

MISSISSIPPI COOL-SEASON FORAGE CROP

VARIETY TRIALS, 2025

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MISSISSIPPI'S OFFICIAL VARIETY TRIALS



MISSISSIPPI STATE UNIVERSITY™
MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

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Mississippi Cool-Season Forage Crop Variety Trials, 2025

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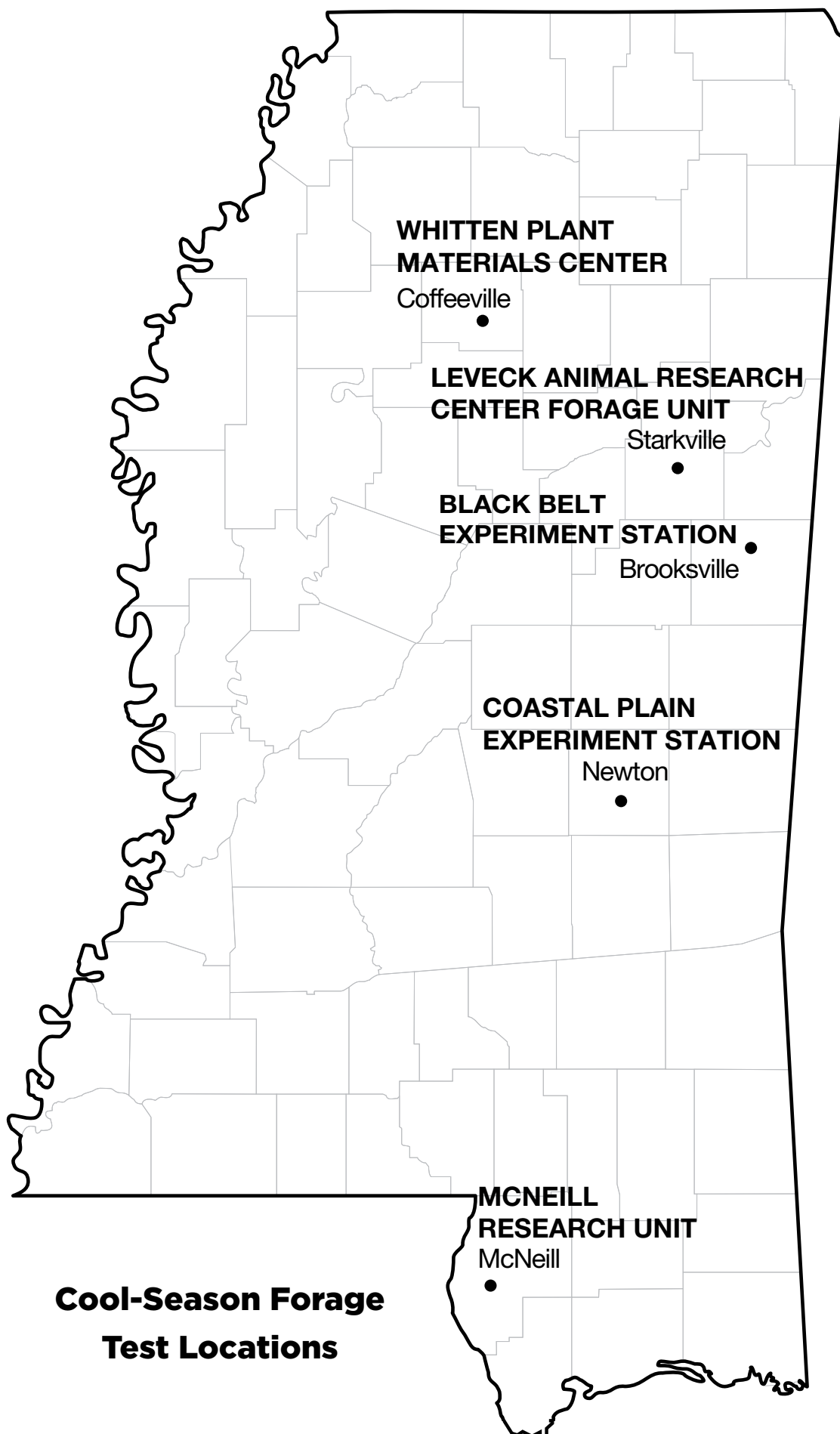
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Find variety trial information online at mafes.msstate.edu/variety-trials.



**Cool-Season Forage
Test Locations**

Mississippi Cool-Season Forage Crop Variety Trials, 2025

INTRODUCTION

Varieties of several forage crop species are evaluated every year in the Mississippi Agricultural and Forestry Experiment Station's, or MAFES, small-plot forage trials. Entries are provided by seed companies as well as breeding programs at state universities. Experimental and commercially available varieties are tested at one or more locations across Mississippi. All entries from private companies are tested on a fee basis. Some varieties may be added by the MAFES forage variety testing program as a reference. Testing was conducted at the following locations: MAFES H. H. Leveck Animal Research Center Forage Unit (Mississippi State campus), MAFES Black Belt Branch (Brooksville, MS), MAFES Coastal Plain

Branch (Newton, MS), MAFES McNeill Research Unit (McNeill, MS), and Jamie L. Whitten Plant Materials Center (Coffeetown, MS).

Data presented in Tables 2-17 are used to evaluate the performance of each forage crop within its respective trial. Comparisons were statistically evaluated by using the least significant difference (LSD) test at the probability level of $\alpha = 0.05$. The LSD value represents the minimum amount of dry matter (DM) yield (lb/A) that must be observed between any two varieties to determine if the difference was due to the variety's performance alone. Seed sources of each entry is presented in Table 18.

PROTOCOL

Annual ryegrass, small grains, and annual clover trials were established between October and November of 2024. 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. Grass trials were additionally fertilized with 50 lb nitrogen per acre at planting and after the first harvest using urea (46-0-0). Entries were planted in 6 x 10 ft plots using an ALMACO (Nevada, IA) precision cone seeder on a prepared seedbed. The trial design was a randomized complete block replicated four times. The seeding rates used 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 three-inch stubble height using a Wintersteiger

Cibus F (Wintersteiger AG, Ried, Austria) equipped with a reel type forage harvester that collected a 4.8 ft x 10 ft swath to calculate the total yield. A subsample was collected and dried at 130°F until a constant weight was achieved to calculate DM concentration. Subsamples were then ground to pass through a 1mm screen using a Wiley mill (Thomas Scientific, Swedesboro, NJ). Forage nutritive value was estimated using a Foss DS2500 NIR (FOSS, North America, Eden Prairie, MN) and applying the legume or grass hay equation developed by the NIRS Forage and Feed Testing Consortium (Berea, KY). Forage nutritive value included Acid Detergent Fiber (ADF), Crude Protein (CP), Lignin, Neutral Detergent Fiber (NDF), Insoluble Crude Protein (Insol CP), and Water-Soluble Carbohydrates (WSC). Data were analyzed using the General Linear Model (PROC GLM) of SAS and mean separation was conducted using LSD at $\alpha = 0.05$.

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

Type	Species	lb/A PLS
Annual Grasses	Rye	100
	Oat	100
	Triticale	100
	Ryegrass	30
Annual Clovers	Arrowleaf	10
	Berseem	25
	Balansa	4
	Ball	3
	Crimson	30
	Persian	8

ANNUAL RYEGRASS VARIETY TEST

INTRODUCTION



Annual ryegrass is the most relevant 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 yielding potential, 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. Recommended planting dates vary by location but usually fall between September to mid-October for prepared seedbed or late October if overseeded on a warm-season perennial grass pasture. Seeding rates are 30 lb/A for pure stands and 20 lb/A for mixtures with small grains and/or clovers. Annual ryegrass is responsive to nitrogen fertilizer, and its use should be split into two applications for grazing systems. Reasonable productivity can be expected from November to May in the southern part of Mississippi and February to May in the northern part of Mississippi. Annual ryegrass should be allowed to reach an initial height of at least 10 inches before grazing begins.

RESULTS

Ryegrass in Coffeeville, McNeill, and Brooksville was only harvested once due to saturated field conditions that did not allow for timely harvest later in the season. Mean yields ranged from 2036, 4277, and 3876 lb DM/A for Brooksville, McNeill, and Coffeeville, respectively (Table 2). Ryegrass varieties in Starkville

were harvested twice and averaged a total yield of 5223 lb/A (Table 3). Ryegrass in Newton was harvested three times and produced the greatest cumulative forage yield, averaging 9777 lb/A (Table 4). Average crude protein ranged from 12-18% across location with some differences among varieties (Table 5-8).

SUMMARIES OF RYEGRASS YIELDS

Table 2. Annual ryegrass production (lb/A) for Coffeeville, McNeill, and Brooksville.

Variety	Coffeeville	McNeill	Brooksville
	3/28/25	4/13/25	4/4/25
	lb/A		
B-24.0885	4053	3846	1626
BAR LM490-3	4419	4117	1629
BAR LM490-4	4239	4649	1309
Bashaw Diploid	3352	4409	2036
Bashaw Exp-3	3811	4518	2521
Bashaw Tetraploid	3396	4774	2568
Bruiser	4118	4037	2323
Centurion	3880	4567	2026
Cold Green	4284	4584	1386
Earlyploid	3955	4862	2279
Gulf	4981	4116	1848
Jackson	3524	4338	1931
Jumbo	2901	5528	2044
Lonestar	4036	4151	1846
Marshall	4092	4564	2469
Maximus	3150	4491	2037
ME4	4371	4757	2303
ME-94	3858	4093	2344
More	3638	3712	1931
Nelson	3699	4360	1754
PPG-LWD 123	4049	3948	1618
PPG-LWT 130	3867	4851	2118
PPG-LWT 131	4050	4911	2538
Prine	4066	4392	2314
Rampage	2319	1845	1237
Ranahan	3868	4412	2108
Ribeye	5001	4750	2203
Rival	4913	5304	1606
Sweet T	2919	4648	2153
Tetrastar	3116	4420	2053
WMCT	4382	3963	2876
WMWL	4967	3348	2168
WMWL-2	4409	4134	2797
Zoom	2111	2002	1215
MEAN	3876	4277	2036
LSD 0.05	1019	1282	1497
CV %	18	21	35

Planted: Coffeeville 11/7/24, McNeill 11/17/24, Brooksville 10/29/24

SUMMARIES OF RYEGRASS YIELDS

Table 3. Annual ryegrass production by harvest date and total yield (lb/A) in Starkville, MS.

Variety	Harvest date		
	3/20/25	4/30/25	Total
	lb/A		
B-24.0885	729	4500	5229
BAR LM490-3	1190	3997	5187
BAR LM490-4	765	3529	4293
Bashaw Diploid	1918	3509	5427
Bashaw Exp-3	1632	3939	5572
Bashaw Tetraploid	1338	3634	4972
Bruiser	1474	4611	6085
Centurion	1632	3220	4852
Cold Green	928	4404	5331
Earlyploid	1671	3937	5608
Gulf	1466	3862	5328
Jackson	1592	3591	5183
Jumbo	1338	3815	5153
Lonestar	1580	3132	4711
Marshall	1456	3929	5384
Maximus	1337	4192	5529
ME4	1138	3773	4911
ME-94	1404	4160	5564
More	1247	3835	5082
Nelson	1621	3616	5237
PPG-LWD 123	1492	4308	5800
PPG-LWT 130	1374	4282	5655
PPG-LWT 131	1518	3814	5332
Prine	1174	4778	5952
Rampage	327	2815	3141
Ranahan	1284	3903	5186
Ribeye	1011	4508	5519
Rival	1295	4090	5385
Sweet T	1241	4290	5531
Tetrastar	709	4476	5185
WMCT	1556	4523	6079
WMWL	989	4550	5540
WMWL-2	883	4284	5167
Zoom	729	2757	3486
MEAN	1266	3958	5223
LSD 0.05	853	1090	1619
CV %	35	13	14
Planted 11/6/24			

SUMMARIES OF RYEGRASS YIELDS

Table 4. Annual ryegrass production by harvest date and total yield (lb/A) in Newton, MS.

Variety	Harvest date			
	2/25/25	3/28/25	4/30/25	Total
	lb/A			
B-24.0885	1706	3014	3192	7912
BAR LM490-3	3075	2712	3889	9676
BAR LM490-4	3738	3290	2769	9797
Bashaw Diploid	4100	3153	3157	10411
Bashaw Exp-3	5159	3381	3220	11760
Bashaw Tetraploid	3449	3303	4164	10916
Bruiser	3880	3032	3682	10594
Centurion	2403	3397	3005	8805
Cold Green	3443	2994	3447	9885
Earlyploid	2613	3429	3794	9836
Gulf	3164	3015	2644	8823
Jackson	2693	3787	3686	10166
Jumbo	4092	3616	3403	11111
Lonestar	3890	4094	3360	11343
Marshall	2884	3919	3369	10172
Maximus	3079	3783	3591	10453
ME4	2142	3448	3512	9101
ME-94	2765	3709	3345	9819
More	3833	4059	3781	11673
Nelson	1640	3110	3683	8434
PPG-LWD 123	3157	2855	3832	9845
PPG-LWT 130	2105	3320	4436	9861
PPG-LWT 131	2413	3282	4028	9723
Prine	2724	2576	4034	9334
Rampage	2205	2242	3232	7679
Ranahan	3525	3386	4331	11242
Ribeye	3284	3262	3642	10188
Rival	3592	2878	3487	9957
Sweet T	1773	2512	3919	8203
Tetrastar	2159	2591	4008	8758
WMCT	2438	3372	3615	9425
WMWL	2611	4659	3764	11034
WMWL-2	2711	3749	3186	9647
Zoom	1839	2368	2646	6853
MEAN	2950	3273	3554	9777
LSD 0.05	1944	1754	875	2967
CV %	36	38	17	21
Planted 11/05/24				

SUMMARIES OF RYEGRASS YIELDS

Table 5. Forage nutritive value of ryegrass varieties harvested in Brooksville, MS.

Variety	Harvest Date 4/4/25				
	ADF	Lignin	CP	NDF	WSC
	% of DM				
B-24.0885	29.68	2.68	18.78	48.60	8.62
2BAR LM490-3	30.18	2.68	16.92	49.87	9.27
BAR LM490-4	27.32	2.53	19.26	45.43	10.21
Bashaw Diploid	31.39	3.38	18.11	48.94	8.28
Bashaw Exp-3	33.30	3.16	15.25	50.95	8.84
Bashaw Tetraploid	33.84	3.39	15.44	51.71	8.76
Bruiser	34.82	3.30	13.37	54.28	8.78
Centurion	31.28	2.55	16.99	49.30	9.33
Cold Green	28.68	2.08	16.52	46.74	11.15
Earlyploid	32.50	3.15	14.90	51.11	10.43
Gulf	30.74	3.13	16.96	48.89	9.73
Jackson	32.68	2.72	14.57	49.89	9.71
Jumbo	29.54	2.82	18.29	45.61	9.89
Lonestar	30.95	3.03	15.85	48.41	10.08
Marshall	31.51	2.90	16.15	50.23	9.41
Maximus	30.26	2.89	17.82	46.63	9.79
ME4	28.53	2.23	18.27	45.85	10.41
ME-94	30.17	2.69	17.30	46.37	9.83
More	30.66	2.27	16.01	46.14	10.09
Nelson	31.96	2.99	17.20	48.81	9.18
PPG-LWD 123	30.22	3.20	17.80	47.25	8.83
PPG-LWT 130	30.09	2.78	17.94	46.05	9.39
PPG-LWT 131	34.27	3.19	15.25	51.64	7.98
Prine	33.06	3.12	14.65	49.45	9.91
Rampage	30.78	2.19	16.90	46.39	9.51
Ranahan	31.20	2.87	14.51	47.46	10.94
Ribeye	30.30	2.74	17.30	49.04	9.65
Rival	30.47	2.93	18.21	46.93	8.94
Sweet T	33.71	3.17	14.48	50.37	9.29
Tetrastar	31.53	2.81	17.08	47.87	9.33
WMCT	33.55	2.74	14.31	50.51	9.42
WMWL	30.31	2.85	16.17	47.88	10.22
WMWL-2	31.20	2.91	15.03	48.13	10.43
Zoom	30.37	3.02	17.73	47.56	9.49
MEAN	31.21	2.85	16.51	48.54	9.56
LSD 0.05	NS	NS	3.70	NS	NS
CV %	6.60	16.30	10.70	5.40	13.20

SUMMARIES OF RYEGRASS YIELDS

Table 6. Forage nutritive value of ryegrass varieties harvested in Coffeerville, MS.

Variety	Harvest Date 3/28/25				
	ADF	Lignin	CP	NDF	WSC
	% of DM				
B-24.0885	24.91	2.64	18.45	44.00	12.16
2BAR LM490-3	27.45	2.55	16.95	48.22	11.23
BAR LM490-4	28.09	2.71	18.01	49.99	9.85
Bashaw Diploid	28.56	2.71	17.37	49.30	10.59
Bashaw Exp-3	29.03	3.20	19.36	50.34	9.24
Bashaw Tetraploid	27.16	2.00	17.20	46.04	12.66
Bruiser	26.40	2.54	19.92	47.98	10.56
Centurion	27.70	2.55	17.76	48.75	10.66
Cold Green	25.57	2.24	18.56	46.58	11.75
Earlyploid	26.35	2.36	17.22	45.41	13.09
Gulf	27.90	2.43	12.58	45.51	15.42
Jackson	26.82	2.71	20.06	46.82	10.59
Jumbo	26.10	1.96	19.63	45.29	10.91
Lonestar	29.20	2.76	16.60	50.48	10.68
Marshall	27.91	2.56	18.30	48.95	10.30
Maximus	25.59	2.04	20.30	44.71	11.06
ME4	23.80	2.07	16.73	41.59	15.50
ME-94	27.20	2.54	18.17	47.56	10.82
More	27.63	2.26	16.81	46.19	11.80
Nelson	26.42	2.23	17.93	46.05	12.23
PPG-LWD 123	26.13	2.60	18.56	46.59	10.97
PPG-LWT 130	27.72	2.60	17.92	46.43	10.99
PPG-LWT 131	25.95	1.74	19.10	45.12	11.56
Prine	25.30	2.20	18.81	44.18	12.88
Rampage	27.03	2.00	18.97	46.03	10.81
Ranahan	26.57	2.29	16.79	44.97	13.11
Ribeye	27.71	2.66	17.09	47.91	11.75
Rival	27.12	2.28	19.19	46.21	10.62
Sweet T	27.23	2.59	19.28	47.12	10.22
Tetrastar	25.11	2.27	19.60	43.65	12.20
WMCT	25.37	2.11	17.41	42.96	13.61
WMWL	27.39	2.58	15.84	47.14	12.79
WMWL-2	27.91	2.71	18.06	48.75	10.22
Zoom	25.50	2.22	17.66	44.44	12.70
MEAN	26.82	2.41	18.00	46.50	11.63
LSD 0.05	2.80	0.59	NS	4.10	NS
CV %	5.25	12.30	10.90	4.40	13.80

SUMMARIES OF RYEGRASS YIELDS

Table 7. Forage nutritive value of ryegrass varieties harvested in McNeill, MS.

Variety	Harvest Date 4/13/25				
	ADF	Lignin	CP	NDF	WSC
	% of DM				
B-24.0885	32.22	3.27	13.15	54.25	10.74
2BAR LM490-3	29.74	2.93	13.15	51.03	12.14
BAR LM490-4	31.52	3.40	11.02	53.93	11.95
Bashaw Diploid	30.41	2.96	13.64	52.96	11.75
Bashaw Exp-3	29.93	2.83	12.88	50.09	12.80
Bashaw Tetraploid	33.60	3.15	10.78	55.33	11.75
Bruiser	30.48	2.81	14.33	53.63	11.64
Centurion	28.64	2.72	15.23	50.12	12.59
Cold Green	30.45	2.77	12.60	52.46	11.99
Earlyploid	32.27	3.51	12.11	54.39	11.44
Gulf	34.78	4.12	9.59	58.14	11.38
Jackson	32.72	2.80	10.12	52.84	12.66
Jumbo	30.41	2.59	14.58	51.53	11.49
Lonestar	32.59	3.50	11.02	53.93	11.51
Marshall	32.50	3.26	9.94	55.53	13.32
Maximus	32.68	3.13	13.97	54.55	10.22
ME4	29.91	2.75	13.38	51.60	13.14
ME-94	30.72	2.66	12.69	50.31	12.24
More	31.44	2.74	11.96	52.04	12.07
Nelson	30.83	2.88	14.56	52.35	10.92
PPG-LWD 123	28.93	2.88	13.48	49.20	13.23
PPG-LWT 130	30.55	2.44	11.03	50.66	13.98
PPG-LWT 131	32.29	2.76	11.56	52.51	12.23
Prine	30.68	2.71	13.18	52.60	12.20
Rampage	30.44	2.30	14.21	49.59	11.20
Ranahan	31.35	3.21	13.12	53.61	11.26
Ribeye	31.42	3.34	11.80	53.40	12.13
Rival	33.98	3.46	12.42	56.96	10.22
Sweet T	32.25	3.11	11.31	53.35	12.92
Tetrastar	35.85	3.49	10.97	58.73	9.96
WMCT	29.84	2.28	11.29	48.85	14.52
WMWL	30.34	2.59	13.59	51.02	11.84
WMWL-2	31.48	2.92	11.84	52.68	12.43
Zoom	29.53	2.88	17.19	49.37	10.65
MEAN	31.37	2.97	12.58	52.75	11.95
LSD 0.05	1.10	NS	NS	5.03	NS
CV %	5.50	17.00	18.80	4.60	13.00

SUMMARIES OF RYEGRASS YIELDS

Table 8. Forage nutritive value of ryegrass varieties harvested in Starkville, MS.

Variety	Harvest Date									
	3/20/25					4/30/25				
	ADF	Lignin	CP	NDF	WSC	ADF	Lignin	CP	NDF	WSC
	% of DM									
B-24.0885	22.66	2.44	15.33	39.42	17.48	34.62	5.27	11.73	59.09	7.93
2BAR LM490-3	22.39	1.63	19.52	42.17	13.63	33.09	4.87	14.91	58.06	7.77
BAR LM490-4	22.95	1.95	14.65	39.61	17.80	37.17	5.34	11.73	63.71	7.42
Bashaw Diploid	25.39	2.33	15.11	44.07	16.03	36.57	5.45	11.64	61.88	8.16
Bashaw Exp-3	27.14	1.96	16.76	47.14	11.98	34.70	4.84	13.79	58.54	8.15
Bashaw Tetraploid	24.84	1.96	13.74	40.75	17.84	36.27	5.24	12.38	59.90	7.95
Bruiser	23.23	1.99	14.13	39.52	18.52	34.09	4.32	11.56	58.96	10.56
Centurion	24.66	2.09	14.15	42.25	17.29	33.65	4.81	13.62	57.36	9.07
Cold Green	22.75	1.57	15.27	39.79	17.54	33.88	4.81	13.71	58.59	8.13
Earlyploid	24.59	1.65	13.66	41.86	17.33	34.21	4.97	12.05	58.05	9.22
Gulf	26.15	2.35	15.87	45.04	14.74	37.12	5.60	10.08	64.74	8.06
Jackson	26.22	1.69	14.14	44.79	15.38	34.13	4.93	12.98	56.23	8.66
Jumbo	26.39	1.53	14.90	44.75	14.04	33.16	4.65	15.38	53.80	8.10
Lonestar	26.61	2.08	12.55	43.84	17.06	35.34	4.79	11.08	59.86	8.75
Marshall	24.16	2.16	13.28	41.05	18.18	34.71	4.93	12.64	61.60	8.14
Maximus	25.61	1.80	13.78	42.09	16.33	33.05	4.68	14.35	55.73	8.64
ME4	22.84	2.03	11.90	36.72	22.26	36.01	5.05	10.02	62.47	9.65
ME-94	25.17	1.89	12.00	41.88	18.06	34.84	5.27	12.85	59.13	8.17
More	23.59	1.70	14.01	39.53	18.23	33.09	4.02	13.90	55.37	9.17
Nelson	25.45	1.62	14.50	42.82	16.01	34.99	4.84	13.55	59.18	7.79
PPG-LWD 123	23.36	2.08	15.35	41.16	16.94	33.56	5.00	13.38	58.26	8.63
PPG-LWT 130	23.82	1.51	14.70	40.87	17.40	36.22	5.14	12.11	60.22	7.49
PPG-LWT 131	23.21	1.77	13.69	38.57	18.32	34.54	4.78	13.04	58.42	8.29
Prine	24.07	1.65	12.44	38.39	20.40	34.86	5.08	13.32	59.59	8.11
Rampage	24.07	2.14	16.43	40.01	16.36	30.23	3.31	17.56	50.91	9.84
Ranahan	25.51	1.58	14.48	42.50	15.31	36.38	4.91	11.89	60.83	7.75
Ribeye	24.14	1.87	13.78	40.49	18.07	34.55	4.96	12.36	59.55	8.53
Rival	24.94	1.61	15.73	42.60	15.26	34.71	4.67	13.76	57.86	7.55
Sweet T	24.79	1.84	14.72	40.94	16.76	36.45	5.03	13.53	59.91	7.08
Tetrastar	26.01	1.89	13.79	41.65	17.01	33.35	4.98	14.71	56.99	7.51
WMCT	21.83	1.79	13.63	35.37	20.91	35.02	4.88	11.86	58.79	9.37
WMWL	23.63	2.16	13.81	40.72	18.47	36.31	5.57	11.75	62.78	7.78
WMWL-2	24.80	2.19	13.86	43.20	16.36	34.54	5.28	12.70	59.66	8.93
Zoom	24.41	1.87	14.62	41.87	17.06	33.19	4.54	15.92	57.23	8.79
MEAN	24.45	1.89	14.42	41.39	17.07	34.66	4.90	12.99	58.92	8.38
LSD 0.05	NS	NS	NS	NS	NS	NS	0.84	3.40	6.10	NS
CV %	6.20	19.00	17.00	8.00	21.00	6.00	8.00	13.00	5.00	12.00

SMALL GRAIN VARIETY TEST

INTRODUCTION



In Mississippi, small grains (oat, wheat, rye and triticale) are not used as extensively for forage production as annual ryegrass because of lower annual DM yields. However, some small grains tend to be more drought and cold 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. Cereal rye and triticale have greater cold tolerance among small grains; therefore, they have the potential to continue vegetative growth during the fall and winter months in Mississippi.

RESULTS

Small grain production averaged 2573, 1503, and 3877 lb/A in Coffeeville, Brooksville, and McNeill, respectively, with one harvest (Table 9). In Starkville, small grains were harvested twice, averaging a season total of 4545 lb/A (Table 10). Average CP was reported as high as 22% of DM in early harvest and as low as 9% of DM in McNeill, where harvest was the latest in the spring (Tables 11-13).

SUMMARIES OF SMALL GRAIN YIELDS

Table 9. Small grain production by harvest date (lb/A) in Coffeeville, Brooksville, and McNeill.

Species	Variety	Harvest Date		
		Coffeeville	Brooksville	McNeill
		3/28/25	4/4/25	4/13/25
		lb/A		
Oats	Ram	2607	1398	4522
Triticale	Fridge	2500	1312	3204
Wheat	Einkorn	841	484	2511
	GA131176-24-6-7-6-8-22E8	3461	2130	5723
	GA131246LDH-86-21E2	3805	1993	4883
	GA141028-13-3-4-22LE25	2207	1768	3370
	GA141045-9-3-2-21LE7	2941	1599	4138
	GA16349ID-8-1-5-22LE31	2911	1886	3200
	Grazer Maxx	1880	957	3345
MEAN		2573	1503	3877
LSD 0.05		624	716	1106
CV %		16	32	19

Planted: Coffeeville 11/07/24, Brooksville 10/29/24, McNeill 11/10/24

Table 10. Small grain production by harvest date and total yield (lb/A) in Starkville, MS.

Species	Variety	Harvest Date		
		3/19/25	4/29/25	Total
		lb/A		
Oats	Ram	2397	3280	5678
Triticale	Fridge	1667	2243	3911
Wheat	Einkorn	401	2805	3206
	GA131176-24-6-7-6-8-22E8	2097	2943	5040
	GA131246LDH-86-21E2	2429	2407	4835
	GA141028-13-3-4-22LE25	2242	2378	4619
	GA141045-9-3-2-21LE7	2366	3408	5773
	GA16349ID-8-1-5-22LE31	1897	2280	4177
	Grazer Maxx	1192	2470	3662
MEAN		1854	2691	4545
LSD 0.05		722	NS	1394
CV %		26	33	21

Planted: 11/04/24

SUMMARIES OF SMALL GRAIN YIELDS

Table 11. Forage Quality Parameters of small grain varieties in Starkville, MS.

Species	Variety	Harvest Date									
		2/26/24					4/24/24				
		ADF	Lignin	CP	NDF	WSC	ADF	Lignin	CP	NDF	WSC
		% of DM									
Oats	Ram	23.71	3.22	23.31	49.13	11.16	32.80	5.25	10.68	60.46	10.44
Triticale	Fridge	21.38	2.64	24.03	49.09	12.39	32.75	5.51	10.88	63.68	10.10
Wheat	Einkorn	23.17	2.95	21.91	48.63	12.91	35.36	5.29	10.39	66.91	8.89
	GA131176-24-6-7-6-8-22E8	22.86	2.58	21.50	50.65	12.41	34.07	5.84	11.34	64.09	10.30
	GA131246LDH-86-21E2	23.77	2.93	21.11	50.30	12.42	33.26	5.92	10.19	63.64	10.91
	GA141028-13-3-4-22LE25	22.48	2.92	20.83	46.47	12.02	33.26	4.95	10.83	63.94	9.17
	GA141045-9-3-2-21LE7	22.46	2.59	20.78	48.87	14.12	31.27	4.71	12.16	59.36	10.48
	GA16349ID-8-1-5-22LE31	20.46	2.47	23.04	45.71	13.75	34.45	6.04	10.52	63.78	9.57
	Grazer Maxx	17.00	2.09	29.65	41.79	10.92	34.61	4.75	10.61	66.86	8.59
MEAN		21.92	2.71	22.90	47.85	12.45	33.53	5.36	10.84	63.63	9.83
LSD 0.05		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV %		9.12	16.8	13	6	7.6	6.7	14.07	9.59	4.2	9.3

Table 12. Forage Quality Parameters of small grain varieties harvested 4/4/25 in Brooksville, MS.

Species	Variety	ADF	Lignin	CP	NDF	WSC
		% of DM				
Oats	Ram	26.92	2.55	18.89	49.62	9.94
Triticale	Fridge	27.34	2.71	19.30	53.87	10.53
Wheat	Einkorn	23.72	2.70	22.92	47.12	10.65
	GA131176-24-6-7-6-8-22E8	29.85	3.76	16.56	57.04	9.43
	GA131246LDH-86-21E2	28.23	3.19	17.94	55.41	10.27
	GA141028-13-3-4-22LE25	26.21	3.07	19.05	53.32	10.65
	GA141045-9-3-2-21LE7	28.59	3.09	16.39	54.94	10.97
	GA16349ID-8-1-5-22LE31	28.34	3.33	18.80	53.32	9.90
	Grazer Maxx	24.67	2.67	23.27	50.47	10.04
MEAN		27.09	3.01	19.23	52.79	10.26
LSD 0.05		1.99	0.47	4.07	3.6	NS
CV %		3.25	7.04	9.36	3.02	6.2

SUMMARIES OF SMALL GRAIN YIELDS

Table 13. Forage quality parameters of small grain varieties harvested 4/4/25 in Coffeeville, MS.

Species	Variety	ADF	Lignin	CP	NDF	WSC
		% of DM				
Oats	Ram	23.50	2.78	12.68	42.80	17.51
Triticale	Fridge	24.05	2.91	15.93	48.31	16.05
Wheat	Einkorn	20.20	2.53	16.75	38.25	16.85
	GA131176-24-6-7-6-8-22E8	25.61	3.38	14.01	49.72	15.26
	GA131246LDH-86-21E2	25.28	3.22	16.21	51.35	14.02
	GA141028-13-3-4-22LE25	24.41	2.81	15.88	46.68	14.78
	GA141045-9-3-2-21LE7	26.77	3.66	14.76	51.57	13.23
	GA16349ID-8-1-5-22LE31	25.71	3.29	15.77	48.89	14.36
	Grazer Maxx	20.58	2.32	15.71	40.02	19.12
MEAN		24.01	2.99	15.30	46.40	15.68
LSD 0.05		2.3	0.66	NS	5.4	3.6
CV %		4.2	9.8	11.8	5.2	10.2

Table 14. Forage quality parameters of small grain varieties harvested 4/4/25 in McNeill, MS.

Species	Variety	ADF	Lignin	CP	NDF	WSC
		% of DM				
Oats	Ram	33.50	4.82	6.82	59.17	10.91
Triticale	Fridge	34.61	4.09	11.35	65.58	8.45
Wheat	Einkorn	32.85	3.82	7.59	30.85	20.71
	GA131176-24-6-7-6-8-22E8	34.47	6.04	6.38	63.02	12.87
	GA131246LDH-86-21E2	34.47	5.60	5.77	64.37	13.42
	GA141028-13-3-4-22LE25	30.44	4.62	10.30	60.26	13.00
	GA141045-9-3-2-21LE7	33.44	5.31	8.51	62.65	11.89
	GA16349ID-8-1-5-22LE31	32.77	4.67	10.01	64.18	10.95
	Grazer Maxx	28.83	4.49	14.61	54.64	11.53
MEAN		32.82	4.83	9.04	58.30	12.63
LSD 0.05		1.9	NS	2.7	NS	NS
CV %		2.2	19	12	25	30

ANNUAL COOL-SEASON LEGUME VARIETY TEST

INTRODUCTION



The addition of annual clovers may reduce some nitrogen input needs and improve the nutritive value of pastures. For this reason, they can be beneficial in Mississippi when interseeded into annual cool-season grass pastures. Crimson clover is an early-maturing clover that produces excellent forage, though 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, 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. Balansa, berseem, and arrowleaf are the most late-maturing clovers.

RESULTS

Annual clovers averaged 2383 and 1687 lb/A from a single harvest in Starkville and McNeill, respectively (Table 15). Crude protein ranged from 16-22% in Starkville, with crimson having the lowest CP values

and 'Fixation' balansa having the greatest concentration (Table 16). In McNeill, the average CP and insoluble protein was greater than what was observed in Starkville (Table 17).

SUMMARIES OF CLOVER YIELDS

Table 15. Annual Clover production by harvest date and total yield (lb/A) in Starkville and McNeill MS.

Species	Variety	Harvest Dates	
		Starkville	McNeill
		4/13/25	4/29/25
		lb/A	
Balansa	Fixation	2462	1907
	Viper	3315	1574
Berseem	Balady	1507	.
	Frosty	2619	1689
Crimson	Dixie	2413	2520
	Kentucky Pride	2200	1964
Hairy Vetch	Patagonia INTA	2473	1182
Persian	enhance	2711	1777
	Nitro	1736	2553
MEAN		2382	1687
LSD 0.05		1471	1360
CV %		37	38
Planted: Starkville 11/04/24, McNeill 11/10/24			

Table 16. Forage quality parameters of small grain varieties harvested 4/13/25 in Starkville, MS.

Species	Variety	ADF	Lignin	CP	NDF	Insol CP
		% of DM				
Balansa	Fixation	34.17	6.99	23.00	38.41	13.21
	Viper	29.84	6.06	19.73	34.07	12.40
Berseem	Balady	29.84	5.96	18.55	34.39	10.94
	Frosty	32.04	6.70	17.10	36.56	10.14
Crimson	Dixie	31.37	6.68	17.20	37.05	10.11
	Kentucky Pride	36.21	7.35	16.34	41.51	9.20
Hairy Vetch	Patagonia INTA	30.88	6.56	22.35	35.06	13.27
Persian	enhance	34.25	7.29	17.84	38.81	11.32
	Nitro	31.95	6.34	16.86	38.19	9.63
MEAN		32.28	6.66	18.77	37.12	11.13
LSD 0.05		NS	NS	NS	NS	NS
CV %		12.00	15.00	21.00	14.00	21.00

SUMMARIES OF CLOVER YIELDS

Table 17. Forage quality parameters of small grain varieties harvested 4/29/25 in McNeill, MS.

Species	Variety	ADF	Lignin	CP	NDF	Insol CP
		% of DM				
Balansa	Fixation	25.62	4.08	21.85	28.79	12.58
	Viper	26.77	4.28	20.70	32.23	13.45
Berseem	Balady	30.93	5.19	22.58	33.45	14.17
	Frosty	25.56	3.96	21.89	28.51	13.14
Crimson	Dixie	28.75	4.88	24.91	30.56	15.32
	Kentucky Pride	29.76	5.84	29.40	31.75	18.05
Hairy Vetch	Patagonia INTA	29.88	5.21	20.49	32.97	11.86
Persian	enhance	29.03	4.95	20.55	33.23	12.43
	Nitro	28.75	5.40	19.41	32.70	11.23
Mean		28.34	4.86	22.42	31.58	13.58
LSD 0.05		NS	NS	5.00	NS	3.60
CV, %		11.50	17.00	9.12	12.50	10.90

SUMMARIES OF CLOVER YIELDS

Table 18. Seed sources for the 2024-2025 annual cool-season forage variety testing program.

Variety	Seed Company/Source	Variety	Seed Company/Source
Annual Ryegrass		Small Grains	
B-24.0885	Blue Moon Farms LLC	Ram	Ragen and Massey
BAR LM490-3	Barenburg	Fridge	Check
BAR LM490-4	Barenburg	Einkorn	Check
Bashaw Diploid	Bashaw Land and Seed	GA131176-24-6-7-6-8-22E8	UGA
Bashaw Exp-3	Bashaw Land and Seed	GA131246LDH-86-21E2	UGA
Bashaw Tetraploid	Bashaw Land and Seed	GA141028-13-3-4-22LE25	UGA
Bruiser	Ampac Seed	GA141045-9-3-2-21LE7	UGA
Centurion	Mountain View Seeds	GA163491D-8-1-5-22LE31	UGA
Cold Green	Ampac Seed	Grazer Maxx	Check
Earlyploid	Ragen and Massey	Annual Clover	
Gulf	Check	Fixation	GO Seed
Jackson	Wax Seed	Frosty	GO Seed
Jumbo	Barenburg	Kentucky Pride	GO Seed
Lonestar	GO Seed	eNhance	GO Seed
Marshall	Wax Seed	Viper	Check
Maximus	Barenburg	Balady	Check
ME4	Wax Seed	Nitro	Check
ME-94	Wax Seed	Patagonia INTA	Check
More	GO Seed	Dixie	Check
Nelson	Wax Seed		
PPG-LWD 123	Pennington		
PPG-LWT 130	Pennington		
PPG-LWT 131	Pennington		
Prine	Ragen and Massey		
Rampage	Allied Seed		
Ranahan	Smith Seed Services		
Ribeye	Barenburg		
Rival	Ampac Seed		
Sweet T	Ampac Seed		
Tetrastar	GO Seed		
WMCT	Wax Seed		
WMWL	Wax Seed		
WMWL-2	Wax Seed		
Zoom	Allied Seed		



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Scott Willard, Director

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