MISSISSIPPI PERENNIAL COOL-SEASON FORAGE CROP

VARIETY TRIALS, 2017

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MISSISSIPPI'S OFFICIAL VARIETY TRIALS

MISSISSIPPI STATE UNIVERSITY™
MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

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This report contains data generated as part of the Mississippi Agricultural and Forestry Experiment Station. Joint sponsorship by the organizations listed on page 13 is gratefully acknowledged.

Trade names of commercial and public varieties tested in this report are included only for clarity and understanding. All available names (i.e., trade names, experiment code names or numbers, chemical names, etc.) and varieties, products, or source seed in this research are listed on page 13.

Cover photo by Rocky Lemus

Mississippi Perennial Cool-Season Forage Crop Variety Trials, 2017

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Find variety trial information online at ***mafes.msstate.edu/variety-trials***.

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INTRODUCTION

Varieties of forage crops are evaluated every year in MAFES small-plot trials. Seed for the entries are provided by seed companies and state universities and tested at one or more locations across Mississippi. All entries from privately owned companies are tested on a fee basis. Standard varieties were added by MAFES as a reference for comparison purposes. In addition, varieties of interest were also added when applicable. Seed sources are presented in Table 14. This report contains data from four wildrye species (*Elymus L.*), 12 tall fescue varieties (*Festuca arundinacea*), six perennial clover varieties (white clover, *Trifolium repens*; red clover, *Trifolium pretense*), and four alfalfa varieties (*Medicago sativa*), all established in fall 2015. Tall fescue entries include endophyte-infected, endophyte-free, and novel-endophyte types. Alfalfa entries include both Roundup Ready® and conventional varieties. The perennial clover trial includes red and white clovers. Locations include the North Mississippi Branch Experiment Station at Holly Springs, H. H. Leveck Animal Research Farm Forage Unit at Starkville, Coastal Plain Branch Experiment Station at Newton, and White Sands Research Unit at Poplarville.

STAND ESTABLISHMENT AND PERSISTENCE

The tall fescue and wildrye trials in Starkville suffered considerable stand loss in 2016. The prolonged drought in the fall led to decreased stand ratings in Starkville for the tall fescue varieties compared with other locations. Across all locations, wildrye plots were rated the lowest compared with tall fescue. In Poplarville and Holly Springs, the fall drought led to stand failures across all the perennial clover and alfalfa varieties. Data presented in Tables 4–13 can be used to evaluate the performance of each forage variety or species within that test. Comparisons were statistically evaluated by using the least significant difference (LSD). The LSD represents the amount of yield that must be observed between any two varieties to determine if the differences observed were due to variety variation alone. Coefficient of variation (CV) describes the accuracy of the test compared to other tests. Highly variable results between replications will be reflected in a high CV.

Table 1. Monthly rainfall totals for Poplarville, Starkville, Newton, and Holly Springs, 2016–2017.

Location	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	in	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*	*in*
						2016						
Poplarville	3.54	6.57	11.82	6.71	3.47	3.46	7.75	7.51	5.17	0.06	0.66	2.04
Starkville	4.48	8.34	7.73	4.34	3.21	3.88	3.54	3.46	2.75	0.04	0.15	0.00
Holly Springs	0.81	1.33	8.37	0.67	1.3	0.09	7.12	3.21	1.37	2.3	3.59	3.23
Newton	3.14	5.44	9.98	6.69	3.29	4.43	4.89	5.03	0.56	0.00	3.93	2.17
						2017						
Poplarville	9.53	5.03	5.56	3.63	11.64	21.1	11.42	8.64	1.65	6.52	0.99	0
Starkville	5.3	3.41	4.72	4.24	6.07	9.18	3.79	7.7	4.85	2.19	1.13	5.47
Holly Springs	—	—	—	—	—	—	—	—	—	—	—	—
Newton	9.55	2.41	4.73	6.41	7.89	12.66	4.12	4.06	0.79	—	—	—
MS 30-yr. avg.	4.96	4.76	5.04	4.96	4.37	4.13	4.8	4.25	3.03	3.94	4.76	5.16

Table 2. Mean high and low temperatures by month for Poplarville, Starkville, Newton, and Holly Springs, 2016–2017.

Location	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	°F	*°F*	*°F*	*°F*	*°F*	*°F*	*°F*	*°F*	*°F*	*°F*	*°F*	*°F*
						2016						
Poplarville												
High	53	65	68	74	83	93	92	86	80	77	73	76
Low	35	42	52	55	61	65	75	71	63	55	56	45
Newton												
High	57	60	66	77	82	92	94	89	86	79	71	72
Low	31	37	43	52	56	68	71	82	68	58	46	39
Starkville												
High	52	61	70	76	82	92	94	90	93	85	70	70
Low	31	37	46	53	58	70	73	70	68	55	40	42
Holly Springs												
High	61	62	68	72	78	78	92	91	90	84	73	51
Low	24	30	38	51	56	72	70	70	59	50	38	25
						2017						
Poplarville												
High	57	70	73	80	81	82	74	85	86	76	70	—
Low	42	47	52	56	60	66	60	69	65	55	48	—
Newton												
High	64	68	74	79	80	87	93	90	88	—	—	—
Low	41	42	46	52	57	67	71	70	61	—	—	—
Starkville												
High	62	66	70	80	79	86	93	89	86	79	68	57
Low	42	42	47	54	59	67	72	70	63	53	42	35
Holly Springs												
High	—	—	—	—	—	—	—	—	—			
Low	—	—	—	—	—	—	—	—	—	—		
MS 30-yr. avg.												
High	56	60	69	76	83	89	92	92	87	77	67	58
Low	35	38	45	52	62	69	72	71	65	53	44	37

PROTOCOL

Tall fescue, perennial clover, and alfalfa trials across the state were established September 23 to October 9, 2015. Soil samples from each location were taken and analyzed at the Mississippi State University Soil Testing Lab. Each trial area was fertilized with lime, phosphorus (P_2O_5), and potassium (K_2O) according to soil test recommendations. Recommendations for phosphorus and potassium in grass were usually fulfilled with one application of 13-13-13. Tall fescue trials were fertilized with 350 pounds per acre of 13-13-13 at planting, followed by 50 pounds per acre of N using urea ammonium sulfate (33-0-0S) after each harvest.

Plot dimensions were 6 feet by 10 feet, and plots were planted using a precision cone seeder on a prepared seedbed. The experimental design was a randomized complete block replicated four times. Recommended seeding rates, based on pure live seed (PLS), are presented in Table 3. All grass plots were harvested when 75% of the plots achieved 15 inches of growth. Alfalfa was harvested at 50% bloom, and clovers were harvested when 75 % of plots were 10–15 inches in height. Perennial clovers, alfalfa, and tall fescue were harvested to a stubble height of 4 inches. Plots were harvested with a Winterstieger plot harvester equipped with a forage header.

A subsample was collected and dried at 131°F until dry to calculate dry matter percentage (DM). Data were analyzed using the general linear model (PROC GLM) of SAS, and mean separation was conducted using the LSD at $\alpha = 0.05$.

Climate data is recorded in Table 1 and 2 from Poplarville, Starkville, Newton, and Holly Springs for the 2016 and 2017 harvest years.

Table 3. Seeding rates used in 2017 variety trials.[1]

Variety	Seeding rate (PLS)
	lb/A
Alfalfa	20
Red Clover	12
Tall Fescue	20
White Clover	3
Wildrye	15

[1]PLS = Pure Live Seed.

PERENNIAL CLOVER AND ALFALFA

Alfalfa is a perennial legume common in the Midwest and irrigated western and northern regions of the U.S. Alfalfa varieties have been bred for more southern climates, but stand persistence can be a problem. Several diseases and pests such as crown rot (*Sclerotinia trifoliorum)*, stem rot (*Phytophthora medicaginis*), alfalfa weevil (*Hypera hostica*), and leafhoppers (*Empoasca solana*) are a major problem. Alfalfa is also very sensitive to soil pH and should be maintained at 6.5 or greater. Alfalfa is one of the few forages that include both Roundup Ready and conventional varieties. Planting should take place between September and October at a seeding rate of 20 pounds per acre on a firm seedbed. Most of the yield distribution for alfalfa is in early summer to early fall. Alfalfa can also be successfully established in warm-season sod grasses to increase hay quality and yield distribution especially in low nitrogen input situations.

Red clover is a short-lived perennial in Mississippi, rarely surviving the summers. In central to southern Mississippi, it should be treated as an annual. Red clover tolerates wet, acidic soils and withstands shading during the seedling stage, which gives it potential to be overseeded in sod grasses. When seeding in an established pasture system, it is best to plant between October 15 and November 20. In grass mixtures, plant red clover at 4–8 pounds per acre, but, in pure stands, 12 pounds per acre will be sufficient.

White clover is more persistent than red clover, but yields are typically less. It does offer more opportunity in grazing situations than in hay harvest because of its prostrate growth habit. White clover is tolerant of wet soils and prefers a pH of 6 or above. Plant white clover at 3–4 pounds per acre in pure stands or 2–3 pounds per acre in mixtures between September and October. Like red clover, white clover acts as an annual in the southern part of the state, but it has a greater reseeding potential. Both species of clover have excellent forage quality, but white clover tends to have a greater potential to cause bloat. When grazing white clover, it is recommended to interseed with grass to reduce bloat potential.

Table 4. Dry matter yields of alfalfa, red clover, and white clover varieties in Starkville, 2017.[1]

Variety	4/18/17	5/18/17	6/26/17	8/1/17	Total
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Alfalfa					
Alfagraze 600 RR	2289	1798	2091	2050	8228
Bulldog 505	2626	2009	2345	1845	8562
GAMS1405FSH	2172	1886	2132	1844	7764
NF12ALF0073	3019	1834	1864	2176	8892
Red Clover					
IS- TP 12	1766	1455	2047	0	5330
Renegade	1848	1468	2010	0	5240
Southern Belle	1426	1419	2026	0	4935
White Clover					
Durana	1789	1081	800	0	3760
IS-TR 12	1689	1004	956	0	3995
Neches	1801	913	1020	0	4134
Patriot	2000	1126	757	0	3884
Mean	2039	1454	1641	720	5884
$LSD_{0.05}$	982	669	521	604	363
CV%	23	22	16	35	13

[1]NS: Not Significant
Planted: October 1, 2016 Soil: Marietta Fine Sandy loam Fertilized: 1 ton per of lime at planting
Herbicide: Paraquat @ 1 pt/A after each harvest; Pursuit (ammonium salt of imazethapyr) @ 4 oz/A after first harvest

Table 5. Dry matter yields of alfalfa, red clover, and white clover varieties in Starkville, 2016–2017.[1]

Variety	2016	2017	2-yr. avg.
	lb/A	*lb/A*	*lb/A*
Alfalfa			
Alfagraze 600 RR	9298	8228	8763
Bulldog 505	10852	8562	9707
GAMS1405FSH	10648	7764	9206
NF12ALF0073	9501	8892	9197
Red Clover			
IS- TP 12	8682	5330	7006
Renegade	7401	5240	6321
Southern Belle	8438	4935	6687
White Clover			
Durana	4962	3760	4361
IS-TR 12	5301	3995	4648
Neches	5998	4134	5066
Patriot	4817	3884	4351
Mean	7809	5884	6847
$LSD_{0.05}$	761	363	—
CV%	12	13	—

[1]Planted: October 1, 2015 Soil: Marietta Fine Sandy loam Fertilized: 1 ton per acre of lime at planting
Herbicide: Paraquat @ 1 pt/A after each harvest; Pursuit (ammonium salt of imazethapyr) @ 4 oz/A after first harvest

Table 6. Dry matter yields of alfalfa, red clover, and white clover varieties in Newton, 2017.[1]

Variety	3/27/17	4/18/17	Total
	lb/A	*lb/A*	*lb/A*
Alfalfa			
Alfagraze 600 RR	300	1256	1556
Bulldog 505	872	1434	2307
GAMS1405FSH	486	1104	1591
NF12ALF0073	745	1285	2030
Red Clover			
IS- TP 12	627	1219	1846
Renegade	734	1458	2192
Southern Belle	521	1237	1758
White Clover			
Durana	527	1536	2063
IS-TR 12	1049	1474	2522
Neches	810	1365	2175
Patriot	653	1590	2243
Mean	666	1360	2026
$LSD_{0.05}$	NS[1]	NS	NS
CV%	45	25	32

[1]NS: Not Significant
Planted: Planted: October 7, 2015 Soil: Prentiss Sandy Loam Fertilized: 1 ton per acre of lime at planting
Herbicide: Paraquat @ 1 pt/A after each harvest; Pursuit (ammonium salt of imazethapyr) @ 4 oz/A after first harvest

Table 7. Total dry matter yields of alfalfa, red clover, and white clover varieties in Newton, 2016–2017.[1]

Variety	2016	2017	2-yr. avg.
	lb/A	*lb/A*	*lb/A*
Alfalfa			
Alfagraze 600 RR	3166	1556	2361
Bulldog 505	4761	2307	3534
GAMS1405FSH	3575	1591	2583
NF12ALF0073	3727	2030	2878
Red Clover			
IS- TP 12	3165	1846	2505
Renegade	2611	2192	2401
Southern Belle	4156	1758	2957
White Clover			
Durana	2817	2063	2440
IS-TR 12	2581	2522	2551
Neches	2336	2175	2255
Patriot	3023	2243	2633
Mean	3265	2026	2645
$LSD_{0.05}$	1133	NS[1]	—
CV%	28	32	—

[1]NS: Not Significant
Planted: Planted: October 7, 2015 Soil: Prentiss Sandy Loam Fertilized: 1 ton per acre of lime at planting
Herbicide: Paraquat @ 1 pt/A after each harvest; Pursuit (ammonium salt of imazethapyr) @ 4 oz/A after first harvest

Table 8. Stand counts of alfalfa varieties in Starkville, 2017.[1]

Variety	Starkville
Alfagraze 600 RR	1.5
Bulldog 505	0
GAMS1405FSH	14.5
NF12ALF0073	5.5

[1]Stand counts for entire plot area (60 square feet) preformed January 18, 2018.

TALL FESCUE AND WILDRYE

Tall fescue, a perennial grass with short rhizomes, is primarily grown in the northern part of the state. It does well on poorly drained soils, making it popular in lowland areas. Tall fescue should be established from September to October at a seeding rate of 15–20 pounds per acre. During the establishment year, avoid grazing below 4 inches to minimize stand failure. Tall fescue tolerates soil pH of 5.8 to 7.5 and responds well to nitrogen. Endophyte toxicity can be a problem; however, grazing management, the inclusion of clovers, and the use of novel-endophyte and endophyte-free varieties can be used to mitigate the harmful effects of the toxin.

Table 9. Dry matter yields of tall fescue and wildrye varieties and ecotypes in Starkville, 2017.[1]

Variety/Ecotype	4/8/17	5/8/17	Total
	lb/A	*lb/A*	*lb/A*
Tall Fescue			
Cajun II	1175	2413	3588
DLFPS-FTF 54 Happe	1000	2650	3650
DLFPS-FTF 82	1424	2387	3810
DLFPS-FTF 93	844	2167	3011
DLFPS-FTF 96	728	1361	2089
DLFPS-FTF73	495	1651	2146
Dominate	2276	2678	4954
K31	543	2566	3109
Marin 2 Protek	634	1988	2623
MSU Exp RL	921	2341	3262
Texoma MaxQ	1568	2681	4249
Tower Protek	453	945	1398
Mean[2]	1005	2152	4249
$LSD_{0.05}$ [2]	992	921	1564
CV %[2]	46	29	34
Wildrye			
Canada	54	468	522
River Bank	256	815	1071
Southeastern	389	1485	1874
Virginia	779	2798	3578
Mean[3]	370	1392	1761
$LSD_{0.05}$ [3]	NS[5]	NS	NS
CV%[3]	46	45	52
Overall Mean[4]	846	1962	2808
Overall $LSD_{0.05}$ [4]	929	1239	1761
Overall CV%[4]	40	44	44

[1]Planted: October 1, 2016 Soil: Marietta fine sandy loam
Fertilized: 13-13-13 @ 100 lb/A @ planting and N @ 50 lb/A using urea ammonium sulfate after harvest
Herbicide: GrazonNext (aminopyralid + 2,4-D) @ 1 pt/A
[2]Mean, $LSD_{0.05}$, CV%: Considers tall fescue values only
[3]Mean, $LSD_{0.05}$, CV%: Considers wildrye values only
[4]Mean, $LSD_{0.05}$, CV%: Considers wildrye and tall fescue values
[5]NS: Not Significant

Table 10. Total dry matter yields of tall fescue and wildrye varieties and ecotypes in Starkville, 2016–2017.[1]

Variety	2016	2017	2-yr. avg.
	lb/A	*lb/A*	*lb/A*
Tall Fescue			
Cajun II	8107	3588	5848
DLFPS-FTF 54 Happe	6022	3650	4836
DLFPS-FTF 82	6333	3810	5072
DLFPS-FTF 93	4592	3011	3802
DLFPS-FTF 96	5533	2089	3811
DLFPS-FTF73	5189	2146	3668
Dominate	5883	4954	5419
K31	5498	3109	4304
Marin 2 Protek	4626	2623	3625
MSU Exp RL	6308	3262	4785
Texoma MaxQ	5346	4249	4798
Tower Protek	8051	1398	4725
Mean[2]	5958	4249	5104
$LSD_{0.05}$ [2]	2176	1564	—
CV %[2]	25	34	—
Wildrye			
Canada	2100	522	1311
River Bank	4086	1071	2578
Southeastern	3447	1874	2660
Virginia	3790	3578	3684
Mean[3]	3356	1761	2558
$LSD_{0.05}$ [3]	NS[5]	NS	—
CV%[3]	34	52	—
Overall Mean[4]	5307	2808	4057
Overall $LSD_{0.05}$ [4]	2011	1761	—
Overall CV%[4]	26	44	—

[1]Planted: October 1, 2016 Soil: Marietta fine sandy loam
Fertilized: 13-13-13 @ 100 lb/A @ planting and N @ 50 lb/A using urea ammonium sulfate after harvest
Herbicide: GrazonNext (aminopyralid + 2,4-D) @ 1 pt/A
[2]Mean, $LSD_{0.05}$, CV%: Considers tall fescue values only
[3]Mean, $LSD_{0.05}$, CV%: Considers wildrye values only
[4]Mean, $LSD_{0.05}$, CV%: Considers wildrye and tall fescue values
[5]NS: Not Significant

Table 11. Dry matter yields of tall fescue and wildrye varieties and ecotypes in Newton, 2017.[1]

Variety/Ecotype	3/27/17	4/18/17	Total
	lb/A	*lb/A*	*lb/A*
Tall Fescue			
Cajun II	303	672	975
DLFPS-FTF 54 Happe	602	787	1390
DLFPS-FTF 82	473	819	1292
DLFPS-FTF 93	619	619	1237
DLFPS-FTF 96	657	704	1361
DLFPS-FTF73	251	471	722
Dominate	414	622	1036
K31	313	593	906
Marin 2 Protek	507	652	1159
MSU Exp RL	490	867	1357
Texoma MaxQ	344	668	1011
Tower Protek	215	696	911
Mean[2]	432	681	1113
$LSD_{0.05}$ [2]	NS[5]	NS	NS
CV %[2]	52	44	52
Wildrye			
Canada	248	673	920
River Bank	175	907	1082
Southeastern	167	738	905
Virginia	392	803	1195
Mean[3]	245	780	1025
$LSD_{0.05}$ [3]	NS	NS	NS
CV%[3]	54	46	43
Overall Mean[4]	386	706	1091
Overall $LSD_{0.054}$	NS	NS	NS
Overall CV%[4]	45	42	40

[1]Planted: October 7, 2015 Soil: Prentiss Sandy Loam
Fertilized: 13-13-13 @ 100 lb/A @ planting and N @ 50 lb/A using urea ammonium sulfate after harvest
Herbicide: GrazonNext (aminopyralid + 2,4-D) @ 1 pt/A
[2]Mean, $LSD_{0.05}$, CV%: Considers tall fescue values only
[3]Mean, $LSD_{0.05}$, CV%: Considers wildrye values only
[4]Mean, $LSD_{0.05}$, CV%: Considers wildrye and tall fescue values
[5]NS: Not Significant

Table 12. Total dry matter yields of tall fescue and wildrye varieties and ecotypes in Newton, 2016–2017.[1]

Variety	2016	2017	2-yr. avg.
	lb/A	*lb/A*	*lb/A*
Tall Fescue			
Cajun II	4251	975	2613
DLFPS-FTF 54 Happe	4052	1390	2721
DLFPS-FTF 82	3300	1292	2296
DLFPS-FTF 93	5214	1237	3225
DLFPS-FTF 96	4128	1361	2744
DLFPS-FTF73	3564	722	2143
Dominate	3011	1036	2023
K31	4195	906	2550
Marin 2 Protek	4518	1159	2838
MSU Exp RL	3087	1357	2222
Texoma MaxQ	3081	1011	2046
Tower Protek	4387	911	2649
Mean[2]	3899	1113	2506
$LSD_{0.05}$ [2]	1241	NS[5]	—
CV %[2]	22	52	—
Wildrye			
Canada	1519	920	1219
River Bank	2615	1082	1848
Southeastern	2471	905	1688
Virginia	3267	1195	2231
Mean[3]	2468	1025	1746
$LSD_{0.05}$ [3]	625	NS	—
CV%[3]	15	43	—
Overall Mean[4]	3541	1091	2316
Overall $LSD_{0.05}$ [4]	1101	NS	—
Overall CV%[4]	21	40	—

[1]Planted: October 7, 2015 Soil: Prentiss Sandy Loam
Fertilized: 13-13-13 @ 100 lb/A at planting and N @ 50 lb/A using urea ammonium sulfate after harvest
Herbicide: GrazonNext (aminopyralid + 2,4-D) @ 1 pt/A
[2]Mean, $LSD_{0.05}$, CV%: Considers tall fescue values only
[3]Mean, $LSD_{0.05}$, CV%: Considers wildrye values only
[4]Mean, $LSD_{0.05}$, CV%: Considers wildrye and tall fescue values
[5]NS: Not Significant

Table 13. Dry matter yields of tall fescue and wildrye varieties and ecotypes in Holly Springs, 2017.[1]

Variety/Ecotype	4/10/17	5/11/17	Total
	lb/A	*lb/A*	*lb/A*
Tall Fescue			
Cajun II	1351	1909	3260
DLFPS-FTF 54 Happe	1203	1703	2906
DLFPS-FTF 82	1615	1746	3361
DLFPS-FTF 93	1491	1957	3448
DLFPS-FTF 96	1254	2502	3756
DLFPS-FTF73	600	2420	3020
Dominate	1513	2045	3558
K31	973	1900	2873
Marin 2 Protek	1256	1936	3191
MSU Exp RL	1059	1694	2753
Texoma MaxQ	1288	1892	3179
Tower Protek	850	2027	2877
Mean[2]	1204	1978	3182
$LSD_{0.05}$ [2]	NS[5]	NS	NS
CV %[2]	47	18	26
Wildrye			
Canada	74	569	643
River Bank	35	1118	1153
Southeastern	261	2835	3096
Virginia	235	1659	1894
Mean[3]	151	1545	1696
$LSD_{0.053}$	NS	1247	1186
CV%[3]	53	45	44
Overall Mean[4]	941	1869	2811
Overall $LSD_{0.05}$ [4]	757	771	1194
Overall CV%[4]	46	28	30

[1]Planted: October 2, 2015 Soil: Grenada Silt Loam
Fertilized: 13-13-13 @ 100 lb/A at planting and N @ 50 lb/A using urea ammonium sulfate after harvest
Herbicide: GrazonNext (aminopyralid + 2,4-D) @ 1 pt/A
[2]Mean, $LSD_{0.05}$, CV%: Considers tall fescue values only
[3]Mean, $LSD_{0.05}$, CV%: Considers wildrye values only
[4]Mean, $LSD_{0.05}$, CV%: Considers wildrye and tall fescue values
[5]NS: Not Significant

Table 14. Total dry matter yields of tall fescue and wildrye varieties and ecotypes in Holly Springs, 2016–2017.[1]

Variety	2016	2017	2-yr. avg.
	lb/A	*lb/A*	*lb/A*
Tall Fescue			
Cajun II	4581	3260	3921
DLFPS-FTF 54 Happe	4079	2906	3493
DLFPS-FTF 82	4650	3361	4006
DLFPS-FTF 93	4654	3448	4051
DLFPS-FTF 96	5686	3756	4721
DLFPS-FTF73	3905	3020	3463
Dominate	5319	3558	4439
K31	4193	2873	3533
Marin 2 Protek	4630	3191	3911
MSU Exp RL	3426	2753	3090
Texoma MaxQ	4635	3179	3907
Tower Protek	5065	2877	3971
Mean[1]	4569	3182	3876
$LSD_{0.05}$ [1]	NS	NS	—
CV %[1]	25	26	—
Wildrye			
Canada	3010	643	1827
River Bank	2310	1153	1732
Southeastern	3728	3096	3412
Virginia	3623	1894	2759
Mean[2]	3168	1696	2432
$LSD_{0.05}$ [2]	NS	1186	—
CV%[2]	25	44	—
Overall Mean[3]	4179	2811	3495
Overall $LSD_{0.05}$ [3]	1540	1194	—
Overall CV%[3]	25	30	—

Planted: October 2, 2015 Soil: Grenada Silt Loam
Fertilized: 13-13-13 @ 100 lb/A at planting and N @ 50 lb/A using urea ammonium sulfate after harvest
Herbicide: GrazonNext (aminopyralid + 2,4-D) @ 1 pt/A
[1]Mean, $LSD_{0.05}$, CV%: Considers tall fescue values only
[2]Mean, $LSD_{0.05}$, CV%: Considers wildrye values only
[3]Mean, $LSD_{0.05}$, CV%: Considers wildrye and tall fescue values
[4]NS: Not Significant

Table 15. Tall fescue, wildrye, alfalfa, and clover seed sources.	
Variety	**Company**
Alfalfa	
NF12ALF0073	The Noble Foundation
Bulldog 505	MSU
Alfagraze 600 RR	MSU
GAMS1405FSH	University of Georgia
White Clover	
Neches	Barenburg
IS-TR 12	DLF
Patriot	MSU
Durana	MSU
Red Clover	
Renegade	DLF
IS-TP12	DLF
Southern Belle	MSU
Tall Fescue	
Dominate	Allied Seed LLC
DLFPS-FTF 54 Happe	DLF
DLFPS-FTF 96	DLF
DLFPS-FTF 93	DLF
DLFPS-FTF73	DLF
DLFPS-FTF 82	DLF
Tower Protek	DLF
Marin 2 Protek	DLF
Cajun II	Smith Seed Services
Wildrye	
Southeastern	MSU
Canada	MSU
Riverbank	MSU
Virginia	MSU

MS AGRICULTURAL AND
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The mission of the Mississippi Agricultural and Forestry Experiment Station and the College of Agriculture and Life Sciences is to advance agriculture and natural resources through teaching and learning, research and discovery, service and engagement which will enhance economic prosperity and environmental stewardship, to build stronger communities and improve the health and well-being of families, and to serve people of the state, the region and the world.

George M. Hopper, Director **www.mafes.msstate.edu**