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

Research Report 18-11
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2018 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 Plateau AgResearch and Education Center in Crossville, TN.

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)			
				Apr 10	May 2	May 29	Total
Angusta	Ryegrass	DLF Pickseed USA Inc.	Yes	1.72	1.26*	1.25	4.24*
Credence	Ryegrass	DLF Pickseed USA Inc.	Yes	1.56	1.30*	1.10	3.97
Fria	Ryegrass	Tennessee Farmers Cooperative	Yes	2.17	1.50*	1.16	4.83*
FrostProof	Ryegrass	Smith Seed Services	Yes	1.59	1.46*	1.30	4.35*
GRAZER	Ryegrass	University of Georgia	Yes	1.67	1.37*	0.93	3.97
Jackson	Ryegrass	The Wax Company, LLC	Yes	2.22	1.20	1.11	4.53*
Jumbo	Ryegrass	Barenbrug USA	Yes	1.73	1.38*	1.27	4.38*
Kodiak	Ryegrass	DLF Pickseed USA Inc.	Yes	1.55	1.24	1.45	4.23*
Koga	Ryegrass	Smith Seed Services	Yes	1.88	1.07	1.77*	4.72*
Maximus	Ryegrass	Barenbrug USA	Yes	1.67	0.73	1.03	3.42
Nelson Tetraploid	Ryegrass	The Wax Company, LLC	Yes	2.53	1.11	1.27	4.91*
Passerel Plus	Ryegrass	Pennington Seed	Yes	1.47	1.50*	1.22	4.19*
Ribeye	Ryegrass	Barenbrug USA	Yes	1.76	1.48*	1.36	4.59*
Wax Marshall	Ryegrass	The Wax Company, LLC	Yes	1.79	1.72*	1.33	4.84*
Winterhawk	Ryegrass	Oregro Seeds, Inc.	Yes	1.54	1.77*	1.41	4.73*
Experimental Varieties							
BAR LM 17477	Ryegrass	Barenbrug USA	No	1.85	1.16	1.14	4.14*
BAR LM 17490-3	Ryegrass	Barenbrug USA	No	1.87	1.14	1.27	4.28*
BAR LM 17490-4	Ryegrass	Barenbrug USA	No	1.31	1.33*	1.33	3.98
BAR LM 17514	Ryegrass	Barenbrug USA	No	1.96	1.31*	1.12	4.39*
BAR LM 17531	Ryegrass	Barenbrug USA	No	1.68	0.77	1.29	3.75
BAR LM 17532	Ryegrass	Barenbrug USA	No	1.64	1.41*	1.30	4.36*
BAR LM 17534	Ryegrass	Barenbrug USA	No	1.84	1.74*	1.25	4.83*
BAR LM 17538	Ryegrass	Barenbrug USA	No	1.56	1.10	1.00	3.66
BAR LM17533	Ryegrass	Barenbrug USA	No	1.38	1.26*	1.27	3.91
GA101M	Ryegrass	University of Georgia	No	1.71	1.16	1.01	3.88
GA102A	Ryegrass	University of Georgia	No	2.36	1.27*	1.24	4.87*
GA103F	Ryegrass	University of Georgia	No	2.09	1.62*	1.02	4.73*
GALM1401	Ryegrass	University of Georgia	No	1.81	1.59*	1.04	4.45*
GALM1402	Ryegrass	University of Georgia	No	1.37	0.94	1.19	3.51
GALM1403	Ryegrass	University of Georgia	No	1.18	1.18	1.06	3.42
GALM1501	Ryegrass	University of Georgia	No	1.85	1.54*	1.08	4.47*
GALM1502	Ryegrass	University of Georgia	No	2.09	1.18	1.15	4.42*
GALM1503	Ryegrass	University of Georgia	No	1.60	1.26*	1.14	4.01
GALM1513	Ryegrass	University of Georgia	No	1.74	1.50*	1.21	4.45*
GALM1514	Ryegrass	University of Georgia	No	1.27	1.43*	1.14	3.84
GALM1515	Ryegrass	University of Georgia	No	2.54	1.49*	0.95	4.98*
ME4	Ryegrass	The Wax Company, LLC	No	1.87	1.75*	1.50*	5.13*
ME94	Ryegrass	The Wax Company, LLC	No	1.29	1.69*	1.31	4.29*
MZCVS	Ryegrass	The Wax Company, LLC	No	1.76	1.38*	1.35	4.49*
O7-WW	Ryegrass	Oregro Seeds, Inc.	No	1.68	1.44*	1.31	4.43*
ORBR17	Ryegrass	Oregro Seeds, Inc.	No	1.76	0.66	1.01	3.42
PS12	Ryegrass	Pennington Seed	No	1.69	0.92	1.07	3.69
PS15	Ryegrass	Pennington Seed	No	1.58	1.52*	1.20	4.30*
WMWL	Ryegrass	The Wax Company, LLC	No	1.96	1.69*	1.22	4.88*
			CV	31	28	19	16
			LSD (P<0.05)	nd[1]	0.52	0.31	1.04

* yielded statistically the same as the top-yielding variety

[1] not significantly different in yield from the highest numerical yielding variety in the column

Nitrogen application: 45 lb/acre at planting, 60 lb/acre at green-up, 30 lb/acre after first harvest

Planted September 26, 2017

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

Variety	Species	Supplier	Commercially Available	Yield (ton DM/acre)			
				Apr 10	May 2	May 29	Total
Bates RS4	Rye	Noble Research Institute	Yes	1.73	0.95	0.47	3.14
Byron's Fall Triticale	Triticale	Byron Seeds, LLC	Yes	1.95	1.22	0.25	3.42
Cosaque	Winter Oat	Byron Seeds, LLC	Yes	2.01	1.70	0.59	4.31
Elbon	Rye	Noble Research Institute	Yes	1.45	1.74	0.72	3.90
Experimental Varieties							
NF95319B	Rye	Noble Research Institute	No	2.08	0.72	0.44	3.24
NF97325	Rye	Noble Research Institute	No	1.85	1.22	0.41	3.47
NF99362	Rye	Noble Research Institute	No	1.74	1.20	0.52	3.46
Penn Oat	Winter Oat	Pennington Seed	No	1.13	1.52	0.56	3.20
			CV	27	44	43	17
			LSD (P<0.05)	nd[1]	nd	nd	nd

* yielded statistically the same as the top-yielding variety

[1] not significantly different in yield from the highest numerical yielding variety in the column

Nitrogen application: 45 lb/acre at planting, 60 lb/acre at green-up, 30 lb/acre after first harvest

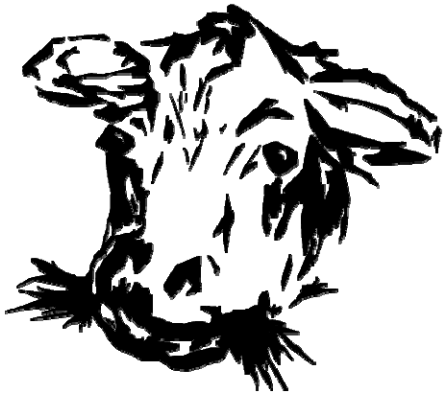
Planted September 26, 2017

Table 3: Mean forage nutritive values by harvest.

Species	Constituents[1] (%)	Harvest Date		
		Apr 10	May 2	May 29
Ryegrass	CP	16.5	12.6	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	11.7	11.7	4.6
	ADF	33.7	34.6	46.7
	NDF	53.4	59.8	58.2
	TDN	63.8	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
Winter Oat	CP	15.0	12.6	10.0
	ADF	30.7	31.0	40.5
	NDF	56.2	51.6	72.4
	TDN	66.8	66.5	56.2

[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, 2017).

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



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