BEEF & FORAGE CENTER
UTIA INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

Research Report 23-13
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2023 ORCHARDGRASS VARIETY TRIAL

The forage cultivar evaluation program is a partnership between University of Tennessee Extension and UT AgResearch to aid producers in the selection of the best cultivars for their farm. The crop was grown using management practices considered to be the best for the crop, including fertilization according to soil test results. This study was conducted using a randomized complete block design with four replications. Least significant difference (LSD) values at the 5 percent level are shown at the bottom of each table with the coefficient of variation (CV). Within any table, yield of any two varieties being compared must differ by at least this amount to be considered different. This trial will conclude after last harvest in 2024.

Table 1: Yield of orchardgrass varieties at the Highland Rim AgResearch and Education Center, Springfield, TN.

			Yield (ton DM/acre)					
			2022	2023				2-Year
Variety	Supplier	Commercially Available	May 17	May 3	Jul 11	Nov 4	Total	Total
Albert	Oregro Seed	Yes	1.60	1.89*	1.61	1.03	4.53*	6.13
Ammo	Barenbrug USA	Yes	1.49	1.45	1.61	1.14	4.20	5.69
Bighorn	Mountain View Seeds	Yes	1.47	1.57	1.71*	1.12	4.39*	5.86
Devour	Mountain View Seeds	Yes	1.59	1.88*	1.81*	0.90	4.59*	6.18
Endurance	DLF Pickseed	Yes	1.68	1.66	1.54	1.20	4.40*	6.07
FSG 506 OG	Tennessee Farmers Co-Op	Yes	1.56	1.72	1.88*	1.20	4.80*	6.36
HLR	Barenbrug USA	Yes	1.45	1.73	1.74*	0.99	4.56*	5.90
Inavale	DLF Pickseed	Yes	1.66	1.67	1.85*	1.16	4.68*	6.34
INTENSIV	Barenbrug USA	Yes	1.57	1.65	1.72*	1.30	4.66*	6.23
Olathe	DLF Pickseed	Yes	1.52	2.12*	1.65*	0.84	4.61*	6.14
Persist	Smith Seed Service	Yes	1.39	2.08*	1.63	1.11	4.82*	6.20
Persist II	Smith Seed Service	Yes	1.64	2.42*	1.36	1.04	4.82*	6.46
Potomac	Smith Seed Service	Yes	1.51	1.74	1.57	1.18	4.49*	5.99
Rushmore II	Mountain View Seeds	Yes	1.66	1.59	1.51	1.13	4.23	5.89
Swante	Smith Seed Service	Yes	1.62	2.00*	1.78*	1.25	5.03*	6.64
Tucker	Oregro Seed	Yes	1.66	1.32	1.29	1.01	3.62	5.27
Experimental Varieties								
BAR DGLF94	Barenbrug USA	No	1.45	1.71	1.71*	1.04	4.46*	5.91
BAR DGLF95	Barenbrug USA	No	1.52	1.51	1.74*	1.01	4.26	5.79
		CV	6	15	10	11	7	5
		LSD (P<0.05)	nd[1]	0.54	0.24	nd	0.64	nd

* yielded statistically the same as the top-yielding variety

[1] no-significant differences among the varieties

Fertilization: Soil ammended when required for Lime, P, and K. Nitrogen Application: 60 lb/acre at green-up, 30 lb/acre after first cut, and 30 lb/acre in September.

Please note that in 2022 drought affected yield and only one harvest wes possible.

Planted: September 14, 2021

Table 2: Average forage nutritive value by harvest.

		Harvest Date				
		2022	2023			Trial
Species	Constituents[1] (%)	May 17	May 3	Jul 11	Nov 4	Average
Orchardgrass	CP	15.9	16.8	11.1	14.0	14.5
	ADF	35.5	34.4	38.8	34.8	35.9
	NDF	53.1	52.1	60.4	61.8	56.9
	TDN	61.4	62.6	58.0	62.2	61.0

[1] Nutritive value represented at 100% DM Basis for CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; TDN, total digestible nutrients; (Analysis performed using Near Infrared Spectrometer [NIRS] Technology). Average value reported across all varieties by harvest. Target stage of growth for harvest was mid to late boot. Grass Hay Calibration (NIRS Consortium, 2023).

This and other useful information can be found at your local UT Extension office, or on our website.

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