

2023 Orchardgrass Report

G.L. Olson, S.R. Smith, C.D. Teutsch, T.D. Phillips, and J.C. Henning, Plant and Soil Sciences

Introduction

Orchardgrass (*Dactylus glomerata*) is a high-quality, productive, cool-season grass that is well-adapted to Kentucky conditions. This grass is used for pasture, hay, green chop, and silage, but it requires better management than tall fescue for greater yields, higher quality, and longer stand life. It produces an open, bunch-type sod, making it compatible with alfalfa or red clover as a pasture and hay crop or as habitat for wildlife.

This report provides current yield data on orchardgrass varieties included in yield trials in Kentucky as well as guidelines for selecting orchardgrass varieties. Consult the UK Forage Extension website (<https://forages.ca.uky.edu>) to access all forage variety testing reports from Kentucky and surrounding states and a large number of other forage publications.

Important Selection Considerations

Maturity. Orchardgrass varieties will range in maturity from early to late, based on the date of heading. In this report, early-maturing varieties will in general have higher first-cutting yields than later-maturing varieties because they are more mature at the date of first cutting. Orchardgrass typically matures earlier in the spring than red clover or alfalfa. Later-maturing varieties are preferred for use with red clover or alfalfa because they are at a more optimal stage of maturity when the legume is ready for cutting. Data from a recent publication provides a good overview of orchardgrass maturity over time and over years (See Table 1).

Local adaptation and seasonal yield. Choose a variety adapted to Kentucky, as indicated by good performance across years and 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.

Table 1. Regional orchardgrass maturity comparison (2011-2014).

Variety	Maturity Rating ¹				
	KY	PA	UT	VA	WI
BAR DGL 1GRL	3.3	3.0	3.3	3.6	2.3
Barlegro	1.0	1.5	1.7	1.0	2.2
Benchmark Plus	3.1	2.7	2.7	3.2	2.4
Crown Royale	2.9	2.6	3.1	1.5	2.2
Dascada	1.6	2.3	2.3	1.1	2.6
Excellate SA	1.7	2.1	1.8	1.1	2.0
Harvestar	2.1	2.1	2.2	1.2	2.1
Pennlate	3.0	2.6	2.6	1.2	2.2
Persist	3.3	2.9	3.2	2.2	2.7
Potomac	2.4	3.2	2.7	1.2	2.6
Prairie	3.0	2.6	3.1	1.7	2.6
Profit	2.9	2.5	3.0	1.3	2.3
Quickdraw	3.1	3.1	2.7	2.6	2.4
LSD ²	0.4	0.4	0.5	0.9	0.3

¹ Rating of 1 to 4: 1=very late; 4=very early.

² Varieties significantly differ based on LSD.

For complete article: Hay and Forage Grower, March 2018, "Orchardgrass Maturity: Why it Matters."

Seed quality. Buy premium-quality seed 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 percentage of other crop and weed seed. Order seed well in advance of planting time to assure it will be available when needed.

Description of the Tests

Data from four studies are reported. Orchardgrass varieties were sown at Lexington (2020, 2021, and 2022) and Princeton (2021). The soils at Lexington (Mauzy) and Princeton (Crider) are well-drained silt loams and are well-suited to orchardgrass production. Seedings were made at the rate of 20 pounds per acre 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 harvest plot area of 5 feet by 15 feet. Nitrogen was top-dressed at 60 pounds per acre of actual nitrogen in March, after the first cutting, and again in late summer, for a total of 180 pounds per acre per season. The tests were harvested using a sickle-type forage plot harvester to simulate a spring cut hay/summer grazing/fall stockpile management system. Fresh weight samples were taken at each harvest to calculate percent dry matter production. Management practices for establishment, fertility (P, K, and lime based on regular soil tests), weed control, and harvest timing were in accordance with University of Kentucky recommendations.

Table 2. Temperature and rainfall at Lexington, Kentucky, in 2021, 2022, and 2023.

	2021				2022				2023 ²			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP ¹	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	34	+3	4.51	+1.65	29	-2	4.93	+2.07	44	+13	6.28	+3.42
FEB	31	-4	4.60	+1.39	38	+3	7.69	+4.48	47	+12	3.73	+0.52
MAR	50	+6	5.12	+0.72	49	+5	4.27	-0.13	48	+4	4.45	+0.05
APR	54	-1	2.72	-1.16	55	0	3.71	-0.17	58	+3	2.36	-1.52
MAY	62	-2	4.34	-0.13	69	+5	3.84	-0.63	65	+1	2.53	-1.94
JUN	73	+1	6.26	+2.60	76	+4	2.10	-1.56	72	0	6.75	+3.09
JUL	75	-1	5.90	+0.90	80	+4	6.46	+1.46	78	+2	5.32	+0.32
AUG	76	+1	6.16	+2.23	77	+2	4.27	+0.34	76	+1	2.40	-1.53
SEP	69	+1	3.03	-0.17	70	+2	1.50	-1.70	71	+3	0.99	-2.21
OCT	62	+5	4.64	+2.10	57	0	0.96	-1.61	61	+4	2.30	-0.27
NOV	43	-2	2.13	-1.26	49	+4	2.1	-1.29				
DEC	47	+11	4.41	+0.43	40	+4	3.46	-0.52				
Total			53.85	+9.30			45.29	+0.74			37.11	-0.07

¹ DEP is departure from the long-term average.

² 2023 data is for ten months through October.

Results and Discussion

Weather data for Lexington and Princeton are presented in tables 2 and 3.

Ratings for maturity (see Table 4 for maturity scale), stand persistence, and dry matter yields (tons per acre) are reported in tables 5 through 8. Yields are given by cutting date for 2023 and as total annual production. Stated yields are adjusted for percent weeds; therefore, tonnage given is for crop only. Varieties are listed by descending total yield. Experimental varieties, listed separately at the bottom of the tables, are not available commercially.

Statistical analyses were performed on all data (including experimentals) to determine if the apparent differences are truly due to varietal differences or just to chance. In the tables, the varieties not significantly different from the top variety in the total yield column are marked with one asterisk (*). To determine if two varieties are truly different, compare the difference between them to the least significant difference (LSD) at the bottom of the column. If the difference is equal to or greater than the LSD, the varieties are truly different when grown under the conditions at the given locations. The coefficient of variation (CV), which is a measure of the variability of the data, is included for each column of means. Low variability is desirable, and increased variability within a study results in higher CVs and larger LSDs.

Table 9 shows information about proprietors/distributors for all varieties included in the tests discussed in this report. Varieties are listed in alphabetical order, with the experimental varieties at the bottom. Experimental varieties are not available for farm use; commercial varieties can be purchased from dealerships. It is best to choose a variety that has performed well over several years and locations. It is important to consider the distribution of yield across the growing season when evaluating productivity of orchardgrass varieties (tables 5 through 8).

How to Interpret the Summary Table

Table 10 is a summary of yield data from 2005 to 2023 of commercial varieties that have been entered in the Kentucky trials. The data is listed as a percentage of the mean of the commercial varieties entered in each specific trial. In other words, the mean value for each trial is set at 100 percent—varieties with percentages 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 Table 10, but these comparisons can 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 Table 10 to determine the yearly report that should be referenced.

Summary

Selecting a good orchardgrass 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 orchardgrass management. They are available from your county Extension office and are listed in the “Publications” section of the UK Forage website (<https://forages.ca.uky.edu>):

- Lime and Fertilizer Recommendations (AGR-1)
- Grain and Forage Crop Guide for Kentucky (AGR-18)
- Renovating Hay and Pasture Fields (AGR-26)
- Orchardgrass (AGR-58)
- Establishing Forage Crops (AGR-64)
- Forage Identification and Use Guide (AGR-175)
- Rotational Grazing (ID-143)
- Rating Scale for Brown Stripe of Orchardgrass (PPFS-AG-F-07)

About the Authors

G.L. Olson is a research specialist, S.R. Smith and J.C. Henning are Extension professors and forage specialists, C.D. Teusch is an Extension associate professor and forage specialist, and T.D. Phillips is an associate professor in tall fescue and grass breeding.

Table 3. Temperature and rainfall at Princeton, Kentucky, in 2022 and 2023.

	2022				2023 ²			
	Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP ¹	IN	DEP	°F	DEP	IN	DEP
JAN	32	-2	5.04	+1.24	43	+9	5.11	+1.31
FEB	39	+1	7.44	+3.01	46	+8	3.27	-1.16
MAR	51	+4	4.85	-0.09	48	+1	6.89	+1.95
APR	56	-2	6.41	+1.61	57	-2	2.14	-2.66
MAY	68	+1	2.54	-2.42	67	0	4.47	-0.49
JUN	75	0	3.46	-1.39	72	-3	1.59	-2.26
JUL	80	+2	4.75	+0.46	77	-1	11.23	+6.54
AUG	76	-1	5.85	+1.84	75	-1	8.87	+4.86
SEP	69	-2	0.32	-3.01	71	0	2.77	-0.56
OCT	57	-2	1.19	-1.86	59	0	3.82	+0.77
NOV	47	0	1.45	-3.18				
DEC	38	-1	3.95	-1.09				
Total			46.25	-4.88			50.16	+8.70

¹ DEP is departure from the long-term average.

² 2023 data is for the ten months through October.

Table 4. Descriptive scheme for the stages of 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 index (see text).
13	3 leaves unfolded	
•	• • • • •	
19	9 or more leaves unfolded	
Sheath elongation		
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	
Tillering (alternative to sheath elongation)		
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	
Stem elongation		
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	
Booting		
45	Boot swollen	
Inflorescence emergence		
50	Upper 1 to 2 cm of inflorescence visible	
52	1/4 of inflorescence emerged	
54	1/2 of inflorescence emerged	
56	3/4 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.

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

Table 5. Dry matter yields, seedling vigor, and stand persistence of orchardgrass varieties sown August 28, 2020, at Lexington, Kentucky.

Variety	Seedling Vigor ¹ Sep 24, 2020	Maturity ²			Percent Stand						Yield (tons/acre)						3-year Total	
		2021	2022	2023	2020	2021		2022		2023		2021	2022	2023				
		May 7	May 16	May 15	Sep 24	Mar 24	Oct 22	Mar 22	Oct 19	Mar 20	Oct 17	Total	Total	May 15	Jun 26	Aug 9		Total
Commercial Varieties-Available for Farm Use																		
Bighorn	4.0	46.3	55.5	49.5	100	100	100	96	97	98	98	6.59	2.68	0.73	0.49	0.75	1.96	11.23*
Harvestar	2.9	48.0	54.5	55.0	100	100	100	99	99	96	96	5.89	2.54	0.80	0.45	0.78	2.02	10.45*
Prodigy	3.8	53.0	57.0	57.0	100	100	100	100	100	97	97	5.38	2.69	0.83	0.38	0.70	1.92	9.99*
Persist II	3.5	52.5	57.5	56.5	100	100	100	100	100	98	97	5.59	2.64	0.81	0.34	0.60	1.76	9.98*
Prairie	3.4	53.5	57.0	57.0	100	100	100	100	100	97	97	5.50	2.46	0.81	0.39	0.67	1.87	9.82*
SS0708OGDT	3.4	52.0	57.0	58.0	100	100	100	99	98	98	97	4.97	2.51	0.73	0.45	0.67	1.85	9.33
Tucker	3.5	51.0	57.5	58.0	100	100	100	100	99	99	97	5.19	2.46	0.70	0.35	0.56	1.61	9.27
Olathe	3.9	46.3	55.5	56.0	100	100	100	98	100	98	97	5.14	2.29	0.62	0.33	0.70	1.65	9.08
Persist	3.3	53.5	58.0	58.0	100	100	100	100	100	99	98	4.73	2.39	0.77	0.29	0.65	1.71	8.83
Alpine II	3.1	45.0	48.0	48.8	100	100	100	96	96	96	94	5.16	2.07	0.49	0.44	0.64	1.57	8.80
Profit	3.4	46.8	55.0	57.5	100	100	100	95	98	97	96	4.99	2.11	0.62	0.37	0.59	1.58	8.68
Intensiv	3.1	45.0	46.3	48.5	100	100	100	90	90	81	84	4.83	1.94	0.48	0.34	0.63	1.44	8.22
HLR	3.0	45.0	47.3	49.0	100	100	100	86	91	79	82	4.59	1.99	0.48	0.34	0.63	1.46	8.04
Devour	3.4	45.0	51.3	49.3	100	100	100	97	97	96	95	4.31	1.95	0.59	0.41	0.68	1.67	7.94
Swante	2.9	46.3	52.5	49.3	100	100	100	100	93	93	80	4.03	1.89	0.52	0.34	0.61	1.47	7.40
Captur	3.1	45.0	45.0	50.3	100	100	100	90	90	70	61	4.70	1.47	0.27	0.31	0.52	1.10	7.27
Experimental Varieties																		
OG97	3.8	50.8	55.5	54.5	100	100	100	100	100	98	98	6.00	2.60	0.72	0.36	0.75	1.83	10.43*
OG96	3.3	46.3	51.0	47.5	98	100	100	88	96	96	94	4.83	2.20	0.64	0.41	0.75	1.80	8.83
BARDGLF95	2.4	45.0	45.0	45.0	100	100	100	96	95	86	82	4.86	1.97	0.43	0.42	0.74	1.59	8.42
BARDGLF94	3.5	48.0	48.3	50.8	100	100	100	98	97	92	87	4.63	2.13	0.55	0.41	0.67	1.62	8.39
Mean	3.3	48.2	52.7	52.8	100	100	100	96	97	93	91	5.10	2.25	0.63	0.38	0.66	1.67	9.02
CV,%	19.6	4.4	5.0	5.7	1	0	0	6	3	11	10	17.09	12.91	20.65	18.37	13.75	13.57	13.52
LSD,0.05	0.9	3.0	3.8	4.3	1	0	0	8	5	14	13	1.23	0.41	0.10	0.10	0.13	0.32	1.73

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 4 for complete scale.

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

Table 6. Dry matter yields, seedling vigor, and stand persistence of orchardgrass varieties sown September 10, 2021, at Lexington, Kentucky.

Variety	Seedling Vigor ¹ Oct 4, 2021	Maturity ²		Percent Stand					Yield (tons/acre)					2-year Total
		2022	2023	2021	2022		2023		2022	2023				
		May 16	May 15	Oct 4	Mar 22	Oct 19	Mar 20	Oct 17	Total	May 15	Jun 22	Aug 9	Total	
Commercial Varieties-Available for Farm Use														
Profit	4.5	55.0	55.5	100	100	100	100	100	4.14	1.31	0.32	0.85	2.49	6.62*
Prodigy	4.5	57.5	57.5	100	100	100	100	100	3.88	1.45	0.35	0.72	2.52	6.40*
Persist II	4.0	58.0	57.5	100	99	99	99	99	3.75	1.43	0.28	0.81	2.52	6.27*
Alpine II	4.5	52.5	53.0	100	100	100	100	100	3.94	1.11	0.34	0.86	2.31	6.25*
Persist	4.5	58.0	58.5	99	99	98	99	99	3.71	1.38	0.28	0.85	2.51	6.22*
Prairie	4.5	58.0	58.0	100	100	100	100	99	3.77	1.29	0.31	0.79	2.38	6.15*
Potomac	4.6	58.0	58.0	100	100	100	100	100	3.70	1.13	0.26	0.78	2.17	5.87*
Captur	4.4	52.0	50.0	100	99	99	99	97	3.65	0.84	0.33	0.96	2.14	5.79*
Intensiv	4.8	47.5	45.0	100	100	100	100	98	3.57	0.91	0.37	0.93	2.21	5.78*
SS0708OGDT	4.4	58.0	57.5	100	100	100	100	100	3.58	1.15	0.28	0.70	2.13	5.71
Bighorn	4.1	55.5	56.5	98	98	98	98	98	3.45	1.04	0.32	0.81	2.17	5.62
Barlegro	2.5	48.5	52.8	78	73	81	86	85	2.93	0.85	0.34	0.89	2.08	5.02
Experimental Varieties														
OG0703	4.0	57.5	56.5	97	98	98	99	99	4.30	1.15	0.36	0.77	2.28	6.58*
BARDg1F85	4.5	57.5	57.5	100	99	99	99	99	3.97	1.29	0.36	0.81	2.45	6.42*
OG96	3.9	49.8	46.3	99	98	98	98	97	3.77	1.03	0.37	0.83	2.22	6.00*
BARDg1F99	4.5	55.0	53.0	100	99	99	100	100	3.38	0.85	0.29	0.78	1.92	5.30
BARDg1F98	3.5	57.5	57.0	98	97	97	97	96	2.98	1.14	0.25	0.73	2.12	5.10
BARDg1F84	4.0	54.5	55.5	99	99	99	99	97	3.22	0.82	0.25	0.78	1.84	5.06
Mean	4.2	55.0	54.8	98	98	98	98	98	3.65	1.12	0.31	0.81	2.25	5.90
CV,%	10.8	3.6	4.5	5	4	2	2	2	12.34	16.51	18.56	16.20	12.67	10.89
LSD,0.05	0.6	2.8	3.4	7	5	3	3	3	0.64	0.26	0.08	0.40	0.40	0.91

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 4 for complete scale.

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

Table 7. Dry matter yields, seedling vigor, and stand persistence of orchardgrass varieties sown September 9, 2022, at Lexington, Kentucky.

Variety	Seedling Vigor ¹ Oct 25, 2022	Maturity ²	Percent Stand				Yield (tons/acre)			
		2023	2022	2023		2023				
		May 5	Oct 25	Mar 20	Oct 17	May 5	Jun 15	Aug 8	Total	
Commercial Varieties-Available for Farm Use										
Persist	4.9	55.5	100	98	98	1.69	0.83	1.49	4.00*	
Prairie	4.1	54.5	99	95	95	1.42	0.88	1.53	3.83*	
Bighorn	4.4	49.8	97	91	94	1.16	0.93	1.73	3.82*	
Alpine II	3.9	46.3	98	87	91	1.06	1.01	1.70	3.78*	
Prodigy	4.8	55.5	99	95	95	1.32	0.84	1.48	3.64*	
Captur	4.8	45.0	100	91	95	1.02	0.97	1.63	3.63*	
Profit	4.6	50.8	98	91	94	1.08	0.85	1.70	3.63*	
Persist II	4.1	54.5	98	94	94	1.23	0.83	1.56	3.62*	
SS0708OGDT	3.9	55.0	96	91	91	1.21	0.81	1.50	3.53*	
Potomac	2.9	53.3	94	94	94	1.09	0.75	1.58	3.42*	
Experimental Varieties										
OG96	4.5	45.0	99	90	92	1.15	1.10	1.57	3.81*	
Mean	4.3	51.4	98	92	94	1.22	0.89	1.59	3.70	
CV,%	10.4	5.3	3	5	3	22.91	18.55	18.77	13.45	
LSD,0.05	0.6	3.9	4	7	4	0.40	0.24	0.43	0.72	

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 4 for complete scale.

* 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 orchardgrass varieties sown September 3, 2021, at Princeton, Kentucky.

Variety	Seedling Vigor ¹ Oct 26, 2021	Maturity ²	Percent Stand				Yield (tons/acre)					2-year Total
		2022	2021	2022		2023	2022	2023				
		May 10	Oct 26	Apr 14	Nov 4	Nov 6	Total	May 10	Jul 7	Nov 2	Total	
Commercial Varieties-Available for Farm Use												
Bighorn	5.0	31.0	100	100	100	99	4.98	1.52	1.12	1.38	4.01	8.99*
Persist	4.8	54.5	100	100	100	100	4.89	1.81	0.92	1.14	3.86	8.75*
Persist II	4.5	54.0	100	100	100	98	4.76	1.76	1.00	1.10	3.86	8.62*
SS0708OGDT	4.6	55.0	100	100	100	97	4.76	1.71	0.97	1.11	3.79	8.55*
Prodigy	4.9	54.0	100	100	100	98	4.60	1.61	1.01	1.22	3.84	8.44*
Prairie	4.5	53.5	100	100	100	98	4.17	1.56	0.93	1.03	3.52	7.69
Potomac	4.8	47.8	100	100	100	99	4.28	1.56	0.78	0.96	3.30	7.58
Captur	4.4	31.0	100	100	99	98	3.93	0.90	1.30	1.21	3.41	7.34
Barlegro	2.8	31.0	98	98	98	88	4.00	0.79	1.26	1.26	3.30	7.30
Alpine II	4.3	39.3	100	100	100	98	4.15	0.92	1.12	1.08	3.11	7.27
Intensiv	4.5	31.0	100	100	99	93	4.14	0.80	1.19	0.99	2.98	7.12
Profit	4.8	39.8	100	100	100	99	3.73	1.29	0.88	1.14	3.31	7.04
Experimental Varieties												
OG96	4.6	31.0	100	100	100	99	4.60	0.93	1.28	1.18	3.39	8.00*
OG0703	4.6	42.5	100	100	99	98	4.54	1.33	0.92	1.14	3.38	7.92*
BARDg1F85	4.4	48.3	100	100	100	89	4.52	1.29	0.93	1.01	3.24	7.76
BARDg1F99	3.8	45.3	100	100	100	98	4.18	0.89	0.89	1.22	3.01	7.18
BARDg1F98	3.9	53.0	100	100	100	98	4.24	1.22	0.73	0.89	2.84	7.08
BARDg1F84	3.6	50.5	100	100	99	98	3.56	1.07	0.92	1.22	3.21	6.77
Mean	4.4	44.0	100	100	99	97	4.33	1.28	1.01	1.13	3.41	7.74
CV,%	9.2	14.1	1	1	1	6	14.82	14.81	15.92	20.77	12.77	16.70
LSD,0.05	0.6	8.8	1	1	1	8	0.91	0.27	0.23	0.33	0.62	1.18

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 4 for complete scale.

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

Table 9. Proprietors of orchardgrass varieties in current trials in Kentucky.

Variety	Proprietor/KY distributor
Commercial Varieties-Available for Farm Use	
Alpine II	Mountain View Seeds
Barlegro	Barenbrug USA
Bighorn	Mountain View Seeds
Captur	DLF Pickseed
Devour	Mountain View Seeds
Harvestar	Columbia Seeds
HLR	Barenbrug USA
Intensiv	Barenbrug USA
Olathe	DLF Pickseed
Persist	Smith Seed Services
Persist II	Smith Seed Services
Potomac	Public
Prairie	Turner Seed Company
Prodigy	Caudill Seed
Profit	Ampac Seed
SS-0708OGDT	Southern States
Swante	Smith Seed Services
Tucker	Oregro Seeds
Experimental Varieties¹	
BARDG1F84	Barenbrug USA
BARDG1F85	Barenbrug USA
BARDGLF94	Barenbrug USA
BARDGLF95	Barenbrug USA
BARDG1F98	Barenbrug USA
BARDG1F99	Barenbrug USA
OG0703	Allied Seed, LLC
OG96	DLF Pickseed
OG97	DLF Pickseed

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

Table 10. Summary of Kentucky orchardgrass yield trials 2005-2023 (yield shown as a percentage of the mean of the commercial varieties in the trial).

Variety	Proprietor	Lexington													Princeton					Quicksand					Mean ³ (#trials)			
		06 ^{1,2} 4-yr ⁴	07 3-yr	09 3-yr	11 3-yr	12 3-yr	13 3-yr	14 3-yr	15 3-yr	16 3-yr	17 3-yr	18 3-yr	19 3-yr	20 3-yr	21 2-yr	06 3-yr	08 3-yr	10 3-yr	12 3-yr	15 2-yr	21 2-yr	05 4-yr	10 3-yr	13 3-yr		16 3-yr	18 2-yr	
Albert	Oregro Seeds									99		106	100												98			101(4)
Aldebaran	DLF Pickseed										99																	-
Alpine II	Mountain View Seeds									106				98	105						92							100(4)
Ambrosia	American Grass Seed Prod.															90												-
Barlegro	Barenbrug USA											95					84					93				94	92(4)	
Benchmark Plus	Southern States	100	108	105	106	97	109	104								107	104	102	107			102	94	102			103(14)	
Berta	Mountain View Seeds										76																	-
Bighorn	Mountain View Seeds													124	94							114						111(3)
Blizzard	Allied Seed												104															-
Bounty	Allied Seed	101																				98						100(2)
Captur	DLF Pickseed													81	97							93						90(3)
Century	Seed Research of Oregon	98																				104						101(2)
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)
Extend	Allied Seed				107													105						108				107(3)
Harvestar	Columbia Seeds	91	97				94								116		106						100		102			101(7)
Haymaster	Southern States	94			102																		97					98(3)
HLR	Barenbrug USA													82	89													86(2)
Icon	Seed Research of Oregon	105																					98					102(2)
Inavale	DLF Pickseed										99	94									97				106			99(4)
Intensiv	Barenbrug USA												99		91	97						90				93		94(5)
Lazuly	Proseeds Marketing																97											-
Lyra	Hood River Seed							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	105	106	107	112	106	100	103	111	98	111	103	105	98	104				105	102	101	111	101	102	103	107	126	106(23)
Persist II	Smith Seed												111	111	104							109						109(4)
Potomac	Public			103	96	97	103	116	100	94	104	98					108	101	98	102	96			94	111	99		101(18)
Prairie	Turner Seed	107	101	109	106	113	123	108	103	111	111	105	98	109	103	100	104	99	104	96	97	107	120	102	105	107		102(25)
Prodigy	Caudill Seed			101		99	97						93	111	107			103		101		107			95			101(11)
Profit	Ampac Seed		107	96	98	103	96	97	89					97	96	111			103	102	102	96	89		115	96		100(17)
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						100	108			99	100		102(12)
Swante	Smith Seed												88		82											79		83(3)
Tekena II	Smith Seed	102																					104					103(2)
Tekapo	Ampac Seed	91	81	82	78	82	76	80							95			98	86	92	82			91	81	89		86(15)
Treposno	Hood River Seed								92				99								99							97(3)
Tucker	Oregro Seeds				96									95		103		96	102	96					85		100	97(8)
Udder	Improved Forages	107																						99				103(2)
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.

2023 Orchardgrass Report



Mention or display of a trademark, proprietary product, or firm in text or figures does not constitute an endorsement and does not imply approval to the exclusion of other suitable products or firms.

The College of Agriculture, Food and Environment is an Equal Opportunity Organization.
12-2023