	95	95	103	97								97(6)
Ocoee	Ladino	Allied Seed, L.L.C.								85								-
Patriot	Intermediate	Pennington		103		87	104	113	95	118	104	100		98	99			102(10)
Pinnacle	Ladino	Allied Seed, L.L.C.				120						111						116(2)
Rampart	Ladino	Allied Seed, L.L.C.					80	89	97	85								88(4)
Regal	Ladino	Public	99	96	92		125	100	116	123	107	100	100	104				106(11)
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															-
Will	Ladino	Allied Seed, L.L.C.	107			162	150	132	107	123		136						131(7)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2002 was harvested 3 years, so the final report would be "2004 Red and White Clover Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁴ Number of years of data

Table 2. Summary of Kentucky Red Clover Yield Trials 2000-2011 (yield shown as a percentage of the mean of the named commercial varieties in the trial).

Variety	Proprietor	Lexington										Princeton					Quicksand					Eden Shale				Mean ³ (#trials)
		00 ^{1,2} 3yr ⁴	00 3yr	01 3yr	02 3yr	03 3yr	04 3yr	06 2yr	08 3yr	09 3yr	10 2yr	00 3yr	03 3yr	05 2yr	08 3yr	09 2yr	01 2yr	03 2yr	05 3yr	08 3yr	10 2yr	00 3yr	03 2yr	08 3yr	10 2yr	
AA117ER	ABI Alfalfa						110						87					92								96(3)
Acclaim	Allied Seed				92																					-
Arlington	WI Agr. Exp.Sta.				72																					-
Belle	Agribiotech	88			82																				85(2)	
Cherokee	FL Agr. Exp. Sta.	78			65																				72(2)	
Cinnamon	FFR/Sou.St.	111			108																				110(2)	
Cinnamon Plus	FFR/Sou.St.					97		109	112	123	113		112	102	102			103	108	108			108	114	109(13)	
Common O	Public										97									71				84	84(3)	
Dominion	Seed Research of OR							102					95	102				93				109			100(5)	
Duration	Cisco Co.			86	100											106									97(3)	
Emarwan	Turf-Seed						91			117					106	101				93					102(5)	
Freedom!	Barenbrug USA	108	105	127	123	96	118	91	100	108	113	105	110	136	107	116	111	103	119	106	116	102	102	100	128	110(24)
Freedom!MR	Barenbrug USA				118	115	102	114	114		112		106	101		108		94	111		122		118		112	111(14)
FSG 9601	Allied Seed						89																			-
Impact	Specialty Seeds	106	97								98															100(3)
Juliet	Caudill Seed									84				93	90								84	72		85(5)
Kenland (cert.)	KY Ag.Exp Sta.	110	111	127	139	118	117	117	99	111	97	104	102	92	113	106	111	88	105	104	109	104	98	110	130	109(24)
Kenland (uncert)	Public										82			74		83				84			66	100		82(6)
Kenstar	KY Ag.Exp Sta.		105									104														105(2)
Kenton	KY Ag.Exp Sta.	100	93	119	109	90	95	112	121			98	95	105	112	94	93	99	106	98		102	98			102(19)
Kenway	KY Ag.Exp Sta.	106	104	111	134		97	119	118			100		94	106	103	100		103	94		102				106(15)
Morning Star Plus	Cal/West Seeds													90										90		90(2)
Plus II	Allied Seed	113			113																97					108(3)
Prima	Allied Seed								130																	114(2)
Prima	Public	92			74																					83(2)
Quinequeli	Caudill Seed									92						80								64		79(3)
Red Gold	Proseeds Marketing							81						89									102			91(3)
Red Gold Plus	Turner Seed		97	97			95					95				98					98					97(6)
RedlanGraze	ABI Alfalfa	95																								-
RedlanGraze II	Americas Alfalfa			91	104											93										96(3)
Redland Max	ABI Alfalfa						95																			-
Redstart	Syngenta	102			78																					90(2)
Robust	Scott Seed	92																								-
Robust II	Seed Research of OR													110									108			109(2)
Rocket	Seed Research of OR													106									108			107(2)
Rojo Diablo	Great Plains			99												101										100(2)
Royal Red	FFR/Sou.St.	108	92		91																	96				97(4)
Rustler	Oregro Seeds							83		86								94	103					103		94(4)
Scarlet	Dairyland	95																								-
Sienna	Great Plains			91												106										99(2)
Solid	Production Service	97	102		98	84		79				98	87	86				76			105	84				91(11)
Starfire	Ampac Seed	97	93		99							98									95					96(5)
Starfire II	Cal/West & Ampac								101		114				112				110	113				115	107	110(7)
Triple Trust 350	ABI Alfalfa							101						92					92							95(3)
Vesna	DLF-Jenks			53													96									75(2)
Wildcat	Brett Young Seeds									101						107										104(3)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2000 was harvested 3 years, so the final report would be "2002 Red and White Clover Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁴ Number of years of data

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 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 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

Table 3. Summary of Kentucky Alfalfa Yield Trials 2000-2011 (yield shown as a percentage of the mean of the commercial varieties in the test).

Variety	Proprietor	Variety Characteristics ¹												Bowling Green ²												Mean ⁶ (# trials)
		Disease Resistance ³						Lexington						Princeton						Eden Shale						
		FD	Bw	Fw	An	PRR	APH	00 ^{4,5} 5yr ⁷	02	04	06	08	01	05	08	09	03	06	03	06	03	06				
A-4440	Producers Choice	4	HR	HR	HR	HR	HR																		100(2)	
A 5225	Producers Choice	5	HR	HR	HR	HR	R																		105(2)	
Abilene +Z	America's Alf.	5	HR	HR	HR	HR	R																		-	
AC Longview	Newfield Seeds	-	HR	-	-	-	-	83																	-	
Adrenalin	Brett Young	4	HR	HR	HR	HR	HR																		-	
AmeriGraze 401+Z	America's Alf.	4	HR	HR	HR	HR	R	99																	-	
Ameristand 403T	America's Alf.	3	HR	HR	HR	HR	HR																		99(5)	
Ameristand 403T Plus	America's Alf.	4	HR	HR	HR	HR	HR																		-	
Ameristand 407TQ	America's Alf.	4	HR	HR	HR	HR	HR																		-	
Anchormate	ProSeed Marketing	-	-	-	-	-	-																		-	
Arc (certified)	Public	4	LR	MR	HR	-	-	91	96	76															92(7)	
Archer III	America's Alf.	5	HR	HR	HR	HR	HR																		-	
Baralfa 53HR	Barenbrug USA	5	HR	R	HR	HR	HR																		-	
Buffalo	Public	-	-	-	-	-	-																		-	
DK 140	Monsanto	4	HR	HR	HR	HR	HR																		88(9)	
DKA-41-18RR	Monsanto	4	HR	HR	HR	HR	HR																		98(2)	
DKA 43-13	Monsanto	4	HR	HR	HR	HR	HR																		-	
DKA 50-18	Monsanto	5	HR	HR	HR	HR	HR																		-	
Dynagro Everlast	United Agr. Prod.	4	HR	HR	HR	HR	R																		101(2)	
Enforcer	FFR/Sou. St.	4	HR	HR	HR	HR	HR																		-	
Escalade	Allied Seeds	5	HR	HR	HR	HR	HR																			86(2)
Evermore	FFR/Sou. St.	5	HR	HR	HR	HR	HR																		-	
Expedition	Syngenta Seeds	5	HR	HR	R	RR	R																		103(3)	
Feast +EV	Garst Seeds	3	HR	HR	HR	R	HR																		105(3)	
Fortress	Syngenta	3	R	R	R	HR	-																		101(3)	
FSG 406	Allied Seeds	4	HR	HR	HR	HR	HR																		-	
FSG 408DP	Allied Seeds	4	HR	HR	HR	HR	R																		-	
FSG 505	Allied Seeds	5	HR	HR	HR	HR	R																		107(2)	
FSG 528SF	Lewis Seed Co.	5	HR	R	HR	HR	R																		107(2)	
Geneva	Syngenta	4	HR	HR	HR	HR	HR																		-	
Genoa	Syngenta	4	HR	HR	HR	HR	RR																		104(3)	
GH 744	Golden Harvest	4	HR	HR	HR	HR	MR																		107(4)	
HybridForce 400	Dairyland	4	HR	HR	R	HR	MR																		-	
Integrity	PGI Alfalfa	4	HR	HR	HR	HR	HR																		-	

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 rec-

ommendations. 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

Table 4. Summary of Kentucky Tall Fescue Yield Trials 1999-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor	Lexington						Princeton						Quicksand				Mean ³ (#trials)
		99 ^{1,2} 2-yr ⁴	01 3-yr	03 2-yr	05 3-yr	07 3-yr	09 2-yr	98 2-yr	00 2-yr	02 3-yr	04 3-yr	06 3-yr	08 3-yr	99 2-yr	01 2-yr	03 2-yr	05 4-yr	
Atlas	ProSeeds Marketing	107											89				98(2)	
Atlas Select	ProSeeds Marketing											96					-	
Aprilia	ProSeeds Marketing											94					-	
BarElite	Barenbrug USA					99											-	
Bariane	Barenbrug USA			87	103											95	95(3)	
Barolex	Barenbrug USA				94												-	
BarOptima PLUS E34	Barenbrug USA					101											-	
BAR 9 TMPO	Barenbrug USA	96											97				97(2)	
Bronson	Ampac Seed				91	100	105									102	100(4)	
Bull	Improved Forages			98	106			102	103						97		101(5)	
Carmine	DLF International		99												97		98(2)	
Cowgirl	Rose-AgriSeeds												102				-	
DLF-B	DLF International	96															-	
Enhance	Allied Seed									107							-	
Festival	Pickseed West		107							102				107			105(3)	
Fuego	Advanta Seeds	99															-	
Goliath	Ampac Seed					100											-	
Hoedown	DLF International		104												106		105(2)	
HyMark	Fraser Seeds												102				-	
Jesup EF	Pennington Seed						106										-	
Jesup MaxQ	Pennington Seed				102	104	109		98			95			100	102	101(7)	
Johnstone	ProSeeds Marketing	95	108										95				99(3)	
KENHY	KY Agric Exp Sta.									89							-	
Kentucky 32	Oregro Seeds												99				-	
Kokanee	Ampac Seed		89					86									88(2)	
KY31+ ⁵	KY Agric Exp Sta.	102	118	113	112	105	101	122	108	104		106	93	107	124	98	110	115(15)
Maximize	Turf-Seed	96	95										105	93			97(4)	
Nanryo	Jap. Grassland ForageSeed/ USDA-ARS, El Reno, OK					99											-	
Noria	ProSeeds Marketing					100											-	
RAD-ERF50	Radix Research, Inc.											113					-	
Resolute	Ampac Seed		90											65			78(2)	
Savory	DLF International										93						-	
Seine	Advanta Seeds	99								96							98(2)	
Select	FFR/Sou. St.	106	106	94	103	102	101	105	105	95	105	103	105	107	112	102	91	103(16)
Stockman	Seed Research of OR			109							101	99				105		104(4)
TF0203G	Seed Research of OR					90												-
TF33	Barenbrug USA							70										-
Tuscany	Forage Genetics		112															-
Tuscany II	Seed Research of OR										100							-
Vulcan	International Seeds							97										-
5CAN	Brett Young						83											-

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Tall Fescue Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁴ Number of years of data.

⁵ "+" indicates variety is endophyte infected.

Table 5. Summary of Kentucky Orchardgrass Yield Trials 1999-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor	Lexington							Princeton							Quicksand				Mean ³ (#trials)
		1999 ^{1,2}	2001	2003	2006	2007	2009	1998	2000	2002	2004	2006	2008	1999	2001	2003	2005			
		2-yr ⁴	2-yr	3-yr	4-yr	3-yr	2-yr	2-yr	2-yr	3-yr	3-yr	3-yr	3-yr	2-yr	2-yr	3-yr	4-yr			
Abertop	Pennington									71								-		
Albert	Univ. of Wis.		103												106			105(2)		
Amba	DLF International Seeds		96												80			88(2)		
Ambassador	DLF International Seeds											95						-		
Ambrosia	American Grass Seed Prod.											90						-		
Athos	DLF International Seeds		98												105			102(2)		
Benchmark	FFR/Sou. St.	103						101	97	113				106				104(5)		
Benchmark Plus	FFR/Sou. St.				100	108	104			107			107	104			107	102	105(8)	
Boone	Public							103	104										104(2)	
Bronc	Grassland West									98									-	
Bounty	Allied Seed				101													98	100(2)	
Century	Seed Research of Oregon				98													104	101(2)	
Checkmate	Seed Research of Oregon						102												-	
Christoss	Proseeds Marketing						92												-	
Command	Seed Research of Oregon												87						-	
Crown	Donley Seed	101						98	105		101				105	97			101(6)	
Crown Royale	Donley Seed															110			-	
Crown Royale Plus	Donley Seed										108						97		103(2)	
Eastwood	Ampac Seed		86													86			86(2)	
Elsie	Rose-AgriSeed														98				-	
Endurance	DLF International Seeds													104					-	
Extend	Allied Seed												100						-	
Hallmark	James VanLeeuwen		102	102							103	98				101	96		100(6)	
Harvestar	Columbia Seeds				91	97								106				100	99(4)	
Haymaster	FFR/Sou. St.				94													97	96(2)	
Haymate	FFR/Sou. St.	106							93	100	106					108	104	103	103(7)	
Icon	Seed Research of Oregon				105													98	102(2)	
Intensiv	Barenbrug				102														-	
Lazuly	Proseeds Marketing														97				-	
LG-31	DLF International Seeds												92						-	
Mammoth	DLF International Seeds		102													104			103(2)	
Megabite	Turf-Seed	94	105												106	101			102(4)	
Niva	DLF International Seeds										81								-	
Paiute	DLF International Seeds						108												-	
Persist	Smith Seed			123	105	106	108						101					108	101	107(7)
Potomac	Public	104					104				98				108	99			103(5)	
Prairie	Turner Seed		101		107	101	111			95	104			100	104		102	105	107	103(11)
Prodigy	Caudill Seed						102								103					103(2)
Profit	Ampac Seed					107	94								103					101(3)
Renegade	Grassland West									95										-
Shawnee	Rose-AgriSeed														86					-
Shiloh	Proseeds Marketing								109											-
Shiloh II	Proseeds Marketing												117							-
Spanish Pink	DLF International Seeds								82											-
Spanish Red	DLF International Seeds	101													94					98(2)
Takena	Smith Seed		107								100						108			105(3)
Tekena II	Smith Seed			110	102								109					106	104	106(5)
Tekapo	Ampac Seed	88			91	81	78							98	86	94	92	105	91	90(10)
Tucker	Oregro Seeds													96	102					99(2)
Udder	Improved Forages			100	107					102	102							106	99	103(6)
Vailliant	Proseeds Marketing						96													-
Vision	Cropmark Seeds				63													67		65(2)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Orchardgrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁴ Number of years of data.

Table 6. Summary of Kentucky Timothy Yield Trials 2000-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington							Quicksand		Princeton		Mean ³ (#trials)
		00 ^{1,2}	01	02	06	07	08	09	99	01	00	04	
		2yr ⁴	3yr	4yr	3yr	3yr	3yr	2yr	2yr	2yr	3yr	2yr	
Alma	Newfield Seeds Co/Caudill Seed Co.											81	-
Auroro	General Feed and Grain	100								98			99(2)
Barfleo	Barenbrug USA								94				-
Barpenta	Barenbrug USA					74							-
Clair	Ky Agric. Exp. Station		109	115	107	95	108	102		108		122	108(8)
Classic	Cebeco International Seeds	100		88						87			92(3)
Climax	Canada Agr. Res. Station				79	102	105	97					96(4)
Colt	FFR Cooperative	105		101	90					112		99	101(5)
Common	Public		96										-
Derby	FFR Cooperative				112	111		107				124	114(4)
Dolina	DLF-Trifolium	100		91									96(2)
Express	Seed Research of Oregon			97		91		98					95(3)
Hokuei	Snow Brand Seed	103											-
Hokusei	Snow Brand Seed	97								99			98(2)
Joliette	Newfield Seeds Co/Caudill Seed Co.						87	90				90	89(3)
Jonaton	Newfield Seeds Co/Caudill Seed Co.											84	-
Outlaw	Grassland West Company										107		-
Richmond	Pickseed Canada Inc.	100								103			102(2)
Summit	Allied Seed, L.L.C.			114									-
Talon	Seed Research of Oregon				110	112		106					109(3)
Treasure	Seed Research of Oregon				103	115		105					108(3)
Tundra	DLF-Trifolium	95											-
Tuukka	Ampac Seed Company		95	90							92	93	93(4)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2000 was harvested 2 years, so the final report would be "2002 Timothy Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁴ Number of years of data.

Table 7. Summary of Kentucky Bluegrass Yield Trials 1996-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington							Princeton	Mean ³ (#trials)			
		96 ^{1,2}	03	04	06	07	08	09	02				
		3yr ⁴	2yr	3yr	4yr	3yr	3yr	2yr	3yr				
Adam 1	Radix Research			98									-
Barderby	Barenbrug USA					94		107	114				104(2)
BigBlue	Rose-AgriSeed							77					-
Common	Public				71	66	68						68(3)
Ginger	ProSeeds Marketing		89		118	119	114	116					111(5)
Kenblue	Public	90		102	133								110(3)
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										-

¹ Year trial was established

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2004 was harvested 2 years, so the final report would be "2006 Timothy and Kentucky Bluegrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>. The 96 and 03 Lexington and 02 Princeton results are in the appropriate Tall Fescue Reports.

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

⁴ Number of years of data

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 Alfagraz, 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 which yearly report to refer to, see 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 2011 reports on the forage web site. See below for specific reports. The forage website contains all reports from 2001 through 2011.

Table 9. Summary of Kentucky Perennial Ryegrass Yield Trials 1999-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Type	Proprietor	Lexington									Princeton		Bowling Green		Mean ^{3,4} (#trials)
			99 ^{1,2}	01	03	04	05	06	07	08	09	00	02	00	03	
			2yr ⁵	2yr	2yr	3yr	3yr	2yr	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								84(2)
Bison	hybrid tetraploid	International Seeds													140	-
Boost	tetraploid	Allied Seed							130	125	120					125(3)
Boxer	tetraploid	AgriBioTech	121									106				114(2)
Calibra	tetraploid	DLF International								96	109		112			106(3)
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		73		111			102(5)
Green Gold	tetraploid	Grasslands Oregon						96								-
Herbal		ProSeeds Marketing								77						-
Impressario	tetraploid	DLF International										110				-
Lactal	tetraploid	Brett Young										102				-
Lasso	diploid	DLF International		98												-
Linn	diploid	Public	87	98	98	102		98	85	84	98	87	88	77		91(11)
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									81					-
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	104					106(3)
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)

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Annual and Perennial Ryegrass Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

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

⁵ Number of years of data

Table 10. Summary of Kentucky Festulolium Yield Trials 1999-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).¹

Variety	Proprietor	Lexington							Princeton	Quicksand		Mean ⁴ (#trials)
		1999 ^{2,3} 2-yr ⁵	2001 3-yr	2003 2-yr	2005 3-yr	2007 3yr	2008 3yr	2009 2yr	2000 2-yr	2001 2-yr	2003 2-yr	
Duo	Ampac Seed	104			84		103	99				98(4)
Felina	DLF International		101									-
Hykor	DLF International			98							98	98(2)
Spring Green	Turf-Seed		88		105	100	114	101		97		101(6)
Sweet Tart	ProSeeds Marketing						88					-
Vorage	Improved Forages								99			-

¹ The festuloliums were in fescue trials from 1999-2005.
² Year trial was established.
³ Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 1999 was harvested 2 years, so the final report would be "2001 Tall Fescue Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.
⁴ Mean only presented when respective variety was included in two or more trials.
⁵ Number of years of data

Table 11. Summary of Kentucky Sudangrass Yield Trials 2008-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington				Mean ³ (#trials)
		2008 ^{1,2}	2009	2010	2011	
Enorma BMR	Cal/West Seeds			99	94	97(2)
Hayking BMR	Central Farm Supply	111	112	91	97	103(4)
Monarch V	Public	104	96	102	97	100(4)
Piper	Public	90	91	97	94	93(4)
ProMax BMR	Ampac Seed	95	101	110	115	105(4)
SS130 BMR	Cal/West Seeds			101	103	102(2)

¹ Establishment year.
² Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
³ Mean only presented when respective variety was included in two or more trials.

Table 12. Summary of Sorghum-Sudangrass Yield Trials 2008-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington				Mean ³ (#trials)
		2008 ^{1,2}	2009	2010	2011	
FSG 208 BMR	Farm Science Genetics			75		-
Greengrazer V	Farm Science Genetics			166		-
GW300 BMR	Gayland Ward Seed				88	-
HyGain	Turner Seed	104	105	118		109(3)
MS 202 BMR	Farm Science Genetics			106		-
NutraPlus BMR	Cisco	106	97	94	103	100(4)
Special Effort	Cisco	109	110	93	94	102(4)
SS211	Southern States				104	-
SS220 BMR	Southern States		107	84		96(2)
Surpass BMR-6	Turner Seed	81	80	64		75(3)
Super Sugar	Gayland Ward Seed				102	-
Sweet-For-Ever	Gayland Ward Seed				110	-

¹ Establishment year.
² Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
³ Mean only presented when respective variety was included in two or more trials.

Table 13. Summary of Kentucky Teff Yield Trials 2008-2011 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Princeton		Lexington				Mean ³ (#trials)
	2008 ^{1,2}	2009	2008	2009	2010	2011	
Corvallis	94	112	81	101	91	101	97(6)
Dessie	102	87	99	92	96	94	95(6)
Excaliber	109	111	109	104	125	108	111(6)
Highveld	111	115	100	121	106	101	109(6)
HorseCandi	91	84	99	105	89	108	96(6)
Pharaoh	95	101	105	85	106	106	100(6)
Rooiberg	102	107	112	109	113	108	109(6)
Summer Delight		90		91	96	88	91(4)
Tiffany	102	106	102	93	82	93	96(6)
VA T1 Brown		89		99	87	91	92(4)
Velvet		94		100	97	98	97(4)
Witkope	94	100	93	101	115	103	101(6)

¹ Establishment year.
² Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
³ Mean only presented when respective variety was included in two or more trials.

Yield and Grazing Tolerance Reports

www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm

- 2011 Alfalfa Report (PR-627)
- 2011 Red and White Clover Report (PR-628)
- 2011 Orchardgrass Report (PR-629)
- 2011 Tall Fescue and Bromegrass Report (PR-630)
- 2011 Timothy and Kentucky Bluegrass Report (PR-631)
- 2011 Annual and Perennial Ryegrass and Festulolium Report (PR-632)
- 2011 Alfalfa Grazing Tolerance Report (PR-633)
- 2011 Red and White Clover Grazing Tolerance Report (PR-634)
- 2011 Cool-Season Grass Grazing Tolerance Report (PR-635)
- 2011 Cool-Season Grass Horse Grazing Report (PR-636)
- 2011 Summer Annual Grass Report (PR-637)

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Table 14. Summary of Kentucky White Clover Grazing trials 2002-2011 (stand persistence shown as a percent of the mean of the commercial varieties in the test.

Variety	Type	Proprietor	2002 ^{1,2}	2004	2006 ³	2006	2008 ⁴	2008	2009	Mean ⁵
			2yr ⁶	4yr	2yr	2yr	3yr	3yr	2yr	(#trials)
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		106	109	101(5)
Insight	Ladino	Allied Seed				77				-
Ivory	Intermediate	Cebeco	132	142						137(2)
Ivory II	Intermediate	DLF International					102			-
Kopu II	Intermediate	Ampac Seed			77	122	96		85	95(4)
KY Select	Intermediate	KY Agr Ex. Sta./Saddle Butte						101		-
Patriot	Intermediate	Pennington		110	137	122		120	109	120(5)
Rampart	-	Oregro Seeds						95		-
Regal	Ladino	Public	92		57	54		76		70(4)
Regal Graze	Ladino	Cal/West			84	87	105	106	93	95(5)
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							-
Will	Ladino	Allied Seed			117	87	107	97	103	102(5)

¹ Year trial was established.

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

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

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

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

⁶ Number of years of data.

Table 15. Summary of Kentucky Alfalfa Grazing trials 1994-2011 (stand persistence shown as a percent of the grazing tolerant Alfagraze).

Variety	Proprietor	Variety Characteristics ¹						Lexington											Mean ⁵ (#trials)	
		Disease Resistance ²						1994 ^{3,4}	1996	1997	1998	2000	2000	2001	2004	2005	2006	2008		
		FD	Bw	Fw	An	PRR	APH	3yr ⁶	3yr	4yr	3yr	2yr	3yr	3yr	4yr	4yr	3yr	3yr		
ABT 205	W-L Research	2	HR	HR	HR	HR	R	94		84										89(2)
ABT 350	W-L Research	3	HR	HR	HR	HR	HR						46							-
ABT 405	W-L Research	4	HR	HR	HR	HR	R	71	129	69			46	100						83(5)
Alfagraze	Americas Alfalfa	2	MR	R	MR	R	-	100	100	100	100	100	100	100	100	100	100	100	100	100(11)
Amerigraze 401+Z	Americas Alfalfa	4	HR	HR	HR	HR	R		120	53	56	26	85	125						78(6)
Ameristand 403T	Americas Alfalfa	4	HR	HR	HR	HR	HR									141	144	75	120(3)	
Ameristand 407TQ	Americas Alfalfa	4	HR	HR	HR	HR	HR									136			-	
Apollo	Americas Alfalfa	4	R	R	R	R	-	48	75	33	47	17	31	25		36	27	50	39(10)	
Arc (certified)	Public	4	LR	MR	HR	-	-		38										-	
Baralfa 54	Barenbrug USA	-	R	HR	HR	HR	HR				78								-	
Cut-n-Graze	Americas Alfalfa	3	HR	HR	HR	HR	R	68											-	
FK 421	Donley Seed Co.	4	HR	H	H	H	H							100					-	
Feast	Garst Seeds	3	HR	HR	HR	HR	R		146			87	92						108(3)	
Fortress	Syngenta	3	R	R	R	HR	R	40	71										56(2)	
Gold Plus	PGI Alfalfa	4	HR	HR	HR	HR	R				81								-	
Grazeking	FFR/Southern States	5	MR	HR	HR	R	S		91	41					50				61(3)	
Haygrazer	Great Plains Research	4	HR	HR	R	R	MR		75	39			38						51(3)	
Integrity	PGI Alfalfa	4	HR	HR	HR	HR	HR									172			-	
Legacy	Green Seed	4	R	R	R	R	R	32											-	
LegenDairy5.0	Croplan Genetics	3	HR	HR	HR	HR	HR											75	-	
Magnagraze	Dairyland Seed Co.	3	HR	HR	R	HR	-	56											-	
Pasture Plus	MBS	3	HR	HR	R	HR	MR	60											-	
Pioneer 98	Pioneer	3	HR	R	HR	R	-				56								-	
ProGro	MBS Inc.	4	HR	HR	R	HR	MR				81								-	
Quantum	ABI Alfalfa	2	HR	HR	HR	HR	R	71											-	
Rebel	Target Seed	4	HR	HR	HR	HR	HR											79	-	
Rugged	Target Seed	3	HR	HR	HR	HR	HR											146	-	
Rushmore	Syngenta	4	HR	HR	HR	HR	HR	32											-	
Saranac AR (cert.)	Public	4	MR	R	HR	LR	-		77					100					89(2)	
Spredor 3	Syngenta	1	HR	HR	R	MR	S	71	123		75					68			96(4)	
Spredor 4	Syngenta	2	HR	HR	HR	HR	R											25	-	
Stampede	Allied Seed	3	HR	R	R	HR	R		73										-	
Triple Trust 450	ABI/America's Alfalfa	5	HR	HR	HR	HR	HR									145			-	
Wintergreen	ABI Alfalfa	3	HR	HR	HR	HR	R	95		57	72								75(3)	
WL 326GZ	W-L Research	4	HR	HR	HR	HR	HR		118		88								103(2)	
115 Brand	Monsanto	3	HR	HR	R	HR	R					56	85						71(2)	
5373	Pioneer	4	HR	HR	HRT	MR	LR	21											-	
5432	Pioneer	4	HR	HR	-	MR	-								51				-	

¹ Variety characteristics: FD=fall dormancy, Bw=bacterial wilt, Fw=fusarium wilt, An=anthracnose, PRR=phytophthera root rot, APH-aphanomyces root rot. Information provided by seed companies.
² Disease resistance: S=susceptible, LR=low resistance, MR=moderate resistance, R=resistance, HR=high resistance.
³ Year trial was established
⁴ Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific test. For example, the Lexington trial planted in 1996 was grazed for 3 years so final persistence report would be "1999 Alfalfa Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.
⁵ Mean only presented when respective variety was included in two or more trials.
⁶ Number of years of data

Table 16. Summary of 1996-2011 Kentucky Tall Fescue Grazing Tolerance Trials (stand persistence shown as a percent of the stand rating of KY 31+).

Variety	Proprietor	Lexington													Princeton	Mean ³ (#trials)	
		1996 ^{1,2} 3yr ⁴	1997 4yr	1998 3yr	1999 4yr	2000 4yr	2001 4yr	2002 4yr	2003 4yr	2004 4yr	2005 4yr	2006 4yr	2007 4yr	2008 3yr	2002 4yr		
Advance MaxQ	Pennington Seed											94				-	
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												-	
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							89	97(3)	
Festorina	Advanta Seeds	98	86		57											80(3)	
Fuego	Advanta Seeds			27												-	
Hoedown	DLF-Jenks					88										-	
HyMark	Fraser Seeds													99		-	
Jesup EF	Pennington Seed		63	91						99						84(3)	
Jesup MaxQ	Pennington Seed			114	79				103	97		68	102	97	97	105	96(9)
Johnstone	Proseeds		65	107			92									88(3)	
KY31+ ⁵	KY Agri. Exp Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(14)	
KY31- ⁵	KY Agri. Exp Sta.	94	90	102	84		98	103	98	100	82	100	100	100	105	97(13)	
Kenhy	Public			116												-	
Kokanee	Ampac Seed					43										-	
Martin II	International Seeds		59													-	
Maximize	Rose Agri-Seed						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		67	100	93	98	98	95(11)	
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 4 years so the final report would be "2001 Cool-Season Grass Grazing Tolerance Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.

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

⁴ Number of years of data

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

Table 17. Summary of 1996-2011 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 ³ (#trials)	
		1996 ^{1,2} 3yr ⁴	1997 4yr	1998 3yr	1999 4yr	2000 4yr	2001 4yr	2002 4yr	2003 4yr	2004 4yr	2005 4yr	2007 4yr	2002 4yr		
Abertop	Pennington Seed							38							-
Albert	Univ. of Wisconsin						115								-
Amba	DLF-Jenks						71								-
Ambrosia	Pennington Seed		90									94			92(2)
Athos	DLF-Jenks						93				60				77(2)
Benchmark	FFR/Sou. States	100	105	115	94	118	123	114					133		113(8)
Benchmark Plus	FFR/Sou. States							120			152	135	133		135(4)
Boone	Public			131		102									117(2)
Cheyenne	Western Prod. Inc.			94											-
Command	Seed Research of OR									81					-
Crown	Donley Seed		86	96											91(2)
Crown Royale	Donley Seed						100								-
Crown Royale Plus	Donley Seed							124					83		104(2)
Hallmark	James VanLeeuwen	107		104	103		115		113				83		104(6)
Harvestar	Columbia Seeds											75			-
Haymate	FFR/Sou. States	93	71	102	96	53	115	100	118				83		92(9)
Intensiv	Barenbrug USA								51						-
Mammoth	DLF-Jenks						115								-
Megabite	Turf Seed						77								-
Niva	DLF-Jenks							76					83		80(2)
Persist	Smith Seed										138	107			123(2)
Pizza	Advanta Seeds			63											-
Potomac	Public	98						116		119			117		113(4)
Prairie	Turner Seed					127	121						83		110(3)
Profile	Scott Seed	98						116							107(2)
Progress	Scott Seed	111													-
Tekapo	Ampac Seed	93	166	92	104		55	74	118		50	103	100		96(10)
Takena	Smith Seed		81				99								90(2)
Seco	FFR/Sou. States											85			-
WP300	Western Prod. Inc.			94											-

¹ Year trial was established.

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

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

⁴ Number of years of data

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

Table 18. Summary of 2000-2011 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 ^{1,2}	2001	2003	2005	2007	2008	Mean ³ (#trials)
		4yr ⁴	3yr	4yr	3-yr	4yr	3yr	
AGRLP103	AgResearch USA	128		86				107(2)
Aries	Ampac Seed		139					-
BG 34	Barenbrug USA				176 ⁵	145 ⁵		185(2)
Boost	Allied Seed						99	-
Citadel	Donley Seed	107						-
Duo (FL)	Ampac Seed	116					84	100(2)
Granddaddy	Smith Seed Services		121			70		89(2)
Lasso	DLF-Jenks		130					-
Linn	Public	112	129	63			101	101(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 ⁵				-
Spring Green (FL)	Rose Agri-Seed	101					116	109(2)
Tonga	Ampac Seed				61			-

¹ Year trial was established.

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

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

⁴ Number of years of data

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

Table 19. Summary of 1999-2011 Kentucky Tall Fescue Horse Grazing Tolerance Trials in Lexington (stand persistence shown as a percent of the stand rating of KY 31-).

Variety	Proprietor/KY Distributor	1999 ^{1,2}	2001	2002	2003	2004	2005	2006	2007	2008	Mean ³ (#trials)
		3-yr ⁴	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	3-yr	
BarOptima PLUS E34	Barenbrug								107		-
Bronson	Ampac Seed	80									-
Cattle Club	Green Seed	95									-
Cowgirl	Rose Agri-Seed									99	-
Festorina	Advanta Seed	102									-
Jesup MaxQ	Pennington Seed			98			78			95	90(3)
Johnstone	ProSeeds		88								-
KY31+ ⁵	KY Agri. Exp.Sta.		105				102	109	120	99	107(5)
KY31- ⁵	KY Agri. Exp.Sta.	100	100	100	100	100	100	100	100	100	100(9)
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	99	92(8)
Stargrazer	FFR/Southern States	70									-
Stockman	Seed Research of OR					125					-

¹ Year trial was established.

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

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

⁴ Number of years of data

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



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