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MISSISSIPPI RICE

VARIETY TRIALS, 2001

Experiment Station
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NOTICE TO USER

This Mississippi Agricultural and Forestry Experiment Station Information Bulletin is a summary of research conducted under project number MIS-1620 at the Delta Research and Extension Center in Stoneville, Mississippi, and several other locations shown on the map on the second page. It is intended for colleagues, cooperators, and sponsors. The interpretation of data presented in this publication may change after additional experimentation. This information is not to be construed either as a recommendation for use or as an endorsement of a specific variety or product by Mississippi State University or the Mississippi Agricultural and Forestry Experiment Station.

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Trade names of commercial products used in this research project are included only for clarity and understanding. All available names (i.e., trade names, chemical names, experimental product code names or numbers, etc.) of products used in this research project are listed in the tables and footnotes contained in this report.

Mississippi Rice Variety Trials, 2001

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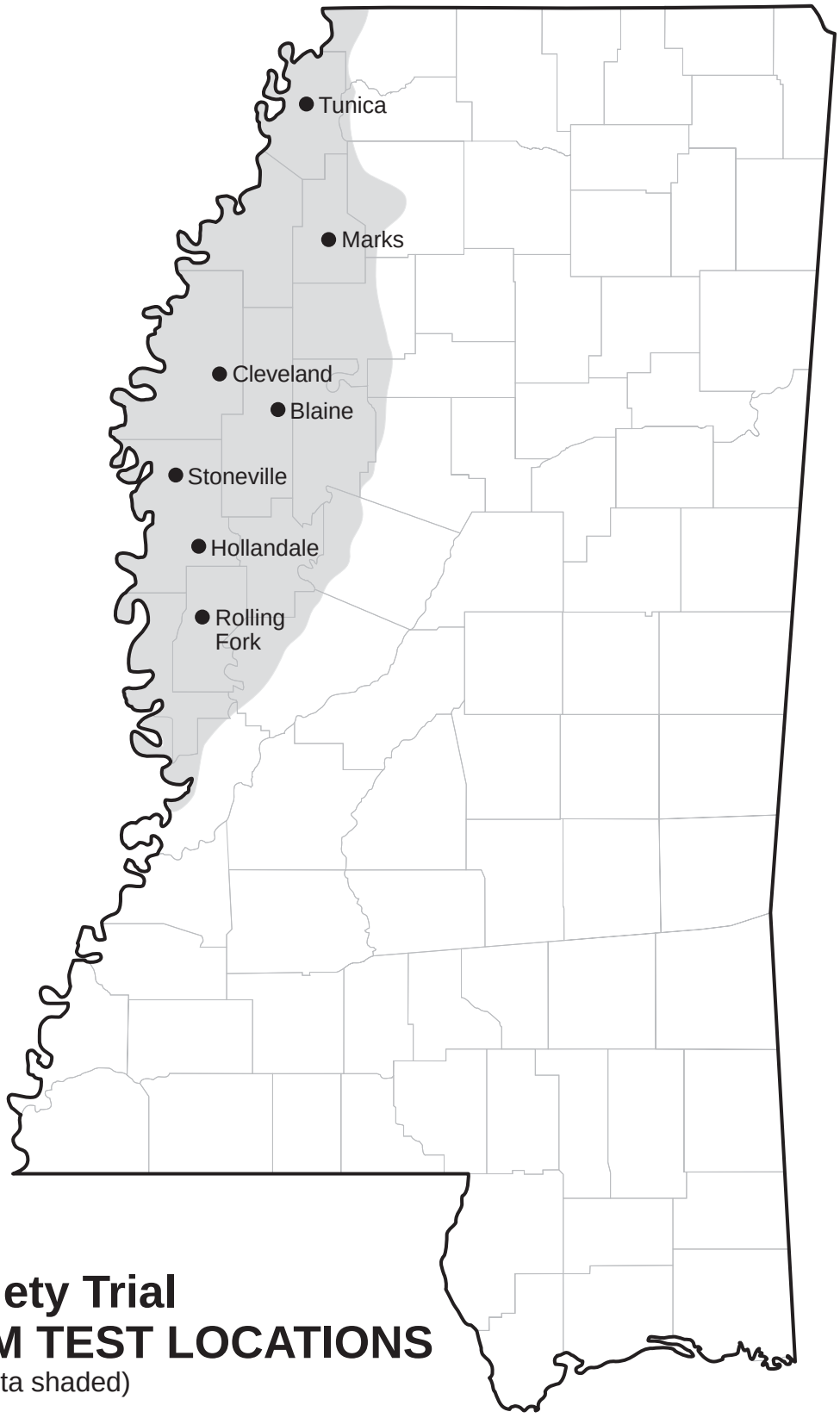

Rice Variety Trial
ON-FARM TEST LOCATIONS

(Mississippi Delta shaded)

Mississippi Rice Variety Trials, 2001

INTRODUCTION

In 2001, approximately 254,000 acres of rice were planted in 15 Delta counties of Mississippi compared with 218,000 acres planted in 2000. Bolivar County had the highest planted acreage at 79,150 acres. Essentially all the production in Mississippi was from long-grain rice. Cocodrie was the predominate variety grown in the Mississippi Delta this year, occupying 43% of the rice acreage followed by Lemont at 29%, Priscilla at 20%, and other varieties at 8%. This is the first year since 1989 that another variety has been planted on more acreage than Lemont in Mississippi. Lemont was the backbone of the Mississippi rice industry for 12 years.

The on-farm variety tests represent the final step in the yield evaluation program before a variety is released for commercial production in Mississippi. Conducting these tests on commercial farms across the Delta provides important information on variety performance and adaptability under diverse environmental conditions. These test locations give a partial sampling of actual production situations in the Delta, where practically all Mississippi rice is produced. These multiple locations also permit evaluation of entries for resistance to pests and/or other field-related stresses, which often have a greater natural incidence at locations other than at the Delta Research and Extension Center (DREC). There was no observed incidence of blast in any of the test locations. The incidence of sheath blight and kernel smut at on-farm test locations ranged from low to moderate in 2001. False smut was observed in some test locations at very low infestation levels.

Planting dates for the different locations ranged from April 2 to April 23, which are within the typical period for planting rice in the Delta. One test was planted into a conventionally prepared seedbed, and the other six were planted into stale seedbeds. Early-season showers relieved the need for flushing in some fields to obtain a stand in 2001. Light to moderate sheath blight infection developed on susceptible entries at the Marks, Cleveland, Stoneville, and Rolling Fork sites. Kernel smut did not occur on susceptible varieties at noticeable levels at any of the test locations this year. Lower night temperatures and more favorable weather conditions during the growing season resulted in higher yields and milling quality at some locations.

Variety selection is one of the most important decisions a rice producer makes in preparing production plans each season. The information in this bulletin is intended to help the producer with this decision-making process. Other sources of information may include past production experience with a particular variety and consulting with local and state rice Extension personnel. Data summarized over locations and years are generally a more reliable measure to show future variety performance than individual test results.

Test Procedures

Sixteen long grain varieties and breeding lines were included in the variety test planted at each of the seven locations. Each test consisted of four replications. All plots consisted of seven rows drill-seeded at an equivalent seeding rate of 108 pounds per acre at a depth of approximately 1 inch. The 20% higher seeding rate was used to compensate for the limited seed treatment applied to the experimental lines planted in the tests and possible harsh seedbed conditions. Cultural practices were performed by the cooperator and varied by location. Overall, the tests were grown under conditions of high productivity. The field management practices for each location are recorded in the footnotes of Tables 1-7. [Note: Readers who may be less familiar with pesticide formulations and application rates may wish to refer to pesticide product label information available on the Web and to the *2001 Weed Control Guidelines for Mississippi* (Mississippi State University Extension/ Mississippi Agricultural and Forestry Experiment Station Pub. No. 1532)].

Agronomic data were collected at appropriate times during the season. Sheath blight ratings were obtained on a plotwise basis at six locations. Blast ratings were obtained from juvenile plants grown in an inoculated upland blast nursery at Stoneville. Plots were hand-harvested, and standard procedures were used in processing the samples for grain and milling yield determinations. Readers may refer to MAFES Information Bulletin 283, *1994 Rice Variety Trials*, dated March 1995, for further details on experimental procedures.

Statistical analyses were performed on the yield data from each location. The least significant difference (LSD) for yield at the 5% probability level has been included in the tables to aid in comparing varieties. If the yields of any two varieties or lines differ by more than the LSD value, they may be considered significantly different.

The coefficient of variation (CV) provides a general indication of the level of precision of each variety test. Lower CV values indicate greater reliability of the test. LSD and CV values are reported in the footnotes of the first nine tables.

Results

The field performance of each variety in the seven individual tests is presented in Tables 1-7. Sheath blight ratings are listed in the location and summary tables (Tables 1-5, 7, and 9-10). Average test yields ranged from 127 bushels per acre at Cleveland to 210 bushels per acre at Hollandale. Grain yields and milling quality of varieties in four tests (Tunica, Marks, Hollandale, and Rolling Fork) averaged higher in 2001 than in 2000. Although the milling quality was higher for varieties at Blaine, the average test yield was about the same as last year. Moderate to severe sheath blight and lodging were mostly responsible for the lower yields and milling quality at the Cleveland test this year as compared with those of last year. The yields of the varieties were lower in the Stoneville tests this year as compared with last year. However, the milling yields were higher. Possibly, the releveling of the field before planting contributed to the lower yields. Whole grain milling yields were better in 2001 than they had been for the past 3 years. There were some initial stand problems and irregular emergence within plots at the Cleveland, Marks, and Tunica locations. However, the rice at all locations emerged and developed into satisfactory stands. Straighthead and blast were not observed in any of the on-farm tests this year. Blast ratings are reported in Tables 5 and 9.

Table 8 provides a seven-location summary of grain yields for six varieties and 10 experimental lines. The experimental line MS01Y16 ranked first, and Priscilla ranked second in average yield (202 and 198 bushels per acre, respectively) across all seven on-farm locations (Table 9). Although MS01Y25 yielded significantly less than MS01Y16, it produced more whole-grain milled rice than all other varieties and lines in the test. Priscilla continues to be a high-yielding variety, averaging 198 bushels per acre in the 2001 on-farm test and 179 bushels per acre over 8 years. Priscilla also has good disease and lodging resistance. However, its average whole-grain milling yield is slightly lower than most other commercial varieties. Although Cocodrie did not yield as much in the on-farm tests as Priscilla or Wells, it has better whole-grain milling quality. Cocodrie is more susceptible to sheath blight than Priscilla or Wells (Tables 9 and 10). Two new long-grain rice varieties have been recently released: Saber by Texas in 2001 and Ahrent by Arkansas in 2001. These new varieties have been included in the on-farm tests for the past 2 years.

Average values for milling and agronomic characteristics for all locations are summarized in Table 9. Head rice yields are reported to convey a variety's overall performance in terms of whole-grain milled rice produced per acre. Both total and whole-grain milling yields were higher than for the last 3 years. Ten varieties and experimental lines produced more head rice per acre than Priscilla, and eight produced more per acre than Wells (Table 9).

Lodging resistance should be seriously considered when selecting a variety to grow. This is especially important when it occurs before fields are normally drained or when rainy weather persists before harvest. Lodging was light to moderate with most occurring at the Marks, Cleveland, and Blaine locations (Tables 2, 3, and 4). The varieties that lodged the most in the 2001 on-farm variety tests were Wells (25%), Lemont (21%), and MS01Y19 (20%) (Table 9).

The long-term performance of 14 varieties in farm tests is presented in Table 10. Three-year and multiyear averages are indicated for individual varieties. Data averaged over several years are generally more reliable for predicting variety performance for yield and other characteristics. Average grain yields in 2001 for commercial varieties were higher than the 2000 yields.

Fourteen commercial rice varieties included in Delta Research and Extension Center tests since 1984 are provided in Table 11. The column labeled "Average grain yield" indicates the performance of individual varieties for all years they were included in these tests. Individual varieties have been tested for different numbers of years. The 3-year yield average is for comparing varieties for 1998-2000. The yield data includes both standing and lodged plants as the plots were hand-harvested. Important consideration should be given to the lodging data as an indication of straw strength. Efficiency in combine harvesting requires varieties with lodging resistance, particularly when adverse weather conditions may occur as the crop ripens and matures. Information on disease reactions of individual varieties is presented in Table 12. The blast rating for Cocodrie was changed to MR from MS based on recent information.

Table 1. Performance of long-grain rice varieties and lines grown on unclassified clay soil near Tunica, Tunica County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading	Maturity[3]	Lodging[3]	1000 seed weight[4]	Sheath blight[5]
			Total	Whole							
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*	
MS01Y16	237	6217	70.9	58.3	41.9	42	80	131	0	26.4	0.0
Priscilla	233	5968	69.2	57.0	42.5	43	81	132	0	25.8	0.0
MS01Y29	220	5806	68.5	58.6	42.3	41	81	130	0	24.8	0.0
MS01Y25	218	5820	67.8	59.4	43.9	47	87	131	0	24.9	0.0
MS01Y11	217	5707	70.9	58.5	41.6	42	82	133	0	26.4	0.0
Wells	210	5373	70.1	56.9	43.6	42	84	136	0	24.9	0.0
MS01Y19	207	5938	71.6	63.9	43.6	42	85	130	6	25.3	0.0
Cocodrie	201	5354	68.8	59.2	42.7	45	85	135	0	23.9	0.0
MS01Y08	195	5779	71.1	65.9	43.7	43	86	128	0	22.4	0.0
MS01Y12	192	5687	71.4	65.9	44.2	42	84	123	0	22.3	0.0
MS01Y01	189	5554	71.7	65.3	43.0	51	85	123	0	23.3	0.0
MS01Y27	189	5210	70.4	61.3	44.0	43	83	132	0	21.8	0.0
Saber	179	5153	68.8	64.0	42.5	42	84	122	0	22.4	0.0
Ahrent	172	4394	66.1	56.7	41.3	44	84	135	23	21.3	0.3
Lemont	164	4313	72.7	58.4	42.5	40	85	127	0	26.1	0.3
MS01Y07	159	4341	69.0	60.7	40.6	46	80	129	3	20.9	0.0

[1]**Planting date:** April 9. **Emerged:** May 3. **Herbicides:** Touchdown® at 1.5 pt/A plus Command® at 1 gal to 7 acres on April 10; Stam® at 3 lb/A plus Facet® at 1/3 lb/A on May 9. **Fertilizer:** Urea at 300 lb/A on May 10 and at 100 lb/A on June 14. **Permanent flood:** May 11. **Insecticide:** Methyl parathion at 1 gal to 16 acres on Aug. 8 and Aug. 25. **Fungicide:** Tilt® at 6 oz/A on July 13. **Drained field:** Aug. 15.
[2]Rough rice at 12% moisture. A difference of 23 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 8.5%.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight score using a 0 (least susceptible) to 9 (most susceptible) scale.

Table 2. Performance of long-grain rice varieties and lines grown on Alligator and Sharkey clay soil near Marks, Quitman County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1000 seed weight[4]	Sheath blight[5]
			Total	Whole							
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*	*%*
Wells	197	5290	72.8	59.6	45.0	42	82	133	90	24.2	15.0
MS01Y25	186	5458	70.3	65.1	45.1	43	84	126	13	24.2	0.0
Priscilla	179	4513	69.0	56.1	44.5	37	84	129	1	28.5	1.1
MS01Y27	179	4968	72.7	61.7	45.1	40	83	128	36	24.2	36.3
MS01Y29	175	4654	70.3	59.2	43.9	37	81	128	15	26.1	15.0
MS01Y11	174	4638	71.0	58.9	44.2	41	85	126	5	27.3	0.0
MS01Y16	173	4438	70.6	56.9	44.6	39	83	128	1	29.3	0.0
MS01Y19	171	4435	71.6	57.5	45.4	38	83	126	20	27.2	21.3
MS01Y12	169	5244	72.1	68.9	45.3	38	81	123	31	23.2	0.0
Cocodrie	168	4739	70.3	62.5	44.4	39	83	129	24	24.2	15.5
MS01Y08	167	5059	72.1	67.3	44.7	40	84	125	30	22.3	0.0
MS01Y07	164	4402	71.4	59.8	41.6	39	76	123	25	22.3	9.5
Lemont	149	3424	72.0	51.0	44.4	37	88	126	49	26.2	53.8
Ahrent	137	3265	69.2	52.5	42.9	40	80	121	1	24.4	11.0
Saber	134	3397	68.3	55.7	43.7	37	83	117	0	21.2	0.5
MS01Y01	130	3436	71.9	57.9	43.2	43	82	124	0	23.2	0.0

[1]**Planting date:** April 10. **Emerged:** May 1. **Herbicides:** Command® at 1 gal to 8 acres on April 19. **Fertilizer:** Urea at 200 lb/A on May 17, and at 100 lb/A on June 21 and July 1. **Permanent flood:** May 18. **Insecticide:** Icon® seed treatment and Karate® at 1 gal to 66 acres on Aug. 5. **Drained field:** Aug. 28.
[2]Rough rice at 12% moisture. A difference of 21 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 9.2%.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight rating is the visually estimated percent infected area within the plots.

Table 3. Performance of long-grain rice varieties and lines grown on Sharkey silty clay soil near Cleveland, Bolivar County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1000 seed weight[4]	Sheath blight[5]
			Total	Whole							
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*	
MS01Y16	185	4083	69.1	49.1	39.9	38	92	141	0	27.7	2.5
MS01Y11	184	3892	68.1	46.9	40.1	37	91	139	3	26.9	4.5
Priscilla	166	3479	67.4	46.4	40.0	38	92	142	1	26.9	5.5
MS01Y25	154	3977	67.9	57.3	41.6	43	94	136	1	23.9	4.2
MS01Y01	151	3641	69.8	53.3	41.6	45	95	138	3	21.9	4.4
Wells	147	3321	68.9	50.1	41.3	41	94	143	48	24.8	5.6
MS01Y29	139	3367	68.5	54.1	47.0	37	95	142	0	23.7	6.3
Saber	132	3246	66.5	54.6	40.9	37	94	131	0	19.9	7.0
MS01Y12	128	3538	67.7	61.4	41.4	42	96	136	0	21.0	4.3
Cocodrie	127	3198	65.1	55.9	38.7	39	93	145	8	22.7	6.5
MS01Y27	127	3176	68.7	55.6	42.2	38	96	141	2	22.8	7.0
MS01Y08	126	3471	68.0	61.2	41.6	42	95	137	2	20.9	5.3
MS01Y07	119	2854	66.0	53.0	38.0	42	89	138	55	21.0	6.4
MS01Y19	112	2588	66.8	51.1	39.7	38	94	139	56	23.9	7.3
Ahrent	91	1775	62.3	42.9	37.8	40	89	140	65	21.1	7.1
Lemont	82	1212	66.2	32.5	42.5	36	98	140	86	25.1	8.3

[1]**Planting date:** April 2. **Emerged:** April 14. **Herbicides:** Command® at 1 gal to 5 acres plus 10 gal/A of ammonium thiosulfate on April 2; 2-4-D at 1 qt/A on June 18. **Fertilizer:** Urea at 100 lb/A on May 15, May 22, June 20, and June 25. **Permanent flood:** May 23. **Drained field:** Aug. 6.
[2]Rough rice at 12% moisture. A difference of 20 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 10.9%.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight score using a 0 (least susceptible) to 9 (most susceptible) scale.

Table 4. Performance of long-grain rice varieties and lines grown on Forestdale silt loam soil near Blaine, Sunflower County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading	Maturity[3]	Lodging[3]	1000 seed weight[4]	Sheath blight[5]
			Total	Whole							
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*	
MS01Y16	214	5264	70.6	54.6	42.7	39	82	126	0	26.8	0.0
Wells	207	5074	71.4	54.4	43.8	42	83	130	38	23.1	0.0
MS01Y11	207	4961	70.4	53.4	42.2	39	82	128	16	26.8	0.0
MS01Y27	205	5671	71.7	61.6	44.9	39	85	126	3	22.0	0.0
Priscilla	205	4690	70.0	50.9	43.1	39	80	126	16	26.2	0.0
Cocodrie	193	5098	68.6	58.6	42.6	41	82	127	5	23.1	0.0
MS01Y29	187	4408	69.3	52.3	42.3	38	81	126	0	24.1	0.3
MS01Y25	186	4699	68.2	56.2	44.3	43	87	124	0	22.9	0.0
MS01Y19	185	4984	70.0	59.7	43.5	39	85	127	42	24.8	0.5
MS01Y07	183	4746	69.4	57.6	40.8	43	78	124	0	20.9	0.0
MS01Y01	180	4767	71.1	58.8	41.7	47	82	123	23	21.0	0.0
Saber	175	4820	67.5	61.1	42.1	39	81	115	1	21.0	0.0
Lemont	175	4400	70.8	56.0	42.5	35	85	124	9	24.9	0.0
MS01Y08	175	5135	71.5	65.3	43.5	42	85	125	0	22.2	0.0
Ahrent	167	3910	65.6	52.2	40.9	40	81	131	20	21.0	0.0
MS01Y12	160	4618	70.7	65.2	42.8	42	86	127	9	22.2	0.8

[1]**Planting date:** April 11. **Emerged:** April 29. **Herbicides:** Stam® at 3 lb/A plus Facet® at 1/3 lb/A plus Basagran® at 1 qt/A plus crop oil concentrate at 1 qt/A on May 16. **Fertilizer:** Urea at 200 lb/A on May 16 and 100 lb/A on June 13 and June 21. **Date flushed:** May 1. **Permanent flood:** May 17. **Insecticide:** Karate® at 1 gal to 66 acres on May 23; methyl parathion at 1 gal to 16 acres on July 18 and Aug. 8. **Fungicide:** Quadris® at 1 gal to 15 acres plus Tilt® at 6 oz/A plus .5% spreader sticker per acre on July 13. **Drained field:** Aug. 15.
[2]Rough rice at 12% moisture. A difference of 18 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 7.1%.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight score using a 0 (least susceptible) to 9 (most susceptible) scale.

Table 5. Performance of long-grain rice varieties and lines grown on Tunica clay soil near Stoneville, Washington County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading	Maturity[3]	Lodging[3]	1000 seed weight[4]	Sheath blight[5]	Blast[6]
			Total	Whole								
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*		
Wells	184	4178	70.0	50.5	44.5	42	83	127	0	24.8	0.0	5.8
MS01Y11	180	4270	68.9	52.7	42.4	39	81	124	0	27.8	0.0	3.0
MS01Y16	180	4249	68.8	52.6	42.1	39	82	127	0	27.8	0.1	6.5
Priscilla	179	4153	67.7	51.6	42.4	39	82	126	0	28.0	0.0	3.5
Cocodrie	167	4180	65.1	55.1	41.9	40	84	128	0	22.7	0.1	2.5
MS01Y29	168	4058	67.8	53.8	42.0	39	82	127	0	24.9	0.1	4.3
MS01Y07	166	4198	67.2	56.2	41.9	44	81	126	0	21.0	0.2	5.3
MS01Y27	163	4172	69.0	57.0	44.2	40	85	126	0	23.8	0.1	7.8
MS01Y19	161	4057	67.4	56.1	43.3	41	81	123	17	23.9	0.0	5.8
MS01Y25	156	4181	67.1	59.7	43.2	42	85	124	13	22.8	0.1	2.3
Saber	152	3877	65.3	56.8	41.3	41	83	120	0	21.0	0.0	2.0
Ahrent	152	3277	63.4	48.1	39.6	42	83	130	2	22.0	0.1	2.0
MS01Y01	149	3823	69.3	57.2	41.8	45	83	123	0	22.9	0.0	8.3
MS01Y08	145	4132	68.6	63.5	43.5	42	85	124	0	21.9	0.0	6.0
MS01Y12	139	3934	67.9	62.8	43.5	42	85	124	1	21.9	0.1	6.5
Lemont	135	2935	68.7	48.3	42.1	37	87	124	3	24.1	0.1	7.5

[1]**Planting date:** April 23. **Emerged:** May 4. **Herbicides:** Roundup® at 1 qt/A plus Permit® at 1 oz/A on April 25, Arrosolo® at 4 qt/A plus Facet® at 0.5 lb/A plus Prowl® at 1 lb/A on April 26; Stam® at 4 qt/A on May 30. **Fertilizer:** Urea at 300 lb/A on May 29 and 110 lb/A on June 27. **Permanent flood:** May 30. **Drained field:** Aug. 21.
[2]Rough rice at 12% moisture. A difference of 11 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 4.9%.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight score using a 0 (least susceptible) to 9 (most susceptible) scale.
[6]Blast score using a 0 (least susceptible) to 9 (most susceptible) scale.

Table 6. Performance of long-grain rice varieties and lines grown on Sharkey clay soil near Hollandale, Washington County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*
Priscilla	236	4876	69.2	45.9	43.3	40	80	130	0	26.0
MS01Y16	235	4975	70.4	47.0	43.3	39	80	129	0	28.2
Cocodrie	232	5977	68.4	57.3	43.6	38	79	128	0	22.8
MS01Y29	225	5931	71.1	58.6	43.8	38	80	129	0	24.8
MS01Y11	225	4569	70.8	45.0	43.2	39	79	129	0	27.2
MS10Y27	224	6160	72.1	61.1	45.6	40	80	127	0	22.9
Wells	219	4515	71.3	45.7	44.3	40	77	129	0	24.1
MS01Y19	216	5393	70.9	55.4	45.2	40	80	126	0	25.0
MS01Y25	210	5661	69.3	60.0	44.7	44	82	122	0	25.0
Ahrent	207	4396	66.2	47.2	43.0	41	76	129	0	21.8
MS01Y07	204	4929	68.8	53.4	43.0	45	76	124	0	21.2
MS01Y01	202	5243	70.4	57.8	44.2	43	76	120	0	22.8
MS01Y08	201	5924	71.0	65.6	43.9	42	79	124	0	21.9
Lemont	201	4994	72.4	55.4	43.3	38	82	124	0	25.1
Saber	198	5631	66.8	63.3	44.2	38	80	116	0	21.7
MS01Y12	183	5423	71.1	65.7	43.4	41	81	123	0	22.1

[1]**Planting date:** April 11. **Emerged:** April 30. **Herbicides:** Command® at 1 gal to 7 acres plus Roundup® at 1 gal to 5 acres on April 12; Aim® at 1/2 oz on May 28; Grandstand® at 2/3 pt/A plus propanil at 1 qt/A on June 15. **Fertilizer:** Ammonium sulfate at 100 lb/A on May 4; urea at 100 lb/A on May 29, June 4, June 26, and July 2. **Date flushed:** May 4. **Permanent flood:** May 29. **Insecticide:** Karate® at 1 gal to 70 acres on May 28 and July 26. **Fungicide:** Quadris® at 1 gal to 15 acres on July 10. **Drained field:** Aug. 14.
[2]Rough rice at 12% moisture. A difference of 18 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 6.1%.
[3]Days after emergence.
[4]Weight of 1000 kernels.

Table 7. Performance of long-grain rice varieties and lines grown on Sharkey and Dowling clay soil near Rolling Fork, Issaquena County, Mississippi, 2001.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1000 seed weight[4]	Sheath blight[5]
			Total	Whole							
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*	*%*
Wells	201	4741	71.8	52.2	44.4	40	80	128	0	23.1	2.5
MS01Y11	194	4499	69.8	51.5	43.3	40	81	124	0	24.8	0.0
MS01Y16	193	4520	70.1	52.0	43.6	39	81	124	0	24.9	0.5
Priscilla	186	4492	68.8	53.9	43.6	39	82	121	0	25.2	0.8
Cocodrie	185	4853	68.2	58.3	43.7	40	83	129	0	20.9	4.5
MS01Y29	181	4706	70.2	57.8	43.8	37	82	126	0	24.1	0.8
MS01Y19	177	4798	69.8	60.4	45.0	40	84	119	1	23.8	0.5
MS01Y27	173	4311	71.5	55.2	45.8	40	83	121	0	21.0	5.5
MS01Y25	173	4527	69.2	58.2	44.4	42	84	120	0	23.0	0.8
Ahrent	171	3397	63.7	44.1	42.3	40	76	123	0	20.4	1.8
MS01Y07	169	4107	66.9	54.1	42.5	41	78	120	0	20.0	0.5
MS01Y01	168	4395	69.7	58.4	43.4	44	80	118	0	22.6	0.3
Saber	161	4144	66.6	57.3	43.7	39	79	114	0	20.6	4.5
MS10Y12	157	4494	69.2	63.6	44.8	39	82	119	0	21.0	0.5
MS01Y08	156	4370	67.7	62.5	44.0	39	83	120	0	21.0	0.5
Lemont	154	3772	71.2	54.3	43.3	36	84	118	1	24.1	11.3

[1]**Planting date:** April 10. **Emerged:** May 1. **Herbicides:** Command® at 1 gal to 5 acres plus Touchdown® at 2 pt/A on April 19; Stam® at 4 lb/A plus Facet® at 1/4 lb/A plus Aim® at 1/2 oz/A on May 12. **Fertilizer:** Ammonium sulfate at 100 lb/A on April 28; urea at 100 lb/A on May 16 and May 26, and 200 lb/A on June 9. **Date flushed:** May 4 and 15. **Permanent flood:** May 28. **Insecticide:** Karate® at 1 gal to 66 acres on June 1; methyl parathion at 1 gal to 16 acres on July 14. **Drained field:** Aug. 16.
[2]Rough rice at 12% moisture. A difference of 16 bu/A is required for one variety to differ from another at the 5% probability level. C.V. = 6.7%.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight rating is the visually estimated percent infected plot area within the plots.

Table 8. Average rough rice yields of long-grain varieties and lines evaluated in on-farm tests at seven locations, 2001.

Variety or line	Location							Average
	Tunica	Marks	Cleveland	Blaine	Stoneville	Hollandale	Rolling Fork	
	bu/A	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*
MS01Y16	237	173	185	214	180	235	193	202
Priscilla	233	179	166	205	179	236	186	198
MS01Y11	217	174	184	207	180	225	194	197
Wells	210	197	147	207	184	219	201	195
MS01Y29	220	175	139	187	168	225	181	185
MS01Y25	218	186	154	186	156	210	173	183
Cocodrie	201	168	127	193	167	232	185	182
MS01Y27	189	179	127	205	163	224	173	180
MS01Y19	207	171	112	185	161	216	177	176
MS01Y01	189	130	151	180	149	202	168	167
MS01Y08	195	167	126	175	145	201	156	166
MS01Y07	159	164	119	183	166	204	169	166
Saber	179	134	132	175	152	198	161	162
MS01Y12	192	169	128	160	139	183	157	161
Ahrent	172	137	91	167	152	207	171	157
Lemont	164	149	82	175	135	201	154	151
Mean (bu/A)	188	160	127	179	154	210	171	170
LSD (0.05)	23	21	20	18	11	18	16	12
CV (%)	8.5	9.2	10.9	7.1	4.9	6.1	6.7	7.7
Date Planted	4/9	4/10	4/2	4/11	4/23	4/11	4/10	

Table 9. Average agronomic and milling performance of long-grain varieties and lines grown at seven on-farm locations, 2001.

Variety or line	Origin[1]	Average yield[2]		Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1000 seed weight[4]	Sheath blight[5]	Blast[6]	Approximate seed/pound
		Rough rice	Head rice	Total	Whole									
		bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*g*			*no.*
MS01Y16	MS	202	4821	70.1	52.9	42.6	39	83	129	0	27.3	1.3	6.5	16615
Priscilla	MS	198	4596	68.7	51.7	42.8	39	83	129	3	26.6	2.8	3.5	17052
MS01Y11	MS	197	4648	70.0	52.4	42.4	39	83	129	3	26.7	2.2	3.0	16988
Wells	AR	195	4642	70.9	52.8	43.8	41	83	132	25	24.1	2.8	5.8	18821
MS01Y29	MS	185	4704	69.4	56.3	42.7	38	83	130	2	24.6	3.2	4.3	18439
MS01Y25	MS	183	4903	68.5	59.4	43.9	43	86	126	4	23.8	2.1	2.3	19058
Cocodrie	LA	182	4771	67.8	58.1	42.5	40	84	131	5	22.9	3.3	2.5	19807
MS01Y27	MS	180	4810	70.8	59.1	44.5	40	85	129	6	22.6	3.6	7.8	20070
MS01Y19	MS	176	4599	69.7	57.7	43.6	40	85	127	20	24.8	3.6	5.8	18290
MS01Y01	MS	167	4408	70.6	58.4	42.7	45	83	124	4	22.5	2.2	8.3	20160
MS01Y08	MS	166	4838	70.6	64.4	43.6	41	85	126	5	21.8	2.6	6.0	20807
MS01Y07	MS	166	4225	68.4	56.4	41.2	43	80	126	12	21.0	3.3	5.3	21600
Saber	TX	162	4324	67.1	59.0	42.6	39	83	119	0	21.1	3.5	2.0	21497
MS01Y12	MS	161	4705	70.0	64.6	43.6	41	85	125	6	22.0	2.2	6.5	20618
Ahrent	AR	157	3488	65.2	49.1	41.1	41	81	130	16	21.6	3.6	2.0	21000
Lemont	TX	151	3579	70.6	50.8	42.4	37	87	126	21	25.1	4.2	7.5	18071
Mean		170	4324	68.9	56.0	42.7		84	127					
LSD (0.05)		12	402	1.0	3.1	0.7		2	2					
CV (%)		7.7	9.6	1.5	4.6	1.6		2.3	2.3					

[1]Origin: AR = Arkansas, LA = Louisiana, MS = Mississippi, TX = Texas.
[2]Rough rice at 12% moisture.
[3]Days after emergence.
[4]Weight of 1000 kernels.
[5]Sheath blight score using a 0 (least susceptible) to 9 (most susceptible) scale.
[6]Blast score using a 0 (least susceptible) to 9 (most susceptible) scale.

Table 10. Annual and average grain yields along with agronomic and milling data averages of rice varieties and lines grown in the Delta on-farm tests from 1995 to 2001.[1]

Variety or line	Grain yield [2]								3-year avg.[3]	Total tests	Milling yield [4]		Bushel weight	Plant height	Days to		Lodging	1000 seed weight [5]	Sheath blight [6]
	1995	1996	1997	1998	1999	2000	2001	Avg.			Total	Whole			Heading	Maturity			
	bu/A	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*no.*	*%*	*%*	*lb*	*in*	*no.*	*no.*	*%*	*g*	
Lemont	123	162	150	152	161	165	151	145	159	84	70.4	57.2	42.5	37	87	123	8	25.9	3.6
Cypress	131	144	130	145	165	166	—	144	159	63	68.8	60.4	41.6	39	84	123	14	23.1	2.6
LaGrue	157	170	165	—	—	—	—	159	164	35	68.2	55.2	42.6	46	82	124	22	24.6	3.1
Kaybonnet	142	153	148	151	177	—	—	153	159	42	68.5	58.9	42.3	47	82	116	8	20.6	2.3
Priscilla	162	181	172	160	177	182	198	179	186	56	67.4	51.5	41.8	40	81	124	2	28.0	2.9
Jefferson	140	151	133	141	155	153	—	146	150	42	67.7	52.4	40.8	37	74	109	4	28.2	2.4
Drew	—	152	151	149	—	—	—	151	151	21	68.6	58.0	40.9	48	83	124	27	22.0	2.7
Cocodrie	—	—	145	165	179	190	182	172	184	35	67.9	56.2	41.4	40	80	126	8	24.2	3.2
Madison	—	—	135	145	146	—	—	142	142	21	68.1	57.0	39.8	37	87	122	1	23.8	2.6
Wells	—	—	—	174	188	196	195	188	193	21	70.0	48.4	43.0	43	80	125	10	25.7	2.8
Ahrent	—	—	—	—	—	164	157	160	—	14	65.0	50.6	41.4	41	79	125	8	21.6	3.6
Saber	—	—	—	—	—	164	162	163	—	14	66.8	58.2	43.0	39	82	118	<1	22.8	3.5

[1]Test locations were in farmers' fields extending from the northern to the southern Delta area.
[2]Rough rice at 12% moisture. Data columns for 1989 to 1994 were omitted but their numbers were included in the average yield and total test numbers.
[3]Average for 1999 to 2001.
[4]Values for milling and agronomic characteristics are accumulated means over all years of testing.
[5]Weight of 1000 kernels.
[6]Sheath blight rating using 0 (least susceptible) to 9 (most susceptible) scale.

Table 11. Annual and average grain yields and agronomic characteristics of long-grain commercial varieties grown at the Delta Research and Extension Center, Stoneville, Mississippi, 1984-2000.

Variety [1]	Origin [2]	Grain yield			Years	Milling yield		Plant	50%	Lodging	Bushel
		2000	Avg.	3-yr avg.	in test	Total	Whole	height	heading		weight
		bu/A	*bu/A*	*bu/A*	*no.*	*%*	*%*	*in*	*days*	*%*	*lb*
Ahrent	AR	164	184	—	2	65.2	45.3	42	76	0	41.6
Cypress	LA	172	152	155	13	70.0	61.9	40	85	<2	47.3
Cocodrie	LA	195	173	172	6	68.3	54.6	40	79	<1	43.0
Dellrose	TX	173	148	157	10	69.3	54.2	41	80	0	43.9
Drew	AR	173	165	164	7	69.3	54.7	48	84	<1	44.8
Jefferson	TX	155	147	144	7	67.8	53.5	37	76	<1	41.9
Kaybonnet	AR	188	160	154	10	68.7	56.8	46	81	13	44.4
LaGrue	AR	194	176	183	11	69.0	54.8	46	83	12	44.4
Lemont	TX	164	143	155	17	70.0	52.8	37	89	0	43.3
Madison	TX	183	146	149	7	68.2	48.4	36	86	0	42.6
Maybelle	TX	133 [3]	130	132	11	68.7	53.9	41	72	3	42.2
Priscilla	MS	182	175	172	7	67.8	51.4	40	82	0	43.8
Saber	TX	192	151	148	5	66.9	54.4	41	80	0	43.5
Wells	AR	184	181	179	5	67.6	45.3	42	79	0	45.0

[1]Dellrose = long-grain aromatic.
[2]Origin: AR = Arkansas, LA = Louisiana, MS = Mississippi, TX = Texas.
[3]Heavy bird damage occurred.

Table 12. Reactions of rice varieties to common diseases.[1]

Variety	Blast	Sheath blight	Kernel smut	Straight head	Brown leaf spot	Narrow brown leaf spot	Leaf smut	Stem rot	False smut
Ahrent	MR	S	—	—	—	—	—	—	—
Cocodrie	MR	VS	VS	S	MR	MR	MS	S	S
Cypress	MR	VS	VS	MS	MR	R	S	S	S
Dixiebelle	MS	VS	—	MS	MS	MS	—	S	—
Drew	R	MS	MS	MS	S	MS	MS	MS	S
Jackson	S	MS	S	MR	R	MR	—	MS	—
Jefferson	S	MS	S	MR	R	MR	MR	MS	MR
Katy	R	MS	R	S	R	MR	—	MS	MR
Kaybonnet	R	MS	MS	S	S	MR	—	MS	S
LaGrue	S	S	VS	MS	R	MR	R	MS	S
Lemont	MR	VS	MR	MR	R	S	S	MS	MS
Madison	R	VS	R	MS	R	MS	R	MS	MS
Priscilla	MS	MS	S	MR	R	MR	MR	S	S
Saber	R	S	—	MR	MR	MR	MR	—	—
Wells	S	MS	MR	MS	R	—	—	MS	S

[1]Abbreviations: R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.
Note: These ratings are subject to change should new or other information become available.

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