

2024 Orchardgrass Report

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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 five studies are reported. Orchardgrass varieties were sown at Lexington (2021, 2022, and 2023) and Princeton (2021 and 2023). The soils at Lexington (Maury) and Princeton (Crider) are well-drained silt loams and are well-suited to orchardgrass production. Seedlings 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 2022, 2023 and 2024².

	2022				2023				2024 ²			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP ¹	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	29	-2	4.93	+2.07	44	+13	6.28	+3.42	32	+1	5.50	+2.60
FEB	38	+3	7.69	+4.48	47	+12	3.73	+0.52	44	+9	3.90	+0.70
MAR	49	+5	4.27	-0.13	48	+4	4.45	+0.05	49	+5	3.50	-0.90
APR	55	0	3.71	-0.17	58	+3	2.36	-1.52	58	+3	3.90	0.00
MAY	69	+5	3.84	-0.63	65	+1	2.53	-1.94	67	+3	4.60	+0.10
JUN	76	+4	2.10	-1.56	72	0	6.75	+3.09	74	+2	2.40	-1.30
JUL	80	+4	6.46	+1.46	78	+2	5.32	+0.32	77	+1	2.50	-2.50
AUG	77	+2	4.27	+0.34	76	+1	2.40	-1.53	75	0	3.30	-0.60
SEP	70	+2	1.50	-1.70	71	+3	0.99	-2.21	70	+2	6.20	+3.00
OCT	57	0	0.96	-1.61	61	+4	2.30	-0.27	58	+1	0.30	-2.30
NOV	49	+4	2.1	-1.29	49	+4	1.70	-1.69				
DEC	40	+4	3.46	-0.52	44	+8	2.41	-1.57				
Total			45.29	+0.74			41.22	-3.33			36.10	-1.10

¹ DEP is departure from the long-term average.

² 2024 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 9. Yields are given by cutting date for 2024 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 experimental) 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 10 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 9).

How to Interpret the Summary Table

Table 11 is a summary of yield data from 2007 to 2024 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 11, 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 11 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

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Table 3. Temperature and rainfall at Princeton, Kentucky in 2022, 2023 and 2024.

	2022				2023				2024 ²			
	Temperature		Rainfall		Temperature		Rainfall		Temperature		Rainfall	
	°F	DEP ¹	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	32	-2	5.04	+1.24	43	+9	5.11	+1.31	33	-1	6.42	2.62
FEB	39	+1	7.44	+3.01	46	+8	3.27	-1.16	47	9	1.68	-2.75
MAR	51	+4	4.85	-0.09	48	+1	6.89	+1.95	52	5	1.4	-3.54
APR	56	-2	6.41	+1.61	57	-2	2.14	-2.66	61	2	3.44	-1.36
MAY	68	+1	2.54	-2.42	67	0	4.47	-0.49	70	3	8.92	3.96
JUN	75	0	3.46	-1.39	72	-3	1.59	-2.26	75	0	4.36	0.51
JUL	80	+2	4.75	+0.46	77	-1	11.23	+6.54	77	-1	3.56	-0.73
AUG	76	-1	5.85	+1.84	75	-1	8.87	+4.86	76	-1	0.40	-3.61
SEP	69	-2	0.32	-3.01	71	0	2.77	-0.56	72	1	6.57	3.24
OCT	57	-2	1.19	-1.86	59	0	3.82	+0.77	62	3	0.43	-2.62
NOV	47	0	1.45	-3.18	49	+2	1.26	-3.37				
DEC	38	-1	3.95	-1.09	43	+4	1.73	-3.31				
Total			46.25	-4.88			53.15	+2.02			37.18	-4.28

¹ DEP is departure from the long-term average.

² 2024 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. Further subdivision by means of leaf development index (see text).
12	2 leaves unfolded	
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, maturity, 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)						
		2022	2023	2024	2021	2022			2023		2024			2022	2023	2024			3-year Total
		May 16	May 15	May 9	Oct 4	Mar 22	Oct 19	Mar 20	Oct 17	Mar 21	Oct 18	Total	Total	May 9	Aug 22	Oct 21	Total		
Commercial Varieties-Available for Farm Use																			
Profit	4.5	55.0	55.5	53.0	100	100	100	100	100	100	100	100	4.14	2.49	0.91	0.60	0.24	1.75	8.37*
Everlast	4.0	57.5	56.5	54.5	97	98	98	99	99	99	99	99	4.30	2.28	0.78	0.59	0.29	1.66	8.24*
Prodigy	4.5	57.5	57.5	54.5	100	100	100	100	100	100	99	99	3.88	2.52	0.78	0.54	0.32	1.64	8.03*
Alpine II	4.5	52.5	53.0	49.3	100	100	100	100	100	99	98	99	3.94	2.31	0.80	0.72	0.25	1.76	8.01*
Persist II	4.0	58.0	57.5	56.0	100	99	99	99	99	99	99	98	3.75	2.52	0.84	0.54	0.31	1.69	7.96*
Persist	4.5	58.0	58.5	56.0	99	99	98	99	99	99	99	99	3.71	2.51	1.01	0.48	0.23	1.72	7.93*
Prairie	4.5	58.0	58.0	55.5	100	100	100	100	99	100	100	100	3.77	2.38	0.93	0.58	0.24	1.76	7.91*
Potomac	4.6	58.0	58.0	56.5	100	100	100	100	100	100	99	99	3.70	2.17	0.95	0.60	0.27	1.81	7.68*
Captur	4.4	52.0	50.0	48.0	100	99	99	99	97	96	97	97	3.65	2.14	0.71	0.74	0.14	1.59	7.37*
SS0708OGDT	4.4	58.0	57.5	55.5	100	100	100	100	100	100	98	98	3.58	2.13	0.94	0.52	0.20	1.66	7.37*
Bighorn	4.1	55.5	56.5	53.5	98	98	98	98	98	98	98	98	3.45	2.17	0.84	0.63	0.25	1.72	7.34*
Intensiv	4.8	47.5	45.0	45.0	100	100	100	100	98	97	97	97	3.57	2.21	0.73	0.60	0.23	1.56	7.34*
Barlegro	2.5	48.5	52.8	47.3	78	73	81	86	85	80	80	80	2.93	2.08	0.66	0.63	0.13	1.42	6.44
Experimental Varieties																			
BARDg1F85	4.5	57.5	57.5	55.0	100	99	99	99	99	98	98	98	3.97	2.45	0.95	0.56	0.25	1.77	8.19*
OG96	3.9	49.8	46.3	47.5	99	98	98	98	97	95	95	95	3.77	2.22	0.75	0.66	0.29	1.70	7.70*
BARDg1F99	4.5	55.0	53.0	48.8	100	99	99	100	100	100	99	99	3.38	1.92	0.70	0.59	0.22	1.51	6.81
BARDg1F98	3.5	57.5	57.0	53.5	98	97	97	97	96	96	97	97	2.98	2.12	0.71	0.53	0.20	1.45	6.55
BARDg1F84	4.0	54.5	55.5	53.0	99	99	99	99	97	97	95	95	3.22	1.84	0.73	0.54	0.19	1.45	6.51
Mean	4.2	55.0	54.8	52.3	98	98	98	98	98	97	97	97	3.65	2.25	0.82	0.59	0.24	1.65	7.54
CV,%	10.8	3.6	4.5	3.9	5	4	2	2	2	4	4	4	12.34	12.67	18.09	20.15	27.38	15.59	10.90
LSD,0.05	0.6	2.8	3.5	2.9	8	5	3	3	3	5	5	5	0.64	0.40	0.21	0.17	0.09	0.36	1.17

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, maturity, 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)					2-year Total
		2023	2024	2022	2023		2024		2023	2024				
		May 5	May 9	Oct 25	Mar 20	Oct 17	Mar 20	Oct 18	Total	May 9	Jun 24	Oct 22	Total	
Commercial Varieties-Available for Farm Use														
Persist	4.9	55.5	58.0	100	98	98	98	98	4.00	1.99	0.30	0.20	2.50	6.50*
Bighorn	4.4	49.8	55.5	97	91	94	95	95	3.82	1.81	0.36	0.23	2.39	6.22*
Prairie	4.1	54.5	57.0	99	95	95	95	97	3.83	1.81	0.32	0.17	2.30	6.13*
Alpine II	3.9	46.3	52.0	98	87	91	93	93	3.78	1.70	0.40	0.23	2.33	6.11*
Captur	4.8	45.0	51.0	100	91	95	95	95	3.63	1.54	0.42	0.32	2.28	5.91*
Profit	4.6	50.8	54.5	98	91	94	95	96	3.63	1.69	0.36	0.20	2.25	5.88*
Persist II	4.1	54.5	57.0	98	94	94	95	95	3.62	1.75	0.27	0.21	2.23	5.85*
Prodigy	4.8	55.5	57.0	99	95	95	95	95	3.64	1.73	0.30	0.17	2.20	5.84*
SS0708OGDT	3.9	55.0	57.0	96	91	91	93	94	3.53	1.78	0.33	0.13	2.25	5.78*
Potomac	2.9	53.3	56.0	94	94	94	81	82	3.42	1.79	0.31	0.14	2.24	5.66*
Experimental Varieties														
OG96	4.5	45.0	52.0	99	90	92	93	94	3.81	1.56	0.42	0.15	2.13	5.95*
Mean	4.3	51.4	55.2	98	92	94	93	94	3.70	1.74	0.35	0.19	2.28	5.98
CV,%	10.4	5.3	2.7	3	5	3	9	9	13.45	13.98	17.50	43.50	12.26	10.52
LSD,0.05	0.6	3.8	2.2	4	7	4	12	12	0.72	0.35	0.09	0.12	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, maturity, and stand persistence of orchardgrass varieties sown September 6, 2023, at Lexington, Kentucky.

Variety	Seedling Vigor ¹ Oct 24, 2023	Maturity ²		Percent Stand			Yield (tons/acre)				
		2024	2023	2024		2024					
		May 9	Oct 24	Mar 14	Oct 18	May 9	Jun 29	Aug 23	Oct 23	Total	
Commercial Varieties-Available for Farm Use											
Bighorn	4.8	53.0	100	100	100	1.94	1.25	0.58	0.33	4.09*	
SS0708OGDT	4.6	58.0	100	100	100	2.18	1.09	0.46	0.33	4.06*	
Persist	4.9	55.5	100	100	100	1.94	1.23	0.57	0.31	4.05*	
Alpine II	4.9	50.5	100	100	100	1.88	1.26	0.52	0.29	3.94*	
Baridana	4.6	54.5	100	100	100	1.77	1.23	0.50	0.28	3.78*	
Persist II	4.6	57.0	100	100	100	1.71	1.10	0.54	0.43	3.78*	
Profit	4.9	54.0	100	100	100	1.79	1.03	0.60	0.31	3.74*	
Devour	4.4	52.5	100	100	100	1.74	1.04	0.49	0.34	3.61*	
Intensive	5.0	50.0	100	100	100	1.83	0.99	0.46	0.27	3.54*	
Ammo	4.8	57.5	100	100	100	1.76	1.01	0.47	0.30	3.54*	
Rushmore II	4.6	54.5	100	100	100	1.61	0.91	0.45	0.32	3.28*	
Prodigy	5.0	56.0	100	100	100	1.63	0.89	0.48	0.24	3.24*	
Experimental Varieties											
PVF-00G	4.9	54.5	100	100	100	1.92	1.25	0.54	0.29	4.00*	
BARDGL23101	4.4	58.0	99	99	99	1.88	1.01	0.55	0.34	3.78*	
GO-OGDM	4.9	54.5	100	100	100	1.92	1.03	0.45	0.25	3.65*	
GO-OGHWSC	4.6	52.0	100	100	100	1.72	1.03	0.51	0.30	3.57*	
BARDGL23102	3.9	53.5	99	100	100	1.57	0.98	0.41	0.21	3.16*	
GO-OGHCP	5.0	52.5	100	100	100	1.61	0.91	0.39	0.23	3.15*	
Mean	4.7	54.3	100	100	100	1.80	1.07	0.50	0.30	3.66	
CV,%	4.3	4.0	1	1	1	22.21	26.83	25.24	37.30	22.41	
LSD,0.05	0.3	3.1	1	1	1	0.57	0.41	0.18	0.16	1.17	

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)						
		2022	2024	2021	2022		2023	2024	2022	2023	2024			3-year	
		May 10	May 30	Oct 26	Apr 14	Nov 4	Nov 6	Oct 24	Total	Total	May 30	Aug 16	Oct 24	Total	Total
Commercial Varieties-Available for Farm Use															
Bighorn	5.0	31.0	62.5	100	100	100	99	98	4.98	4.01	2.15	1.28	0.41	3.84	12.84*
Persist II	4.5	54.0	63.0	100	100	100	98	97	4.76	3.86	1.94	1.24	0.46	3.64	12.26*
SS0708OGDT	4.6	55.0	64.0	100	100	100	97	96	4.76	3.79	1.97	1.33	0.38	3.69	12.24*
Prodigy	4.9	54.0	64.0	100	100	100	98	93	4.60	3.84	2.09	1.24	0.43	3.76	12.20*
Persist	4.8	54.5	63.0	100	100	100	100	94	4.89	3.86	1.78	0.96	0.29	3.03	11.78*
Everlast	4.6	42.5	63.5	100	100	99	98	95	4.54	3.38	2.06	1.07	0.41	3.54	11.46
Prairie	4.5	53.5	63.5	100	100	100	98	98	4.17	3.52	2.03	1.26	0.35	3.64	11.32
Captur	4.4	31.0	63.0	100	100	99	98	94	3.93	3.41	2.04	1.47	0.28	3.79	11.13
Alpine II	4.3	39.3	62.5	100	100	100	98	94	4.15	3.11	2.19	1.16	0.35	3.70	10.97
Barlegro	2.8	31.0	64.0	98	98	98	88	88	4.00	3.30	2.11	1.21	0.33	3.64	10.95
Profit	4.8	39.8	63.5	100	100	100	99	94	3.73	3.31	2.15	1.31	0.33	3.80	10.84
Potomac	4.8	47.8	64.0	100	100	100	99	97	4.28	3.30	1.86	1.02	0.37	3.25	10.84
Intensiv	4.5	31.0	62.0	100	100	99	93	87	4.14	2.98	2.14	1.11	0.33	3.59	10.70
Experimental Varieties															
OG96	4.6	31.0	63.0	100	100	100	99	95	4.60	3.39	2.10	1.30	0.28	3.68	11.68
BARDg1F85	4.4	48.3	63.5	100	100	100	89	84	4.52	3.24	1.77	1.21	0.30	3.28	11.04
BARDg1F99	3.8	45.3	63.0	100	100	100	98	94	4.18	3.01	2.08	1.05	0.35	3.49	10.67
BARDg1F98	3.9	53.0	62.5	100	100	100	98	94	4.24	2.84	1.86	1.08	0.31	3.25	10.33
BARDg1F84	3.6	50.5	64.0	100	100	99	98	84	3.56	3.21	1.69	0.62	0.34	2.65	9.41
Mean	4.4	44.0	63.3	100	100	99	97	93	4.33	3.41	2.00	1.16	0.35	3.51	11.26
CV,%	9.2	14.1	1.6	1	1	1	6	9	14.82	12.77	9.93	27.30	32.17	11.15	8.17
LSD,0.05	0.6	8.8	1.5	1	1	1	8	12	0.91	0.62	0.28	0.37	0.16	0.56	1.31

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. Dry matter yields, maturity and stand persistence of orchardgrass varieties sown September 13, 2023, at Princeton, Kentucky.

Variety	Maturity ¹ 2024 May 31	Percent Stand		Yield (tons/acre)			
		2023	2024	2024			
		Nov 3	Oct 24	May 31	Aug 16	Oct 24	Total
Commercial Varieties-Available for Farm Use							
Persist	63.5	100	100	1.90	1.70	0.71	4.31*
Devour	60.5	99	100	1.86	1.73	0.72	4.30*
SS0708OGDT	64.0	100	100	1.97	1.79	0.53	4.28*
Rushmore II	64.0	99	100	1.66	1.63	0.73	4.01*
Persist II	64.0	100	100	1.88	1.48	0.64	4.00*
Prodigy	62.0	99	100	1.78	1.53	0.51	3.82*
Experimental Varieties							
PVF-00G	58.0	100	100	2.03	1.58	0.68	4.29*
GO-OGHCP	52.0	99	100	1.87	1.40	0.77	4.04*
GO-OGHWSC	51.5	98	100	1.61	1.47	0.51	3.58
GO-OGDM	64.0	100	100	1.81	1.12	0.56	3.50
Mean	60.4	99	100	1.84	1.54	0.64	4.01
CV,%	12.4	1	0	13.36	16.78	25.49	10.21
LSD,0.05	10.8	2	1	0.36	0.38	0.23	0.59

¹ 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 10. Proprietors of orchardgrass varieties in current trials in Kentucky.

Variety	Proprietor/KY distributor
Commercial Varieties-Available for Farm Use	
Alpine II	Mountain View Seeds
Ammo	Barenbrug USA
Baridana	Barenbrug USA
Barlegro	Barenbrug USA
Bighorn	Mountain View Seeds
Captur	DLF Pickseed
Devour	Mountain View Seeds
Everlast	Allied Seed, LLC
Intensiv	Barenbrug USA
Persist	Smith Seed Services
Persist II	Smith Seed Services
Potomac	Public
Prairie	Turner Seed Company
Prodigy	Caudill Seed
Profit	Ampac Seed
Rushmore II	Mountain View Seeds
SS-0708OGDT	Southern States
Experimental Varieties¹	
BARDGL23101	Barenbrug USA
BARDGL23102	Barenbrug USA
BARDGLF84	Barenbrug USA
BARDGLF85	Barenbrug USA
BARDGLF98	Barenbrug USA
BARDGLF99	Barenbrug USA
GO-OGDM	Grassland Oregon
GO-OGHCP	Grassland Oregon
GO_OGHWSC	Grassland Oregon
OG96	DLF Pickseed
PVF-00G	Pineview Farms, LLC

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

Table 11. 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} 3-yr ⁴	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 3-yr	22 2-yr	06 3-yr	08 3-yr	10 3-yr	12 3-yr	15 2-yr	21 3-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	104	102						95					101(5)
Ambrosia	American Grass Seed Prod.														90											-
Barlegro	Barenbrug USA									95			84							95				94	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)
Vaillant	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 3 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.

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