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Agricultural Experiment Station

2024 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 a positive environmental role in soil conservation, water quality, and air quality. There are more than 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 twenty years. Detailed variety reports and forage management publications are available from your county Extension agent or at the University of Kentucky forage website (https://forages.ca.uky.edu) by clicking on the "Forage Variety Trial" link.

How to Interpret the Summary Tables

These tables summarize long-term yield and stand persistence data of commercial varieties that have been entered in the University of Kentucky trials. Except for the alfalfa and tall fescue grazing tolerance 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 alfalfa- and tall fescue-grazing tolerance trials using cattle, data are listed as a percentage of the grazing tolerant varieties Alfagraze and KY31, respectively. In the horse-grazing trials, the data for fescue varieties were expressed as a percentage of endophyte free KY31 instead of the mean of all the commercial varieties. Direct, statistical comparisons of varieties cannot be made using the summary tables, but these data do help to identify varieties for further consideration. Varieties that have performed better than average over many years and at several locations have stable performance; others may have performed well in wet years or on particular soil types. These details may influence variety choice, and more information can be found in the yearly reports. See the footnote in each table to determine which yearly report should be referenced.

Species in this Report

Red clover (*Trifolium pratense*) 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*) 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*) is the highest yielding, highest quality forage legume grown in Kentucky. It forms the basis of Kentucky's cash hay enterprise and is an important component in dairy, horse, beef, and sheep diets and wildlife habitat. Choosing a good alfalfa variety is a key step in establishing a stand of alfalfa. The choice of variety can impact yield, stand persistence, insect and disease resistance, and grazing tolerance.

Orchardgrass (*Dactylis 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. Tall fescue is the forage

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base for most of Kentucky's livestock enterprises, particularly beef cattle, and is used for both hay and pasture. 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 (both Italian and Westerwolds types) are increasingly in use across Kentucky as more winter-hardy varieties are released and promoted. Annual ryegrass is productive for six to eight months when planted early fall (late August/September) and is used primarily for late fall and early to late spring pasture. Perennial ryegrass can be used as a short-lived (two to three years) hay or pasture plant and has growth characteristics similar to tall fescue. It is less persistent than other cool-season grass species. There are both diploid (two sets of chromosomes) and tetraploid (four sets of chromosomes) varieties of perennial ryegrass. Tetraploids have larger tillers and seedheads and wider leaves. Tetraploid types tend to be taller and less dense than diploid types, even in early stages of regrowth. Diploid types produce more tillers, have better stand persistence, and are typically more tolerant to heavy grazing.

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

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

Festuloliums are hybrids between various fescues and ryegrasses with higher quality than tall fescue and improved stand survival over perennial ryegrass. Their use in Kentucky is limited because they do not survive as long as tall fescue. Newer varieties show promise where high quality and yield are more important than long-term persistence.

Meadow fescue (*Festuca pratensis*) is a semibunch type cool season European grass that has great winter hardiness. It will yield slightly less than tall fescue and orchardgrass, but has better digestability and palatability for grazing applications.

Bromegrasses have several advantages over tall fescue, including retaining quality as they mature and better growth during dry weather, but they are generally less well adapted in Kentucky. Smooth bromegrass (*Bromus inermis*) is a perennial pasture and hay grass native to Europe. It has creeping underground stems or rootstocks from which the leafy stems arise. Smooth bromegrass is palatable to all classes of livestock, from emergence to the heading stage. Meadow bromegrass (*Bromus biebersteinii*) is a native of southeastern Europe and the adjacent Near East. It resembles smooth bromegrass but has only short rhizomes or none at all. Meadow bromegrass is densely tufted and has a similar growth habit to tall fescue. Hybrid bromegrasses are a cross between smooth and meadow bromegrasses. Alaska bromegrass (*Bromus sitchensis*), also called Sitka bromegrass, is a long-lived perennial bunchgrass that will actively grow at moderate rates during the spring and summer season. It does not spread by rhizomes and is more suited to environments with harsh winters. Prairie bromegrass (*Bromus wildenowii*) is a tall, cool-season, leafy short-lived, perennial, deep-rooted bunchgrass. It was introduced from South America. Seedheads are produced throughout the growing season. Prairie bromegrass can maintain productive stands for several years if at least one growth cycle each year is allowed to go to seed. Some prairie bromegrasses are susceptible to winterkill. Mountain bromegrass (*Bromus marginatus*) is native to North America from Alaska to northern Mexico, where it can be found in many types of habitat. It is a short-lived, perennial, cool-season, sod-forming grass.

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 compared to other sorghum species. Sudangrass regrows quickly after harvest and can be harvested several times during summer and early fall.

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

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

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

The brown midrib or BMR trait is an outward expression of a naturally occurring genetic mutation in forage sorghum, sorghum-sudangrass, sudangrass, and pearl millet. In most cases, plants possessing the BMR trait contain less or altered lignin, making the plant more digestible and desirable for animal production. Therefore, it is advisable to seed summer annuals that have the BMR trait in addition to other desirable characteristics like high yield. With BMR varieties, the midrib of the leaf appears brown or tannish in color.

Teff, also referred to as summer love-grass (*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.

Crabgrass (*Digitaria sanguinalis*) is a warm season annual which propagates by seed. It is adapted to many soil types. Crabgrass can be utilized by either grazing or haying and is one of the highest quality warm season forages at a vegetative stage.

Important Selection Considerations

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

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. Cool season perennial grass plots were typically fertilized with 60 pounds of actual N per acre in March, after the first cutting, and again in late summer for a total of up to 180 pounds per acre per season. Warm season grasses were fertilized with about 120 pounds of actual N per acre, depending on the species. No nitrogen was applied to the legume trials. 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 at timings appropriate for the specific crop. 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 determine stand persistence 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.

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 2024 reports on the forage website (https://forages.ca.uky.edu). See below for specific reports. Reports from 2001 to 2024 can be found in the archive website (https://forages.ca.uky.edu/content/archived-research-reports).

Yield and Grazing Tolerance Reports

Individual forage species reports can be found at https://forages.ca.uky.edu/variety_trials.

- 2024 Alfalfa Report (PR-853)
- 2024 Red and White Clover Report (PR-852)
- 2024 Orchardgrass Report (PR-854)
- 2024 Tall Fescue, Bromegrass, and Meadow Fescue Report (PR-855)
- 2024 Timothy and Kentucky Bluegrass Report (PR-856)
- 2024 Annual and Perennial Ryegrass and Festulolium Report (PR-857)
- 2024 Alfalfa and Red and White Clover Grazing Tolerance Report (PR-858)
- 2024 Cool-Season Grass Grazing Tolerance Report (PR-859)
- 2024 Cool-Season Grass Horse Grazing Report (PR-860)
- 2024 Annual Grass Report: Warm Season and Cool Season (Cereals) (PR-861)
- 2024 Long-Term Summary of Kentucky Forage Variety Trials (PR-862)

For more information

The following comprehensive bulletins may be especially useful:

- Grain, Forage, and Cover Crop Guide for Kentucky (AGR-18)
- Establishing Forage Crops (AGR-64)
- Rotational Grazing (ID-143)
- Extending Grazing and Reducing Stored Feed Needs (AGR-199)
- Forage Identification and Use Guide (AGR-175)
- Lime and Fertilizer Recommendations (AGR-1)
- Warm Season Annual Grasses in Kentucky (AGR-229)
- Sudangrass and Sorghum-Sudangrass Hybrids (AGR-234)
- Pearl Millet (AGR-231)
- Forage Sorghum (AGR-230
- Crabgrass (AGR-232)
- Growing Wheat for forage (AGR-263)
- Frost Seeding Clover: A Recipe for Success (AGR-271)

About the Authors

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Table 1. Summary of Kentucky white clover yield trials 2002-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Type	Proprietor	Lexington																			Princeton		Mean[3] (#trials)
			02[1,2]	03	04	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	23	03	05	
			3yr[4]	3yr	3-yr	2-yr	2-yr	3yr	2yr	3yr	3yr	2yr	3yr	3yr	2yr	3yr	3yr	2-yr	3-yr	3-yr	2yr	3yr	3-yr	
Advantage	Ladino	Allied Seed, L.L.C.		125																				–
Alice	Intermediate	Barenbrug USA												105	120	77	93	93	112	100	95		86	98(9)
Apis	–	Smith Seed Services																	96	99	97			97(2)
Avoca	Dutch	DLF Pickseed				59																	82	71(2)
Barblanca	Intermediate	Barenbrug USA		92																				–
Bombus	Ladino	Columbia Seed														110	113							112(2)
Brianna	Ladino	DLF Pickseed														102	99							101(2)
CA ladino	Ladino	Public	100		124																	103		109(3)
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									90					89(4)
Crescendo	Ladino	Cal/West Seeds	105			140														100	114		109	114(5)
Crusader II	Intermediate	Allied Seed, L.L.C.								90	50	54	75											67(4)
Excel	Ladino	Allied Seed, L.L.C.			100																			–
Domino	Ladino	Grassland Oregon												87										–
Durana	Intermediate	Pennington		94		94	88	82	85	97	93	84	97	89	78	98	87	73	82	85	91	87	83	88(19)
Dusi	Ladino	Barenbrug USA																		106	109			108(2)
Edith	Dutch	Smith Seed Services																		68				–
GWC-AS10	Ladino	Ampac Seed									102													–
Hebe	Dutch	Smith Seed Services																		70				–
Heslop	–	DLF Pickseed										101				110	112				109			108(4)
Insight	Ladino	Allied Seed, L.L.C.				128																		–
Ivory	Intermediate	Cebeco	96																					–
Ivory II	Intermediate	DLF Pickseed					86			101	127													105(3)
Jumbo	Ladino	Ampac Seed	93																					–
Jumbo II	Ladino	Ampac Seed									121	101			99									107(3)
Kakariki	Ladino	Luisetti Seeds															106			108	100			105(3)
Kopu II	Intermediate	Ampac Seed	97			97	95	95	103	96	80	90												94(8)
KY Select	Intermediate	KY. Agric. Exp. Station									98	95												97(2)
Mara Polo	Intermediate	Smith Seed Services																		93				–
Neches	Intermediate	Barenbrug USA													79				93	101				91(3)
Ocoee	Ladino	Allied Seed, L.L.C.								89	74													82(2)
Patriot	Intermediate	Pennington		103		87	104	113	95	117	117	99	82	78	88	99	92	92	88	99	109	104	100	98(19)
Pinnacle	Ladino	Allied Seed, L.L.C.				120																	111	116(2)
Rampart	Ladino	Allied Seed, L.L.C.					80	89	97	83									90	90				88(6)
Regal	Ladino	Public	99	96	92		125	100	116	118	129	146	123									107	100	113(12)
RegalGraze	Ladino	Barenbrug USA				127	140	102	103						111	118	110	120	120	108	121			116(11)
Renovation	Intermediate	Smith Seed Services												83	85	90			99					89(4)
Resolute	Intermediate	Southern States				63																		–
RIVENDEL	–	DLF Pickseed														59	87							73(2)
Seminole	Ladino	Saddle Butte Ag. Inc			108	70	79							114										93(4)
Super Haifa	Intermediate	Allied Seed, L.L.C.			77																			–
Tillman II	Ladino	Caudill Seed	103																					–
WBDX	Dutch	Saddle Butte Ag. Inc									72													–
Will	Ladino	Allied Seed, L.L.C.	107			162	150	132	107	119	137	130	123	143	140	139	101	122	122	111	116		136	122(18)

[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 the spring of 2010 was harvested three years, so the final report would be "2012 Red and White Clover Report" archived in the UK Forage website at https://forages.ca.uky.edu.

[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 2004-2024 (yield shown as a percentage of the mean of the named commercial varieties in the trial).

Variety	Proprietor	Lexington																	Princeton							Quicksand				EdenShale		Mean[3] (#trials)
		04[1,2]	06	08	09	10	11	12	13	14	15	16	17	18	19	20	22	23	05	08	09	11	13	15	19	05	08	10	19	08	10	
		3yr[4]	2yr	3yr	2yr	3yr	3yr	2yr	3yr	3yr	3yr	3yr	2-yr	3-yr	3-yr	3-yr	3yr	2yr	2yr	3yr	2yr	2yr	3yr	3yr	2-yr	3yr	3yr	3yr	2-yr	3yr	3yr	
AA117ER	ABI Alfalfa		110																87							92						96(3)
Barduro	Barenbrug USA														86	81									73				83			81(4)
Bearcat	Brett Young Seeds											118																				–
Bigfoot	Preferred Alf. Genetics														97										107							101(2)
Blaze	Mountain View Seeds														107	108	87	111														103(4)
Cinnamon Plus	Southern States		109	112	123	117	94	113	101	98									112	102	102	100	101			103	108	124		108	122	108(18)
Common O	Public					96	97	60	84	92	72	47	79	67	77	78	65	78					67	96	70			72	85		77	77(19)
CW9901	Barenbrug USA														103										115				109			109(3)
Dominion	Seed Research of OR		102																95	102						93				109		100(5)
Dynamite	Grassland Oregon																	108														–
Emarwan	Turf-Seed	91			117																106							99				–
Evolve	DLF Pickseed USA										101	93	101											96								98(4)
FF9615	LaCrosse Seed											107	103																			105(2)
Freedom!	Barenbrug USA	118	91	100	108	106	109	96	101	97	109	110	112	107	114	115	127	118	136	107	116	95	108	107	124	119	106	115	133	100	140	111(30)
Freedom!MR	Barenbrug USA	102	114	114		112								117	126				101		108				82	111		128	115		125	112(13)
FSG 402	Allied Seed								104														115									108(2)
FSG 9601	Allied Seed	89																														–
Gallant	Turner Seed								101		114		104	101	97	110	114	92					108	100	121							106(11)
GA9908	Smith Seed												92		93	107	97	99							92				85			95(7)
Juliet	Caudill Seed				84															93	90									84	59	82(5)
Kenland (cert.)	KY Ag.Exp Sta.	117	117	99	111	99	116	111	109	103	107	115	107	107	107	108	112	113	92	113	106	106	116	99	113	105	104	123	110	110	138	110(30)
Kenland (uncert)	Public					82						40								74								67		66	92	70(6)
Kenton	KY Ag.Exp Sta.	95	112	121															105	112	94					106	98					105(8)
Kenway	KY Ag.Exp Sta.	97	119	118															94	106	103					103	94					104(8)
LS 9703	Lewis Seed							104															87									96(2)
Medalion	DLF Pickseed USA							98			85	101	104			109	91						94	103								98(8)
Morning Star	Cal/West Seeds																			90										90		90(2)
Plus II	Allied Seed			130																							97					114(2)
Q Medium Red	Grassland Oregon																	85														–
Quinequeli	Caudill Seed				92																80										57	76(3)
Raptor	Columbia Seeds															99																–
Red Gold	Proseeds Marketing		81																	89										102		91(3)
Red Gold Plus	Turner Seed	95																														–
Redkin	DLF Pickseed USA										112	123	106			94								97								106(5)
Redland Max	ABI Alfalfa	95																														–
Renegade	DLF Pickseed USA															99																–
Robust	Blu Moon Farms												77																			–
Robust II	Seed Research of OR																			110										108		109(2)
Rocket	Seed Research of OR																			106										108		107(2)
Rustler	Oregro Seeds			83		101	84									80											94	99			104	92(7)
Solid	Production Service		79																86							76						80(3)
SS-0303RCG	Southern States							117		103	112	146	116	102	93	115	108	96					104	102	104				80			107(14)
Starfire II	Cal/West & Ampac			101		111				107										112							110	112		115	111	110(8)
Triple Trust 350	ABI Alfalfa		101																92							92						95(3)
Wildcat	Brett Young Seeds				101																107							98				102(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 the spring of 2010 was harvested three years, so the final report would be "2012 Red and White Clover Report" archived in the UK Forage website (https://forages.ca.uky.edu).

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

[4] Number of years of data.

Table 3. Summary of Kentucky alfalfa yield trials 2006-2024 (yield shown as a percentage of the mean of the commercial varieties in the test).

Variety	Proprietor	Variety Characteristics[1]																Princeton						Mean[5] (# trials)
		FD	Disease Resistance[2]						08[3,4]	11	12	15	16	17	18	19	20	21	22	05	08	09	11	13	22	
			Bw	Fw	An	PRR	APH1	APH2	6yr[6]	6yr	6yr	5yr	6yr	6yr	5yr	6yr	5yr	4yr	2yr	5yr	5yr	6yr	4yr	3yr	3yr	
A-4440	Producers Choice	4	HR	HR	HR	HR	HR	HR	100											99						100(2)
A 5225	Producers Choice	5	HR	HR	HR	HR	R	R	104												107					106(2)
Adrenalin	Brett Young Seeds	4	HR	HR	HR	HR	HR	–														104				–
Alfabar	Barenbrug USA	3	HR	HR	HR	HR	HR/R	–									110									–
Alfagraze	America's Alfalfa	3	HR	HR	HR	HR	HR	–								73	89	95	102						99	92(5)
Ameristand 403T	America's Alfalfa	4	HR	HR	HR	HR	HR	R	91	102	94										100	101	107	99		99(7)
Ameristand 403T Plus	America's Alfalfa	4	HR	HR	HR	HR	HR	R				104	102	107	112	106	98	101	95			94			107	103(10)
Ameristand 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	R														103	104			104(2)
Ameristand 427TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	HR				109														–
Anchormate	ProSeed Marketing	–	–	–	–	–	–	–	100																	–
Arc (certified)	Public	4	LR	MR	HR	–	–	–		93	92									95	86			95		92(5)
Archer III	America's Alfalfa	5	HR	HR	HR	HR	HR	–														106				–
Baralfa 53HR	Barenbrug USA	5	HR	R	HR	HR	HR	–												104						–
Buffalo	Public	–	–	–	–	–	–	–	80	89		85								95	78	87		91		86(7)
Bulldog-505	Univ. of GA	5	–	HR	–	R	–	–			103		93	91								96		103		97(5)
Caliber	Beck's Hybrids	4	HR	HR	HR	HR	HR	–			99	105	99	105									99			101(5)
Charger	Beck's Hybrids	5	HR	HR	HR	HR	HR	–								104							106			105(2)
Contender	Beck's Hybrids	5	HR	HR	HR	HR	HR	–				101	103	101												101(3)
DKA 43-13	Monsanto	4	HR	HR	HR	HR	HR	–	102																	–
DKA 50-18	Monsanto	5	HR	HR	HR	HR	HR	–	110																	–
DG4210	Crop Production	4	HR	HR	HR	HR	HR	–															101	103		102(2)
Dynagro Everlast	United Agr. Prod.	4	HR	HR	HR	HR	R	–												101						–
Evermore	Southern States	5	HR	HR	HR	HR	HR	–			100		102	107												103(3)
Expedition	NEXGROW	5	HR	HR	R	RR	R	–												96						–
Fierce	Beck's Hybrids	4	HR	HR	HR	HR	HR	–				102		107												104(2)
FSG 403LR	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	–																102		–
FSG 408DP	Allied Seeds	4	HR	HR	HR	HR	R	–													110					–
FSG 415BR	Allied Seeds	4	HR	HR	HR	HR	HR	–					103			112	108									108(3)
FSG 424	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	–																109		–
FSG 426	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	HR				103														–
FSG 450	Farm Sci. Genetics	4	HR	HR	HR	HR	HR	HR										101	96						93	97(3))
FSG 524	Farm Sci. Genetics	5	HR	HR	HR	HR	HR	–																96		–
FSG 527	Farm Sci. Genetics	5	HR	HR	HR	HR	HR	–									98									–
FSG 528SF	Lewis Seed Co.	5	HR	R	HR	HR	R	–	107																	–
GA-409	Pref. Alf. Genetics	4	HR	HR	HR	HR	HR	–									102									–
GA-497HD	Pref. Alf. Genetics	5	HR	HR	HR	HR	HR	–					104			112	105	99	100						96	103(6)
GA-535	Pref. Alf. Genetics	5	HR	HR	HR	HR	HR	–								108	104									106(2)
Genoa	NEXGROW	4	HR	HR	HR	HR	HR	–	99											98	118					105(3)
Gunner	Croplan Genetics	5	HR	HR	HR	HR	HR	–															103			–
HighFive	Allied Seeds	5	HR	HR	HR	HR	HR	HR										114	101						105	107(3)
HVS4220Q	Mountain View Seeds	4	HR	HR	HR	HR	HR	–									106									–
KingFisher 243	Cal/West	5	HR	HR	HR	HR	HR	–														98				–
Kingfisher 4020	Byron Seeds	4	HR	HR	HR	HR	HR	–		101																–
L449Aph2	Legacy Seeds	4	HR	HR	HR	HR	HR	HR															97			–
L455HD	Legacy Seeds	4	HR	HR	HR	HR	HR	–																102		–
Lancer	Allied Seeds	4	HR	HR	HR	HR	HR	–															101			–
LegenDairy 5.0	Croplan Genetics	3	HR	HR	HR	HR	HR	–												103						–
Mariner III	Allied Seeds	4	HR	HR	HR	HR	HR	R													99					–
Mariner V	Allied Seeds	4	HR	HR	HR	HR	HR	HR										99	100						101	100(3)

(continued on the next page)

Table 3. (continued)

Variety	Proprietor	Variety Characteristics[1]																	Princeton						Mean[5] (# trials)
		FD	Disease Resistance[2]						08[3,4]	11	12	15	16	17	18	19	20	21	22	05	08	09	11	13	22	
			Bw	Fw	An	PRR	APH1	APH2	6yr[6]	6yr	6yr	5yr	6yr	6yr	5yr	6yr	5yr	4yr	2yr	5yr	5yr	6yr	4yr	3yr	3yr	
Optimus	Brett Young Seeds	–	HR	HR	HR	HR	HR	–																98		–
Paola	Interlake Forage Seeds	5	HR	HR	HR	HR	HR	HR								96	96									96(2)
PGI 459	Producers Choice	4	HR	HR	HR	HR	R	R	102																	–
Phirst	UniSouth Genetics	4	HR	HR	HR	HR	R	–												105						–
Phoenix	Southern States	5	HR	HR	HR	HR	R	–	102		105										101		94			101(4)
Radiance HD	Ampac Seed/Cisco	4	HR	HR	HR	HR	HR	–			101											105	103			103(3)
Rebound 5.0	Croplan Genetics	4	HR	HR	HR	HR	HR	–	103													103				103(2)
Rebound 6.0	Croplan Genetics	4	HR	HR	HR	HR	HR	HR		104													101			103(2)
Rebound 6XT	Croplan Genetics	4	HR	HR	HR	HR	HR	HR					107			120										114(2)
Reward II	PGI Alfalfa	4	HR	HR	R	HR	R	–												103						–
Saranac AR (certified)	Public	4	MR	R	HR	LR	–	–	86	91	97	92	88	83	88	87	93	82	97	95	88	92	82	97	100	90(17)
Signature	Allied Seeds	4	HR	HR	HR	HR	HR	HR										99	96						85	93(3)
Triade	Interlake Forage Seeds	5	HR	HR	HR	HR	HR	HR								80	92									86(2)
TripleTrust 450	ABI Alfalfa	5	HR	HR	HR	HR	HR	–												100						–
TripleTrust 500	Central Farm Supply	5	HR	HR	HR	HR	HR	–		108																–
USG 681HY	UniSouth Genetics	6	HR	HR	HR	HR	–	–													113					–
Vernal	Public	2	R	MR	–	–	–	–												95						–
Withstand	Southern States	4	HR	HR	HR	HR	HR	HR	90		96										100		87			93(4)
WL 343HQ	W-L Research	4	HR	HR	HR	HR	HR	–	110												100					105(2)
WL 349HQ	W-L Research	4	HR	HR	HR	HR	HR	HR								109										–
WL 354HQ	W-L Research	4	HR	HR	HR	HR	HR	HR															115			–
WL 357HQ	W-L Research	5	HR	HR	HR	HR	HR	–												106						–
WL 363HQ	W-L Research	5	HR	HR	HR	HR	HR	–	105	103												105				104(3)
WL 365HQ	W-L Research	5	HR	HR	HR	HR	HR	–					99													–
4030	Brett Young Seeds	4	HR	HR	HR	HR	HR	R			104															–
53H92	Pioneer	3	HR	HR	HR	HR	HR	R		95																–
54Q16	Pioneer	4	HR	HR	HR	HR	HR	HR										102	102						99	101(3)
54Q29	Pioneer	4	HR	HR	HR	HR	R	R										105	102						105	104(3)
54Q32	Pioneer	4	HR	HR	HR	HR	HR	–		99																–
54VQ52	Pioneer	4	HR	R	HR	HR	HR	HR										109	108						111	109(3)
55H96	Pioneer	5	HR	HR	HR	HR	HR	HR										95	100						98	98(3)
55V48	Pioneer	5	HR	HR	HR	HR	HR	R		102																–
55V50	Pioneer	5	HR	R	Hr	HR	HR	HR			110					93								105		104(3)
6415	NEXGROW	4	HR	HR	HR	HR	HR	–												103						–
6417	NEXGROW	4	HR	HR	HR	HR	HR	HR	105																	–
6422Q	NEXGROW	4	HR	HR	HR	HR	HR	–		112												102				107(2)
6552	NEXGROW	5	HR	HR	HR	HR	HR	–	105																	–

[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. More detailed disease and insect resistance ratings at www.alfalfa.org/pdf/2024_Alfalfa_Variety_Leafllet.pdf.
[3] Year trial was established.
[4] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific test. For example, the Lexington trial planted in the spring of 2008 was harvested for six years, so the final yield report would be "2013 Alfalfa Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[5] Mean only presented when respective variety was included in two or more trials.
[6] Number of years of data.

Table 4. Summary of Kentucky Roundup Ready alfalfa yield trials 2011-2024 (yield shown as a percentage of the mean of the commercial varieties in the test).

Variety	Proprietor	Variety Characteristics[1]							Lexington						Princeton			Quicksand	Mean[5] (# trials)
		FD	Disease Resistance[2]						12[3,4]	15	16	20	21	22	11	13	15	14	
			Bw	Fw	An	PRR	APH1	APH2	6yr[6]	6yr	5-yr	5-yr	4yr	3yr	5yr	4yr	2yr	2yr	
Alfagraze 300 RR	America's Alfalfa	3	HR	R	HR	HR	HR	–	95	96	100	99	90	96	93	99	93		96(9)
Alfagraze 600 RR	America's Alfalfa	6		R	HR	R	R	–		97							85	93	92(3)
Ameristand 405T RR	America's Alfalfa	4	HR	HR	HR	HR	HR	MR	100	100	89	102	101	96	97	100	98	93	98(10)
Ameristand 433T RR	America's Alfalfa	3	HR	R	R	HR	HR	–	92	98	100	94	101	100		95	96	107	98(9)
Ameristand 445TQ RR	America's Alfalfa	4	HR	HR	HR	HR	HR	–	105	104						100			103(3)
AphaTron RR	Croplan Genetics	4	HR	HR	HR	HR	HR	HR	99							98			99(2)
Consistency 4.10 RR	Croplan Genetics	4	HR	HR	HR	HR	HR	–	101						102				102(2)
DKA-41-18 RR	Monsanto	4	HR	HR	HR	HR	HR	–	100						101		100		100(3)
DKA 44-16 RR	Monsanto	4	HR	HR	HR	HR	HR	–	104							100			102(2)
Stratica RR	Croplan Genetics	4	HR	HR	HR	HR	HR	–	97		105					96			99(3)
Tonnica RR	Crop Genetics	5	HR	HR	HR	HR	HR	–	105							101			103(2)
WL 355 RR	W-L Research	4	HR	HR	HR	HR	HR	–	99						102		110		104(3)
WL 356HQ RR	W-L Research	5	HR	HR	HR	HR	HR	HR	100	99						96			98(3)
WL 372HQ RR	W-L Research	5	HR	HR	HR	HR	HR	–	102							106			104(2)
428 RR	Allied Seed	4	HR	HR	HR	HR	HR	–		100	100					104		111	104(4)
438 RR	Allied Seed	4	HR	HR	HR	HR	HR	–				111	96	102					103(3)
54R02 RR	Pioneer	4	HR	HR	HR	HR	HR	–	97	107	96				104		102	97	101(6)
54VR10 RR	Pioneer	4	HR	HR	R	HR	HR						112	106					109(2)
55VR06 RR	Pioneer	5	HR	R	HR	HR	HR	MR		95								99	97(2)
55VR08 RR	Pioneer	5	–	HR	HR	HR	HR	HR		103	111						110		108(3)
6516R RR	NEXGROW	5	HR	–	HR	HR	HR	–	106							109			108(2)

[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. More detailed disease and insect resistance ratings at www.alfalfa.org/pdf/2024_Alfalfa_Variety_Leaflet.pdf.
[3] Year trial was established.
[4] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific test. For example, the Princeton trial planted in the spring of 2011 was harvested for five years, so the final yield report would be "2015 Alfalfa Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[5] Mean only presented when respective variety was included in two or more trials.
[6] Number of years of data.

Table 5. Summary of Kentucky orchardgrass yield trials 2007-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor	Lexington														Princeton						Quicksand				Mean[3] (#trials)
		07[1,2]	09	11	12	13	14	15	16	17	18	19	20	21	22	06	08	10	12	15	21	10	13	16	18	
		3-yr[4]	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	2yr	3-yr	3-yr	3-yr	3-yr	2-yr	3-yr	3-yr	3-yr	3-yr	2-yr	
Albert	Oregro Seeds								99		106	100												98		101(4)
Aldebaran	DLF Pickseed									99																–
Alpine II	Mountain View Seeds								106				98	104	102						95					101(5)
Ambrosia	American Grass Seed Prod.															90										–
Barlegro	Barenbrug USA										95			84							95				94	92(4)
Benchmark Plus	Southern States	108	105	106	97	109	104									107	104	102	107			94	102			104(12)
Berta	Mountain View Seeds									76																–
Bighorn	Mountain View Seeds												124	95	104						112					109(4)
Blizzard	Allied Seed											104														–
Captur	DLF Pickseed												81	96	99						97					93(4)
Checkmate	Seed Research of Oregon	102			117														106							108(3)
Christoss	Proseeds Marketing	92																								–
Crown	Donley Seed		97														105									101(2)
Devour	Mountain View Seeds								98				88													92(2)
Echelon	DLF Pickseed								99			101												113		104(3)
Elise	Rose-AgriSeed				86												98		98							94(3)
Endurance	DLF Pickseed								102							104								82		96(3)
Everlast	Allied Seed													107							100					104(2)
Extend	Allied Seed			107														105				108				107(3)
Harvestar	Columbia Seeds	97				94							116			106							102			103(5)
Haymaster	Southern States			102																						–
HLR	Barenbrug USA											82	89													86(2)
Inavale	DLF Pickseed							99	94											97				106		99(4)
Intensiv	Barenbrug USA										99		91	95							93				93	94(5)
Lazuly	Proseeds Marketing																97									–
Lyra	Columbia Seeds							90		77										97						88(3)
Megabite	Turf-Seed																106									–
Olathe	DLF Pickseed							111	104				101							112				89		103(5)
Paiute	DLF Pickseed	108																								–
Persist	Smith Seed	106	107	112	106	100	103	111	98	111	103	105	98	103	109			105	102	101	102	102	103	107	126	105(22)
Persist II	Smith Seed											111	111	103	98						107					106(5)
Potomac	Public		103	96	97	103	116	100	94	104	98			100	95		108	101	98	102	94	94	111	99		101(19)
Prairie	Turner Seed	101	109	106	113	123	108	103	111	111	105	98	109	103	102	100	104	99	104	96	98	120	102	105	107	108(24)
Prodigy	Caudill Seed		101		99	97			97			93	111	104	98		103		101		106		95			100(12)
Profit	Ampac Seed	107	96	98	103	96	97	89				97	96	109	98		103	102	102	96	94	115	96			100(18)
Quickdraw	Grassland Oregon											113														–
RAD-LCF 25	Radix Research																	99				102				101(2)
Rushmore II	Mountain View seeds								98	111														102		104(3)
Shawnee	Rose-AgriSeed																86									–
SS0708OGDT	Southern States						91	105	101	111	109	100	103	96	97					100	106			99	100	101(13)
Swante	Smith Seed										88		82												79	83(3)
Tekapo	Ampac Seed	81	82	78	82	76	80					95				98	86	92	82			81	89			86(15)
Treposno	Columbia Seeds							92		99										99						97(3)
Tucker	Oregro Seeds			96							95		103			96	102	96				85			100	97(8)
Vailliant	Proseeds Marketing	96																								–

[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 the fall of 2012 was harvested three years, so the final report would be "2015 Orchardgrass Report" archived in the UK Forage website (https://forages.ca.uky.edu).

[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 tall fescue yield trials 2007-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Endophyte Status[1]	Proprietor	Lexington														Princeton							Quicksand				Mean[4] (#trials)
			07[2,3]	09	11	12	13	14	15	16	17	18	19	20	21	22	08	10	12	15	17	19	21	13	16	18	21	
			3-yr[5]	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	2-yr	3-yr	3-yr	3-yr	2-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	3-yr	
Atlas Select	free	ProSeeds Marketing															95											–
Aprilia	free	ProSeeds Marketing															93											–
Armory	free	Barenbrug USA											98	99								98	95					98(4)
Baguala	free	Allied Seed							92											96								94(2)
BarElite	free	Barenbrug USA	96		100													92										96(3)
BARFASTF-43	free	Barenbrug USA											99									85						92(2)
BarOptima PLUS E34	novel	Barenbrug USA	99		107	108	102	99	113	99	90	95	102	101	96	87		99	100	96	105	102	99	93	118	85	81	99(23)
Bronson	free	Ampac Seed	97	105	102	99	99			100			110					101	91	103								101(10)
Brutus	free	Saddle Butte Ag. Inc.						90																				–
Bull	free	Improved Forages				100						100							99					95				99(4)
Cajun II	free	Smith Seed Services			97		105	99	99	98	107	109	99	104	99	100		101		104	91	111		90	96	104	113	101(19)
Cowgirl	free	Rose-AgriSeeds				94										108	102	100	98									102(4)
DLFPS-FTF100 Protek	novel	DLF Pickseed											98									80						89(2)
Dominate	free	Allied Seed							90						101					99			106					99(4)
Drover	free	Barenbrug USA						105	120																			113(2)
DuraMax GOLD	novel	DLF Pickseed			102																							–
Enhance	free	Allied Seed			93																							–
Estancia ArkShield	novel	Mountain View Seeds				106				96		105	99	100	99	114			102			102	97		103		87	101(12)
Fillmore(FTF70)	free	DLF Pickseed												103														–
Flourish	free	Allied Seed				92													101									97(2)
FSG 402TF	free	Farm Science Genetics							92											103								98(2)
Goliath	free	Ampac Seed		100			104											99										101(3)
Greendale	free	DLF Pickseed											105		98	102						113	103					104(5)
Greendale Protek	novel	DLF Pickseed											106	97								116						106(3)
HyMark	free	Fraser Seeds			91				104								102			103								100(4)
Jesup EF	free	Pennington Seed			98	105												103	100									102(4)
Jesup MaxQ	novel	Pennington Seed	101	110	103	100	93	106	102	111	104	101		111			95	100	98	98	103			100	116	105		103(19)
Jesup MaxQII	novel	Pennington Seed											103		93	98											105	100(4)
Kentucky 32	free	Oregro Seeds			93	94		101				83	101				98	94	101									96(8)
Kokanee	free	Smith Seed Services											81															–
Kora Protek	novel	DLF Pickseed								101															86			94(2)
KY31+	toxic	KY Agric Exp Sta.	102	102	93	95	103	100	99	103	101	107	71	93	102	96	93	112	101	92	105	105	99	110	110	107	118	101(25)
Lacefield MaxQ II	novel	Pennington Seed	109				97	104	93	92	94	106	112	100	100	102	106			105	100		97	113	102	95	106	102(19)
Martin2 Protek	novel	DLF Pickseed			104					96			105	97								99			106			101(6)
Nanryo	free	Jap. Grassland ForageSeed/	96																									–
Noria	free	ProSeeds Marketing	98																									–
Palatine	free	Mountain View Seeds												101													89	95(2)
Payload	free	Brett Young								89															111			100(2)
RAD-ERF50	free	Radix Research, Inc.															113											–
Ranchero	free	Smith Seed Services									92		101	107	96	91					96	107					105	99(8)
Select	free	Southern States	99	98	90	100	97	103	97	102							105	99	100	99				99	86			98(14)
SS-0705TFSL	free	Southern States						99	99	106	111	94	110	103	106	104				103	101		99		101	104	99	103(15)
STF43	free	Barenbrug USA												91														–
Teton II	free	Mountain View Seeds			107	105		96		103									99						91			100(6)
Texoma MaxQ II	novel	Pennington Seed											111	107	107	81											96	100(5)
TF0203G	free	Seed Research of OR	87																									–
Tower	free	DLF Pickseed								101			105									96			91			98(4)
Tower Protek	novel	DLF Pickseed			98					104			102	90								92			81			95(6)
Triumphant	free	DLF Pickseed											95		103	116						95	106					103(5)
Triumphant Protek	novel	DLF Pickseed											96	96								97						96(3)
Tuscany II	free	Seed Research of OR				97													106									102(2)
Velvet	free	Oregro Seeds											91															–
5CAN	free	Brett Young		86																								–

[1] Free-varieties that do not contain an endophyte. Toxic-KY31+ contains a toxic endophyte. Novel-varieties that contain an endophyte that aids persistence but is not toxic to cattle.
[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 the fall of 2016 was harvested three years, so the final report would be "2019 Tall Fescue Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[4] Mean only presented when respective variety was included in two or more trials.
[5] Number of years of data.

Table 7. Summary of Kentucky bromegrass yield trials at Lexington 2006-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial.)

Variety	Type	Proprietor/KY Distributor	2006[1,2]	2008	2010	2012	2014	2015	2016	2017	2018	2019	2020	2021	2022	Mean[3]
			4-yr[4]	3-yr	3-yr	3-yr	3-yr	3-yr	4-yr	3-yr	3-yr	3-yr	3-yr	3-yr	2-yr	(#trials)
AAC Torque	hybrid	Brett Young Seeds													83	–
AC Knowles	hybrid	Agriculture Canada	85		82	102	89									89(4)
Admiral	meadow	Cisco Seeds							107	106	100	100	102	102	100	102(7)
Arid	smooth	Mountain View Seeds							94	93					101	96(3)
Arsenal	meadow	Barenbrug USA									106	106	104	112	113	108(5)
Artillery	smooth	Barenbrug USA									100	99	89	92	99	96(5)
Bigfoot	hybrid	Grassland Oregon	108	116	105											110(3)
Canterbury	mountain	Barenbrug USA		79												–
Carlton	smooth	Pickseed USA				82	95				85					87(3)
CDC Torsion	meadow	Brett Young Seeds													109	–
Champaign	meadow	Mountain View Seeds													97	–
Doina	smooth	Barenbrug USA		114	108											111(2)
Fleet	meadow	Agriculture Canada	110			109										110(2)
Hakari	Alaska	Barenbrug USA		85	85											85(2)
MacBeth	meadow	Cisco Seeds		136	119	107	116	107	103	123	100	95	105	104	95	109(12)
Olga	smooth	Barenbrug USA		116	101											109(2()
Peak	smooth	Allied Seed		97		100		93	95	88	103		99	89	91	95(9)
Persister	prairie	DLF Pickseed		72												–
RAD-BI29	smooth	Columbia Seeds	96	86												91(2)
Stratus	meadow	Allied Seed												101	108	105(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 the fall of 2021 was harvested three years, so the final report would be "2024 Tall Fescue, Bromegrass, and Meadow Fescue Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.

Table 8. Summary of Kentucky Timothy Yield Trials 2000-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington																	Princeton		Mean[3] (#trials)
		01[1,2]	02	06	07	08	09	11	12	13	14	15	16	17	19	20	21	22	00	04	
		3yr[4]	4yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	2yr	3yr	2yr	
Alma	Newfield Seeds Co/Caudill Seed Co.																			81	–
Anjo	Columbia Seeds												81								–
Barfleo	Barenbrug USA						95	91	101		108	80	97	94	92	98		89			95(10)
Baronaise	Barenbrug USA															83					–
Barpenta	Barenbrug USA				74			82	82					94	92	90		77			84(7)
Carson	Mountain View Seeds													113	106	105	104	110			108(5)
Clair	Ky Agric. Exp. Station	104	113	107	95	107	104	112	99	97	111	107	88	88	85	96	110	101		122	103(18)
Classic	Cebeco International Seeds		86																		–
Climax	Canada Agr. Res. Station			79	102	104	98	102	100	82	96	90	102	92	98	94	81	71			93(15)
Colt	FS Growmark		100	90																99	96(3)
Common	Public	95																			–
Comtral	Caudill Seed								92	92											92(2)
Conquest	Allied Seed, L.L.C.																107				–
Dawn	Columbia Seeds													103	107	110					107(3)
Derby	Southern States			112	111		106	112	108	112	119	123	112		112	104				124	113(12)
Dolina	DLF Pickseed		90																		–
Express	Seed Research of Oregon		95		91		97	95													95(4)
Express II	Allied Seed, L.L.C.																88	97			93(2)
Hokusei	Snow Brand Seed																				–
Joliette	Newfield Seeds Co/Caudill Seed Co.					86	89													90	88(3)
Jonaton	Newfield Seeds Co/Caudill Seed Co.																			84	–
KY Early	Smith Seed/Central Farm Supply	103	115			102				119				115	99	106	99	115			108(9)
Outlaw	Grassland West Company																		107		–
Sahara DT	DLF Pickseed																	121			–
Summergraze	Brett Young									96											–
Summit	Allied Seed, L.L.C.		112																		–
Talon	Seed Research of Oregon			110	112		108	106	109												109(5)
Tenho	Barenbrug USA										84										–
Treasure	Seed Research of Oregon			103	115		103	101	108												106(5)
Tuukka	Ampac Seed Company	94	88																93		92(3)
Valor	DLF Pickseed																101	100			101(2)
Varis	Mountain View Seeds										83										–
Zenyatta	DLF Pickseed									103			119		109	114	110	118			112(6)

[1] Year trial was established.

[2] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in 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 the fall of 2017 was harvested three years, so the final report would be "2020 Timothy and Kentucky Bluegrass Report" archived in the UK Forage website (https://forages.ca.uky.edu).

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

[4] Number of years of data.

Table 9. Summary of Kentucky Bluegrass Yield Trials at Lexington 2004-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	04[1,2]	06	07	08	09	10	11	12	13	14	16	17	18	19	20	21	22	Mean[3] (#trials)
		3yr[4]	4yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	3yr	2yr	3yr	3yr	3yr	2yr	
Adam 1	Radix Research	98																	–
Balin	Pure Seed												91	80					86(2)
Barderby	Barenbrug USA			94		101	91	98	87	103	101	103	128	120	109	125			105(12)
Big Blue	Rose-AgriSeed					82			95										89(2)
Common	Public		71	66	68														68(3)
Ginger	ProSeeds Marketing		118	119	114	118	112	107	110	107	95	101	119	98	95	108	129	119	111(16)
Isabel	Smith Seed Services															64	65		65(2)
Kenblue	Public	102	133				96	95	118	95	100								106(7)
Lato	Turf Seed Inc.			122															–
Park (certified)	Public								90	95	104	117	88	102	96	102	106	106	101(10)
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														–
Tirem	DLF Pickseed											79	74					75	77(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 the fall of 2017 was harvested three years, so the final report would be "2020 Timothy and Kentucky Bluegrass Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.

Table 10. Summary of Kentucky annual ryegrass yield trials at Lexington from 2004-2024 (yield shown as a percentage of the yield value of Marshall).[1]

Variety	Type	Proprietor	04[2,3]	05	06	07	08	09	10	10	11	12	12	13	14	15	16	17	18	19	21	22	23	Mean[4] (#trials)
Acrobat	–[5]	Proseeds Marketing					144																	–
AE110	Westerwold tetraploid	Pickseed USA, Inc.									89	100												95(2)
Alisca	Westerwold tetraploid	Allied Seed																					101	–
Amp	Westerwold tetraploid	Columbia Seeds												75							91			83(2)
Assist	Westerwold diploid	SaddleButte												88										–
Attain	Westerwold tetraploid	Smith Seed Services							111					52	69					92				91(3)
Baqeuano	Westerwold tetraploid	Smith Seed Services																	77					–
Barmultra II	Italian tetraploid	Barenbrug USA							133				103	95		125	108							117(4)
Bendix	Westerwold tetraploid	Smith Seed Services																			91	90		91(2)
Big Bang	Westerwold tetraploid	Brett Young													67									–
Big Boss	Westerwold tetraploid	Smith Seed Services							98				86	38	73									86(3)
Big Daddy	Westerwold tetraploid	FFR/Sou. St.							86	98	82													89(3)
Bill	Westerwold diploid	Smith Seed Services													62									–
Brangus	Italian tetraploid	KB SeedSolutions							94															–
Bruiser	Westerwold diploid	Ampac Seed					65	105	100		104	86		100	105	95	86	113		96	84	91		94(12)
Centurion	Westerwold diploid	Mountain View Seeds										97			132		100	117			96	94	98	105(7)
Claro	Westerwold tetraploid	Smith Seed Services																			86	103		95(2)
Dexter	Westerwold tetraploid	Smith Seed Services																			89		101	95(2)
DH-3	Italian tetraploid	Allied Seed				91	27				89													69(3)
Diplomat	Westerwold diploid	Allied Seed																					83	–
Dixie Gold	Westerwold tetraploid	Caudill Seed												19										–
DoubleDiamond	Westerwold tetraploid	Oregro Seeds																	84					–
Dyna-Gain	Westerwold diploid	Columbia Seeds												71										–
DynaPlus	Westerwold diploid	Columbia Seeds																			84			–
Ed	Westerwold diploid	Smith Seed Services							96					101	100								89	97(4)
Fantastic	Westerwold diploid	Ampac Seed			48	84																		86(3)
Feast II	Italian tetraploid	Ampac Seed					35	113	109		81	93	71	47	56	88	80	87	65	86	67	86	91	80(16)
Flying A	Westerwold diploid	Oregro Seeds			39		59																	–
Fox	Italian diploid	DLF Pickseed							109															–
Fria	Westerwold diploid	Allied Seed							95		87	89		104	81	85	98							89(6)
Frostproof	Westerwold diploid	Smith Seed Services															96			93	80	90	93	90(5)
GR-AS10	Italian	Ampac Seed							113															–
Green Farm	Westerwold diploid	Smith Seed Services													85									–
Green Farm 2	Westerwold diploid	Smith Seed Services																			86	94		90(2)
Gulf	Westerwold diploid	Public				67	26	87	78		76	72		27	69	60	87	87	56	80	66	79	84	72(15)
Halsey	Intermediate tetraploid	Smith Seed Services																					99	–
Hellen	Westerwold tetraploid	Smith Seed Services																		95	83	93		90(3)
Hercules	Westerwold tetraploid	Barenbrug USA											91	68										80(2)
HS-1	Italian diploid	KB SeedSolutions							72															–
Jackson	Westerwold diploid	The Wax Co.	66	100	62	103	59	101	99	106	106	91	77	69	100	99	97	105	95	95	87	91	95	93(19)
Jumbo	Westerwold tetraploid	Barenbrug USA																88	83					94(3)
KB Royal	Italian diploid	KB SeedSolutions							83															–
Kodiak	Westerwold diploid	DLF Pickseed																					100	–
Koga	Westerwold tetraploid	Smith Seed Services																94	96	101	95		106	98(5)
Kospeed	Westerwold diploid	Smith Seed Services													80	92								86(2)
Kowinearly	Westerwold diploid	Smith Seed Services													95	96								96(2)
LHT-102	Intermediate	Ampac Seed										100												–
Mantis	Westerwold tetraploid	Smith Seed Services																			88	107		98(2)
Marshall	Westerwold diploid	The Wax Co.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(19)
Master	Westerwold tetraploid	Smith Seed Services																	82					–

(continued on the next page)

Table 10. (continued)

Variety	Type	Proprietor	04[2,3]	05	06	07	08	09	10	10	11	12	12	13	14	15	16	17	18	19	21	22	23	Mean[4] (#trials)
Maximo	Intermediate tetraploid	Pickseed USA, Inc.									101													–
Maximus	Westerwold tetraploid	Barenbrug USA																63	84					74(2)
McKinley	Westerwold diploid	DLF Pickseed																					101	–
Melquatro	Italian tetraploid	Columbia Seeds														135		72					92	100(3)
Meroa	Westerwold diploid	Smith Seed Services													93	102				108	96			100(4)
MX 108	Westerwold tetraploid	Pickseed USA, Inc.									95	114												105(2)
Nelson	Westerwold tetraploid	The Wax Co.								86			93	65	77	105	97	73	91	104	94	115	105	95(11)
Oryx	Italian diploid	Columbia Seeds														100							84	–
Primecut	Westerwold brand	Oregro Seeds									94													–
Rapido	Westerwold diploid	Smith Seed Services																		77				–
Striker	Westerwold tetraploid	Seed Research of OR				90																		–
TAMTBO	Westerwold tetraploid	Tex. Ag Exp Sta.					47		101		108	95			79				91					87(6)
Tam 90	Italian diploid	Tex. Ag Exp Sta.					49								78									64(2)
TetraPrime	Italian tetraploid	Mountain View Seeds										101			96	104	91	99	90	86	80			93(8)
TetraPrime II	Italian tetraploid	Mountain View Seeds																				98		–
TetraPro	Italian tetraploid	Tex. Ag Exp Sta.					40																	–
TillageRootMax	Westerwold diploid	Cover Crop Solutions									82	90												86(2)
Trinova	Westerwold tetraploid	Smith Seed Services																	78					–
Ugne	Italian tetraploid	Columbia Seeds															102							–
Verdure	Westerwold tetraploid	Smith Seed Services							86					42	58									72(2)
Winterhawk	Westerwold diploid	Oregro Seeds							104		117	92			119			113	96	91	98	100	97	103(10)

[1] In annual ryegrass, low yielding varieties usually result from winterkill. Note: Due to severe winterkill, yield results from the 2006 and 2013 plantings were not included in the overall mean.
[2] Year trial was established.
[3] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in the fall of 2015 was harvested one year, so the final report would be "2016 Annual and Perennial Ryegrass and Festulolium Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[4] Mean only presented when respective variety was included in two or more trials.
[5] Type was not provided by the company.

Table 11. Summary of Kentucky perennial ryegrass yield trials at Lexington from 2001-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Type	Proprietor	01[1,2]	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	Mean[3,4] (#trials)
			2yr[5]	2yr	3yr	3yr	2yr	3yr	3yr	3yr	2yr	3yr	3yr	3yr	2yr	2yr	3yr	3yr	3yr	3yr	3yr	3yr	2yr	
Aires	diploid	Ampac Seed	95																					–
Albion	tetraploid	Grasslands Oregon													105	103								104(2)
Amazon	tetraploid	AgriBioTech			99																			–
Aubisque	tetraploid	Seed Research of OR		144																				–
Barvitra	diploid	Barenbrug USA														104				109				107(2)
Bastion C-2	tetraploid	Seed Research of OR			91																			–
Best for Plus	hybrid tetraploid	Improved Forages		116	108	118																		114(3)
BG-34	diploid	Barenbrug USA				83	85				86		87	84	85	81		83						84(8)
Boost	tetraploid	Allied Seed						130	125	120	143	110	103	102						108	112		111	116(10)
Calibra	tetraploid	DLF Pickseed							96	109	81	99	103	96	87	100	98	98	89	95				96(12)
Crave	tetraploid	Ampac Seed											95											–
Dexter 1	tetraploid	DLF Pickseed																				97	93	95(2)
Elena DS	tetraploid	Allied Seed											110				110				110			110(3)
Eurostar	tetraploid	Seed Research of OR						112																–
Everlast	diploid	Caudill Seed												104										–
Feeder	diploid	Seed Research of OR						76																–
Grand Daddy	tetraploid	Smith Seed	118				101	109		76	92	84	86		107									97(8)
Green Gold	tetraploid	Grasslands Oregon					96																	–
Herbal	–[7]	ProSeeds Marketing							77															–
Impressario	tetraploid	DLF Pickseed								107			92											100(2)
Kentaur	tetraploid	DLF Pickseed										106		117										112(2)
Lactal	tetraploid	Brett Young								102														–
Lasso	diploid	DLF Pickseed	98																					–
LHT-102	tetraploid	Ampac Seed											114											–
Linn (certified)	diploid	Public	98	98	102		98	85	84	101	92	93	80	95	83	89	83	74	98	105	102	93	85	92(20)
Matrix	diploid	Cropmark seeds		77																				–
Maverick Gold	hybrid tetraploid	Ampac Seed	97																					–
Melpetra	tetraploid	Columbia Seeds															83							–
Orantas	diploid	DLF Pickseed								82														–
Ortet	tetraploid	Oregro Seeds							114															–
PayDay	tetraploid	Mountain View Seeds											101	103	99		87	108	95	93	89	92	105	97(10)
Polly Plus	hybrid tetraploid	Allied Seed		64																				–
Power	tetraploid	Ampac Seed						110	103	102	100	109	104	95	101	107				100	86	90	93	100(13)
Polim	tetraploid	DLF Pickseed									106													–
Quartermaster	tetraploid	Radix Research				122																		–
Quartet	tetraploid	Ampac Seed	97			56		46																66(3)
RAD-CPS212	hybrid tetraploid	Radix Research				134																		–
RAD-MI125	hybrid tetraploid	Mountain View Seeds					120																	–
Remington	tetraploid	Barenbrug USA													95	117	109	108	105	85	102	117	83	102(9)
Remington PLUS NEA2[6]	tetraploid	Barenbrug USA													119	99			105	91	89	101		101(6)
Sierra	diploid	Lewis Seed Co.				89																		–
TetraGain SLT	tetraploid	Pure Seed											111									113	114	114(2)
TetraMag	tetraploid	Mountain View Seeds											110		136		127	124	121	116	130	99	115	120(9)
TetraSweet	tetraploid	Mountain View Seeds															104	105	87	97	80	98	87	94(7)
Tonga	tetraploid	Kings AgriSeeds				96				103														100(2)
Verseka	tetraploid	Allied Seed											75											–
Victorian	diploid	Caudill Seed												104	83									94(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 the fall of 2012 was harvested three years, so the final report would be "2015 Annual and Perennial Ryegrass and Festulolium Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[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.
[6] Remington PLUS NEA2 contains a non-toxic (novel) endophyte.
[7] Type was not provided by the company.

Table 12. Summary of Kentucky festulolium yield trials at Lexington from 2001-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).[1]

Variety	Type[2]	Proprietor	2001[3,4]	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2019	2020	2021	2022	Mean[5] (#trials)
			2yr[6]	3yr	3yr	3yr	3yr	3yr	2yr	3yr	2yr	3yr	3yr	3yr	3yr	3yr	3yr	2yr	
Agula	MF x IR	Allied Seed					94												–
Barfest	MF x PR	Barenbrug USA					105	101	107	119	91	92	92						101(7)
Bonus	MF x IR	Allied Seed					93	46	32	34									51(4)
Duo	MF x PR	Ampac Seed		89	98	99	95	106	103	96	96	83	83	80	98	97	86	91	93(15)
Felina	(TF x IR) x TF	DLF Pickseed	104				132	118	134	114	96								116(6)
Fojtan	(TF x IR) x TF	DLF Pickseed					112	101	124	92	72	94	100	108	86				99(9)
Gain	MF x IR	Allied Seed					103	77	52	75									77(4)
Hostyn	MF xIR	DLF Pickseed							107	110	106		108						108(4)
Hykor	(TF x IR) x TF	DLF Pickseed					133	141	153	131	119	121	112		94	109			124(9)
InaMerlin	MF x IR	Columbia Seeds											88	77					83(2)
Kenfest	MFx AR	KY Agr. Exp Station												97					–
Lenor	IR x TF	Columbia Seeds															104	90	97(2)
Lofa	(TF x Int) x Int	DLF Pickseed					105	107	110	128	112	91	109	108	104	100	108	108	108(12)
Mahulena	(TF x IR) x TF	DLF Pickseed							131	109	107		111	114		106	105	104	111(8)
Meadow Green	MF x PR	Pure Seed Testing							37	34									36(2)
Perseus	MF x IR	DLF Pickseed					132	114	126	123	110	109	105	112	113	105	115	109	114(12)
Perun	MF x IR	DLF Pickseed					127	114	107	131	110	102	99	110	105	87			109(10)
Rebab	(TF x IR) xTF	DLF Pickseed								94	77								86(2)
Spring Green	MF x PR	Pure Seed Testing	96	111	114	101	113	112	114	110	103	107	92	94	101	96	92	98	103(16)
Sugarcrest	MFxPR	Mountain View Seeds															95	96	96(2)
Sweet Tart	MF x IR	ProSeeds Marketing			88		82	63	62										74(4)
Tatran	IR x TF	Columbia Seeds															95	104	100(2)

[1] The festuloliums were in fescue trials from 2001-2005 and in perennial ryegrass trials from 2008-2009.
[2] MF=meadow fescue, TF=tall fescue, IR=Italian ryegrass, PR=perennial ryegrass, Int=intermediate ryegrass.
[3] Year trial was established.
[4] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in the fall of 2012 was harvested three years, so the final report would be "2015 Annual and Perennial Ryegrass and Festulolium Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[5] Mean only presented when respective variety was included in two or more trials.
[6] Number of years of data.

Table 13. Summary of meadow fescue yield trials at Lexington 2019-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	2019[1,2]	2020	2021	2022	Mean[3] (#trials)
		3-yr[4]	3-yr	3-yr	2-yr	
HDR	Barenbrug USA	95	105	101		100(3)
Hyperbola	DLF Pickseed				92	–
Pradel	Barenbrug USA	105	88	99	105	99(4)
Raskila	Columbia Seeds		103	100	103	102(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 the fall of 2021 was harvested three years, so the final report would be "2024 Tall Fescue, Bromegrass, and Meadow Fescue Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.

Table 14. Summary of Kentucky pearl millet yield trials 2013-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/ KY Distributor	Lexington												Princeton								Mean[3] (#trials)
		13[1,2]	14	15	16	17	18	19	20	21	22	23	24	17	18	19	20	21	22	23	24	
		All trials are 1 year yields																				
Epic BMR[4]	Coffey Seed							97	93	83	100	98	97			99	96	87	96	132	94	99(12)
Exceed BMR	Coffey Seed							89	103	81	97	100	105			102	90	107	97	73	86	94(12)
FSG 300 Hybrid	Farm Science Genetics			109	99	109								117								109(4)
FSG 315 BMR (Dwarf)	Farm Science Genetics			101	102	81								97								95(4)
Leafy22 Hybrid	Turner Seed				105	124	108	108	113	119	101	106	108	115	100	116	111	119	99	120	101	110(17)
Millex32	S&W Seed Company								110	131	102	105	107				111	93	99	94	119	107(10)
PearlMil	Dyna-Gro Seed							103	113	120	107	109	103			110	100	110	105	89	103	106(12)
Pennleaf Hybrid	Pennington Seed	93	91	94	96	87	98	100	95	100	96	97	91	84	93		90					94(15)
PP102M Hybrid	Cisco Seeds	93	93	90	79	90	91	97	92	103	92	101	92	77	104	95		81	104	80	95	92(19)
Prime360	Byron Seed							91	90	77	88	93	98			103	96	103	94	97	90	93(12)
SS1562M BMR	Southern States							103	94	72	98	87	84			95	95	90	93	125	102	95(12)
SS501	Southern States	90	99	96	86	94	94							89	96							93(8)
SS635	Southern States	108	112	101	116	94	110	108	105	100	103	99	97	107	115	105	110	98	99	93	96	104(20)
Sweet Summer	Cisco Seeds						86	95	97	97	95	89	96		85	104	91	99	93	118	104	96(14)
Tifleaf III Hybrid	Gayland Ward Seed	116	106	108	116	120	113	119	95	131	114	120	111	114	112	111	101	121	116	141	105	115(20)
Wonderleaf	Advanta Seed/Ramer Seed							98	100	86	105	97	109		100	107	109	92	105	69	105	97(13)

[1] Establishment year.
[2] Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
[3] Mean only presented when respective variety was included in two or more trials.
[4] BMR (Brown Mid-rib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

Table 15. Summary of Kentucky sudangrass yield trials 2008-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington																	Princeton								Mean[3] (#trials)
		08[1,2]	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	17	18	19	20	21	22	23	24	
		All trials are 1 year yields																									
AS9301 BMR[4]	Advanta Seeds/Ramer Seed					118																					–
AS9302 BMR (Brachytic Dwarf)	Advanta Seeds/Ramer Seed										124	104	102	112	99	96	103	101	119	117	115	113	104	100	119	110	109(16)
Enorma BMR	Cal/West Seeds			99	94	92	91	83	91	98																	93(7)
FSG 1000 BMR	Farm Science Genetics								101	124	110																112(3)
Hayking BMR	Central Farm Supply	111	112	91	97	97	96	92	94	90	80	109							99								97(12)
Monarch V	Public	104	96	102	97	93	98	110	99	82																	98(9)
Piper	Public	90	91	97	94	104	105	89	94	85	81	86	93	83	92	102	106	104	86	99	88	82	98	101	88	117	94(25)
ProMax BMR	Ampac Seed	95	101	110	115	96	103	100	111	111	106	102	101	106	107	108	106	104	96	84	87	86	106	101	88	96	101(25)
SP7106 BMR	Sorghum Partners														92	95	105	101					90	95	116	105	100(8)
SS130 BMR	Cal/West Seeds			101	103		107	106	110	109	99		93	92	101	96					97	99	93				100(14)
Trudan Headless	S & W Seed Company							118					112	107	109	104	80	90			113	126	110	103	89	73	103(13)

[1] Establishment year.
[2] Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
[3] Mean only presented when respective variety was included in two or more trials.
[4] BMR (Brown Mid-rib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

Table 16. Summary of Kentucky sorghum-sudangrass yield trials 2008-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington																	Princeton								Mean[3] (#trials)
		08[1,2]	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	17	18	19	20	21	22	23	24	
		All trials are 1 year yields																									
ADV6218	Advanta Seeds/Ramer Seed																104	108							101	131	111(4)
ADVS6404 BMR[4] (Brachytic Dwarf)	Advanta Seeds/Ramer Seed																84	92							90	93	90(4)
ADVS6520 BMR SCA[5] PS[6]	Advanta Seeds/Ramer Seed																99	107							118	78	101(4)
ADV6525 BMR SCA PS	Advanta Seeds/Ramer Seed																	93								85	89(2)
AS6401 BMR[4]	Advanta Seeds/Ramer Seed												84	107	107						112	106					103(5)
AS6402 BMR (Brachytic Dwarf)	Advanta Seeds/Ramer Seed					91					78	82	67	94	79	89			98	98	91	85	81				86(12)
AS6503 BMR	Advanta Seeds/Ramer Seed						96	103	90																		96(3)
AS6504 BMR (Dry Stalk)	Advanta Seeds/Ramer Seed										105	103			95		105		114	112			110				106(7)
Danny Boy II BMR	Dyna-Gro Seeds												117	95	93	106					110	98	98				102(7)
DynaGraze II	Dyna-Gro Seeds													98	104	100						122	104				106(5)
FirstGraze	Dyna-Gro Seeds													109	101	103						118	113				109(5)
FSG 208 BMR	Farm Science Genetics			75																							–
FSG 214 BMR	Farm Science Genetics						99	108	112										109	111							108(5)
FSG 215 BMR	Farm Science Genetics								112																		–
Fullgraze II	Dyna-Gro Seeds												100	105	100	97					108	94	104				101(7)
Fullgraze II BMR	Dyna-Gro Seeds												97	90	96	114	120				106	92	102				102(8)
F75FS13	Dyna-Gro Seeds												94	100	93	95	103	93			76	94	89	86	104	88	93(12)
Greengrazer V	Farm Science Genetics			166			122	107	92	103	110																117(6)
GW300 BMR	Gayland Ward Seed				88	78	88	81	73	101	100	98							79								87(9)
HyGain	Turner Seed	104	105	118						110	127	117	121	113	112				130	108	121	110	112				115(14)
KFSugar-Pro55S	Byron Seed										110																–
MS 202 BMR	Farm Science Genetics			106																							–
Nutra-King BMR	Gayland Ward Seed								110	108	96	113	118	103	110	114	119		108	114	105	96	97	107			108(15)
NutraPlus BMR	Public	106	97	94	103	106	109	106	96																		102(8)
Sordan Headless	S&W Seed Company							105						110	103	101	102	101				102	100	109	107	109	105(11)
Sordan 79	S&W Seed Company													114	116	121	135	123				123	109	117	119	131	119(10)
Special Effort	Public	109	110	93	94	115	120	91	111																		105(8)
SP 4105 BMR	Sorghum Partners													91	88	89	96	84				79	76	109	90	78	88(10)
SP4555 BMR	Sorghum Partners														117	110	118	103					98	100	96	101	105(8)
SPDF708 PAF[7]	Sorghum Partners																	124								111	118(2)
SS211	Southern States				104	93	114	103	118	111	121	118					102	102	109	87					106	103	107(14)
SS220 BMR	Southern States		107	84		112											60	81							73	88	86(7)
SS1652SS	Southern States																98	97							110	68	93(4)
Sugar Graze II	Coffey Seed												110	114	116	110	113				110	122	116	112			114(9)
Surpass BMR	Turner Seed	81	80	64						79	84	75	75	81	84	85	74	86	88	97	74	70	83	86	88	77	81(20)
Super Sugar	Gayland Ward Seed				102	117	107		125	85									91								105(6)
Super Sugar BMR	Gayland Ward Seed									107																	–
Super Sugar (Delayed Maturity)	Gayland Ward Seed							101	82		89	104							95	83							92(6)
Super Sugar Sterile	Gayland Ward Seed							94																			–
Super Sweet 10	Dyna-Gro Seeds												121	106	117	106	120	103			118	128	113	112	117	139	117(12)
Sweet-For-Ever	Gayland Ward Seed				110	107	81									81								81			92(5)
Sweet-For-Ever BMR	Gayland Ward Seed					78	70		77	104	106	83							77	82							85(8)
SweetSix BMR	Gayland Ward Seed						93	101		91																	95(3)
SweetSix BMR (Dry Stalk)	Gayland Ward Seed								102		72	107			98				103	108			93				98(7)
SWSB8801	S&W Seed Company														90	87	87							101	82		89(5)
SWSB8803	S&W Seed Company															96								95			96(2)
SWSU0029	S&W Seed Company														98	103	107	111					117	110	110	116	108(6)
Vita-Cane	Gayland Ward Seed					121																					–
Xtragraze BMR	Coffey Seed												79	82	82	87	76				70	75	84	76	88		80(10)
19011 BMR	Gayland Ward Seed																	91								105	

[1] Establishment year.
[2] Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
[3] Mean only presented when respective variety was included in two or more trials.
[4] BMR (Brown Mid-rib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.
[5] SCA=Sugar Cane Aphid tolerant.
[6] PS=Photoperiod sensitive.
[7] PAF=Prussic Acid Free.

Table 17. Summary of Kentucky forage sorghum yield trials 2013-2023 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington											Princeton						Mean[3] (#trials)
		13[1,2]	14	15	16	17	18	19	20	20	22	23	17	19[4]	19	21	22	23	
		All Trials are 1 year yields																	
ADV7232 BMR[5]	Advanta Seed/Ramer Seed							88	92	89	84	84		93	84	92	91	73	89(7)
AF7201 BMR (Brachytic Dwarf)	Advanta Seed/Ramer Seed	89	81	101	89			94	84	79	87	82		74	83	92	87	94	88(11)
AF7203 BMR (Brachytic Dwarf)	Advanta Seed/Ramer Seed							48					70						59(2)
AF7401 BMR (Brachytic Dwarf)	Advanta Seed/Ramer Seed	76	94	90	83	86	72	85	77	85	94	93	116	87	100	73	87	81	87(14)
AF8301	Advanta Seed/Ramer Seed							98	103	95	87	107		124	85	112	114	123	99(7)
ADV8322	Advanta Seed/Ramer Seed											105						115	
ADV84841G	Advanta Seed/Ramer Seed											111						106	
Ensilemaster	Caudill Seed	125	90	101	106	111	129	118	129	93	110	131	171	77	85	79	97	111	110(14)
FSG114 BMR	Farm Science Genetics		94	128	93	125	91	76	91	106			71	89	79				95(10)
FSG115 BMR (Brachytic Dwarf)	Farm Science Genetics		51	31	72	81	74	67	77	92			72	60	74				69(10)
F74FS23 BMR	Dyna-Gro Seed							125	94	107	111	89		77	76	92	91	105	99(7)
F74FS72 BMR	Dyna-Gro Seed							93	87	82	140	89		59	117	85	82	75	98(7)
F75FS13	Dyna-Gro Seed							107	94	102	80	102		109	84	87	79	69	90(7)
GW2120	Gayland Ward Seed	117	89	113	84	107	88	102	91	70	88	97	85	98	115	81	80	83	94(14)
GW400 BMR	Gayland Ward Seed	93	79	128	78	91	88	83	85	67			42			66			82(11)
GW475 BMR	Gayland Ward Seed						80	99	84	82						67			82(5)
GW600 BMR	Gayland Ward Seed		107	111	90		90	100	84	80						101			95(8)
KFFiber-Pro70FS	Byron Seed					65	53						70						63(3)
NK300	Sorghum Partners		126	110	101	116	135	84	104	116	112	92	119			93	97	100	109(12)
SD1741 BMR	S&W SeedCompany		133	92	103	81	84	95					94						97(7)
SilageKing BMR (Dwarf)	Gayland Ward Seed		48																–
SiloPro BMR (Brachytic Dwarf)	Gayland Ward Seed			24	74		63			68	81	65				87	73	61	67(7)
SP1615	Sorghum Partners								125	158	175	129		164	170	166	142	145	156(6)
SP1727	Sorghum Partners											91						88	
SP2606	Sorghum Partners											87						86	
SP2707DT	Sorghum Partners											82						95	
SP3904BD BMR (Brachytic Dwarf)	Sorghum Partners								88	97	75	105				101	97	74	92(5)
SP3905BD BMR (Brachytic Dwarf)	Sorghum Partners								81	72	83	82				58	75	70	74(5)
SS1515	Southern States							125	105	91	94	104		97	75	111	100	103	100(7)
SS2010BDF	Allies Seed/Southern States											60						67	
SS304	Sorghum Partners								121	114	110	106				95	111	111	110(5)
SS405	Sorghum Partners		188	183	207	138	202	139	143	188	87	146	160	142	171	193	193	174	168(13)
Super Sile 20	Dyna-Gro Seed							107	120	140	90	127		106	124	149	106	127	119(7)
Super Sile 30	Dyna-Gro Seed							121	115	123	96	125		129	104	132	122	131	116(7)
SWFS8802	S&W SeedCompany									66						64			65(2)
TopTon	Dyna-Gro Seed							131	130	140	117	112		84	73	124	82	147	114(7)
XF7203 BMR (Brachytic Dwarf)	Advanta Seed/Ramer Seed					74	73												74(2)
1990	S&W SeedCompany		121	89	118	125	177	113					131						125(7)

[1] Establishment year.
[2] Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
[3] Mean only presented when respective variety was included in two or more trials.
[4] This trial was sprayed with an aphicide and the results are not included in the overall mean.
[5] BMR (Brown Mid-rib) means that a variety has been developed to produce lower amounts of lignin which usually translates into higher quality.

Table 18. Summary of Kentucky teff yield trials 2008-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety[4]	Proprietor/Distributor	Lexington															Princeton								Mean[3] (#trials)
		08[1,2]	09	10	11	12	13	14	15	16	19	20	21	22	23	24	08	09	19	20	21	22	23	24	
		All Trials are 1 year yields																							
Corvallis	Smith Seed Services	81	101	91	101	96	100	110	96	102	110	116	92	103	101	108	94	112	99	112	92	105	86	81	100(23)
CW0604	Barenbrug USA										101	100	101	102	103	110			97	103	86	107	90	100	100(12)
Dessie	Allied Seed	99	92	96	94	95	97	101	104	105	89	109	105	100	96	83	102	87	101	98	127	101	129	109	101(23)
Excaliber	–	109	104	125	108	106	103										109	111							109(8)
Highveld	–	100	121	106	101	109	103	102									111	115							108(9)
HorseCandi	–	99	105	89	108	94	97	80	104	82	86	95	110	98	100	74	91	84	103	104	96	89	92	98	94(31)
Moxie	Barenbrug USA						94	96	105	107	110	105	98	103	94	79			95	101	115	107	107	95	101(16)
Pharaoh	First Line Seeds	105	85	106	106	97	101	93	97	94	102	90	102	102	102	150	95	101	107	104	97	101	81	105	101(23)
Rooiberg	–	112	109	113	108	115	102	88									102	107							106(9)
Summer Delight	Cisco Seeds		91	96	88	93	100	119	101	104	91	90	99		102	94		90	99	90	89		95	108	97(19)
Tiffany	Turner Seed	102	93	82	93	102	98	104	97	105	110	101	93	103	97	104	102	106	104	98	103	99	107	90	100(23)
VA T1 Brown	Hankins Seed		99	87	91	94	98	104	97	101	100	97	96	94	103	101		89		93	104		100	111	98(19)
Velvet	–		100	97	98	95	103	95	99	100	101	98	106	95	100	96		94	96	98	92	92	112	102	98(21)
Witkope	–	93	101	115	103	101	104	107									94	100							102(9)

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

Table 19. Summary of Kentucky crabgrass yield trials 2016-2024 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	Lexington								Princeton						Mean[3] (#trials)
		2016[1,2]	2018	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024	
		All trials are 1 year yields														
Dal's Big River	Dalrymple Farms						100	99	97				103	111	104	102(6)
Impact	Barenbrug USA	107	107	108	108	116	100	91	93	105	100	95	106	112	109	104(14)
Mojo w/YJ[4]	Barenbrug USA				98	109	108	92	105		97	96	102	104	118	103(10)
Quick-N-Big	Noble Foundation	89	85	81	95	78	91	109	91	99	101	100	92	64	69	89(14)
Quick-N-Big Spreader	Dalrymple Farms						101	109	106				96	104	97	102(6)
Red River	Noble Foundation	104	108	110	99	97	100	99	107	96	102	108	101	104	103	103(14)

[1] Establishment year.
[2] Use this summary table as a guide in making variety decisions, but refer to specific tables in this report to determine statistical differences in forage yield between varieties.
[3] Mean only presented when respective variety was included in two or more trials.
[4] YJ = yellow jacket coating on the seed.

Table 20. Summary of Kentucky spring oats yield trials 2015-2023 (planted mid March to early April) [yield shown as a percentage of the mean of the commercial varieties in the trial].

Variety	Proprietor/Distributor	2015[1,2]	2016	2017	2018	2019	2020	2021	2022	2023	Mean[3] (#trials)
		All trials are 1 year yields									
BCO18006	Seed-Link Inc.						90				
BCO18007	Seed-Link Inc.						82				
CCSO-102	Caldbeck Consulting				95	102	104				100(3)
CCSO-120 (black hulled)	Caldbeck Consulting				106	106	91	104	111		104(5)
Common	Central Farm Supply	89									
Excel	Ag. Alumni Seed, IN	120	101	111	107	115	125	105	111	113	112(9)
Haywire	Cisco Seeds					81	98				90(2)
Jerry	Caudill Seed	107	93	103	99	95	119	104	111	108	104(9)
Persik (black hulled)	Caldbeck Consulting		112	114	127	106	101	98		93	107(7)
PST-241	Caldbeck Consulting	91	86	86	86						87(4)
PSTSO200	Caldbeck Consulting	102	90	87	79						90(4)
PSTSO-288C	Caldbeck Consulting	91	102	88	97						95(4)
PSTSOKMJ06	Caldbeck Consulting							104	94		99(2)
PSTSOPH26(black Hulled)	Caldbeck Consulting							98	110	95	101(3)
Reins	Ag. Alumni Seed, IN	94			102		98	86	77	102	93(6)
Robust	Ag. Alumni Seed, IN	104	111	117	102	94					106(5)
Saber	Ag. Alumni Seed, IN	104			100	97		96	93	96	98(6)
VNK	Public		97	107	101	94	92	105	91		98(7)
021A17815	Ag. Alumni Seed, IN	97	108	87							97(3)

[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 21. Summary of 2002-2024 Kentucky white clover grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the test).

Variety	Type	Proprietor	02[1,2]	4	06[3]	6	08[4]	08	09	10	11	12	13	14	15	16	17	18	19	20	21	Mean[5] (#trials)
			2yr[6]	4yr	2yr	2yr	3yr	4yr	4yr	4yr	4yr	4yr	4yr	3yr	4yr	4yr	4yr	4yr	3yr	4yr	3yr	
Alice	Intermediate	Barenbrug USA		59	98									93	71	79	97	95	91	76	80	84(10)
Barblanca	Intermediate	Barenbrug USA		118	91	151																120(3)
Canterbury	Dutch	Allied Seed											51	93								72(2)
Colt	Intermediate	Seed Research of OR		114	134	122																123(3)
Crescendo	Ladino	Cal/West	84			72														88		81(3)
Dusi	Ladino	Barenbrug USA																		113		–
Durana	Intermediate	Pennington		83	105	103		115	102	107	126	86	81	113	152	86	102	77	104	101	120	103(17)
GWC-AS10	–[7]	Ampac Seed								77												–
Insight	Ladino	Allied Seed				77																–
Ivory	Intermediate	DLF Pickseed	132	142																		137(2)
Ivory II	Intermediate	DLF Pickseed					102															–
Kakariki	Ladino	Luisetti Seeds															97			113	108	106(3)
Kopu II	Intermediate	Ampac Seed			77	122	96		93	113	112	86	106	93	87	107		95	106			99(13)
KY Select	Intermediate	KY Agr Ex. Sta.						105		83												94(2)
Neches	–[7]	Barenbrug USA													104				83	88		92(3)
Patriot	Intermediate	Pennington		110	137	122		100	111	110	123	102	132	109	123	107	111	107	118	107	114	114(17)
Pinnacle	Ladino	Allied Seed									87											–
Rampart	–[7]	Oregro Seeds						90														–
Regal	Ladino	Public	92		57	54		93		103												80(5)
Regal Graze	Ladino	Cal/West			84	87	105	90	87	93	72	94	81	102	87	107	87	95	85	101	80	90(17)
Renovation	Intermediate	Smith Seed											102	100	55		97		97			90(5)
Resolute	Intermediate	Southern States			101	106					65											91(3)
Seminole	Ladino	Saddle Butte Ag. Inc.		75		97	91						89	85								97(5)
Stamina	Intermediate	Mountain View Seeds																			80	–
Tillman II	Ladino	Caudill Seed	92																			–
WBDX	Dutch	Saddle Butte Ag. Inc.								70												–
Will	Ladino	Allied Seed			117	87	107	105	108	143	115	133	157	111	120	114	108	131	116	113	114	118(17

[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 the fall of 2016 was grazed for four years so the final persistence report would be "2020 Red and White Clover Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] This trial was planted in the spring of 2006 due to poor establishment of the fall 2005 planting.
[4] This trial was planted in the spring of 2008 due to poor establishment of the fall 2007 planting.
[5] Mean only presented when respective variety was included in two or more trials.
[6] Number of years of data.
[7] Type was not provided by the company.

Table 22. Summary of 2006-2024 Kentucky red clover grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the test).

Variety	Proprietor	06[1,2]	07	08	10	11	12	13	14	15	16	17	18	19	20	21	22	Mean[3] (#trials)
		1yr[4]	1yr	1yr	1yr	2yr	2yr	2yr	3yr	2yr	2yr	1yr	1yr	2yr	1yr	3yr	2yr	
Blaze	Mountain View Seeds															125	91	108(2)
Barduro	Barenbrug USA												90	70	29	100		72(4)
Cinnamon Plus	Southern States	115	106	111	112	108	122	81										108(7)
Common	Public	82	106	91	88	54	44		88				57					76(8)
CW9901	Barenbrug USA												104					–
Freedom!	Barenbrug USA	93		104	107	95	56	94	111	73	128	81	142	134	142	100	100	104(15)
Freedom! MR	Barenbrug USA												118					–
Gallant	Turner Seed								131			85	132	83		75	83	98(6)
GA9908	Smith Seed Services							69		102	80			115	55	100		87(6)
Juliet	Caudill Seed		80	90														85(2)
Kenland(cert)	KY Ag Exp Sta	108	106	104	93	122	133	113	95	92	104	117	109	83	134	100	117	108(16)
LS9703	Lewis Seed					122	100	131	82									109(4)
SS0303RCG	Southern States						144	113	92	133	88	117	47	115	139	100	109	109(11)

[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 the fall of 2019 was grazed for two years so the final persistence report would be "2021 Red and White Clover Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.

Table 23. Summary of Kentucky alfalfa grazing trials 2001-2024 (stand persistence shown as a percent of the grazing tolerant Alfagraze).

Variety	Proprietor	Variety Characteristics[1]																							
		FD	Disease Resistance[2]						01[3,4]	04	05	06	08	09	10	11	12	13	14	16	17	19	20	21	Mean[5] (#trials)
			Bw	Fw	An	PRR	APH1	APH2	3yr[6]	4yr	4yr	3yr	4yr	4yr	4yr	4yr	4yr	4yr	3yr	4yr	2yr	3yr	4yr	3yr	
ABT 405	W-L Research	4	HR	HR	HR	HR	R	–	100																–
AFX469	Alforex Seeds	4	HR	HR	HR	HR	HR	R																67	–
Alfabar	Barenbrug USA	3	HR	HR	HR	HR	HR/R	–														50	43		47(2)
Alfagraze	America's Alfalfa	3	MR	R	MR	R	–	–	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(16)
Alfagraze 300 RR	America's Alfalfa	3	HR	R	HR	HR	HR	–								110									–
Alfagraze 600 RR	America's Alfalfa	6	–	R	HR	R	R	–											12						–
Amerigraze 401+Z	America's Alfalfa	4	HR	HR	HR	HR	R	–	125																–
Ameristand 403T	America's Alfalfa	4	HR	HR	HR	HR	HR	R			141	144	50		91		144	118	65						108(7)
Ameristand 403TPlus	America's Alfalfa	4	HR	HR	HR	HR	HR	R						133		90				50	150	88	114	95	103(7)
Ameristand 407TQ	America's Alfalfa	4	HR	HR	HR	HR	HR	R			136			50		80									89(3)
Apollo	America's Alfalfa	4	R	R	R	R	–	–	25		36	27	25	17	27	70	55	86	24						39(10)
Archer III	America's Alfalfa	5	HR	HR	HR	HR	HR	–						33		83									58(2)
Bulldog-505	Univ. of GA	5	–	HR	–	R	–	–									144	100	57						100(3)
FK 421	Donley Seed Co.	4	HR	H	H	H	H	–	100																–
GA 409	Preferred Alfalfa Genetics	4	HR	HR	HR	HR	HR	HR																90	–
Grazeking	Southern States	5	MR	HR	HR	R	S	–	50																–
Integrity	PGI Alfalfa	4	HR	HR	HR	HR	HR	R			172														–
LegenDairy5.0	Croplan Genetics	3	HR	HR	HR	HR	HR	–					0			87									44(2)
PGI 424	Producers Choice	4	HR	HR	HR	HR	R	–							45										–
PGI 459	Producers Choice	4	HR	HR	HR	HR	R	R						17		93									55(2)
Rebel	Target Seed	4	HR	HR	HR	HR	HR	–				79													–
Rugged	Alforex Seeds	3	HR	HR	HR	HR	HR	MR				146												112	129(2)
Rugged II	Alforex Seeds	3	HR	HR	HR	HR	HR	R																107	–
Saranac AR (cert.)	Public	4	MR	R	HR	LR	–	–	100													25	43		56(3)
Spredor 3	Syngenta	1	HR	HR	R	MR	S	–			68														–
Spredor 4	Syngenta	2	HR	HR	HR	HR	R	–					25												–
TS 4007	Producers Choice	4	HR	R	HR	HR	HR	–							82										–
TS 4010/A4535	Producers Choice	4	HR	R	HR	HR	HR	–						83	145	120									116(3)
Triple Trust 450	ABI/America's Alfalfa	5	HR	HR	HR	HR	HR	–			145														–
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 (more detailed disease and insect resistance ratings at www.alfalfa.org/pdf/2024_Alfalfa_Variety_Leaflet.pdf).
[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 the fall of 2011 was grazed for four years so final persistence report would be "2015 Alfalfa Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[5] Mean only presented when respective variety was included in two or more trials.
[6] Number of years of data.

Table 24. Summary of 2001-2024 Kentucky tall fescue grazing tolerance trials in Lexington (stand persistence shown as a percent of the stand rating of KY 31+).

Variety	Endophyte Status[1]	Proprietor	2001[2,3]	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean[4] (#trials)
			4yr[5]	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	3yr	
Advance MaxQ	novel	Pennington Seed						94																–
Armory	free	Barenbrug USA																			99	100		100(2)
Baguala	free	Allied Seed															99							–
Bariane	free	Barenbrug USA			89		75	47	29															60(4)
BarElite	free	Barenbrug USA							96															–
Barolex	free	Barenbrug USA					78	101	86															88(3)
BarOptima PLUS E34	novel	Barenbrug USA					100		97			98	100	98	100	100	100	100	96	91	100	100	100	99(14)
Bronson	free	Ampac Seed									98	98						100						99(3)
Bull	free	Caudill Seed													96			100	98	91				96(4)
Cajun II	free	Smith Seed Services										98				97	100	100	99	96	99	100	100	99(9)
Cattle Club	free	Green Seed	91																					–
Carmine	free	DLF-Jenks	90																					–
Cowgirl	free	Rose Agri-Seed				99								99										99(2)
Dominate	free	Allied Seed															99							–
Drover	free	Barenbrug USA															99							–
Estancia Arkshield	novel	Mountain View Seeds																			100	100	100	100(3)
Evergraze	free	Bailey Seed & Grain																				100		–
Festival	free	Pickseed West	100	101																				101(2)
FSG 402TF	free	Farm Service Genetics															99							–
Flourish	free	Allied Seed												98										–
Goliath	free	Ampac Seed										98						100				100		99(3)
HyMark	free	Fraser Seeds								95			100											98(2)
Jesup MaxQ	novel	Pennington Seed		103	97		68	102	97	97	99	98	100	99	99	99	100	100	100	99		100		97(17)
Jesup MaxQII	novel	Pennington Seed																			100		100	100)2)
Johnstone	free	Proseeds	92																					–
KY31+	toxic	KY Agri. Exp Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(21)
KY31-	free	KY Agri. Exp Sta.	98	103	98	100	83	101	100	98	99	99	100	100	99	100	100	100	99	96	100	100	100	99(21)
Lacefield MaxQ II	novel	Pennington Seed					82	102	99	98	98	97			100	99	100	100	99	100	100	100	100	98(15)
Maximize	free	Rose Agri-Seed	99																					–
Ranchero	free	Smith Seed Services																	98		96	100	100	99(4)
Select	free	Southern States	101	100	100		67	100	93	95	97	100	100	99	99	99	101							97(14)
SS0705TFSL	free	Southern States														100	100	100	99	96	100	100	100	99(8)
Stargrazer	free	Southern States	89																					–
STF43	free	Barenbrug USA																			97	100		99(2)
Stockman	free	Seed Res. of OR				102																		–
Texoma MaxQ II	novel	Pennington Seed					88	100	98												95		100	96(5)
Tuscany II	free	Seed Res. of OR						101																–
Verdant	free	Am.Grass Seed						97																–

[1] Free-varieties that do not contain an endophyte. Toxic-KY31+ contains a toxic endophyte. Novel-varieties that contain an endophyte that aids persistence but is not toxic to cattle.
[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 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 the fall of 2016 was grazed four years so the final report would be "2020 Cool-Season Grass Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[4] Mean only presented when respective variety was included in two or more trials.
[5] Number of years of data.

Table 25. Summary of 2000-2024 Kentucky orchardgrass grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the trial).

Variety	Proprietor	2000[1,2]	2001	2002	2003	2004	2005[3]	2007	2009	2010	2011	2012	2013[3]	2014	2015	2016	2017	2018	2019	2020	2021	Mean[4] (#trials)
		4yr[5]	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	3yr	
Abertop	Pennington Seed			38																		–
Albert	Univ. of Wisconsin		115																			–
Amba	DLF-Jenks		71																			–
Ambrosia	Pennington Seed							94														–
Athos	DLF-Jenks		93				60															–
Barlegro	Barenbrug USA																				90	–
Benchmark	Southern States	118	123	114																		–
Benchmark Plus	Southern States			120			152	135	106	106	108	115	146	154								120(5)
Boone	Public	102																				–
Command	Seed Research of OR					81																–
Crown Royale	Donley Seed		100																			–
Crown Royale Plus	Donley Seed			124																		–
Devour	Mountain View Seeds															145				107	104	119(3)
Elise	Pure Seed											97				62						80(2)
Hallmark	James VanLeeuwen		115		113																	114(2)
Harvestar	Columbia Seeds							75		89	94		51	34		60						70(5)
Haymate	Southern States	53	115	100	118																	97(4)
HLR	Barenbrug USA																		90	99		95(2)
Intensiv	Barenbrug USA				51															96	92	94(2)
Mammoth	DLF-Jenks		115																			–
Megabite	Turf Seed		77																			–
Niva	DLF-Jenks			76																		–
Persist	Smith Seed Services						138	107	103	100	96	115	102	123	104	131	116	132	140	107	103	114(15)
Persist II	Smith Seed Services																		117	108	106	110(3)
Potomac (certified)	Public			116		119									109	82	109				102	107(6)
Prairie	Turner Seed	127	121								94		131	90	97	107	60	105	90	106	101	102(12)
Prodigy	Caudill Seed												109	119		94	109	97	87		99	102(7)
Profile	Scott Seed			116																		–
Profit	Ampac Seed								95	99	102	94	95	90	82					105	103	96(9)
Swante	Smith Seed Services																			73		–
Tekapo	Ampac Seed		55	74	118		50	103	95	105	106	80	66	63	77							87(10)
Takena	Smith Seed Services		99																			–
Seco	Southern States							85														–
SS0708OGDT	Southern States													128	131	118	106	109	87		102	112(7)
Swante	Smith Seed Services																	57				–

[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 the fall of 2016 was grazed four years so the final report would be "2020 Cool-Season Grass Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).

[3] Due to high variation during 2005 and 2013 trials these values are not included in the overall mean.

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

[5] Number of years of data.
Stand thinning may have been greater for preferred varieties due to closer grazing. See individual trial tables for preference ratings.

Table 26. Summary of 2001-2024 Kentucky perennial ryegrass and festulolium (FL) grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the trial).

Variety	Type	Proprietor	2001[1,2]	2003	2007	2008	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean[3] (#trials)
			3yr[4]	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	4yr	3yr	
AGRLP103	–	AgResearch USA		86															–
Albion	tetraploid	Grassland Oregon										112							–
Aries	diploid	Ampac Seed	128																–
Barfest (FL)	MF x PR[6]	Barenbrug USA					116	112											114(2)
BG-34	diploid	Barenbrug USA										78							–
Boost	tetraploid	Allied Seed				101	83	95	92										93(4)
Calibra	tetraploid	DLF International							106		88	90	98		94				95(5)
Citadel	tetraploid	Donley Seed																	–
Duo (FL)	MF x PR[6]	Ampac Seed				95	72	90	102			65	65						82(6)
Lasso	diploid	DLF-Jenks	120																–
Linn (certified)	diploid	Public	118	63		95	108	95	91	96	80	69	88	79	99	96	52	106	89(15)
Melpetra	tetraploid	Hood River Seed											90						–
PayDay	tetraploid	Mountain View Seeds								101	85			99	90	73	93	108	93(7)
Polly II	tetraploid	FS Growmark	63																–
Power	tetraploid	Ampac Seed			158		107	112	96	89	79	78					89	107	102(9)
Quartet	tetraploid	Ampac Seed	70		59														68(2)
Remington	tetraploid	Barenbrug USA		151							138	168	169	124	116	147	133	119	141(9)
Remington PLUS NEA2[5]	tetraploid	Barenbrug USA									145	159			122	151	134	119	138(6)
Spring Green (FL)	MF x PR[6]	Rose Agri-Seed				109	115	115	106			81	88						102(6)
TetraGain	tetraploid	Pure Seed							102					90					96(2)
TetraMag	tetraploid	Mountain View Seeds													89	55		40	61(3)
TetraSweet	tetraploid	Mountain View Seeds													89	82			86(2)
Victorian	diploid	Caudill Seed								114				109					112(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 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 the fall of 2016 was grazed four years so the final report would be "2020 Cool-Season Grass Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.
[5] Remington PLUS NEA2 contains a non-toxic (novel) endophyte.
[6] MF=meadow fescue, PR=perennial ryegrass, IR=Italian ryegrass.

Table 27. Summary of 2002-2024 Kentucky tall fescue horse grazing tolerance trials with three or more years of data in Lexington (stand persistence shown as a percent of the stand rating of the endophyte free variety KY 31-).

Variety	Endophyte Status[1]	Proprietor/KY Distributor	2002[2,3]	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean[4]
			4-yr[5]	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	3yr	(#trials)
BarOptima PLUS E34[6]	novel	Barenbrug USA						107			101	101	95	104	99	99	101	100					101(9)
Cajun II	free	Smith Seed Services												96			101				100	100	99(3)
Cowgirl	free	Rose Agri-Seed							105				99										102(2)
Estancia Arkshield	novel	Mountain View Seeds																			100		–
Jesup MaxQ	novel	Pennington Seed	98			78			104	97	100	101	97	105	98	100	99	101	99				98(13)
Jesup MaxQII	novel	Pennington Seed																		100	100	100	100(2)
KY31+	toxic	KY Agri. Exp.Sta.				102	109	120	107	101	101	101	99	105	99	100	101	100	99	101	100	100	103(16)
KY31-	free	KY Agri. Exp.Sta.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100(19)
Lacefield MaxQII	novel	Pennington Seed					105	110		98				104		100	100	100	98	100	100	100	102(10)
Seine	free	Seed Research of Oregon			135																		–
Select	free	Southern States	109	94	99	73	104	76	108	98	100	101	98	98	97	100							97(14)
SS0705TFSL	free	Southern States													98	100	100	101	99	101	100	100	100(7)
Stockman	free	Seed Research of Oregon			125																		–
Texoma MaxQII	novel	Pennington Seed																		97		100	–

[1] Free-varieties that do not contain an endophyte. Toxic-KY31+ contains a toxic endophyte. Novel-varieties that contain an endophyte that aids persistence but is not toxic to cattle.
[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 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 the fall of 2016 was grazed four years so the final report would be "2020 Cool-Season Grass Horse Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[4] Mean only presented when respective variety was included in two or more trials.
[5] Number of years of data.
[6] BarOptima PLUS E34 is not recommended for pregnant mares because it produces low levels of the alkaloid ergovaline.

Table 28. Summary of 1999-2024 Kentucky orchardgrass horse grazing tolerance trials with three or more years of data in Lexington (stand persistence shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	1999[1,2]	2000	2001	2002	2005[3]	2006	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Mean[4]
		3-yr[5]	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	3yr	(#trials)
Albert	Univ. of Wisconsin			95																	–
Ambrosia	Amer.Grass Seed Prod.						61														–
Benchmark	Southern States	104			85																95(2)
Benchmark Plus	Southern States				111	157	139	111	114	121	121	137	105								120(8)
Crown Royale	Grassland Oregon			95																	–
Crown Royale Plus	Grassland Oregon				97																–
Elise	Pure Seed										87										–
Haymate	Southern States	96	85		97																93(3)
Persist	Smith Seed Services					114		103	101	92	112	146	95	123	109	116	138	116	118	107	113(14)
Potomac	Public				117											65					91(2)
Prairie	Turner Seed			100										92	95	112	91	92	86	113	98(8)
Prodigy	Caudill Seed											54					73	91		91	77(4)
Profit	Ampac Seed							93	86		92		108						98	76	92(6)
SS-0708OGDT	Southern States									104			92	77	95	107	99			113	98(7)
Tekapo	Ampac Seed	101	115		93	30		92	100	83	87	63		108							94(9)

[1] Year trial was established.
[2] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in 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 the fall of 2016 was grazed four years so the final report would be "2020 Cool-Season Grass Horse Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Due to high variation during 2005 these values are not included in the overall mean.
[4] Mean only presented when respective variety was included in two or more trials.
[5] Number of years of data.

Table 29. Summary of 2000-2024 Kentucky perennial ryegrass and festulolium (FL) horse grazing tolerance trials with three or more years of data in Lexington (stand persistence shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor/KY Distributor	2000[1,2]	2004	2007	2009	2010	2011	2012	2014	2015	2019	2020	2021	Mean[3] (#trials)
		4-yr[4]	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	4-yr	3yr	
Aries	Ampac Seed		55											–
Duo(FL)	Ampac Seed	96					87			82				88(3)
Granddaddy	Smith Seed Services		145	100	83	96		75	80					97(6)
Linn (certified)	Public										90	42	61	64(3)
Mara	Barenbrug USA	104												–
PayDay	Mountain View Seeds										74		101	88(2)
Power	Ampac Seed				118	103			120	136		52		106(5)
Quartet	Ampac Seed													–
Remington	Barenbrug USA										111	205	152	156(3)
Remington PLUS NEA2[5]	Barenbrug USA										125			–
Spring Green(FL)	Turf-Seed						113	140		82				112(3)
TetraGain SLT	Pure Seed Testing							84					86	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 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 the fall of 2016 was grazed four years so the final report would be "2020 Cool-Season Grass Horse Grazing Tolerance Report" archived in the UK Forage website (https://forages.ca.uky.edu).
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.
[5] Remington PLUS NEA2 contains a nontoxic (novel) endophyte.

Notes

Notes

2024 Long-Term Summary of Kentucky Forage Variety Trials

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