MISSISSIPPI ANNUAL COOL-SEASON FORAGE CROP

VARIETY TRIALS, 2016

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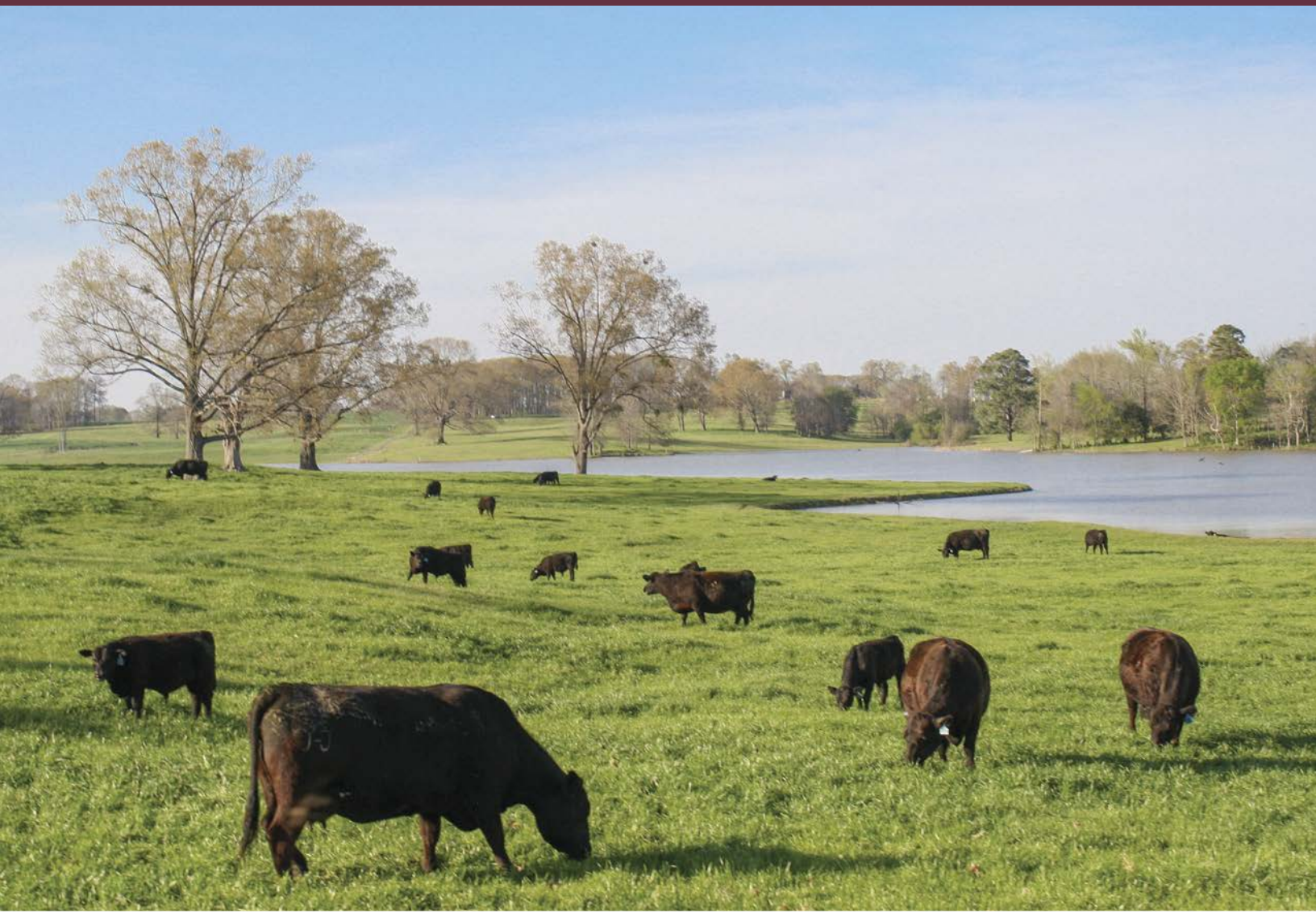

MISSISSIPPI'S OFFICIAL VARIETY TRIALS

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 14 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 14.

Cover photo by Rocky Lemus

Mississippi Annual Cool-Season Forage Crop Variety Trials, 2016

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

Mississippi Annual Cool-Season Forage Crop Variety Trials, 2016

Introduction

Varieties of several forage-crop species are evaluated every year in Mississippi Agricultural and Forestry Experiment Station (MAFES) small-plot forage trials. Entries are provided by seed companies and forage and breeding programs at state universities. Experimental and commercially available varieties are tested at one or more locations across Mississippi. All entries from privately owned companies are tested on a fee basis. Standard varieties may be added by the MAFES variety-testing program as a reference for comparison purposes. In addition, varieties of interest may also be added when applicable. Sources of seed are presented in Table 18. This report contains data from eight small-grain, 38 annual ryegrass, and 11 annual clover varieties. Testing during 2016–17 was conducted at North Mississippi Branch Experiment Station in Holly Springs, Leveck Animal Research Center Forage Unit on the Mississippi State campus, Coastal Plain Branch Experiment Station in Newton, and White Sands Research Unit in Poplarville.

Data presented in Tables 2–17 can be used to evaluate the performance of each forage crop within its respective trial. Mean and harvest comparisons were evaluated statistically by using the least significant difference (LSD) test at the probability level of $\alpha = 0.05$. The LSD value represents the minimum amount of yield (pounds per acre) that must be observed between any two varieties to determine if the difference was due to variety variation alone.

Protocol

Annual ryegrass, small-grain, and annual clover trials across the state were established from late September until the first week of October 2016. At all locations, soil samples were taken and analyzed by the Mississippi State University Soil Testing Laboratory. Trial areas were amended with lime and fertilized with phosphorus (P_2O_5) and potassium (K_2O) according to the soil-test recommendations for individual species. The annual ryegrass and small-grain trials were fertilized with 300 pounds of 15-5-10 at the time of planting and with 50 pounds of nitrogen per acre after each harvest using urea ammonium sulfate (33-0-0S). Annual clover trials were fertilized with 50 pounds per acre of 0-0-60 (K_2O) at planting and an additional 100 pounds per acre of phosphorus (P_2O_5) and potassium (K_2O) early in the spring using 0-20-20. Plots were 6x10 feet and planted using a

Table 1. Recommended seeding rates for cool-season forage crops.

Type/Species	Seed weight
	lb/A
Small Grains	
Rye	100
Oat	100
Triticale	100
Annual Ryegrass	30
Annual Clovers	
Arrowleaf	10
Berseem	25
Balansa	11
Ball	3
Crimson	30
Persian	8

precision cone seeder on a prepared seedbed. Trial design was a randomized complete block replicated four times. Recommended seeding rates were used and are presented in Table 1. Individual trials were harvested when 75% of the plots achieved 15 inches of growth. All plots were harvested to a stubble height of 3 inches. Plots were harvested using a Winterstieger equipped with a forage Cibus S plot harvester reel type header that collected a 4.8x10-foot swath to calculate total yield. A subsample was collected and dried at 130°F until constant weight was achieved to calculate dry matter (DM) concentration. Data were analyzed using the General Linear Model (PROC GLM) of SAS, and mean separation was conducted using LSD at $\alpha = 0.05$.

Annual Ryegrass

Annual ryegrass is the most important and versatile cool-season annual grass for livestock producers in Mississippi. In pasture and hay systems, annual ryegrass is a popular forage because of its ease of establishment, high nutritive value, high yields, good reseeding ability, and adaptability to a wide range of soil types. Annual ryegrass can be established in pure stands or mixed with small grains and/or clovers for cool-season forage production. For these reasons, annual ryegrass is a staple for many cool-season grazing programs in Mississippi. Planting date varies with location. Overall, the best planting time is September for prepared seedbed or October if overseeded on a warm-season perennial grass pasture. Seeding rates are 30 pounds per acre for pure stands and 20 pounds per acre for mixtures with small grains and/or clovers. Annual ryegrass grows best at a soil pH of 6.0 to 7.0. Phosphorus and potassium levels should be above the medium range for optimum yields. Annual ryegrass is very responsive to nitrogen fertilizer, and its use should be split into two to four applications during the growing season. When established with clovers, a single nitrogen application in early winter is often recommended to limit annual ryegrass competition with the clover. Reasonable productivity can be expected from November to May in south Mississippi and February to May in the north. Annual ryegrass should normally be allowed to reach a height of 8 inches before grazing begins. Typical stocking rates are 700 pounds of live weight per acre in winter and 1,400–2,000 pounds per acre in spring. Typically, average daily gains for respective animal classes are as follows: suckling calves, 2.75 pounds; stocker calves, 2.3 pounds; yearling horses, 1.75 pounds; and lambs, 0.3 pound. However, all of these factors are greatly influenced by environmental conditions and management factors.

Data in Tables 2–5 present the yield performance of ryegrass varieties at four locations in the state from Holly Springs in the north to Poplarville in the south. Entries were further analyzed by ploidy level (Tables 6–8). Ploidy level refers to the number of chromosome sets in a biological cell and is often used in characterizing ryegrass varieties as either diploid (2x) or tetraploid (4x). Whether ploidy level is advantageous to a specific variety in regards to performance is more dependent on location.

Table 2. Ryegrass yields, Holly Springs.

Variety	Harvest date		Total yield
	4/10/17	5/11/17	
	lb/A	*lb/A*	*lb/A*
Attain	3723	4025	7748
BAR LM 14167-1	3595	4020	7615
BAR LM 14167-4	2478	4259	6736
BAR LM 15425	2013	4312	6325
BAR LM 15426	1897	4860	6757
BAR LM 15427	2721	4440	7161
BAR LM 15476	2959	4280	7239
BAR LM 16168-1	2692	3444	6137
BAR LM 16168-2	2314	4068	6382
BAR LM 16488	1611	4613	6224
BAR LM 16498	3687	4287	7973
BAR LM 16502	1813	4283	6096
Big Boss	2480	4395	6874
Centurion	3208	4387	7596
Diamond T	3038	3828	6867
Dipper	3021	3978	6999
Flying A	4407	3622	8028
Fria	4008	3985	7992
GO-16LN	3424	4128	7551
Jackson	4401	3824	8224
Jumbo	3727	4238	7965
Lonestar	3758	3904	7662
M2GVS	1898	4393	6291
Marshall	2720	4028	6749
Maximus	2281	3919	6200
ME4	3073	4701	7774
ME-94	2812	4846	7657
Nelson	2399	4745	7144
Passerel Plus	3677	4079	7756
PPG-LWT 105	2581	3969	6550
PS12	3650	4025	7675
PS15	3777	3777	7554
Sarg-Fl	3019	4253	7272
TAMTBO	3481	3973	7455
Tetibear	4470	4187	8657
Tetrastar	3666	3572	7237
Winterhawk	3965	3746	7711
WMWL	3874	4113	7986
Mean	3114	4145	7258
CV, %	38	13	18
LSD (0.05)	1652	738	NS[1]

[1]NS: Not Significant
Planted: 10/14/16
Soil type: Grenada Silt Loam

Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest

Table 3. Ryegrass yields, Starkville.

Variety	Harvest date			Total yield
	3/21/17	4/20/17	5/19/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Attain	2166	3815	2363	8344
BAR LM 14167-1	1359	3793	2009	7162
BAR LM 14167-4	1260	3844	1986	7090
BAR LM 15425	1228	4153	2703	8084
BAR LM 15426	549	3435	1996	5980
BAR LM 15427	1162	3255	2181	6597
BAR LM 15476	1314	3406	2035	6755
BAR LM 16168-1	1378	3998	1484	6860
BAR LM 16168-2	581	3000	1355	4936
BAR LM 16488	828	3012	1915	5754
BAR LM 16498	885	3445	2250	6580
BAR LM 16502	580	2491	2367	5438
Big Boss	2078	3360	2225	7663
Centurion	1747	4290	1984	8020
Diamond T	2784	4381	2559	9724
Dipper	2297	3736	1875	7908
Flying A	1681	3544	1339	6564
Fria	1738	3420	1583	6740
GO-16LN	1478	3422	2151	7051
Jackson	1956	3801	1614	7372
Jumbo	1973	3442	2170	7585
Lonestar	2162	3141	1694	6998
M2GVS	886	3596	2364	6845
Marshall	1682	3744	2094	7519
Maximus	2855	3824	2080	8759
ME4	2123	3609	2158	7889
ME-94	2309	3687	1809	7805
Nelson	2608	3592	2201	8400
Passerel Plus	1881	4130	1808	7819
PPG-LWT 105	1753	3577	2494	7823
PS12	1940	3762	1555	7256
PS15	2425	3673	1974	8071
Sarg-FI	3233	3350	1836	8418
TAMTBO	1488	3221	2328	7037
Tetibear	2291	3807	1877	7974
Tetrastar	1375	3208	1744	6327
Winterhawk	2272	3410	1388	7070
WMWL	646	3722	1868	6236
Mean	1709	3581	1984	7275
CV, %	54	23	22	24
LSD (0.05)	1312	NS[1]	616	NS[1]

[1]NS: Not Significant
Planted: 10/7/16
Soil type: Marietta Fine Sandy Loam
Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Table 4. Ryegrass yields, Newton.

Variety	Harvest date				Total yield
	2/17/17	3/10/17	3/27/17	4/18/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Attain	396	946	1423	1507	4272
BAR LM 14167-1	429	857	1596	1637	4518
BAR LM 14167-4	374	1052	1617	1545	4588
BAR LM 15425	157	873	1342	1469	3841
BAR LM 15426	327	841	1761	1473	4402
BAR LM 15427	310	902	1562	1451	4224
BAR LM 15476	180	927	1546	1446	4098
BAR LM 16168-1	405	1110	1470	1156	4142
BAR LM 16168-2	261	832	1553	1112	3757
BAR LM 16488	199	931	1620	1517	4267
BAR LM 16498	165	910	1354	1637	4066
BAR LM 16502	89	749	1424	1583	3845
Big Boss	370	1099	1487	1609	4565
Centurion	475	1268	1671	1495	4908
Diamond T	248	981	1690	1370	4290
Dipper	465	1250	1399	1336	4449
Flying A	413	1103	1627	1508	4651
Fria	287	982	1522	1324	4115
GO-16LN	358	922	1137	1202	3619
Jackson	258	1023	1618	1442	4340
Jumbo	311	992	1441	1322	4066
Lonestar	572	1201	1295	1073	4141
M2GVS	132	1094	1467	1807	4500
Marshall	366	1147	1912	1547	4972
Maximus	387	1085	1588	1536	4596
ME4	276	1317	1920	1665	5178
ME-94	130	1042	1711	1464	4348
Nelson	431	1168	1750	1509	4858
Passerel Plus	273	1095	1524	1293	4185
PPG-LWT 105	406	1052	1615	1486	4559
PS12	596	1112	1838	1333	4879
PS15	375	1054	2054	1331	4814
Sarg-Fl	416	1279	1246	1332	4273
TAMTBO	314	1082	1799	1485	4680
Tetibear	421	1060	1362	1631	4473
Tetrastar	542	958	1584	1243	4327
Winterhawk	282	1366	1352	1264	4264
WMWL	452	1058	1603	1668	4780
Mean	338	1045	1565	1442	4391
CV, %	58	21	21	21	13
LSD (0.05)	276	311	NS[1]	NS	NS

[1]NS: Not significant
Planted: 10/17/16
Soil type: Prentiss Sandy Loam
Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Table 5. Ryegrass yields, Poplarville.

Variety	Harvest date			Total yield
	2/17/17	3/29/17	4/26/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Attain	1136	4445	1580	7161
BAR LM 14167-1	1466	3195	2029	6689
BAR LM 14167-4	923	2628	1737	5288
BAR LM 15425	961	3660	2119	6739
BAR LM 15426	305	1795	2214	4314
BAR LM 15427	1274	3286	1746	6306
BAR LM 15476	1737	3258	1743	6738
BAR LM 16168-1	887	2996	1015	4897
BAR LM 16168-2	611	3141	985	4737
BAR LM 16488	673	1878	2150	4700
BAR LM 16498	1142	3269	2138	6549
BAR LM 16502	1272	3182	2455	6909
Big Boss	1578	4607	1603	7788
Centurion	1426	3034	1166	5626
Diamond T	1985	3938	1578	7500
Dipper	1265	3866	1284	6415
Flying A	1076	3771	651	5498
Fria	1478	3128	1596	6201
GO-16LN	1132	3026	1411	5570
Jackson	777	3392	1007	5175
Jumbo	1215	3078	2012	6304
Lonestar	1773	2815	1428	6015
M2GVS	569	3324	1654	5547
Marshall	1059	2564	1771	5395
Maximus	1599	3721	1625	6945
ME4	1662	3821	1728	7211
ME-94	1110	3218	1299	5626
Nelson	1626	3795	1885	7306
Passerel Plus	988	2699	1451	5138
PPG-LWT 105	1384	4006	2061	7451
PS12	1508	3742	1786	7036
PS15	1242	3835	1837	6913
Sarg-FI	1479	4370	924	6772
TAMTBO	1657	3816	2243	7715
Tetibear	1496	3306	1639	6441
Tetrastar	1623	2639	1881	6143
Winterhawk	1171	3839	1196	6205
WMWL	809	3225	1309	5344
Mean	1239	3350	1630	6218
CV, %	49	25	34	23
LSD (0.05)	NS[1]	1163	771	1973

[1]NS: Not significant
Planted: 10/18/16
Soil type: Basin Loam

Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Table 6. Ryegrass yields by ploidy level, Holly Springs.

Ploidy	Harvest date		Total yield
	4/10/17	5/11/17	
	lb/A	*lb/A*	*lb/A*
Diploid	3294	4123	7417
Tetraploid	2963	4157	7120
Mean	3129	4140	7269
CV, %	41	13	18
LSD (0.05)	NS[1]	NS	NS

[1]NS: Not significant

Table 7. Ryegrass yields by ploidy level, Starkville.

Ploidy	Harvest date			Total yield
	3/21/17	4/20/17	5/19/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Diploid	1807	3622	1784	7213
Tetraploid	1717	3542	2151	7410
Mean	1762	3582	1968	7311
CV, %	40	22	24	25
LSD (0.05)	NS[1]	NS	158	NS

[1]NS: Not significant

Table 8. Ryegrass yields by ploidy level, Newton.

Variety	Harvest date				Total yield
	2/17/17	3/10/17	3/27/17	4/18/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*	*lb/A*
Diploid	326	1098	1638	1394	4456
Tetraploid	342	1007	1504	1470	4323
Mean	334	1052	1571	1432	4390
CV, %	42	23	22	21	14
LSD (0.05)	NS[1]	78	111	NS	NS

[1]NS: Not significant

Table 9. Ryegrass yields by ploidy level, Poplarville.

Ploidy	Harvest date			Total yield
	2/17/17	3/29/17	4/26/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Diploid	1161	3279	1413	5853
Tetraploid	1334	3444	1803	6581
Mean	1248	3362	1608	6217
CV, %	45	28	37	24
LSD (0.05)	NS[1]	NS	198	491

[1]NS: Not significant

Small Grains

In Mississippi, small grains (oat, wheat, rye, and triticale) are not utilized as extensively for forage as annual ryegrass because of lower annual yields. However, some small grains tend to be more drought tolerant than ryegrass and can provide highly digestible forage when other forages are not available. They can also be used for early grazing during the transition period from summer perennial grasses to annual ryegrass grazing. Rye and triticale are the most cold tolerant of forage crops and therefore have potential to continue vegetative growth during the fall and winter in Mississippi. Mississippi utilizes only about 154,000 acres in small-grain forages with the majority of those sown in oat or rye. Data presented in Tables 10–13 represent forage yields among small grain varieties at four locations.

Table 10. Small grain yields, Holly Springs.

Species/Variety	Harvest date 4/19/17
	lb/A
Oat	
Angelina FL0720	3185
Bob	2903
TAMO 411	4785
TAMO 606	4054
Rye	
Bates RS4	5587
Elbon	5260
Triticale	
NS 202567	3366
Trical 342	5575
Mean	4339
CV, %	27
LSD (0.05)	1728

Planted: 10/14/16
Soil type: Grenada Silt Loam
Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Table 11. Small grain yields, Starkville.

Species/Variety	Harvest date			Total yield
	2/14/17	3/22/17	4/18/17	
	lb/A	*lb/A*	*lb/A*	*lb/A*
Oat				
Angelina FL0720	49	960	2451	3460
Bob	103	1313	2822	4239
TAMO 411	68	1396	2835	4299
TAMO 606	123	1851	2566	4541
Rye				
Bates RS4	1436	1402	1463	4301
Elbon	736	1536	2171	4443
Triticale				
NS 202567	417	923	1381	2721
Trical 342	1224	1128	1968	4320
Mean	520	1314	2207	4040
CV, %	40	26	23	19
LSD (0.05)	316	504	762	1125

Planted: 10/7/16
Soil type: Marietta Fine Sandy Loam
Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Table 12. Small grain yields, Newton.

Specie/Variety	Harvest date		Total yield
	3/9/17	3/27/17	
	lb/A	*lb/A*	*lb/A*
Oat			
Angelina FL0720	521	554	1075
Bob	663	618	1282
TAMO 411	962	613	1576
TAMO 606	804	640	1444
Rye			
Bates RS4	285	529	814
Elbon	576	858	1434
Triticale			
NS 202567	431	544	975
Trical 342	491	578	1069
Mean	592	617	1209
CV, %	35	23	38
LSD (0.05)	383	NS[1]	NS

[1]NS: Not significant
Planted: 10/17/16
Soil type: Prentiss Sandy Loam
Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Table 13. Small grain yields, Poplarville.

Species/Variety	Harvest date		Total yield
	2/17/17	3/29/17	
	lb/A	*lb/A*	*lb/A*
Oat			
Angelina FL0720	2946	1209	4155
Bob	2891	3193	6084
TAMO 411	2226	2569	4795
TAMO 606	1988	4179	6167
Rye			
Bates RS4	113	2230	2343
Elbon	802	1887	2689
Triticale			
NS 202567	2052	2107	4159
Trical 342	3551	355	3906
Mean	2071	2216	4287
CV, %	32	34	33
LSD (0.05)	1113	1085	2037

[1]Planted: 10/18/16
Soil type: Basin Loam

Fertilizer: 300 lb/A of 15-5-10 at planting and 50 lb/A of N (33-0-0S) after each harvest
Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after first harvest

Annual Clover

Annual clovers may reduce nitrogen input and improve forage quality in pastures. For this reason, they can be beneficial in Mississippi when interseeded into annual cool-season grass pastures. Arrowleaf clover has been a highly productive clover with excellent reseeding potential. It matures later than most annual legumes and can grow 2–4 feet tall. Arrowleaf clover remains more productive if grazed to a height of 2–4 inches in early spring. However, if it is cut too late in maturity, regrowth will be limited. Crimson clover is an early-maturing clover that produces excellent forage, but it has relatively poor reseeding abilities, necessitating reseeding each fall. Crimson clover will produce more forage at lower temperatures than other clovers. Ball clover is very tolerant to poor drainage, is more tolerant to acidity than crimson clover, and tolerates heavy grazing while maintaining good reseeding potential. Berseem clover is tolerant of alkaline and wet soils, though most varieties are not cold tolerant. Data presented in tables 14–17 represent forage yield data from annual clover trials at four locations across the state.

Table 14. Annual clover yields, Holly Springs.

Species/Variety	Harvest date		Total yield
	4/10/17	5/11/17	
	lb/A	*lb/A*	*lb/A*
Arrowleaf			
Yuchi	3458	2124	5582
Blackhawk	3863	1671	5534
Balansa			
FIXATION	4721	1755	6477
GO-F2	3766	2133	5900
GO-FIXT	2762	2500	5262
GO-HV	3946	2624	6570
Berseem			
Biggbe	3853	2470	6323
Frosty	4468	2077	6544
Crimson			
Common Dixie	3811	2094	5905
White Cloud	2979	2038	5017
Persian			
SBA M626	3251	1995	5245
Mean	3716	2135	5851
CV, %	32	27	17
LSD (0.05)	NS[1]	NS	NS

[1]NS: Not Significant
Planted: 10/7/16
Soil type: Basin Loam
Fertilizer: 100 lb/A of 0-0-60
Herbicide: 5 oz/A of Pursuit® (imazethapyr)

Table 15. Annual clover yields, Starkville.

Species/Variety	Harvest date		Total yield
	4/18/17	5/18/17	
	lb/A	*lb/A*	*lb/A*
Arrowleaf			
Yuchi	376	238	614
Blackhawk	468	337	805
Balansa			
FIXATION	711	110	822
GO-F2	564	354	919
GO-FIXT	1052	34	1086
GO-HV	562	244	806
Berseem			
Biggbe	1518	1685	3203
Frosty	1421	756	2176
Crimson			
Common Dixie	1045	511	1556
White Cloud	310	306	617
Persian			
SBA M626	641	2463	3104
Mean	788	640	1428
CV, %	42	40	39
LSD (0.05)	NS[1]	661	1244

[1]NS: Not significant
Planted: 10/14/16
Soil type: Marietta Fine Sandy Loam
Fertilizer: 100 lb/A of 0-0-60
Herbicide: 5 oz/A of Pursuit® (imazethapyr)

Table 16. Annual clover yields, Newton.

Specie/Variety	Harvest date		Total yield
	3/27/17	4/18/17	
	lb/A	*lb/A*	*lb/A*
Arrowleaf			
Yuchi	2363	510	2873
Blackhawk	3438	161	3599
Balansa			
FIXATION	1811	567	2379
GO-F2	1964	574	2538
GO-FIXT	4003	416	4419
GO-HV	1748	512	2259
Berseem			
Biggbe	4310	343	4653
Frosty	2364	336	2699
Crimson			
Common Dixie	4884	412	5296
White Cloud	2137	478	2615
Persian			
SBA M626	3991	616	4607
Mean	3001	448	3449
CV, %	40	42	43
LSD (0.05)	NS[1]	NS	NS

[1]NS: Not significant
Planted: 10/17/16
Soil type: Prentiss Sandy Loam
Fertilizer: 100 lb/A of 0-0-60
Herbicide: 5 oz/A of Pursuit® (imazethapyr)

Table 17. Annual clover yields, Poplarville.

Species/Variety	Harvest date 3/29/17
	lb/A
Arrowleaf	
Yuchi	1717
Blackhawk	1368
Balansa	
FIXATION	1649
GO-F2	1170
GO-FIXT	2009
GO-HV	907
Berseem	
Biggbe	2268
Frosty	1691
Crimson	
Common Dixie	3393
White Cloud	1753
Persian	
SBA M626	707
Mean	1694
CV, %	40
LSD (0.05)	1205

Planted: 10/18/16
Soil type: Grenada Silt Loam
Fertilizer: 100 lb/A of 0-0-60
Herbicide: 5 oz/A of Pursuit® (imazethapyr)

Table 18. Sources of seed, 2016.

Species/Variety	Seed company/source
Annual Ryegrass	
Fria	Allied Seed, LLC
BAR LM 14167-1	Barenbrug USA
BAR LM 14167-4	Barenbrug USA
BAR LM 15425	Barenbrug USA
BAR LM 15426	Barenbrug USA
BAR LM 15427	Barenbrug USA
BAR LM 15476	Barenbrug USA
BAR LM 16168-1	Barenbrug USA
BAR LM 16168-2	Barenbrug USA
BAR LM 16488	Barenbrug USA
BAR LM 16498	Barenbrug USA
BAR LM 16502	Barenbrug USA
Jumbo	Barenbrug USA
Maximus	Barenbrug USA
GO-16LN	Grassland Oregon
Lonestar	Grassland Oregon
Tetrastar	Grassland Oregon
Centurion	Mountain View Seeds
PPG-LWT 105	Mountain View Seeds
Diamond T	Oregro Seeds Inc.
Flying A	Oregro Seeds Inc.
TAMTBO	Oregro Seeds Inc.
Winterhawk	Oregro Seeds Inc.
Passerel Plus	Pennington Seed
PS12	Pennington Seed
PS15	Pennington Seed
Dipper	Rose Agri-Seed DBA
Tetibear	Rose Agri-Seed DBA
Attain	Smith Seed Services
Big Boss	Smith Seed Services
Sarg-Fl	Smith Seed Services
Jackson	The Wax Company LLC
M2GVS	The Wax Company LLC
Marshall	The Wax Company LLC
ME4	The Wax Company LLC
ME-94	The Wax Company LLC
Nelson	The Wax Company LLC
WMWL	The Wax Company LLC

Species/Variety	Seed company/source
Small Grains	
Angelina FL0720	Angelina Grain Company
TAMO 411	Specialty Seed
TAMO 606	Specialty Seed
Bob	MississippiU Chk
Bates RS4	Athens Seed Co.
Elbon	MississippiU Chk
NS 202567	Northern Seed LLC
Trical 342	Northern Seed LLC
Annual Clovers	
Yuchi	MississippiU Chk
Blackhawk	Oregro Seeds Inc.
FIXATION	Grassland Oregon
GO-F2	Grassland Oregon
GO-FIXT	Grassland Oregon
GO-HV	Grassland Oregon
Biggbe	MississippiU Chk
Frosty	Grassland Oregon
Common Dixie	MississippiU Chk
White Cloud	Oregro Seeds Inc.
SBA M626	Saddle Butte AG Inc.

MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

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**