

# 2010 Timothy and Kentucky Bluegrass Report

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## Introduction

Timothy (*Phleum pratense*) is the fourth most widely sown cool-season perennial grass used in Kentucky for forage after tall fescue, orchardgrass, and Kentucky bluegrass. It is a late-maturing bunchgrass that is primarily harvested as hay, particularly for horses. It can be used for grazing or wildlife habitat.

Management is similar to that for other cool-season grasses. Harvesting at the mid- to late-boot stage is needed to assure good yields and high forage quality. The quality of timothy declines more rapidly after heading than other cool-season grasses. In Kentucky, timothy behaves like a short-lived perennial, with stands usually lasting two to three 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 slow to establish.

This report provides current maturity and yield data on timothy and Kentucky bluegrass varieties included in yield trials in Kentucky. Tables 12 and 13 show summaries of all timothy and Kentucky bluegrass varieties tested in Kentucky for the last 10-plus years. The UK Forage Extension web site at <www.uky.edu/Ag/Forage> contains forage variety testing reports from Kentucky and surrounding states and a large number of other forage publications.

## Considerations in Selection

### Local Adaptation and Seasonal Yield.

Choose a variety that is adapted to Kentucky, as indicated by good performance across locations in replicated yield trials such as those presented in this publication. Also, look for varieties that are productive in the desired season of use, whether for hay or grazing. Later maturing varieties are desirable when timothy is grown in pure stands for hay; early maturing varieties provide a better fit when timothy is grown in mixtures with legumes.

**Seed Quality.** Buy premium-quality seed that is high in germination and purity and free from weed seed. Buy certified seed or proprietary varieties of seed of an improved variety. An improved variety is one that has performed well in independent trials such as those reported in this publication.

## Description of the Test

Data from seven studies are reported. Timothy varieties were sown at Lexington in 2007, 2008 and 2009, and Kentucky bluegrass varieties were sown at Lexington in 2006, 2007, 2008 and 2009 as part of the University of Kentucky Forage Variety Testing Program. The soil at Lexington (Maury) is a well-drained silt loam and is well suited for timothy and bluegrass production. Seedings were made at the rate of 6 lb/A for timothy and 15 lb/A for Kentucky bluegrass into a prepared seedbed with a disk drill. Plots were 5 by 20 feet in a randomized complete block design with four replications with a harvested plot area of 5 by 15 feet. Nitrogen was applied at 60 lb/A of actual N in March, May and Au-

Table 1. Temperature and rainfall at Lexington, Kentucky in 2007, 2008, 2009 and 2010.

	2007				2008				2009				2010 <sup>2</sup>			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP <sup>1</sup>	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	37	+6	2.93	+0.07	32	+2	3.91	+1.05	28	-3	2.45	-0.41	29	-2	2.40	-0.46
FEB	27	-8	1.83	-1.38	36	+1	6.11	+2.90	38	+3	2.86	-0.35	29	-6	1.38	-1.83
MAR	52	+8	1.97	-2.43	44	+1	6.51	+1.91	48	+4	2.19	-2.21	47	+3	1.05	-3.35
APR	53	-2	3.87	-0.01	55	0	5.89	+2.01	55	0	4.48	+0.60	59	+4	2.74	-1.14
MAY	68	+4	1.45	-3.02	62	-2	4.33	+0.14	64	0	5.05	+0.58	67	+3	7.84	+3.37
JUN	74	+2	1.77	-1.89	74	+2	3.59	-0.07	74	+2	5.41	-1.75	76	+4	4.61	+0.95
JUL	74	-2	6.90	+1.90	76	0	3.41	-1.59	71	-5	5.89	+0.89	78	+2	5.49	+0.49
AUG	80	+5	2.56	-1.37	75	0	2.18	-1.75	73	-2	5.38	+1.45	78	+3	1.54	-2.39
SEP	72	+4	1.15	-2.05	72	+4	1.42	-1.78	68	0	5.37	+2.17	71	+3	1.14	-2.06
OCT	63	+6	5.28	+2.71	57	0	1.53	-1.04	54	-3	4.83	+2.26	59	+2	1.22	-1.35
NOV	46	+1	2.86	-0.53	43	-2	2.53	-0.86	49	+4	0.94	-2.45				
DEC	40	+4	5.29	+1.31	35	-1	6.03	+2.05	36	0	3.86	-0.12				
Total			37.86	-6.69			47.24	+2.69			48.71	+4.16			29.41	-7.77

<sup>1</sup> DEP is departure from the long-term average.

<sup>2</sup> 2010 data is for ten months through October.

gust. The test was harvested using a sickle-type forage plot harvester leaving a 3-inch stubble to simulate a hay management system. The first cutting was harvested when spring growth of most varieties had reached the mid- to late-boot stage. Subsequent harvests were taken when forage growth was adequate for harvest. Fresh weight samples were taken at each harvest to calculate dry matter production. Establishment, fertility, weed control and harvest were managed according to University of Kentucky Cooperative Extension Service recommendations.

## Results and Discussion

Weather data for Lexington are presented in Table 1.

Maturity ratings (see Table 2 for maturity scale) and dry matter yields are reported in Tables 3 through 9. Yields are given by harvest date for 2010 and as total annual production. Stated yields are adjusted for percent weeds; therefore, value listed is for crop only. Varieties are listed by descending total production. Experimental varieties, listed separately at the bottom of the tables, are not available commercially.

Statistical analyses were performed on all data to determine if the apparent differences are truly due to varietal differences. Varieties not significantly different from the top variety in the column are marked with one asterisk (\*). To determine if two varieties are significantly different, compare the difference between them to the Least Significant Difference (LSD) at the bottom of that column. If the difference is equal to or greater than the LSD, the varieties are significantly different when grown under those conditions. The Coefficient of Variation (CV) is a measure of the variability of the data and is included for each column of means. Low variability is desirable, and increased variability within a study results in higher CVs and larger LSDs.

Tables 10 and 11 summarize information about distributors and yield performance for Kentucky bluegrass and timothy varieties currently included in tests in this report. Varieties are listed in alphabetical order, with the experimental varieties at the bottom. Remember that experimental varieties are not available for farm use. In Table 10 and 11, an open block indicates

Code	Description	Remarks
<b>Leaf development</b>		
11	First leaf unfolded	Applicable to regrowth of established (plants) and to primary growth of seedlings.
12	2 leaves unfolded	Further subdivision by means of leaf development index (see text).
13	3 leaves unfolded	
•	••••	
19	9 or more leaves unfolded	
<b>Sheath elongation</b>		
20	No elongated sheath	Denotes first phase of new spring growth after overwintering. This character is used instead of tillering, which is difficult to record in established stands.
21	1 elongated sheath	
22	2 elongated sheaths	
23	3 elongated sheaths	
•	••••	
29	9 or more elongated sheaths	
<b>Tillering (alternative to sheath elongation)</b>		
21	Main shoot only	Applicable to primary growth of seedlings or to single-tiller transplants.
22	Main shoot and 1 tiller	
23	Main shoot and 2 tillers	
24	Main shoot and 3 tillers	
•	••••	
29	Main shoot and 9 or more tillers	
<b>Stem elongation</b>		
31	First node palpable	More precisely an accumulation of nodes. Fertile and sterile tillers distinguishable.
32	Second node palpable	
33	Third node palpable	
34	Fourth node palpable	
35	Fifth node palpable	
37	Flag leaf just visible	
39	Flag leaf ligule/collar just visible	
<b>Booting</b>		
45	Boot swollen	
<b>Inflorescence emergence</b>		
50	Upper 1 to 2 cm of inflorescence visible	
52	¼ of inflorescence emerged	
54	½ of inflorescence emerged	
56	¾ of inflorescence emerged	
58	Base of inflorescence just visible	
<b>Anthesis</b>		
60	Preanthesis	Inflorescence-bearing internode is visible. No anthers are visible.
62	Beginning of anthesis	First anthers appear.
64	Maximum anthesis	Maximum pollen shedding.
66	End of anthesis	No more pollen shedding.
<b>Seed ripening</b>		
75	Endosperm milky	Inflorescence green.
85	Endosperm soft doughy	No seeds loosening when inflorescence is hit on palm.
87	Endosperm hard doughy	Inflorescence losing chlorophyll; a few seeds loosening when inflorescence hit on palm.
91	Endosperm hard	Inflorescence-bearing internode losing chlorophyll; seeds loosening in quantity when inflorescence hit on palm.
93	Endosperm hard and dry	Final stage of seed development; most seeds shed.

Smith, J. Allan, and Virgil W. Hayes. 1981. pp. 416-418. 14th International Grasslands Conference Proc. 1981. June 14-24, 1981, Lexington, Kentucky.

that the variety was not in that particular test (labeled at the top of the column); an (x) in the block means that the variety was in the test but yielded significantly less than the top-yielding variety. A single asterisk (\*) means that the variety was not significantly different from the highest yielding variety, based on the 0.05 LSD. It is best to choose a variety that has performed well over several years and locations.

**Tables 12 and 13 are summaries of yield data of commercial varieties for Kentucky bluegrass (1996-2010) and timothy (2000-2010) that have been entered in the Kentucky trials.** The data are listed as a percentage of the mean of the commercial varieties entered in each specific trial. In other words, the mean for each trial is 100%—varieties with percent

ages over 100 yielded better than average and varieties with percentages less than 100 yielded lower than average. Direct, statistical comparisons of varieties cannot be made using the summary Tables 12 and 13, but these comparisons do help to identify varieties for further consideration. Varieties that have performed better than average over many years and at several locations have very stable performance; others may have performed very well in wet years or on particular soil types. These details may influence variety choice, and the information can be found in the yearly reports. See footnotes in Tables 12 and 13 to determine which yearly report to refer to.

## Summary

Selecting a good timothy or Kentucky bluegrass variety is an important first step in establishing a productive stand of grass. 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.

The following is a list of University of Kentucky Cooperative Extension publications related to timothy and Kentucky bluegrass management. They are available from your county Extension office and are listed in the “Publications” section of the UK Forage web site, [www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage).

- AGR-1—*Lime and Fertilizer Recommendations*
- AGR-18—*Grain and Forage Crop Guide for Kentucky*
- AGR-64—*Establishing Forage Crops*
- AGR-84—*Timothy*
- AGR-134—*Kentucky Bluegrass as a Forage Crop*
- AGR-175—*Forage Identification and Use Guide*
- ID-147—*Establishing Horse Pastures*

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**Table 3. Dry matter yields, seedling vigor, maturity and stand persistence of Kentucky bluegrass varieties sown September 6, 2006 at Lexington, Kentucky.**

Variety	Seedling Vigor <sup>1</sup> Oct 25, 2006	Maturity <sup>2</sup>				Percent Stand				Yield (tons/acre)				4-year Total							
		2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010		2010	2011	2012	2013	2014		
<b>Commercial Varieties—Available for Farm Use</b>																					
Kenblue	4.0	60.0	57.5	60.0	62.0	100	100	100	100	100	100	100	99	1.62	2.08	3.08	0.81	0.87	0.38	2.06	8.83*
Ginger	3.3	52.3	59.5	60.0	62.0	100	97	97	98	96	98	90	91	1.47	2.06	2.69	0.74	0.60	0.29	1.64	7.86*
RAD-5	1.0	60.0	55.5	60.0	60.0	94	97	95	99	98	91	96	94	1.06	1.38	2.56	0.73	0.83	0.29	1.85	6.85
RAD-339	3.5	60.0	54.5	60.0	58.0	99	98	99	99	99	99	97	96	1.08	1.60	2.53	0.52	0.65	0.35	1.52	6.72
RAD-762	2.5	52.3	52.5	60.0	57.5	100	98	97	75	99	94	95	93	1.22	1.13	2.50	0.41	0.73	0.28	1.42	6.27
RAD-643	2.5	45.0	57.5	60.0	58.5	98	98	98	98	94	84	84	85	1.53	1.46	1.92	0.54	0.44	0.35	1.33	6.24
RAD-731zx	1.8	52.3	55.0	59.5	56.5	97	95	95	80	90	86	89	87	1.12	1.13	2.16	0.47	0.62	0.30	1.38	5.79
Common	3.0	29.0	51.5	60.0	57.5	98	97	97	91	96	88	89	81	0.70	0.78	2.11	0.33	0.48	0.35	1.15	4.74
<b>Experimental Varieties</b>																					
B-5.0815	4.0	60.0	53.0	60.0	56.0	100	99	100	100	100	100	100	98	1.72	1.64	2.94	0.55	0.78	0.43	1.76	8.05*
HTBF-1000	3.8	60.0	50.0	59.0	55.5	100	99	98	98	100	99	76	95	1.54	1.14	2.25	0.52	0.78	0.27	1.57	6.50
HTBF-2000	3.5	60.0	50.5	59.0	56.0	99	98	100	100	99	99	99	98	1.27	1.22	2.23	0.39	0.73	0.31	1.43	6.15
B-5.0336	3.3	52.3	54.0	60.0	57.0	100	98	97	97	98	93	71	92	0.81	1.34	2.17	0.50	0.68	0.32	1.49	5.82
H01-847	4.5	52.8	54.5	59.5	57.0	100	100	99	85	90	91	93	92	0.88	1.08	2.04	0.47	0.37	0.21	1.04	5.04
Mean	3.1	53.5	54.3	59.8	58.0	98.8	97.7	97.7	93.8	96.7	93.8	90.6	91.3	1.23	1.39	2.40	0.54	0.66	0.32	1.51	6.53
CV%	24.2	20.6	3.3	1.0	2.1	2.0	2.7	3.6	16.6	6.6	7.3	19.4	15.9	18.47	34.03	18.28	28.60	31.89	27.23	25.58	16.33
LSD/0.05	1.1	15.8	2.6	0.8	1.8	2.9	3.8	5.1	22.3	9.1	9.9	25.2	20.8	0.33	0.68	0.63	0.22	0.30	0.12	0.55	1.53

<sup>1</sup> Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth  
<sup>2</sup> Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed. See Table 2 for complete scale.  
<sup>3</sup> Due to very dry weather there was not enough growth for a late summer or fall harvest.  
 \* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Variety	Seedling Vigor <sup>1</sup>				Maturity <sup>2</sup>				Percent Stand				Yield (tons/acre)									
	Nov 5, 2007		2008		2009		2010		2008		2009		2010		2009		2010					
	May 6	Apr 27	Apr 29	Nov 5	Mar 26	Oct 21	Apr 6	Oct 30	Apr 13	Oct 15	Total	Total	Jun 10	Jul 20	Total	Total	Jun 10	Jul 20	Total <sup>3</sup>			
Commercial Varieties—Available for Farm Use																						
Lato	3.8	51.5	51.5	52.5	98	99	100	100	100	92	100	100	100	100	100	100	102	0.82	1.02	0.54	2.38	7.44*
Ginger	1.8	57.0	58.0	56.5	97	99	100	96	100	92	98	98	98	98	98	98	1.22	0.91	0.47	2.60	7.27*	
Bardley	5.0	57.0	56.0	54.5	100	100	100	96	100	98	95	96	98	98	98	98	0.46	0.71	0.64	1.81	5.72	
Common	2.5	29.0	31.0	29.0	98	100	99	100	99	99	99	99	99	99	99	99	0.16	0.88	0.50	1.54	4.01	
Mean	3.3	48.6	49.1	48.1	98.1	99.4	99.8	98.0	99.8	95.2	97.8	98.0	97.8	95.2	98.2	98.2	0.67	0.88	0.54	2.08	6.11	
CV%	26.1	2.8	1.0	2.4	1.8	0.8	0.6	1.6	0.6	5.6	1.9	1.6	1.9	5.6	8.83	14.62	16.79	12.95	24.77	8.23	8.22	
LSD <sub>0.05</sub>	1.4	2.1	0.8	1.9	2.9	2.8	1.3	0.9	2.4	8.5	3.0	2.4	3.0	8.5	0.12	0.75	0.18	0.18	0.21	0.27	0.80	

1 Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth.  
2 Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed. See Table 2 for complete scale.  
3 Due to very dry weather there was not enough growth for a late summer or fall harvest.  
\* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Variety	Seedling Vigor <sup>1</sup>				Maturity <sup>2</sup>				Percent Stand				Yield (tons/acre)								
	Oct 21, 2008		2009		2010		2009		2010		2009		2010		2009		2010				
	Apr 27	Apr 29	Apr 27	Apr 29	Oct 21	Oct 21	Apr 13	Oct 15	Apr 13	Oct 15	Total	Total	Jun 10	Jul 20	Total	Total	Jun 10	Jul 20	Total <sup>3</sup>		
Commercial Varieties—Available for Farm Use																					
RAD-1039	3.3	31.0	31.0	56.0	80	76	93	95	98	98	98	95	98	98	98	0.68	0.91	0.52	2.10	3.60*	
Ginger	2.3	31.0	31.0	57.5	59	71	85	88	94	94	94	88	94	94	94	0.68	1.02	0.49	2.19	3.30*	
Common	3.0	29.5	29.5	29.0	75	93	99	99	99	99	99	99	99	99	99	0.14	0.83	0.29	1.26	2.20	
Experimental Varieties																					
RAD-C101110	5.0	58.0	58.0	55.5	96	98	100	100	100	100	100	100	100	100	100	0.51	0.86	0.61	1.98	3.54*	
Mean	3.4	37.4	37.4	49.5	77.5	84.6	94.1	95.3	97.6	97.6	97.6	95.3	97.6	97.6	97.6	0.50	0.90	0.48	1.88	3.16	
CV%	20.4	1.3	1.3	3.6	12.3	11.1	5.8	5.8	2.3	15.98	29.22	19.48	25.04	16.42	13.65	0.23	0.28	0.19	0.49	0.69	
LSD <sub>0.05</sub>	1.1	0.8	0.8	2.9	15.2	15.1	8.7	2.9	3.6	0.33	0.33	0.33	0.33	0.33	0.28	0.28	0.19	0.19	0.49	0.69	

1 Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth.  
2 Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed. See Table 2 for complete scale.  
3 Due to very dry weather there was not enough growth for a late summer or fall harvest.  
\* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 6. Dry matter yields, seedling vigor, maturity and stand persistence of Kentucky bluegrass varieties sown September 11, 2009 at Lexington, Kentucky.**

Variety	Seedling Vigor <sup>1</sup> Nov 16, 2009	Maturity <sup>2</sup>				Percent Stand				Yield (tons/acre)					
		2010		2009		2010		2009		2010		2010		2009	
		May 7	May 7	Nov 16	Nov 16	Apr 13	Apr 13	Oct 18	Oct 18	May 7	May 7	Jun 22	Jun 22	Aug 11	Aug 11
<b>Commercial Varieties—Available for Farm Use</b>															
Ginger	3.0	57.0	57.0	93	96	99	99	100	0.52	0.52	0.92	0.92	0.34	0.34	1.78*
Barberby	4.0	58.0	58.0	96	97	100	100	0.51	0.51	0.73	0.73	0.35	0.35	1.59*	
<b>Experimental Varieties</b>															
B-9.0931	4.3	54.5	54.5	96	99	99	100	0.54	0.54	0.79	0.79	0.28	0.28	1.60*	
B-9.0927	3.8	29.0	29.0	97	99	99	99	0.41	0.41	0.81	0.81	0.21	0.21	1.44	
B-9.0928	2.3	29.0	29.0	56	92	92	96	0.31	0.31	0.64	0.64	0.20	0.20	1.15	
Mean	3.5	45.5	45.5	87.6	96.6	98.8	98.8	0.46	0.46	0.78	0.78	0.28	0.28	1.51	
CV,%	22.6	3.7	3.7	12.2	2.6	1.4	1.4	32.65	32.65	17.13	17.13	37.30	37.30	10.97	
LSD:0.05	1.2	2.6	2.6	11.5	3.9	2.1	2.1	0.23	0.23	0.21	0.21	0.16	0.16	0.26	

<sup>1</sup> Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth

<sup>2</sup> Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed. See Table 2 for complete scale.

<sup>3</sup> Due to very dry weather there was not enough growth for a late summer or fall harvest.

\* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 7. Dry matter yields, seedling vigor, maturity and stand persistence of timothy and tall oatgrass (TOG) varieties sown September 6, 2007 at Lexington, Kentucky.**

Variety	Seedling Vigor <sup>1</sup> Oct 25, 2007	Maturity <sup>2</sup>				Percent Stand								Yield (tons/acre)												
		2008		2009		2008		2009		2010		2008		2009		2010		3-year Total								
		May 22	May 22	May 24	May 24	Oct 25	Oct 25	Mar 26	Mar 26	Apr 7	Apr 7	Oct 30	Oct 30	Apr 13	Apr 13	Nov 10	Nov 10	May 24	May 24	Jul 20	Jul 20	Total <sup>3</sup>	Total <sup>3</sup>			
<b>Commercial Varieties—Available for Farm Use</b>																										
Treasure	3.3	54.0	53.0	56.0	56.0	95	96	93	98	94	94	96	96	86	86	2.95	2.95	5.79	5.79	3.25	3.25	0.90	0.90	4.15	12.89*	
Talon	3.0	54.5	53.5	56.5	56.5	88	68	91	95	96	96	99	91	91	2.79	2.79	6.06	6.06	2.95	2.95	0.81	0.81	3.76	12.61*		
Derby	2.3	56.0	54.5	56.5	56.5	92	94	95	96	95	96	96	89	89	3.04	3.04	5.57	5.57	2.89	2.89	0.94	0.94	3.83	12.44*		
Climax	2.3	57.0	55.0	57.5	57.5	90	93	93	96	96	96	97	76	76	2.67	2.67	5.25	5.25	2.76	2.76	0.74	0.74	3.50	11.43		
Clair	1.0	56.5	56.0	57.5	57.5	50	55	71	92	91	92	93	83	83	2.09	2.09	4.95	4.95	2.75	2.75	0.92	0.92	3.66	10.70		
Express	3.3	46.3	53.0	55.5	55.5	97	98	92	96	95	94	94	35	35	2.67	2.67	4.66	4.66	2.44	2.44	0.43	0.43	2.87	10.20		
Barpenta	3.0	42.0	45.0	45.0	45.0	90	93	83	86	93	94	94	39	39	2.12	2.12	4.08	4.08	1.65	1.65	0.43	0.43	2.09	8.29		
<b>Experimental Varieties</b>																										
TM9701	2.8	56.0	55.0	56.0	56.0	91	93	90	96	94	94	96	83	83	2.72	2.72	5.62	5.62	3.17	3.17	0.84	0.84	4.01	12.35*		
KYP9301	2.8	57.0	57.0	60.0	60.0	93	95	93	98	98	98	98	89	89	2.78	2.78	5.41	5.41	2.67	2.67	0.91	0.91	3.59	11.77*		
TOG564692(TOG)	3.0	59.5	56.5	58.0	58.0	74	71	73	84	63	63	68	66	66	2.91	2.91	4.53	4.53	2.16	2.16	1.14	1.14	3.30	10.74		
RAD-EMR74	1.3	47.5	46.8	52.5	52.5	69	61	43	58	49	51	51	23	23	1.52	1.52	3.18	3.18	1.11	1.11	0.31	0.31	1.43	6.12		
Mean	2.5	53.3	53.2	55.5	55.5	84.3	83.5	83.1	90.4	87.5	89.0	89.0	68.9	68.9	2.57	2.57	5.01	5.01	2.53	2.53	0.76	0.76	3.29	10.87		
CV,%	38.6	4.5	3.4	2.3	10.3	19.0	13.1	9.9	12.8	11.5	23.9	8.47	13.17	11.94	26.90	10.76	8.30	13.17	11.94	11.94	0.44	0.44	0.30	0.30	0.51	1.30
LSSD:0.05	1.4	3.5	2.6	1.8	12.6	22.9	15.7	12.9	16.1	14.7	23.8	0.31	0.95	0.44	0.30	0.51	1.30	13.17	11.94	0.44	0.44	0.30	0.30	0.51	1.30	

<sup>1</sup> Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth

<sup>2</sup> Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed.

<sup>3</sup> Due to very dry weather there was not enough growth for a late summer or fall harvest.

\* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 8. Dry matter yields, seedling vigor, maturity and stand persistence of timothy varieties sown September 11, 2008 at Lexington, Kentucky.**

Variety	Seedling Vigor <sup>1</sup> Oct 21, 2008	Maturity <sup>2</sup>		Percent Stand				Yield (tons/acre)				2-year Total	
		2009	2010	2008	2009		2010		2009	2010			
		May 21	May 24	Oct 21	Apr 10	Oct 30	Apr 13	Oct 15	Total	May 24	Jul 20		Total <sup>3</sup>
<b>Commercial Varieties—Available for Farm Use</b>													
Clair	1.8	56.5	58.0	91	97	99	100	100	4.93	2.72	0.70	3.43	8.35*
Climax	4.3	56.0	58.0	98	100	100	100	99	4.83	2.70	0.75	3.45	8.28*
Joliette	4.0	48.5	51.5	98	100	100	100	99	3.93	2.34	0.52	2.86	6.79
<b>Experimental Varieties</b>													
KY Early	5.0	57.5	58.0	100	100	99	100	98	4.97	2.37	0.84	3.20	8.17*
APH1001	3.8	46.8	46.8	99	100	100	99	98	3.81	2.39	0.72	3.11	6.92
Mean	3.8	53.1	54.5	97.1	99.4	99.5	99.6	98.6	4.49	2.50	0.70	3.21	7.70
CV,%	14.8	4.2	2.9	2.2	0.7	0.9	0.8	1.6	11.78	8.49	19.44	8.40	7.46
LSD,0.05	0.9	3.4	2.5	3.4	1.1	1.3	1.3	2.4	0.82	0.32	0.21	0.42	0.88

<sup>1</sup> Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth  
<sup>2</sup> Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed. See Table 2 for complete scale.  
<sup>3</sup> Due to very dry weather there was not enough growth for a late summer or fall harvest.  
\* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 9. Dry matter yields, seedling vigor, maturity and stand persistence of timothy varieties sown September 11, 2009 at Lexington, Kentucky.**

Variety	Seedling Vigor <sup>1</sup> Oct 13, 2009	Maturity <sup>2</sup>	Percent Stand			Yield (tons/acre)		
		2010	2009	2010		2010		
		May 25	Oct 13	Apr 13	Oct 18	May 25	Jul 20	Total <sup>3</sup>
<b>Commercial Varieties—Available for Farm Use</b>								
Treasure	4.3	57.0	98	100	99	3.03	1.06	4.09*
Derby	3.5	56.5	95	100	99	2.83	1.13	3.96*
Talon	2.8	56.0	91	98	98	2.75	1.21	3.96*
Express	3.6	55.5	96	99	98	3.01	0.91	3.92*
Climax	2.9	58.0	96	99	96	2.76	1.03	3.79*
Joliette	4.0	50.5	99	100	99	2.88	0.81	3.68*
Barfleo	4.1	51.5	96	99	99	2.80	0.86	3.66*
Clair	1.0	57.5	9	93	94	2.29	1.26	3.55*
Mean	3.3	55.3	84.9	98.4	97.5	2.79	1.03	3.83
CV,%	21.4	2.1	5.5	1.9	1.9	13.56	10.13	10.40
LSD,0.05	1.0	1.7	6.9	2.7	2.7	0.56	0.15	0.59

<sup>1</sup> Vigor score based on scale of 1 to 5 with 5 being the most vigorous seedling growth  
<sup>2</sup> Maturity rating scale: 37=flag leaf emergence, 45=boot swollen, 50=beginning of inflorescence emergence, 58=complete emergence of inflorescence, 62=beginning of pollen shed. See Table 2 for complete scale.  
<sup>3</sup> Due to very dry weather there was not enough growth for a late summer or fall harvest.  
\* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 10. Performance of Kentucky bluegrass varieties at Lexington, Kentucky.**

Variety	Proprietor/KY Distributor	2006 <sup>1</sup>				2007			2008		2009
		07 <sup>2</sup>	08	09	10	08	09	10	09	10	10
<b>Commercial Varieties—Available for Farm Use</b>											
Barderby	Barenbrug					x <sup>3</sup>	*	x			*
Common	Public	x	x	x	x	x	x	x	x	x	
Ginger	ProSeeds Marketing	*	*	*	*	x	*	*	x	*	*
Kenblue	Public	*	*	*	*						
Lato	Allied Seed					*	*	*			
RAD-1039	Radix Research								*	*	
RAD-339	Radix Research	x	*	*	*						
RAD-5	Radix Research	x	x	*	*						
RAD-643	Radix Research	*	*	x	x						
RAD-731zx	Radix Research	x	x	x	x						
RAD-762	Radix Research	x	x	*	x						
<b>Experimental Varieties</b>											
B-5.0336	Blue Moon Farms	x	x	x	x						
B-5.0815	Blue Moon Farms	*	*	*	*						
B-9.0927	Blue Moon Farms										x
B-9.0928	Blue Moon Farms										x
B-9.0931	Blue Moon Farms										*
H01-847	ProSeeds Marketing	x	x	x	x						
HTBF-1000	FFR	*	x	x	*						
HTBF-2000	FFR	x	x	x	x						
RAD-C101110	Radix Research								*	*	
<sup>1</sup> Establishment year. <sup>2</sup> Harvest year. <sup>3</sup> x in the block indicates the variety was in the test but yielded significantly less than the top yielding variety in the test. Open boxes indicate the variety was not in the test. * Not significantly different from the highest yielding variety in the test.											

**Table 11. Performance of timothy varieties at Lexington, Kentucky.**

Variety	Proprietor/KY Distributor	2007 <sup>1</sup>			2008		2009
		08 <sup>2</sup>	09	10	09	10	10
<b>Commercial Varieties—Available for Farm Use</b>							
Barfleo	Barenbrug						*
Barpenta	Barenbrug	x <sup>3</sup>	x	x			
Clair	Ky Agric. Exp. Station	x	x	*	*	*	*
Climax	Canada Agr. Res. Station	x	*	x	*	*	*
Derby	FFR Cooperative	*	*	*			*
Express	Seed Research of Oregon	x	x	x			*
Joliette	Caudill Seed				x	x	*
Talon	Seed Research of Oregon	*	*	*			*
Treasure	Seed Research of Oregon	*	*	*			*
<b>Experimental Varieties</b>							
APH1001	ProSeeds Marketing				x	*	
KY Early	Ky. Agric. Exp. Station				*	*	
KYPP9301	Ky. Agric. Exp. Station	*	*	x			
RAD-EMR74	Radix Research	x	x	x			
TM9701	Allied Seed	x	*	*			
<sup>1</sup> Establishment year. <sup>2</sup> Harvest year. <sup>3</sup> x in the block indicates the variety was in the test but yielded significantly less than the top yielding variety in the test. Open boxes indicate the variety was not in the test. * Not significantly different from the highest yielding variety in the test.							

**Table 12. Summary of Kentucky Bluegrass Yield Trials 1996-2010 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington						Princeton	Mean <sup>3</sup> (# trials)
		96 <sup>1,2</sup>	03	04	06	07	08	02	
		3yr <sup>4</sup>	2yr	3yr	4yr	3yr	2yr	3yr	
Adam 1	Radix Research			98					-
Barderby	Barenbrug					94		114	104(2)
Common	Public				71	66	73		70(3)
Ginger	ProSeeds Marketing		89		118	119	109		109(4)
Kenblue	Public	90		102	133				110(3)
Lato	Turf Seed Inc.	110				122			116(2)
RAD-5	Radix Research				103				-
RAD-339	Radix Research				101				-
RAD-643	Radix Research				94				-
RAD-731zx	Radix Research				87				-
RAD-762	Radix Research				94				-
RAD-1039	Radix Research						119		-
Slezanka	DLF International Seeds		111						-

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

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

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

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

**Table 13. Summary of Kentucky Timothy Yield Trials 2000-2010 (yield shown as a percentage of the mean of the commercial varieties in the trial).**

Variety	Proprietor/KY Distributor	Lexington						Quicksand	Princeton		Mean <sup>3</sup> (# trials)	
		00 <sup>1,2</sup>	01	02	06	07	08	99	01	00		04
		2yr <sup>4</sup>	3yr	4yr	3yr	3yr	2yr	2yr	2yr	3yr		2yr
Alma	Newfield Seeds Co/Caudill Seed Co.									81		-
Auroro	General Feed and Grain	100						98				99(2)
Barpenta	Barenbrug					74						-
Clair	Ky. Agric. Exp. Station		109	115	107	95	107		108		122	109(7)
Classic	Cebeco International Seeds	100		88				87				92(3)
Climax	Canada Agr. Res. Station				79	102	106					96(3)
Colt	FFR Cooperative	105		101	90			112			99	101(5)
Common	Public		96									-
Derby	FFR Cooperative				112	111					124	116(3)
Dolina	DLF-Trifolium	100		91								96(2)
Express	Seed Research of Oregon			97		91						94(2)
Hokuei	Snow Brand Seed	103										-
Hokusei	Snow Brand Seed	97						99				98(2)
Joliette	Newfield Seeds Co/Caudill Seed Co.						87				90	89(2)
Jonaton	Newfield Seeds Co/Caudill Seed Co.										84	-
Outlaw	Grassland West Company									107		-
Richmond	Pickseed Canada Inc.	100						103				102(2)
Summit	Allied Seed, L.L.C.			114								-
Talon	Seed Research of Oregon				110	112						111(2)
Treasure	Seed Research of Oregon				103	115						109(2)
Tundra	DLF-Trifolium	95										-
Tuukka	Ampac Seed Company		95	90					92	93		93(4)

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

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

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

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



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