

**2022 COOL-SEASON ANNUAL GRASS VARIETY TRIAL**

The forage cultivar evaluation program is a partnership between The 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 three 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 annual ryegrass varieties at the Northeast Tennessee AgResearch and Education Center in Greeneville, TN.**

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)			Combined Total	
				2021 DEC 16	2022 MAR 16	2022 JUN 12		
Amo	Annual Ryegrass	Columbia Seeds LLC	Yes	0.59	1.66	3.19	5.44	
Andes	Annual Ryegrass	DLF Pickseed	Yes	0.55	1.68	3.32	5.55	
Angusta	Annual Ryegrass	DLF Pickseed	Yes	0.65*	1.94*	4.02*	6.61*	
Credence	Annual Ryegrass	DLF Pickseed	Yes	0.51	1.91*	3.24	5.67	
DynaPlus	Annual Ryegrass	Columbia Seeds LLC	Yes	0.53	1.77*	2.74	5.04	
Fria	Annual Ryegrass	Tennessee Farmers CO-OP	Yes	0.46	1.69*	3.17	5.32	
Jackson	Annual Ryegrass	The Wax Company	Yes	0.54	1.71*	3.09	5.34	
Lonestar	Annual Ryegrass	GO Seed	Yes	0.64*	1.38	3.08	5.10	
McKinley	Annual Ryegrass	DLF Pickseed	Yes	0.68*	1.78*	3.13	5.59	
Melquatro	Annual Ryegrass	Columbia Seeds LLC	Yes	0.57	1.37	2.93	4.87	
Nelson	Annual Ryegrass	The Wax Company	Yes	0.78*	1.82*	3.16	5.76	
Oryx	Annual Ryegrass	Columbia Seeds LLC	Yes	0.78*	1.85*	2.79	5.42	
TAMTBO	Annual Ryegrass	Oregro Seeds	Yes	0.73*	1.56	3.17	5.47	
Wax Marshall	Annual Ryegrass	The Wax Company	Yes	0.68*	2.11*	4.17*	6.97*	
Winterhawk	Annual Ryegrass	Oregro Seeds	Yes	0.44	1.54	2.95	4.92	
<i>Experimental Varieties</i>								
Centurion	Annual Ryegrass	Mountain View Seeds	No	0.69*	1.99*	3.21	5.89	
KO14-WEAR	Annual Ryegrass	Oregro Seeds	No	0.83*	1.47	3.06	5.36	
ME-4	Annual Ryegrass	The Wax Company	No	0.73*	1.63	3.30	5.66	
ME-94	Annual Ryegrass	The Wax Company	No	0.49	1.46	3.67	5.63	
Sheriff	Annual Ryegrass	Oregro Seeds	No	0.61	1.97*	2.85	5.43	
Tetraprime II	Annual Ryegrass	Mountain View Seeds	No	0.74*	1.59	3.20	5.54	
WMWL	Annual Ryegrass	The Wax Company	No	0.54	1.35	3.50	5.39	
WMWL-2	Annual Ryegrass	The Wax Company	No	0.68*	1.65	3.29	5.62	
				CV	18	13	11	8
				LSD (P<0.05)	0.21	0.43	0.49	0.63
* yielded statistically the same as the top-yielding variety								
Nitrogen application: 45 lb/acre at planting, 60 lb/acre at green-up, 30 lb/acre after first harvest								
Planted September 29, 2021								

**Table 2: Yield of annual barley varieties at the Northeast Tennessee AgResearch and Education Center in Greeneville, TN.**

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)			Combined Total
				2021	2022		
				DEC 16	MAR 16	JUN 12	
OR140760	Barley	Oregro Seeds	Yes	0.73	1.76	2.89	5.37
OR140789	Barley	Oregro Seeds	Yes	0.56	1.51	3.36	5.43
OR140797	Barley	Oregro Seeds	Yes	0.78	1.55	3.21	5.55
CV				16	8	8	2
LSD (P<0.05)				nd <sup>1</sup>	nd	nd	nd
* yielded statistically the same as the top-yielding variety							
<sup>1</sup> no-significant differences among the varieties							
Nitrogen application: 45 lb/acre at planting, 60 lb/acre at green-up, 30 lb/acre after first harvest							
Planted September 29, 2021							

**Table 3: Mean forage nutritive values by harvest.**

Species	Constituents <sup>1</sup> (%)	Harvest Date		
		2021	2022	
		DEC 16	MAR 16	JUN 12
Annual Ryegrass	CP	14.7	11.8	9.6
	ADF	25.1	33.4	38.5
	NDF	28.9	44.5	58.4
	TDN	72.3	63.6	58.3
Barley	CP	14.4	13.5	8.9
	ADF	23.5	28.5	37.5
	NDF	27.9	35.5	62.5
	TDN	74.0	68.8	59.3

<sup>1</sup> Nutritive values 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). Target stage of growth for harvest was mid to late boot. Grass Hay Calibration (NIRS Consortium, 2022).

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