

2019 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 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 cool-season annual ryegrass varieties at the Research and Education Center at Greeneville, TN.

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)		
				Apr 22	May 29	Total
Baqueano	Annual Ryegrass	Smith Seed Services	Yes	1.73	2.03	3.76
Credence	Annual Ryegrass	DLF Pickseed USA Inc	Yes	1.79	1.81	3.60
Double Diamond	Annual Ryegrass	Oregro Seed	Yes	1.71	1.78	3.49
Fria	Annual Ryegrass	Tennessee Farmers Co-Op	Yes	1.95	2.33	4.28
FrostProof	Annual Ryegrass	Smith Seed Services	Yes	1.82	1.89	3.71
Jackson	Annual Ryegrass	The Wax Company	Yes	1.74	1.87	3.61
Koga	Annual Ryegrass	Smith Seed Services	Yes	1.34	1.82	3.16
Marvel	Annual Ryegrass	Pennington	Yes	1.74	2.07	3.81
Master	Annual Ryegrass	Smith Seed Services	Yes	1.59	2.37	3.95
McKinley	Annual Ryegrass	DLF Pickseed USA Inc	Yes	1.63	1.53	3.15
Meroa	Annual Ryegrass	Smith Seed Services	Yes	1.35	2.16	3.51
Nelson	Annual Ryegrass	The Wax Company	Yes	1.93	1.49	3.42
Passerel Plus	Annual Ryegrass	Pennington	Yes	1.78	1.69	3.48
Rapido	Annual Ryegrass	Smith Seed Services	Yes	1.51	2.22	3.73
Spicer	Annual Ryegrass	Pennington	Yes	1.77	2.25	4.02
TAMTBO	Annual Ryegrass	Oregro Seed	Yes	1.86	1.50	3.36
Triangle T	Annual Ryegrass	Oregro Seed	Yes	1.73	1.13	2.86
Trinova	Annual Ryegrass	Smith Seed Services	Yes	1.70	1.89	3.59
WAX Marshall	Annual Ryegrass	The Wax Company	Yes	2.36*	1.93	4.29
WinterHawk	Annual Ryegrass	Oregro Seed	Yes	1.92	2.53	4.44
<i>Experimental Varieties</i>						
GALM1516	Annual Ryegrass	The University of Georgia	No	2.21*	2.15	4.36
GALM1517	Annual Ryegrass	The University of Georgia	No	1.80	2.08	3.88
GALM1618	Annual Ryegrass	The University of Georgia	No	2.11*	2.01	4.12
K014-WEAR	Annual Ryegrass	Oregro Seed	No	1.73	1.76	3.49
K014-WEAMA	Annual Ryegrass	Oregro Seed	No	1.86	1.84	3.70
K014-WLS	Annual Ryegrass	Oregro Seed	No	1.83	2.10	3.93
K014-WM	Annual Ryegrass	Oregro Seed	No	1.65	1.91	3.56
M2CVS	Annual Ryegrass	The Wax Company	No	2.34*	2.06	4.40
ME4	Annual Ryegrass	The Wax Company	No	2.37*	1.57	3.95
ME-94	Annual Ryegrass	The Wax Company	No	2.17*	1.85	4.03
O7-WW	Annual Ryegrass	Oregro Seed	No	1.77	2.17	3.94
SELWT 110	Annual Ryegrass	Smith Seed Services	No	1.39	1.67	3.07
WMWL	Annual Ryegrass	The Wax Company	No	2.38*	1.97	4.36
WMWL-2	Annual Ryegrass	The Wax Company	No	2.10*	1.82	3.92
CV				16	11	10
LSD (P<0.05)				0.34	nd ¹	nd
* yielded statistically the same as the top-yielding variety						
¹ 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 20, 2018						

Table 2: Yield of cool-season annual small grain varieties at the Research and Education Center at Greeneville, TN.

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)			
				Apr 22	May 29	Total	
Bates RS4-FG	Rye	The Noble Research Institute	Yes	1.33	2.51	3.84	
Elbon	Rye	The Noble Research Institute	Yes	1.51	2.36	3.87	
<i>Experimental Varieties</i>							
NF95319B-FG	Rye	The Noble Research Institute	No	1.30	2.19	3.49	
NF97325-FG	Rye	The Noble Research Institute	No	1.70	2.01	3.71	
NF99362-FG	Rye	The Noble Research Institute	No	1.74	1.83	3.57	
				CV	16	13	5
				LSD (P<0.05)	nd ¹	nd	nd
¹ 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 20, 2018							

Table 3: Mean forage nutritive values by harvest.

Species	Constituents ¹ (%)	Harvest Date	
		Apr 22	May 29
Annual Ryegrass	CP	14.3	9.0
	ADF	31.4	42.1
	NDF	52.3	66.0
	TDN	65.8	54.6
Rye	CP	14.3	11.4
	ADF	34.9	43.2
	NDF	62.4	71.8
	TDN	62.1	53.3

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, 2018).

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