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MISSISSIPPI RICE

VARIETY TRIALS, 2000

Experiment Station
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NOTICE TO USER

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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, 2000

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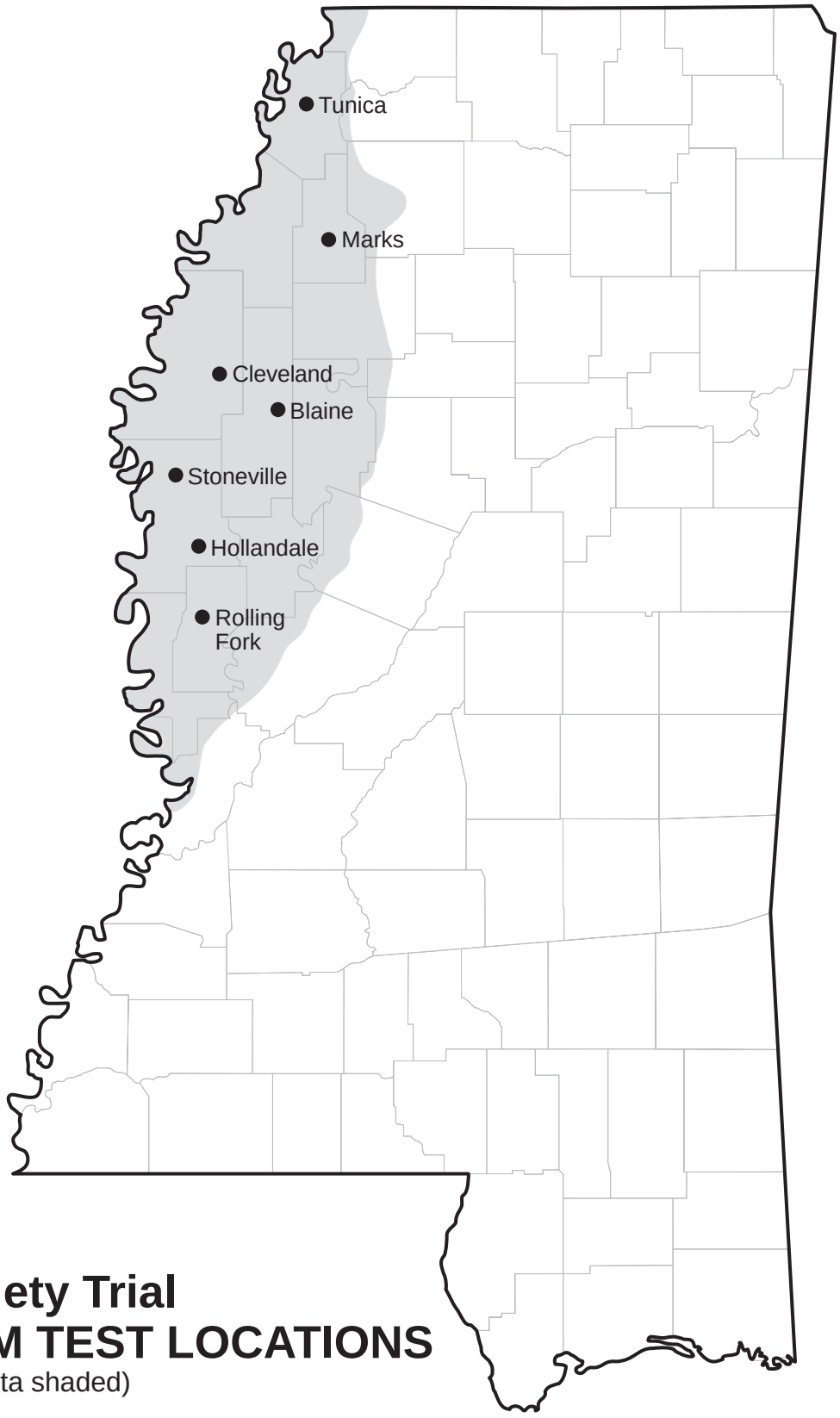

Rice Variety Trial
ON-FARM TEST LOCATIONS

(Mississippi Delta shaded)

Mississippi Rice Variety Trials, 2000

Introduction

In 2000, approximately 227,653 acres of rice were planted in 16 Delta counties of Mississippi, compared with 306,740 acres planted in 1999. Bolivar County had the highest planted acreage at 70,450 acres. Essentially all the production in Mississippi was from long-grain rice. Lemont continued to be the predominant variety planted on about 59% of the acreage. About 27% of the state's rice acreage was planted with Priscilla, about 5% was planted with Cypress, and the remaining acreage was planted with other varieties. The acreage planted in Lemont and Cypress is decreasing in the Mississippi Delta, while that planted in Priscilla and Cocodrie is increasing.

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 2000. False smut was observed in some test locations at low infestation levels.

Planting dates for the different locations ranged from April 10 to May 16, which are within the typical period for planting rice in the Delta. Five tests were planted into conventionally prepared seedbeds and two were planted into stale seedbeds. Early-season showers relieved the need for flushing in some fields to obtain a stand in 2000. Light to moderate sheath blight infection developed on susceptible entries at the Rolling Fork, Blaine, and Hollandale sites. Kernel smut occurred at the Tunica and Marks locations at moderate levels on susceptible varieties. High temperatures during the growing season resulted in lower milling quality at most locations. Soil samples were taken at each test location and analyzed. Nutrient levels at all locations were high except at Blaine, where sulfur was at the medium level.

Variety selection is one of the most important decisions a rice producer makes in preparing production plans each season. The information in this information 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.

Agronomic data were collected at appropriate times during the season. Plots were harvested by hand, 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 (7, 9, 10, and 12). Average test yields ranged from 148 bushels per acre at Marks to 185 bushels per acre at Blaine. Grain yields of varieties in these tests averaged higher in 2000 than in 1999. However, the average whole-grain milling yields have been lower for the last 3 years. This reflects the somewhat adverse weather conditions that affected the rice crops from 1998 through 2000. There were some initial stand problems and irregular emergence within plots at the Cleveland, Marks, and Tunica locations. However, the rice at all locations – except Marks (the CV was higher at this location, which is a reflection on the thin and irregular stands in some plots) – emerged and developed into satisfactory stands. Straighthead was not observed in any of the on-farm tests this year.

Table 8 provides a seven-location summary of grain yields for six varieties and 10 experimental lines. The variety Wells ranked first and Cocodrie ranked second in average yield (196 and 190 bushels per acre, respectively) across all seven on-farm locations (Table 9). Although Cocodrie yielded slightly less than Wells, it produced more whole-grain milled rice in 2000 than all other varieties and lines in the test. Nine varieties or lines, including Priscilla, produced significantly more whole-grain milled rice in 2000 than the variety Wells (Table 9). Table 9 also shows that Wells has the lowest average whole-grain milling yield (42.7%). Table 9 and Table 10 show Priscilla's whole-grain milling yield to be about 2% less than that of Lemont. It possesses sheath blight tolerance as indicated in the tables. Another variety that continues to perform satisfactorily is Lemont. Although it is not perfect, it continues to be the variety of choice in Mississippi because of its consistent, dependable productivity and processing characteristics.

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 lower than normal for the last 3 years. M0Y206, M0Y204, and Cypress averaged the highest whole-grain milling yields (57.9%, 56.5%, and 56.4%, respectively) and produced more pounds of whole-grain milled rice per acre than the high-yielding Wells.

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 Tunica location. The varieties that lodged the most in the 2000 on-farm variety tests were Cypress (9%), Cocodrie (5%), and Wells (4%) (Table 9).

The long-term performance of 14 varieties in farm tests is presented in Table 10. Three-year and multi-year 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 2000 for commercial varieties were generally similar to the 1999 yields or slightly higher.

Thirteen 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 1997-1999. The yield data includes both standing and lodged plants because 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.

Table 1. Performance of long-grain rice varieties and lines grown on Sharkey-Alligator clay soil near Tunica, Tunica County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*
M0Y217	194	4,514	66.5	51.8	42.8	39	86	128	0	28.1
Wells	191	4,083	70.2	47.4	43.6	42	88	134	24	32.5
Cocodrie	186	4,513	67.2	53.8	41.4	41	84	134	32	31.3
Priscilla	186	4,430	66.9	53.0	41.5	40	88	138	6	29.6
M0Y211	183	4,094	68.0	49.7	39.7	41	86	134	4	29.6
M0Y206	182	4,649	68.3	56.9	41.8	47	87	128	0	28.7
M0Y220	181	4,135	67.5	50.8	40.1	41	86	134	18	33.3
M0Y222	176	4,049	66.2	51.2	43.4	44	90	129	0	31.1
M0Y219	176	4,141	65.6	52.4	43.3	46	89	130	0	27.4
M0Y216	174	4,182	65.9	53.4	40.9	40	87	134	20	30.4
Cypress	172	4,415	67.3	57.1	41.2	41	88	133	13	30.3
M0Y205	170	3,420	68.6	44.6	42.7	40	85	134	6	29.5
Lemont	168	3,975	68.0	52.3	42.8	37	92	131	0	30.4
M0Y204	166	4,040	67.2	54.3	42.1	41	87	128	0	28.0
M0Y228	161	3,850	67.0	52.8	41.8	46	88	136	47	28.5
Jefferson	149	2,868	66.3	42.5	40.2	37	80	118	23	30.3

[1]**Planting date:** April 28. **Emerged:** May 14. **Herbicides:** Roundup® at 1½ pt/acre on March 30 and May 3; Stam® at 4 lb/acre on June 1. **Fertilizer:** Urea at 300 lb/acre on June 18, and at 75 lb/acre on July 3 and 75 lb/acre on July 10. **Permanent flood:** June 2. **Drained field:** September 1.
[2]Rough rice at 12% moisture. A difference of 20 bu/acre is required for one variety to differ from another at the 5% probability level. C.V. = 8.3%.
[3]Days after emergence.
[4]Weight of 1,000 kernels.

Table 2. Performance of long-grain rice varieties and lines grown on Alligator silty clay soil near Marks, Quitman County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*
Wells	177	3,893	72.7	49.1	43.9	42	77	130	0	28.4
Cocodrie	173	4,621	68.2	59.3	43.5	38	77	123	0	26.7
M0Y211	173	3,854	68.5	49.7	42.0	39	76	125	0	28.4
M0Y220	172	4,130	70.9	53.3	42.2	39	79	129	0	31.6
M0Y206	171	4,608	71.6	59.8	43.4	44	75	117	0	28.2
M0Y222	166	3,987	67.3	53.0	43.9	44	82	125	0	27.7
M0Y205	157	3,560	69.0	50.5	43.1	40	78	125	0	29.0
Priscilla	155	3,747	69.7	53.8	42.9	40	79	129	0	30.4
Lemont	148	3,600	69.3	53.8	43.2	36	84	123	0	29.0
M0Y219	147	3,752	68.5	56.5	44.6	45	84	126	0	25.9
M0Y216	147	3,766	69.4	57.0	41.4	38	80	129	0	28.2
M0Y204	146	3,617	69.1	55.3	42.7	41	81	122	0	26.1
M0Y217	139	3,493	69.5	55.4	43.5	38	83	127	0	27.4
Jefferson	129	2,503	68.4	43.2	42.1	35	72	111	0	31.1
M0Y228	126	3,236	68.4	57.0	42.8	48	81	131	0	28.0
Cypress	106	2,867	69.0	60.0	42.2	40	84	130	0	27.6

[1]**Planting date:** May 16. **Emerged:** May 31. **Herbicides:** Arrosolo® at 1 gallon/acre on June 10. **Fertilizer:** Urea-ammonium sulfate blend at 250 lb/acre on June 14; urea at 75 lb/acre on July 5 and 75 lb/acre on July 12. **Date flushed:** May 17. **Permanent flood:** June 15. **Insecticide:** Karate® at 1 gallon to 66 acres on June 22; methyl parathion at 1 gallon to 10 acres on August 10 and August 24. **Fungicide:** Quadris® at 1 gallon to 15 acres on August 16. **Drained field:** September 15.
[2]Rough rice at 12% moisture. A difference of 27 bu/acre is required for one variety to differ from another at the 5% probability level. C.V. = 12.8%.
[3]Days after emergence.
[4]Weight of 1,000 kernels.

Table 3. Performance of long-grain rice varieties and lines grown on Dowling clay soil near Cleveland, Bolivar County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*
Wells	209	4,337	70.2	46.0	44.5	39	78	121	0	28.6
Cocodrie	197	5,110	67.4	57.9	43.9	38	79	122	0	29.6
M0Y217	194	4,436	67.9	51.1	44.4	35	78	117	0	27.5
M0Y211	194	4,581	67.7	52.6	42.6	36	78	117	0	31.4
M0Y216	190	4,461	68.3	52.0	43.6	36	79	122	0	29.6
M0Y228	189	4,680	65.6	54.9	44.0	43	83	125	0	25.4
M0Y222	187	4,005	66.6	47.5	44.1	40	84	118	0	27.6
Priscilla	184	4,410	65.9	53.2	43.2	37	77	115	0	30.0
M0Y220	181	4,226	67.8	51.9	42.7	37	78	116	0	31.0
M0Y205	179	3,136	69.4	39.0	44.1	38	78	120	0	30.8
Cypress	176	4,539	67.3	57.2	43.2	37	82	121	0	26.4
M0Y219	174	4,267	66.3	54.7	44.4	41	85	117	0	27.5
Lemont	173	4,159	67.9	53.4	43.0	34	82	119	0	29.1
M0Y206	171	4,459	69.4	57.9	43.0	42	76	108	0	28.4
M0Y204	167	4,566	68.5	60.9	43.7	39	76	107	0	27.5
Jefferson	145	3,134	67.4	47.9	43.2	33	72	102	0	31.5

[1]**Planting date:** April 10. **Emerged:** April 28. **Herbicides:** Command® at 1 gallon to 5 acres plus 10 gallons of ammonium thiosulfate per acre on April 10; 2-4-D at 3 pt/acre on June 20. **Fertilizer:** Urea at 200 lb/acre on May 10; 100 lb/acre on June 7, 100 lb/acre on June 20, and 100 lb/acre on June 27. **Permanent flood:** May 17. **Insecticide:** Karate® at 1 gallon to 66 acres on May 22. **Fungicide:** Quadris® at 1 gallon to 15 acres on July 7. **Drained field:** August 10.
[2]Rough rice at 12% moisture. A difference of 17 bu/acre is required for one variety to differ from another at the 5% probability level. C.V. = 6.9%.
[3]Days after emergence.
[4]Weight of 1,000 kernels.

Table 4. Performance of long-grain rice varieties and lines grown on Dundee silt loam soil near Blaine, Sunflower County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*
M0Y216	203	4,315	65.5	47.3	42.5	33	81	119	0	26.7
Cocodrie	202	4,698	65.7	51.7	43.4	38	81	121	0	25.7
M0Y217	200	4,755	65.7	52.8	44.0	35	81	116	0	29.4
M0Y220	199	4,456	65.8	49.7	41.9	37	81	119	0	30.3
M0Y211	199	4,412	66.6	49.3	41.8	37	79	115	3	29.7
Wells	196	3,267	68.4	37.1	44.4	39	81	121	1	27.4
Priscilla	195	4,239	63.8	48.3	42.1	37	80	116	0	33.6
M0Y205	190	3,605	67.2	41.5	43.7	37	79	117	0	29.5
M0Y222	187	4,046	64.5	48.1	43.5	40	84	115	0	26.5
M0Y219	186	4,346	64.1	52.1	43.8	41	85	115	1	29.5
M0Y228	185	4,282	63.5	51.4	42.9	43	83	125	26	24.5
Jefferson	183	4,457	64.7	54.1	41.3	36	72	106	0	27.9
Cypress	182	4,469	65.1	54.6	42.1	36	83	123	0	28.4
M0Y206	181	4,932	67.9	60.6	42.5	43	79	110	0	27.2
Lemont	179	4,133	67.4	51.4	42.3	34	85	119	0	28.7
M0Y204	167	4,200	66.8	56.2	42.6	37	80	111	0	26.5

[1]**Planting date:** April 19. **Emerged:** May 2. **Herbicides:** Stam® at 4 lb/acre plus Facet® at 1/4 lb/acre plus Permit® at 3/4 oz/acre on May 9. **Fertilizer:** Ammonium sulfate at 100 lb/acre on April 28; 41-0-0-4 at 300 lb/acre on May 11 and 100 lb/acre on June 22. **Permanent flood:** May 11. **Insecticide:** Methyl parathion at 1/4 lb/acre on July 25 and August 18. **Fungicide:** Quadris® at 1 gallon to 15 acres on July 25. **Drained field:** August 19.
[2]Rough rice at 12% moisture. A difference of 13 bu/acre 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 1,000 kernels.

Table 5. Performance of long-grain rice varieties and lines grown on Tunica clay soil near Stoneville, Washington County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*
Wells	204	4,394	70.6	47.8	44.7	40	84	129	0	29.5
M0Y216	198	4,524	67.3	50.8	42.2	37	85	130	0	27.3
Cocodrie	196	5,296	69.1	60.1	43.7	39	81	125	0	27.3
M0Y220	192	4,272	67.9	49.6	42.8	38	83	127	0	29.9
M0Y211	191	4,096	69.0	47.8	43.1	39	82	126	0	30.6
M0Y228	190	4,776	68.3	56.0	44.3	42	82	127	0	28.8
M0Y205	189	4,388	69.9	51.6	43.9	39	80	123	0	31.8
Priscilla	188	4,335	67.6	51.3	43.5	39	84	128	0	31.9
M0Y222	187	4,202	69.0	52.2	44.7	41	88	122	0	28.1
M0Y219	179	4,335	67.0	53.8	44.7	43	89	125	0	27.9
M0Y217	176	4,315	68.5	54.4	44.5	38	86	124	0	29.8
Jefferson	173	3,879	68.0	49.8	42.7	35	74	107	0	33.1
Cypress	171	4,623	67.7	60.1	43.5	40	86	128	0	26.7
M0Y206	166	4,634	70.3	62.0	43.7	44	84	116	0	27.0
M0Y204	157	4,010	70.0	56.6	41.8	41	87	120	0	28.8
Lemont	156	3,962	71.3	56.6	44.1	36	91	125	0	30.1

[1]**Planting date:** May 11. **Emerged:** May 24. **Herbicides:** Facet® at 2/3 lb/acre plus Prowl® at 2.4 pt/acre plus Permit® at 1/2 oz/acre on May 30; Arrosolo® at 1 gallon/acre plus Stam® at 1 qt/acre on June 14. **Fertilizer:** Urea at 290 lb/acre on June 16 and 111 lb/acre on July 17. **Date flushed:** May 17 and 25. **Permanent flood:** June 16. **Insecticide:** Methyl parathion at 1 gallon to 8 acres on August 22. **Drained field:** September 18.
[2]Rough rice at 12% moisture. A difference of 12 bu/acre is required for one variety to differ from another at the 5% probability level. C.V. = 4.8%.
[3]Days after emergence.
[4]Weight of 1,000 kernels.

Table 6. Performance of long-grain rice varieties and lines grown on Sharkey clay soil near Hollandale, Washington County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]
			Total	Whole						
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*
M0Y217	201	4,937	65.3	54.5	43.5	38	81	117	0	27.1
Cocodrie	196	4,353	64.1	49.2	42.5	40	76	118	0	30.1
M0Y222	195	4,425	65.7	50.2	43.6	43	83	115	0	29.4
Cypress	195	4,588	64.2	52.3	41.0	41	80	118	48	25.1
M0Y216	194	3,977	65.2	45.4	41.9	39	80	120	0	29.5
M0Y211	193	3,936	65.1	45.3	40.3	39	79	116	1	28.2
Wells	193	3,806	66.8	43.7	43.4	41	80	117	0	27.4
M0Y220	193	4,027	65.2	46.5	41.1	40	79	118	0	31.0
Priscilla	192	3,872	63.3	44.6	42.0	42	80	119	6	29.0
M0Y219	187	4,307	65.0	51.3	43.9	42	84	116	0	28.7
M0Y228	185	4,410	62.6	53.0	42.0	44	82	120	30	27.9
M0Y205	175	3,737	66.2	47.4	42.7	40	77	115	0	30.4
Lemont	174	4,190	68.8	53.5	42.8	35	82	115	0	30.7
M0Y204	167	4,210	66.8	55.9	42.9	39	82	116	0	30.3
M0Y206	166	3,580	68.6	47.8	42.0	42	76	110	0	30.5
Jefferson	157	3,566	67.0	50.0	42.1	34	70	101	0	29.8

[1]**Planting date:** April 25. **Emerged:** May 14. **Herbicides:** Command® at 1 gallon to 5 acres on April 25; Stam® at 1 gallon/acre plus Permit® at 1/2 oz/acre plus Karate® at 1 gallon to 70 acres on June 2. **Fertilizer:** Ammonium sulfate at 100 lb/acre on May 26; urea at 100 lb/acre on June 3, June 14, July 5, and July 12. **Date flushed:** May 18 and 27. **Permanent flood:** June 3. **Insecticide:** Methyl parathion at 1 gallon to 16 acres on August 14 and 28. **Fungicide:** Quadris® at 1 gallon to 15 acres on July 20. **Drained field:** August 28.
[2]Rough rice at 12% moisture. A difference of 17 bu/acre 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 1,000 kernels.

Table 7. Performance of long-grain rice varieties and lines grown on Sharkey clay soil near Rolling Fork, Issaquena County, Mississippi, 2000.[1]

Variety or line	Grain yield[2]	Milled head rice	Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]	Sheath blight[5]
			Total	Whole							
	bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*	*%*
Wells	198	2,487	67.8	27.5	43.0	40	78	120	1	26.8	2.8
M0Y219	191	4,349	66.3	50.7	44.5	43	83	115	0	27.6	0.0
M0Y222	189	4,352	65.8	50.9	43.7	42	80	113	0	29.2	1.8
M0Y211	183	3,771	66.9	46.2	42.2	36	77	112	0	29.8	0.0
Cocodrie	181	3,715	66.7	45.5	42.2	40	78	119	0	25.9	5.5
M0Y228	180	3,885	66.0	48.1	43.6	45	81	124	11	28.8	1.8
M0Y216	180	3,540	68.2	43.9	42.6	36	79	121	0	28.9	15.0
M0Y205	179	2,415	66.1	30.3	42.3	39	78	116	0	28.8	6.5
M0Y220	175	3,975	67.4	50.8	43.3	36	78	114	0	30.5	0.0
Priscilla	173	3,912	66.2	50.0	43.8	37	79	116	0	30.4	0.0
M0Y217	168	3,947	67.7	52.2	44.5	37	80	116	0	28.1	7.5
M0Y204	167	4,261	67.2	56.6	41.2	39	77	111	0	25.3	2.5
M0Y206	163	4,425	69.0	60.1	42.4	44	78	113	0	25.3	3.8
Cypress	162	3,905	66.9	53.6	42.5	38	80	120	3	26.0	19.8
Lemont	160	3,581	67.8	49.2	42.8	35	83	116	0	29.6	17.5
Jefferson	137	3,031	64.3	48.5	42.7	37	73	107	0	28.2	1.3

[1]**Planting date:** April 18. **Emerged:** May 2. **Herbicides:** 2,4-D at 2 pt/acre plus Roundup Ultra® at 1 1/2 pt/acre on March 8; Command® at 1 gallon to 6 acres plus Roundup Ultra® at 1 1/2 pt/acre on April 22; Storm® at 1 1/2 pt/acre plus Basagran® at 1/2 pt/acre on June 13. **Fertilizer:** 41-0-0-4 at 300 lb/acre on May 15, 73 lb/acre on June 20, and 73 lb/acre on June 28. **Date flushed:** May 5. **Permanent flood:** May 20. **Insecticide:** Karate® at 1 gallon to 66 acres on May 29. **Drained field:** August 12.
[2]Rough rice at 12% moisture. A difference of 15 bu/acre is required for one variety to differ from another at the 5% probability level. C.V. = 13.1%.
[3]Days after emergence.
[4]Weight of 1,000 kernels.
[5]Sheath blight rating based on percentage of visually infected plot area.

Table 8. Average rough rice yields of long-grain varieties and lines evaluated in on-farm tests at seven locations, 2000.

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*
Wells	191	177	209	196	204	193	198	196
Cocodrie	186	173	197	202	196	196	181	190
M0Y211	183	173	194	199	191	193	183	188
M0Y220	181	172	181	199	192	193	175	185
M0Y222	176	166	187	187	187	195	189	184
M0Y216	174	147	190	203	198	194	180	184
Priscilla	186	155	184	195	188	192	173	182
M0Y217	194	139	194	200	176	201	168	182
M0Y219	176	147	174	186	179	187	191	177
M0Y205	170	157	179	190	189	175	179	177
M0Y228	161	126	189	185	190	185	180	174
M0Y206	182	171	171	181	166	166	163	171
Cypress	172	106	176	182	171	195	162	166
Lemont	168	148	173	179	156	174	160	165
M0Y204	166	146	167	167	157	167	167	162
Jefferson	149	129	145	183	173	157	137	153
Mean	168	148	177	185	179	179	168	172
LSD (0.05)	20	27	17	13	12	17	15	11
CV (%)	8.3	12.8	6.9	4.9	4.8	6.7	13.1	7.4
Date Planted	4/28	5/16	4/19	4/10	5/11	4/25	4/18	

Table 9. Average agronomic and milling performance of long-grain varieties and lines grown at seven on-farm locations, 2000.

Variety or line	Origin[1]	Average yield[2]		Milling yield		Bushel weight	Plant height	50% heading[3]	Maturity[3]	Lodging	1,000 seed weight[4]	Sheath blight[5]	Approx. seed/ pound
		Rough rice	Head rice	Total	Whole								
		bu/A	*lb/A*	*%*	*%*	*lb*	*in*	*days*	*days*	*%*	*gm*	*%*	*no*
Wells	AR	196	3,752	69.5	42.7	43.9	40	81	125	4	28.7	2.8	15,805
Cocodrie	LA	190	4,615	66.9	53.9	42.9	39	79	123	5	28.1	5.5	16,142
M0Y211	MS	188	4,106	67.4	48.7	41.7	38	79	121	1	29.7	0	15,272
M0Y220	MS	185	4,174	67.5	50.4	42.0	38	81	122	3	31.1	0	14,585
M0Y222	MS	184	4,181	66.4	50.5	43.9	42	84	120	0	28.5	1.8	15,915
M0Y216	MS	184	4,109	67.1	50.0	42.2	37	82	125	3	28.7	15	15,805
Priscilla	MS	182	4,135	66.2	50.6	42.7	39	81	123	2	30.7	0	14,775
M0Y217	MS	182	4,342	67.3	53.2	43.9	37	82	121	0	28.2	7.5	16,085
M0Y219	MS	177	4,214	66.1	53.1	44.2	43	85	121	0	27.8	0	16,316
M0Y205	MS	177	3,466	68.0	43.5	43.2	39	79	121	1	30.0	6.5	15,120
M0Y228	MS	174	4,160	65.9	53.3	43.1	44	83	127	16	27.5	1.8	17,788
M0Y206	MS	171	4,469	69.3	57.9	42.7	44	79	115	0	27.9	3.8	16,258
Cypress	LA	166	4,201	66.8	56.4	42.2	39	83	125	9	27.2	19.8	16,676
Lemont	TX	165	3,943	68.7	52.9	43.0	35	85	121	0	29.7	17.5	15,272
M0Y204	MS	162	4,129	67.9	56.5	42.4	40	81	117	0	27.5	2.5	16,494
Jefferson	TX	153	3,348	66.6	48.0	42.0	35	73	108	3	30.3	1.3	14,970
Mean		172	3,888	66.9	50.3	42.5		81	120				
LSD (0.05)		11	379	1.1	3.6	0.6		2	3				
CV (%)		7.4	10.3	1.7	6.5	1.4		2.2	3.5				

[1]Origin: AR = Arkansas, LA = Louisiana, MS = Mississippi, TX = Texas.
[2]Rough rice at 12% moisture.
[3]Days after emergence
[4]Weight of 1,000 kernels.
[5]Sheath blight rating based on percentage of visually infected plot area.

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 1994 to 2000.[1]

Variety or line	Grain yield [2]								3-year avg.[3]	Total tests	Milling yield [4]		Bushel weight	Plant height	Days to		Lodging	1,000 seed weight [5]	Sheath blight [6]
	1994	1995	1996	1997	1998	1999	2000	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*	*%*	*gm*	*score*
Lemont	139	123	162	150	152	161	165	137	159	77	70.2	56.9	42.5	36	88	121	6	25.9	3.0
Jackson	140	133	146	141	139	–	–	144	142	70	69.3	55.5	41.7	42	80	116	10	22.8	2.9
Cypress	140	131	144	130	145	165	166	144	159	63	68.8	60.4	41.6	39	84	123	14	23.1	2.6
LaGrue	173	157	170	165	–	–	–	159	164	35	68.2	55.2	42.6	46	82	124	22	24.6	3.1
Kaybonnet	142	142	153	148	151	177	–	153	159	42	68.5	58.9	42.3	47	82	116	8	20.2	2.3
Priscilla	172	162	181	172	160	177	182	173	173	49	68.0	55.0	42.1	40	81	121	3	27.7	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	170	178	28	67.9	55.8	41.1	41	79	125	8	24.6	2.3
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	186	186	21	69.7	47.8	42.6	44	80	126	6	25.9	1.8

[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 1993 were omitted, but their numbers were included in the average yield and total test numbers.
[3]Average for 1998 to 2000.
[4]Values for milling and agronomic characteristics are accumulated means over all years of testing.
[5]Weight of 1,000 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, 1984-1999.

Variety [1]	Origin [2]	Grain yield			Years	Milling yield		Plant	50%	Lodging	Bushel
		1999	Avg.	3-yr avg.	in test	Total	Whole	height	heading		weight
		bu/A	*bu/A*	*bu/A*	*no*	*%*	*%*	*in*	*days*	*%*	*lb*
Cypress	LA	167	150	148	12	70.2	62.1	41	85	<1	43.7
Cocodrie	LA	174	169	167	5	68.8	55.4	40	78	<1	43.1
Dellrose	TX	166	145	134	9	69.7	54.2	42	80	0	44.0
Dixiebelle	TX	140	145	130	10	69.4	59.0	35	80	0	42.8
Drew	AR	190	163	159	6	69.7	55.1	49	84	<1	44.7
Jefferson	TX	141	146	137	6	67.8	54.9	37	76	<1	42.1
Kaybonnet	AR	160	157	142	9	69.1	57.3	46	80	14	44.5
LaGrue	AR	206	174	175	10	69.2	56.1	46	83	12	44.5
Lemont	TX	174	141	146	16	70.1	53.0	37	89	0	43.3
Madison	TX	145	140	136	6	68.6	48.5	36	86	0	42.5
Maybelle	TX	– [3]	130	144 [4]	9	69.9	56.9	40	74	3	42.9
Priscilla	MS	191	174	167	6	68.0	51.6	41	82	0	43.9
Wells	AR	208	180	173	4	70.3	47.1	43	77	0	45.9

[1]Dellrose = long-grain aromatic; Dixiebelle = long-grain Rexmont type quality.
[2]Origin: AR = Arkansas, LA = Louisiana, MS = Mississippi, TX = Texas.
[3]Heavy bird damage occurred.
[4]Two-year average for 1997 and 1998.

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
Cocodrie	MS	VS	VS	S	MR	MR	MS	S	S
Cypress	R	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
Wells	S	MS	MR	MS	R	–	–	MS	S

[1]Abbreviations: R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.

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