

2017 COOL-SEASON ANNUAL GRASS 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 cool-season annual ryegrass varieties at the East Tennessee AgResearch and Education Center in Knoxville, TN.

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)				
				Mar 12	Apr 17	May 10	Total	
Andes	Ryegrass	DLF Pickseed USA, Inc	Yes	1.27	1.44	1.51	4.23	
Angusta	Ryegrass	DLF Pickseed USA, Inc	Yes	1.41	1.59	1.44	4.44	
Arnie	Ryegrass	Barenbrug USA	Yes	1.15	1.37	1.26	3.78	
Credence	Ryegrass	DLF Pickseed USA, Inc	Yes	1.50	1.53	1.28	4.31	
FLPE2X	Ryegrass	University of Florida	Yes	1.52	1.58	1.36	4.47	
FLRED4X	Ryegrass	University of Florida	Yes	1.37	1.67	1.39	4.43	
Fria	Ryegrass	Tennessee Farmer Co-Op	Yes	1.51	1.81	1.55	4.86	
GRAZER	Ryegrass	University of Georgia	Yes	1.38	1.68	1.43	4.48	
Jackson	Ryegrass	The Wax Company	Yes	1.34	1.64	1.22	4.18	
Jumbo	Ryegrass	Barenbrug USA	Yes	1.62	1.92	1.34	4.87	
Kodiak	Ryegrass	DLF Pickseed USA, Inc	Yes	1.50	1.80	1.53	4.83	
Marshall	Ryegrass	The Wax Company	Yes	2.50*	1.97	1.48	5.95*	
Maximus	Ryegrass	Barenbrug USA	Yes	1.72	2.02	1.56	5.31	
McKinley	Ryegrass	DLF Pickseed USA, Inc	Yes	1.26	1.56	1.44	4.27	
Nelson	Ryegrass	The Wax Company	Yes	1.44	1.74	1.47	4.64	
Passerel Plus	Ryegrass	Pennington Seed	Yes	1.48	1.78	1.45	4.70	
Vortex	Ryegrass	Barenbrug USA	Yes	1.13	1.72	1.43	4.28	
Winterhawk	Ryegrass	Oregro Seeds, Inc	Yes	1.23	1.42	1.62	4.27	
<i>Experimental Varieties</i>								
BAR LM 14167-1	Ryegrass	Barenbrug USA	No	1.48	1.51	1.31	4.29	
BAR LM 14167-4	Ryegrass	Barenbrug USA	No	1.52	1.66	1.32	4.50	
BAR LM 15425	Ryegrass	Barenbrug USA	No	0.80	1.32	1.49	3.61	
BAR LM 15426	Ryegrass	Barenbrug USA	No	1.74	1.49	1.26	4.49	
BAR LM 15427	Ryegrass	Barenbrug USA	No	1.31	1.50	1.42	4.23	
BAR LM 15476	Ryegrass	Barenbrug USA	No	1.36	1.59	1.22	4.19	
BAR LM 15477	Ryegrass	Barenbrug USA	No	1.42	1.47	1.37	4.27	
BAR LM 16168-1	Ryegrass	Barenbrug USA	No	1.32	1.62	1.32	4.25	
BAR LM 16168-2	Ryegrass	Barenbrug USA	No	1.34	1.22	1.38	3.94	
BAR LM 16488	Ryegrass	Barenbrug USA	No	1.35	1.44	1.22	4.02	
BAR LM 16498	Ryegrass	Barenbrug USA	No	1.48	1.67	1.13	4.28	
BAR LM 16502	Ryegrass	Barenbrug USA	No	1.67	1.49	1.49	4.64	
GALM1401	Ryegrass	University of Georgia	No	1.44	1.74	1.26	4.44	
GALM1402	Ryegrass	University of Georgia	No	1.55	1.62	1.60	4.77	
GALM1403	Ryegrass	University of Georgia	No	1.89	2.19*	1.41	5.49	
GALM1501	Ryegrass	University of Georgia	No	1.32	1.51	1.49	4.32	
GALM1502	Ryegrass	University of Georgia	No	1.39	1.69	1.55	4.63	
GALM1503	Ryegrass	University of Georgia	No	1.45	1.75	1.18	4.39	
GALM1513	Ryegrass	University of Georgia	No	1.49	1.79	1.33	4.60	
GALM1514	Ryegrass	University of Georgia	No	1.32	1.66	1.54	4.51	
GALM1515	Ryegrass	University of Georgia	No	1.45	1.75	1.28	4.49	
M2CVS	Ryegrass	The Wax Company	No	1.87	1.87	1.50	5.25	
ME-4	Ryegrass	The Wax Company	No	1.72	1.84	2.19	5.75*	
ME-94	Ryegrass	The Wax Company	No	2.49*	2.55*	1.46	6.51*	
O7-WW	Ryegrass	Oregro Seeds, Inc	No	1.58	1.88	1.69	5.15	
PS12	Ryegrass	Pennington Seed	No	1.41	2.04	1.71	5.16	
PS15	Ryegrass	Pennington Seed	No	1.56	1.86	1.54	4.95	
WMWL	Ryegrass	The Wax Company	No	1.66	1.96	1.43	5.06	
				CV	19	14	12	12
				LSD (P<0.05)	0.34	0.46	ns ¹	0.77
* yielded statistically the same as the top-yielding variety								
¹ non-significant at the 0.05 level								
Nitrogen application: 45 lb/acre at planting, 60 lb/acre at green-up, 30 lb/acre after first harvest								
Planted October 6, 2016								

Table 2: Yield of cool-season annual small grain varieties at the East Tennessee AgResearch and Education Center in Knoxville, TN.

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)			
				Mar 12	Apr 17	May 10	Total
Elbon	Rye	Noble Research Institute	Yes	3.23*	3.01	0.71	6.95*
NF95319B	Rye	Noble Research Institute	No	2.46	2.63	0.33	5.42
NF97325	Rye	Noble Research Institute	No	2.83*	2.77	0.59	6.20*
Oklon	Rye	Noble Research Institute	Yes	2.58	2.55	0.41	5.54
TriCal 815	Triticale	Southeast AgriSeeds	Yes	1.62	1.88	0.72	4.21
				CV	23	16	32
				LSD (P<0.05)	0.53	ns ¹	ns
* yielded statistically the same as the top-yielding variety							
¹ non-significant at the 0.05 level							
Nitrogen application: 45 lb/acre at planting, 60 lb/acre at green-up, 30 lb/acre after first harvest							
Planted October 6, 2016							

Table 3: Mean forage nutritive values by harvest.

Species	Constituents ¹ (%)	Harvest Date		
		Mar 12	Apr 17	May 10
Ryegrass	CP	16.5	12.5	11.9
	ADF	30.2	30.9	34.4
	NDF	56.5	49.1	53.1
	TDN	67.3	66.6	63.1
Rye	CP	11.8	11.7	4.6
	ADF	33.7	34.6	46.6
	NDF	56.5	59.8	58.2
	TDN	67.3	62.9	50.9
Triticale	CP	16.9	12.6	14.1
	ADF	29.6	31.2	32.7
	NDF	57.6	53.4	58.0
	TDN	67.9	66.4	64.8

¹ 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 late boot. Grass Hay Equation (NIRS Consortium, 2016).

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



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