

2021-2023 TALL FESCUE 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.

Table 1: Yield of Tall Fescue varieties at the Northeast Tennessee AgResearch and Education Center, Greeneville, TN.

Variety	Supplier	Endophyte Status	Commercially Available	Yield (ton DM/acre)					3-Year Total	
				2021 Total	2022 Total ¹	2023				
						May 22	Jul 12	Total		
ARMORY	Barenbrug USA	Endophyte Free	Yes	6.00	2.27*	1.04*	1.32	2.36	10.63	
BAROPTIMA PLUS E34	Barenbrug USA	Novel-endophyte	Yes	6.72*	2.07	1.00	1.34*	2.34	11.13*	
Cajun II	Smith Seed Services	Endophyte Free	Yes	6.54*	2.30*	1.07*	1.43*	2.50*	11.34*	
Estancia	Mountain View Seed	Novel-endophyte	Yes	6.72*	2.16*	1.12*	1.65*	2.77*	11.65*	
FSG 402 TF	Tennessee Farmers Co-Op	Endophyte Free	Yes	6.27*	2.21*	1.08*	1.50*	2.58*	11.05*	
Jesup MaxQ II	Pennington Seed Inc	Novel-endophyte	Yes	5.81	2.19*	1.04*	1.49*	2.52*	10.51	
Kentucky 31	Tennessee Farmers Co-Op	Endophyte	Yes	5.85	2.17*	1.07*	1.34*	2.41*	10.43	
Kentucky 32	Oregro Seed	Endophyte Free	Yes	6.25*	2.24*	1.02*	1.37*	2.39*	10.88*	
Martin 2 Protek	DLF Pickseed	Novel-endophyte	Yes	5.64	2.16*	1.05*	1.43*	2.47*	10.27	
Palatine	Mountain View Seed	Endophyte Free	Yes	5.41	1.77	0.84	1.13	1.97	9.15	
Ranchero	Smith Seed Services	Endophyte Free	Yes	5.97	2.21*	1.05*	1.16	2.20	10.38	
STF43	Barenbrug USA	Endophyte Free	Yes	5.49	2.28*	1.02*	1.63*	2.64*	10.41	
Teton II	Mountain View Seed	Endophyte Free	Yes	5.59	2.33*	1.23*	1.57*	2.81*	10.72	
Texoma MaxQ II	Pennington Seed Inc	Novel-endophyte	Yes	5.44	2.25*	1.19*	1.62*	2.81*	10.50	
<i>Experimental Varieties</i>										
BAR 9301BTR1	Barenbrug USA	Proprietary	No	6.06	2.31*	0.95	1.45*	2.41*	10.77	
BAR BTR7 NEA21	Barenbrug USA	Proprietary	No	6.23*	2.07	1.08*	1.60*	2.68*	10.98*	
BAR BTR7 NEA23	Barenbrug USA	Proprietary	No	5.87	2.24*	1.08*	1.39*	2.47*	10.58	
BAR FA6 BTR 179	Barenbrug USA	Proprietary	No	5.76	2.10*	0.85	1.31	2.16	10.01	
BAR FAF135	Barenbrug USA	Proprietary	No	6.39*	2.21*	0.76	1.44*	2.20	10.80*	
BAR FAF137	Barenbrug USA	Proprietary	No	6.53*	2.31*	0.81	1.23	2.03	10.87*	
SETNF97	Smith Seed Services	Endophyte Free	No	5.79	2.10*	0.92	1.20	2.12	10.01	
SLTF10-3	Oregro Seed	Proprietary	No	5.99	2.15*	0.86	1.49*	2.35	10.49	
				CV	7	6	12	11	10	5
				P-Value	<0.0001	0.0107	0.0055	0.0275	0.0021	0.0007
				LSD (P<0.05)	0.60	0.23	0.23	0.31	0.42	0.86
* yielded statistically the same as the top-yielding variety										
¹ Please note that in 2022 extreme hot temperatures in early spring and drought affected yield and only one harvest was possible.										
Fertilization: Soil amended when required for Lime, P, and K. Nitrogen Application: 60 lb/acre at green-up, 30 lb/acre after first cut.										
Planted: September 23, 2020										

Table 2: Average forage nutritive value by harvest.

Species	Constituents ¹ (%)	Harvest Date				Trial Average
		2021 Average	2022 Average	2023		
				May 22	Jul 12	
Tall Fescue	CP	10.6	11.2	10.4	9.9	10.5
	ADF	37.2	42.7	38.7	40.8	39.8
	NDF	66.9	62.9	59.2	70.5	64.9
	TDN	59.7	53.9	58.1	55.9	56.9

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).

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