2019 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 also 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 maturity and yield data on timothy and Kentucky bluegrass varieties included in yield trials

in Kentucky. Tables 9 and 10 show summaries of all timothy and Kentucky bluegrass varieties tested in Kentucky for the last 15 years. The UK Forage Extension website, at forages.ca.uky.edu, 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. Latermaturing 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 four studies are reported. Timothy varieties and Kentucky bluegrass varieties were sown at Lexington in 2016 and 2017 as part of the University of KentucUK 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 8 pounds per acre for timothy and 15 pounds per acre for Kentucky bluegrass into a prepared seedbed with a disk drill. Plots were 5 feet by 20 feet in a randomized complete block design with four replications with a harvested plot area of 5 feet by 15 feet. Nitrogen was applied at 60 pounds per acre of actual nitrogen in March, May, and August for a total of 180 pounds/acre/year. The test was harvested using a sickle-type forage plot harvester leaving a 3-inch stubble to simulate a hav 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 (P, K, and lime based

Table 1. Temperature and rainfall at Lexington, Kentucky, in 2017, 2018, and 2019.

| | | 20 | 17 | | | 20 | 18 | | 2019 ² | | | | | | |
|-------|----|------------------|-------|--------|-----|-----|-------|--------|-------------------|-----|-------|-------|--|--|--|
| | Te | mp | Raiı | nfall | Tei | mp | Raiı | nfall | Te | mp | Raiı | nfall | | | |
| | °F | DEP ¹ | IN | DEP | °F | DEP | IN | DEP | °F | DEP | IN | DEP | | | |
| JAN | 40 | +9 | 6.81 | +3.95 | 31 | 0 | 2.01 | -0.85 | 33 | +2 | 4.11 | +1.25 | | | |
| FEB | 47 | +12 | 4.46 | +1.25 | 45 | +10 | 9.77 | +6.56 | 42 | +7 | 7.64 | +4.43 | | | |
| MAR | 48 | +4 | 3.34 | -1.06 | 42 | -2. | 5.16 | +0.76 | 43 | -1 | 3.44 | -0.91 | | | |
| APR | 62 | +7 | 4.17 | +0.29 | 50 | -5 | 5.52 | +1.64 | 54 | +4 | 4.76 | +0.88 | | | |
| MAY | 66 | +2 | 7.74 | +3.27 | 73 | +9 | 8.39 | +3.92 | 69 | +5 | 4.49 | +0.02 | | | |
| JUN | 73 | +1 | 7.68 | +4.02 | 76 | +4 | 6.42 | +2.76 | 73 | +1 | 6.13 | +2.47 | | | |
| JUL | 76 | 0 | 4.49 | -0.51 | 77 | +1 | 6.15 | +1.15 | 79 | +3 | 3.30 | -1.70 | | | |
| AUG | 74 | -1 | 6.66 | +2.73 | 77 | +2 | 6.45 | +2.52 | 77 | +2 | 2.42 | -1.51 | | | |
| SEP | 69 | +1 | 4.72 | +1.52 | 74 | +6 | 12.88 | +9.68 | 77 | +9 | 0.18 | -3.02 | | | |
| OCT | 60 | +3 | 6.06 | +3.49 | 59 | +2 | 6.54 | +3.97 | 61 | +4 | 8.15 | +5.58 | | | |
| NOV | 47 | +2 | 3.09 | -0.30 | 42 | -3 | 5.64 | +2.25 | | | | | | | |
| DEC | 35 | -1 | 2.66 | -1.32 | 40 | +4 | 7.35 | +3.37 | | | | | | | |
| Total | | | 61.88 | +17.33 | | | 82.28 | +37.73 | | | 44.67 | +7.49 | | | |

DEP is departure from the long-term average.

² 2019 data is for ten months through October.

on regular soil tests), 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 6. Yields are given by harvest date for 2019 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 7 and 8 show information about proprietors/distributors for Kentucky bluegrass and timothy varieties 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.

Tables 9 and 10 are summaries of yield data of commercial varieties for Kentucky bluegrass (1996-2019) and timothy (2000-2019) 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 percent—varieties with percentages over 100 yielded higher than average and

Table 2. Descriptive scheme for the stages of development in perennial forage grasses

| | | f development in perennial forage grasses. |
|------|--|---|
| Code | Description | Remarks |
| | Leaf development | |
| 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 |
| 13 | 3 leaves unfolded | index (see text). |
| • | • • • • | |
| 19 | 9 or more leaves unfolded | |
| | Sheath elongation | |
| 20 | No elongated sheath | Denotes first phase of new spring growth after |
| 21 | 1 elongated sheath | overwintering. This character is used instead of |
| 22 | 2 elongated sheaths | tillering which is difficult to record in established stands. |
| 23 | 3 elongated sheaths | Starius. |
| • | • • • • • | |
| 29 | 9 or more elongated sheaths | |
| | Tillering (alternative to sheath elo | ngation) |
| 21 | Main shoot only | Applicable to primary growth of seedlingsor to single |
| 22 | Main shoot and 1 tiller | tiller transplants. |
| 23 | Main shoot and 2 tillers | |
| 24 | Main shoot and 3 tillers | |
| • | ···· | |
| 29 | Main shoot and 9 or more tillers | |
| | Stem elongation | |
| 31 | First node palpable | More precisely an accumulation of nodes. Fertile and |
| 32 | Second node palpable | sterile tillers distinguishable. |
| 33 | | |
| | Third node palpable Fourth node palpable | |
| 34 | | |
| 35 | Fifth node palpable | |
| 37 | Flag leaf just visible | |
| 39 | Flag leaf ligule/collar just visible | |
| 4.5 | Booting | |
| 45 | Boot swollen | |
| | Inflorescence emergence | |
| 50 | Upper 1 to 2 cm of inflorescence visible | |
| 52 | 1/4 of inflorescence emerged | |
| 54 | ½ of inflorescence emerged | |
| 56 | 34 of inflorescence emerged | |
| 58 | Base of inflorescence just visible | |
| | Anthesis | |
| 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. |
| | Seed ripening | |
| 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. |
| | | |

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

varieties with percentages less than 100 yielded lower than average. Direct, statistical comparisons of varieties cannot be made using the summary tables 9 and 10, 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 stable performance; others may have performed 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 9 and 10 to determine to which yearly report that should be referenced.

Table 3. Dry matter yields, seedling vigor, maturity and stand persistence of timothy varieties sown September 7, 2016 at Lexington, Kentucky.

| - | Seedling | | /laturity | 2 | | | Poi | cent Sta | and | Yield (tons/acre) | | | | | | | |
|----------------------|----------------------------|-----------|-----------|--------|--------|--------|--------|----------|--------|-------------------|--------|-------|-------|----------|--------|------------|-----------------|
| | Vigor ¹ 2016 | 2017 | 2018 | 2019 | 2016 | 20 | 17 | | 118 | 20 | 19 | 2017 | 2018 | i ieiu (| 2019 | C) | |
| Variety | Oct 5 | May 15 | May 17 | May 14 | Nov 29 | Mar 14 | Oct 31 | Mar 15 | Oct 19 | Mar 22 | Oct 25 | Total | Total | May 14 | Jul 10 | Total | 3-year Total |
| Commercial Va | rieties-Ava | ilable fo | r Farm l | Jse | | | | | | | | | | | | | |
| Zenyatta | 3.3 | 57.5 | 56.5 | 52.5 | 87 | 84 | 90 | 93 | 91 | 91 | 64 | 5.61 | 3.72 | 1.56 | 0.47 | 2.03 | 11.36* |
| Derby | 4.3 | 57.5 | 57.0 | 52.5 | 99 | 97 | 97 | 97 | 91 | 91 | 73 | 5.45 | 3.58 | 1.26 | 0.45 | 1.71 | 10.74* |
| Climax | 5.0 | 56.0 | 55.0 | 50.5 | 100 | 98 | 98 | 98 | 91 | 90 | 81 | 5.05 | 2.97 | 1.17 | 0.61 | 1.79 | 9.81 |
| Barfleo | 2.8 | 46.3 | 41.8 | 45.0 | 97 | 93 | 94 | 96 | 91 | 91 | 66 | 5.09 | 2.94 | 0.89 | 0.38 | 1.27 | 9.29 |
| Clair | 3.0 | 45.0 | 40.5 | 45.0 | 99 | 94 | 94 | 96 | 88 | 88 | 63 | 4.42 | 2.62 | 0.97 | 0.47 | 1.43 | 8.47 |
| Anjo | 2.0 | 45.0 | 40.5 | 45.0 | 87 | 79 | 86 | 89 | 86 | 86 | 36 | 3.88 | 2.46 | 1.10 | 0.33 | 1.43 | 7.78 |
| Experimental \ | /arieties | | | | | | | , | | | | | | , | | | |
| TM0704DT | 4.8 | 52.5 | 52.3 | 48.0 | 100 | 99 | 93 | 99 | 96 | 95 | 63 | 5.78 | 3.31 | 1.16 | 0.45 | 1.62 | 10.71* |
| KYPP0901 | 3.8 | 51.0 | 46.3 | 45.0 | 97 | 96 | 97 | 98 | 97 | 96 | 50 | 5.23 | 2.98 | 1.33 | 0.54 | 1.87 | 10.07* |
| | | | | | | | | | | | | | | | | | |
| Mean | 3.7 | 51.3 | 48.7 | 47.9 | 96 | 92 | 94 | 96 | 91 | 91 | 62 | 5.07 | 3.07 | 1.18 | 0.46 | 1.64 | 9.78 |
| CV,% | 22.6 | 2.2 | 6.9 | 3.3 | 7 | 8 | 5 | 3 | 11 | 11 | 31 | 12.68 | 15.08 | 17.99 | 42.51 | 19.26 | 9.72 |
| LSD,0.05 | 1.3 | 1.7 | 4.9 | 2.3 | 10 | 11 | 7 | 4 | 15 | 15 | 28 | 0.94 | 0.68 | 0.31 | 0.29 | 0.47 | 1.40 |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

Table 4. Dry matter yields, seedling vigor, maturity, and stand persistence of timothy varieties sown September 8, 2017, at Lexington, Kentucky.

| | Seedling Vigor ¹ | (III) | Matı | ırity ² | | Pe | ercent Stai | nd | | Yield (tons/acre) | | | | | | |
|--------------|--------------------------------|------------|----------|--------------------|--------|---------------|-------------|---------------|----|-------------------|--------|--------|-------|-------|--|--|
| | 2017 | 2018 | 2018 | 2019 | 2017 | 20 | 18 | 2019 | | 2018 | | 2-year | | | | |
| Variety | Oct 12 | May 9 | May 9 | May 14 | Oct 12 | Mar 14 Oct 19 | | Mar 22 Oct 25 | | Total | May 14 | Jul 10 | Total | Total | | |
| Commercial V | arieties-Ava | ilable for | Farm Use | | | | | | | | | | | | | |
| KYEarly | 2.8 | 26.5 | 46.3 | 56.0 | 93 | 95 | 100 | 100 | 96 | 3.78 | 1.96 | 0.58 | 2.53 | 6.31* | | |
| Dawn | 5.0 | 24.5 | 45.0 | 53.0 | 100 | 100 | 100 | 100 | 97 | 3.53 | 1.65 | 0.35 | 1.99 | 5.53* | | |
| Barpenta | 4.0 | 13.5 | 33.8 | 45.0 | 100 | 100 | 100 | 100 | 75 | 3.61 | 1.36 | 0.41 | 1.77 | 5.38* | | |
| Barfleo | 4.8 | 18.0 | 40.5 | 46.3 | 100 | 100 | 100 | 100 | 89 | 3.60 | 1.49 | 0.26 | 1.76 | 5.36* | | |
| Clair | 4.5 | 14.5 | 33.8 | 46.3 | 100 | 100 | 100 | 100 | 81 | 3.52 | 1.25 | 0.36 | 1.61 | 5.13 | | |
| Climax | 4.8 | 16.5 | 40.3 | 50.5 | 100 | 100 | 100 | 100 | 94 | 3.34 | 1.43 | 0.35 | 1.78 | 5.12 | | |
| Experimental | Varieties | | | | | | | | | | | | | | | |
| TM9902 | 4.9 | 22.5 | 43.5 | 52.0 | 100 | 99 | 100 | 100 | 97 | 3.96 | 1.80 | 0.33 | 2.14 | 6.10* | | |
| NCNelson | 4.8 | 20.5 | 45.0 | 50.5 | 100 | 100 | 100 | 100 | 97 | 3.69 | 1.76 | 0.46 | 2.22 | 5.91* | | |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

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 website, forages. ca.uky.edu.

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

About the Authors

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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.

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

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.

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

Table 5. Dry matter yields, seedling vigor, maturity, and stand persistence of Kentucky bluegrass varieties sown September 7, 2016, at Lexington, Kentucky.

| | Seedling | | Matu | ırity ² | | | | Per | cent Sta | and | | | Yield (tons/acre) | | | | | | |
|---------------|----------------------------|----------|---------|--------------------|--------|--------|--------|--------|----------|--------|--------|--------|-------------------|-------|-------|--------|-------|-----------------|--|
| | Vigor ¹ 2016 | 2017 | 2018 | 20 | 19 | 2016 | 20 | 17 | 20 | 18 | 20 | 19 | 2017 | 2018 | | 2019 | | | |
| Variety | Oct 5 | Apr 20 | May 8 | May 2 | Jun 10 | Nov 29 | Mar 14 | Oct 31 | Mar 15 | Oct 19 | Mar 22 | Oct 21 | Total | Total | May 2 | Jun 10 | Total | 3-year Total | |
| Commercial Va | rieties-Ava | ilable f | or Farm | Use | | | | | | | | | | | | | | | |
| Park | 5.0 | 53.5 | 55.5 | 60.0 | 29.0 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 2.20 | 3.03 | 0.32 | 0.53 | 0.85 | 6.09* | |
| Barderby | 4.0 | 56.5 | 58.0 | 57.0 | 29.0 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1.82 | 2.42 | 0.70 | 0.42 | 1.12 | 5.36* | |
| Ginger | 3.0 | 58.0 | 62.0 | 59.0 | 29.0 | 100 | 100 | 100 | 100 | 100 | 100 | 96 | 1.61 | 2.51 | 0.70 | 0.41 | 1.11 | 5.23* | |
| Tirem | 1.0 | 46.3 | 55.5 | 54.0 | 66.0 | 95 | 95 | 99 | 100 | 100 | 100 | 75 | 1.49 | 1.92 | 0.26 | 0.45 | 0.72 | 4.12 | |
| Mean | 3.3 | 53.6 | 57.8 | 57.5 | 38.3 | 99 | 99 | 100 | 100 | 100 | 100 | 93 | 1.78 | 2.47 | 0.50 | 0.45 | 0.95 | 5.20 | |
| CV,% | 29.9 | 3.4 | 1.7 | 1.4 | 0.0 | 3 | 2 | 1 | 1 | 1 | 1 | 10 | 23.43 | 10.26 | 27.16 | 42.36 | 23.77 | 10.49 | |
| LSD,0.05 | 1.6 | 2.9 | 1.6 | 1.3 | 0.0 | 4 | 3 | 1 | 1 | 1 | 1 | 14 | 0.67 | 0.41 | 0.22 | 0.31 | 0.36 | 0.87 | |

Table 6. Dry matter yields, seedling vigor, maturity, and stand persistence of Kentucky bluegrass varieties sown September 8, 2017, at Lexington, Kentucky.

| | Seedling | | Matu | ırity ² | | | Per | cent Sta | and | | | Yiel | d (tons/ | acre) | |
|-----------------|----------------------------|----------|---------|--------------------|--------|-----------|--------|----------|--------|--------|-------|-------|----------|-------|-----------------|
| | Vigor ¹ 2017 | 20 | 18 | 2019 | | 2017 2018 | | 20 | 19 | 2018 | | | | | |
| Variety | Oct 12 | May 8 | Jun 15 | May 2 | Jun 10 | 0ct 12 | Mar 14 | Oct 19 | Mar 22 | 0ct 21 | Total | May 2 | Jun 10 | Total | 2-year Total |
| Commercial Var | ieties-Ava | ilable f | or Farm | Use | | | | | | | | | | | |
| Barderby | 4.8 | 56.5 | 29.0 | 57.5 | 29.0 | 99 | 98 | 100 | 99 | 100 | 2.57 | 0.65 | 0.54 | 1.19 | 3.77* |
| Ginger | 4.3 | 58.0 | 29.0 | 58.0 | 29.0 | 99 | 99 | 85 | 91 | 91 | 2.25 | 0.70 | 0.62 | 1.32 | 3.58* |
| Balin | 4.5 | 56.0 | 60.0 | 56.5 | 66.0 | 98 | 98 | 93 | 93 | 95 | 1.97 | 0.36 | 0.70 | 1.05 | 3.03 |
| Park | 5.0 | 55.5 | 29.0 | 55.0 | 66.0 | 100 | 100 | 99 | 99 | 99 | 1.72 | 0.34 | 0.52 | 0.86 | 2.58 |
| Tirem | 3 | 29.0 | 60.0 | 53.5 | 66.0 | 3 | 70 | 98 | 95 | 89 | 1.45 | 0.28 | 0.65 | 0.93 | 2.36 |
| Experimental Va | arieties | | | | | | | | | | | | | | |
| RAD-2018 | 3.0 | 43.5 | 29.0 | 57.0 | 29.0 | 70 | 74 | 98 | 98 | 93 | 2.23 | 0.83 | 0.63 | 1.47 | 3.69* |
| | | | | | | | | | | | | | | | |
| Mean | 4.4 | 50.6 | 38.4 | 56.3 | 47.5 | 96 | 91 | 95 | 96 | 94 | 2.06 | 0.53 | 0.61 | 1.14 | 3.20 |
| CV,% | 14.0 | 13.0 | 0.0 | 1.3 | 0.0 | 5 | 9 | 11 | 7 | 9 | 22.93 | 29.09 | 35.68 | 22.03 | 14.66 |
| LSD,0.05 | 1.1 | 10.3 | 0.0 | 1.1 | 0.0 | 8 | 13 | 16 | 10 | 13 | 0.74 | 0.23 | 0.33 | 0.38 | 0.73 |

 ¹ Vigor score based on a 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.
 *Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

 ¹ Vigor score based on a 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 Extremely slow germination presented no stand assessment by Oct 12. *Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 7. Proprietors of timothy varieties in current trials.

| Variety | Proprietor/KY Distributor | |
|--------------------------|----------------------------|--|
| Commercial Variet | ies-Available for Farm Use | |
| Anjo | Hood River Seed | |
| Barfleo | Barenbrug USA | |
| Barpenta | Barenbrug USA | |
| Clair | Ky Agric. Exp. Station | |
| Climax | Canada Agr. Res. Station | |
| Dawn | Hood River Seed | |
| Derby | Southern States | |
| KYEarly | Smith Seed Services | |
| Zenyatta | DLF Pickseed | |
| Experimental Vari | eties ¹ | |
| KYPP0901 | Ky Agric. Exp. Station | |
| NCNelson | Green Consulting Services | |
| TM0704DT | DLF Pickseed | |
| TM 0801 | Allied Seed | |
| TM9902 | Mountain View Seeds | |

Experimental varieties are not available commercially, but provide an indication of the progress being made by forage breeding companies.

Table 8. Proprietors of Kentucky bluegrass varieties in current trials.

| Variety | Proprietor/KY Distributor | |
|----------------------------|---------------------------|--|
| Commercial Varietie | s-Available for Farm Use | |
| Balin | Pure Seed | |
| Barderby | Barenbrug USA | |
| Ginger | ProSeeds Marketing | |
| Park (certified) | Public | |
| Tirem | DLF Pickseed | |
| Experimental Variet | ies ¹ | |
| RAD-2018 | Radix Research | |

¹ Experimental varieties are not available commercially, but provide an indication of the progress being made by forage breeding companies.

Table 9. Summary of Kentucky Timothy Yield Trials 2000-2019 (yield shown as a percentage of the mean of the commercial varieties in the trial).

| | | | | | | | | Lexir | gton | | | | | | | Quicl | csand | Princ | eton | |
|-------------|--|------------------|-----|-----|-----|-----|-----|-------|------|-----|-----|-----|-----|-----|-----|-------|-------|-------|------|-------------------|
| | Proprietor/KY | 001,2 | 01 | 02 | 06 | 07 | 08 | 09 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 99 | 01 | 00 | 04 | Mean ³ |
| Variety | Distributor | 2yr ⁴ | 3yr | 4yr | 3yr | 3yr | 3yr | 3yr | 3yr | 3yr | 3yr | 3yr | 3yr | 3yr | 2yr | 2yr | 2yr | 3yr | 2yr | (#trials) |
| Alma | Newfield Seeds Co/ Caudill Seed Co. | | | | | | | | | | | | | | | | | | 81 | - |
| Anjo | Hood River Seed | | | | | | | | | | | | | 81 | | | | | | _ |
| Aurora | General Feed and Grain | 100 | | | | | | | | | | | | | | 98 | | | | 99(2) |
| Barfleo | Barenbrug USA | | | | | | | 95 | 91 | 101 | | 108 | 80 | 97 | 98 | | | | | 96(7) |
| Barpenta | Barenbrug USA | | | | | 74 | | | 82 | 82 | | | | | 98 | | | | | 84(4) |
| Clair | Ky Agric. Exp. Station | | 104 | 113 | 107 | 95 | 107 | 104 | 112 | 99 | 97 | 111 | 107 | 88 | 94 | | 106 | | 122 | 104(15) |
| Classic | Cebeco International Seeds | 100 | | 86 | | | | | | | | | | | | 86 | | | | 91(3) |
| Climax | Canada Agr. Res. Station | | | | 79 | 102 | 104 | 98 | 102 | 100 | 82 | 96 | 90 | 102 | 94 | | | | | 95(11) |
| Colt | FS Growmark | 105 | | 100 | 90 | | | | | | | | | | | 112 | | | 99 | 101(5) |
| Common | Public | | 95 | | | | | | | | | | | | | | | | | _ |
| Comtral | Caudill Seed | | | | | | | | | 92 | 92 | | | | | | | | | 92(2) |
| Dawn | Hood River Seed | | | | | | | | | | | | | | 101 | | | | | _ |
| Derby | Southern States | | | | 112 | 111 | | 106 | 112 | 108 | 112 | 119 | 123 | 112 | | | | | 124 | 113(10) |
| Dolina | DLF Pickseed | 99 | | 90 | | | | | | | | | | | | | | | | 95(2) |
| Express | Seed Research of Oregon | | | 95 | | 91 | | 97 | 95 | | | | | | | | | | | 95(4) |
| Hokuei | Snow Brand Seed | 103 | | | | | | | | | | | | | | | | | | _ |
| Hokusei | Snow Brand Seed | 96 | | | | | | | | | | | | | | 99 | | | | 98(2) |
| Joliette | Newfield Seeds Co/ Caudill Seed Co. | | | | | | 86 | 89 | | | | | | | | | | | 90 | 88(3) |
| Jonaton | Newfield Seeds Co/ Caudill Seed Co. | | | | | | | | | | | | | | | | | | 84 | - |
| KY Early | Smith Seed/Central Farm Supply | 102 | 103 | 115 | | | 102 | | | | 119 | | | | 115 | 104 | 103 | | | 108(8) |
| Outlaw | Grassland West Company | | | | | | | | | | | | | | | | | 107 | | _ |
| Richmond | Pickseed Canada Inc. | 100 | | | | | | | | | | | | | | 103 | | | | 102(2) |
| Summergraze | Brett Young | | | | | | | | | | 96 | | | | | | | | | _ |
| Summit | Allied Seed, L.L.C. | | | 112 | | | | | | | | | | | | | | | | _ |
| Talon | Seed Research of Oregon | | | | 110 | 112 | | 108 | 106 | 109 | | | | | | | | | | 109(5) |
| Tenho | Barenbrug USA | | | | | | | | | | | 84 | | | | | | | | _ |
| Treasure | Seed Research of Oregon | | | | 103 | 115 | | 103 | 101 | 108 | | | | | | | | | | 106(5) |
| Tundra | DLF Pickseed | 95 | | | | | | | | | | | | | | | | | | _ |
| Tuukka | Ampac Seed Company | | 94 | 88 | | | | | | | | | | | | | 91 | 93 | | 92(4) |
| Varis | Mountain View Seeds | | | | | | | | | | | 83 | | | | | | | | _ |
| Zenyatta | DLF Pickseed | | | | | | | | | | 103 | | | 119 | | | | | | 111(2) |

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 2012 was harvested three years, so the final report would be "2015 Timothy and Kentucky Bluegrass Report" archived in the UK Forage website at forages.ca.uky.edu.

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

⁴ Number of years of data.

Table 10. Summary of Kentucky Bluegrass Yield Trials at Lexington 2004-2019 (yield shown as a percentage of the mean of the commercial varieties in the trial).

| | | 041,2 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 16 | 17 | Mean ³ |
|------------------|--------------------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|
| | Proprietor/KY | 3yr ⁴ | 4yr | 3yr | 2yr | (#trials) |
| Variety | Distributor | 98 | | | | | | | | | | | | _ |
| Balin | Pure Seed | | | | | | | | | | | | 99 | _ |
| Barderby | Barenbrug USA | | | 94 | | 101 | 91 | 98 | 87 | 103 | 101 | 103 | 123 | 100(9) |
| 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 | 117 | 110(11) |
| Kenblue | Public | 102 | 133 | | | | 96 | 95 | 118 | 95 | 100 | | | 106(7) |
| Lato | Turf Seed Inc. | | | 122 | | | | | | | | | | _ |
| Park (certified) | Public | | | | | | | | 90 | 95 | 104 | 117 | 84 | 98(5) |
| 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 | 77 | 78(2) |

Mean only presented when respective variety was included in two or more trials.
 Number of years of data.



Year trial was established.
 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 2012 was harvested three years, so the final report would be "2015 Timothy and Kentucky Bluegrass Report" archived in the UK Forage website at