

Mississippi Rice Variety Trials, 2011

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Introduction

The USDA projected that 153,000 acres of rice were harvested in the Delta counties of Mississippi in 2011. This represented a 50% decrease in harvested acreage from 2010, and a 36% decrease from the 30 year average. This acreage is slightly below the 162,000 acres harvested in 1983 and slightly above 145,000 acres harvested in 1976. Two Clearfield® varieties and two Clearfield® hybrids accounted for approximately 70% of the total rice acreage. CLXL745 and CLXL729 were planted on 22 and 16% of the acreage respectively, while CL151 and CL111 were planted on 20 and 12% of the acreage respectively. Cocodrie continued to be a favorite among conventional varieties and accounted for 18% of the acreage, whereas the conventional hybrid XL723 was planted to 7%. The remaining 5% was planted primarily to CL142-AR, CL162, Cheniere, Rex, and Sabine.

Rice planting began the last week of March and progressed at the 5-year average pace which meant that 32% had been planted by April 17th and 70% by the end of April. Seedling growth was excellent for most of the spring and heat unit accumulation allowed rice to progress ahead of the 5-year average. Approximately 33% of the rice planted reached the heading stage before July 15th. By the end of July, 80% of the planted acreage had reached the heading stage. Rice harvest began as early as the first week of August and was in full swing by August 15. Harvest weather was warm and dry, thus harvest proceeded at a record pace.

Similar to 2010, the Delta encountered a period of excessive heat during the critical pollination stage for rice that was headed and pollinating the first week of August. The first seven days of August saw temperatures exceed 100 °F in the day and 6 of the 7 nights saw temperatures in the 80's. Excessive day and night time temperature during pollination caused sterility and greatly reduced the yield potential on a considerable amount of acreage. Specifically, based on variety planting date studies conducted at Stoneville, rice that was heading the last week of July

through approximately August 10 was most susceptible to reduced yields due to blanking. Furthermore, the excessive heat also contributed to lower milling quality on rice that was maturing. Irrigation costs due to the heat and drought conditions were extremely high for most producers. Cash price for rice at harvest continued to be well below CBOT futures, which has applied pressure towards planting intentions for 2012. USDA yield prediction for Mississippi as of October was 7100 lb/A (158 bushels per acre) which is up from 152 bushels per acre harvested in 2010.

The purposes for conducting on-farm rice variety trials are multiple. Advanced experimental lines are evaluated under various production environments which gives the breeding program necessary information to select lines for release as public varieties. Specific information includes yield and milling performance, insect and disease susceptibility, and lodging. By placing these trials at multiple locations throughout the Delta, rice lines and varieties are exposed to conditions and practices that are common to commercial production that cannot always be reproduced at the experiment station. In addition to providing the breeder and agronomist worthwhile information, growers are provided with side by side comparisons of the currently available rice varieties and hybrids. This information can be used to guide variety selection in the succeeding year. Variety selection is one of the most important decisions a grower makes in production planning. Growers should attempt to select varieties that offer the best combination of yield and quality while also considering the variety's susceptibility to yield limiting factors. Furthermore, the breeder and agronomists use the variety trials as an educational tool for research and extension staff, farmers, private consultants, and industry personnel. Often times these trials are used to give interested parties the "first look" at new or potential releases from Mississippi State University and other rice breeding institutions, as well as private industry.

Test Procedures

A total of 63 entries including named varieties, hybrids, and experimental lines were planted at six “on-farm” locations. Of the 63 entries, 31 are included in this report. Of the 31 entries, eight are conventional public released long-grain varieties, one public conventional medium grain, three RiceTec conventional hybrids, two Bayer conventional hybrids, four advanced breeding lines, seven Clearfield inbred varieties, one Clearfield medium grain, three RiceTec Clearfield hybrids, and two Clearfield advanced breeding lines. Individual plots consisted of 8 drill rows 15 feet in length and spaced 8 inches apart. Varieties and experimental lines were planted at 90 pounds of seed per acre and the hybrids were planted at 35 pounds of seed per acre. Seeds were planted approximately 1.25 inches deep into stale seedbeds at all locations. All entries were replicated three times at each location. Four on-farm locations (Cleveland, Hollandale, Stoneville, and Tunica) received all agricultural inputs based on the whole field. Due to other experiments being conducted in the same field, the Litton and Clarksdale sites received only one application of urea at the rate of 150 pounds of N per acre immediately prior to flood establishment. Herbicide, insecticide, and fungicide applications were made according to the need of the field at all locations. All management applications are included in Tables 1-6 [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 or to the 2009 Weed Control Guidelines for Mississippi (MSU-ES/MAFES Pub. No. 1532)].

Agronomic data were collected at appropriate times during the growing season. Lodging ratings (percent of plot and severity) were obtained on a plot by plot basis. The entire plot was harvested with a small-plot combine equipped with a computerized weigh system and moisture meter. Due to differences in maturity, the majority of the entries at each location had to have achieved appropriate harvest moisture prior to the test being harvested. Average harvest grain

moisture for each entry is reported in Tables 1-6. Subsamples of each entry were collected at harvest. Those subsamples were used to conduct milling, bushel weight, and 1000 seed weight analyses. Replicated research has shown that the border effect for plot grain yields is 10% greater for inbred varieties and 15% greater for hybrids. Plot yields for entries should be compared in a relative manner rather than looking at just reported yield potential alone.

All relevant data were subjected to analysis of variance procedures using SAS statistical software. The least significant difference test at the 5% significance level was used to differentiate between entries. If yield differences of two entries reported in Tables 1-6 are greater than the LSD value reported, the entries are statistically different. In addition, a coefficient of variation (CV) was calculated for each test. This measurement is an indication of the level of precision of each test. Lower CV values indicate greater reliability of the test. The LSD and CV values are reported in the footnotes of Tables 1-6 and 8. Statistical analyses included all 63 entries though only 31 entries are reported.

Results

The performance of each variety in the six individual test locations is presented in Tables 1-6. On-Farm Variety Trials were planted over a range of about one month (Stoneville planted April 8 and Tunica planted May 11). However, four of the six trials were planted April 13 and April 14. For the most part, stands were sufficient for plant population and uniformity. Growing conditions were excellent. Problems that would sacrifice data quality were minimal. Lodging appeared to be more than what is normally encountered; however, Tropical Storm Lee contributed to lodging at Litton, Clarksdale, and Tunica. Five of the six locations received a fungicide that is efficacious on sheath blight. Furthermore, environmental conditions were not optimum for sheath blight to limit yield potential. With the optimum planting dates, uniformity of rice stands, and minimal yield limiting problems during the growing season, rice yields were exceptionally high and averaged across all varieties, only slightly varied across all locations for the reported

entries. The range was 219 bu/acre at Litton to 258 bu/acre at Renova. The CV's for yield ranged from 5 to 9% which is very respectable for these types of experiments. Milling yields were acceptable for most entries; however, milling, similar to 2010, was down compared to 2009. Extreme heat, especially during the nighttime most likely contributed to lower milling compared to 2009. Lodging tended to be greater in 2011 than in recent years. Nitrogen was applied at a minimum of 150 lb N/acre at all locations. Some varieties and hybrids do not require as much N to reach 95% or greater of the maximum yield potential, and thus are subject to lodging when fertilized excessively. Specifically, Bayer hybrids will not require more than 90 to 120 lb N/acre to produce optimum yields. CL151 typically will not require more than 135 lb N/acre to reach its optimum yield potential. These three entries are highly subject to lodging, especially at N rates that exceed 150 lb N/acre.

Table 7 provides a six location summary of grain yields for the 31 entries. In addition to yield, a stability value is provided. The smaller the stability value, the greater the chance the variety has for performing similarly with respect to yield across the six locations. Table 8 provides a summary across all locations for yield, milling, and other pertinent information for each entry. The conventional RiceTec hybrids demonstrated a clear yield advantage to conventional varieties (approximately 25%). Additionally, RiceTec's Clearfield hybrids demonstrated a yield advantage over the popular Clearfield varieties (approximately 17%). However, based on information presented earlier regarding the boarder effect, as well as large plot demonstrations, growers should not expect more than a 10 to 15% yield advantage when planting hybrids compared to high-yielding inbred varieties. For inbred varieties, CL142-AR and CL111 ranked 1st and 2nd, respectively, in grain yield. Remarkable yield gains have been made in Clearfield inbred varieties as it has just been a few years since growers who planted Clearfield varieties expected to obtain yields that were 10% or more less than conventional varieties.

Rex, released by MAFES in February 2010, and grown for registered seed in 2011 by many Mississippi seed growers, performed exceptionally well in 2011 (average of 236 bu/acre).

Furthermore, no lodging was observed at any of the six locations for Rex. After finalizing the licensing agreement with BASF, CL162 was produced as registered seed in 2011.

Furthermore, a small quantity was also sold as certified so growers could have limited acreage.

CL162 performed well. It was superior to CL131 and CL181-AR; however, as expected, was about 10% less in yield relative to CL111, CL142-AR, and CL151. CL162 has had favorable reviews for its grain size and milled appearance. It also stands better than CL151.

Entries that begin with RU represent advanced breeding lines that performed well in on-farm as well as multi-state testing. RU1004083 and RU1104122 are Clearfield lines that produced yields similar to the commercially available CL111, CL142-AR, and CL151. Lodging resistance is also much improved for these lines compared to most commercially available Clearfield varieties.

Table 9 provides agronomic, yield and milling data from select rice varieties that have been included in on-farm tests for multiple years. Variety selection should include emphasis on performance stability over many environments. Varieties such as Cocodrie and Wells have been relatively stable over many years, thus they have been popular varieties in Mississippi and the Midsouth for several years. As stated earlier, Rex has also shown tremendous stability over multiple locations both in Mississippi and in other states. Table 10 is included to provide a historical record of the performance of the varieties included as check varieties in the Uniform Regional Rice Nursery, which includes 170+ experimental lines from Arkansas, Louisiana, Mississippi, and Texas.

Variety and hybrid reactions to common diseases and straighthead disorder are found in Table 11. Decisions about the use of fungicides should be made considering a variety's susceptibility

to a particular disease, the potential for the disease to cause economic loss, as well as the efficacy of fungicides that are available to combat or prevent the respective disease.

Nitrogen fertilization rate guidelines are provided in Table 12. These guidelines were generated from multi-year, multi-site N response studies conducted for newly released cultivars. A combination of current economics, individual cultivars' susceptibility to lodging and yield potential are included in determining the rate guidelines. Year after year coarse-textured soils, commonly referred to as silt loams, require approximately 30 pounds of nitrogen per acre less than fine-textured or clay soils. By applying less N on silt loam soils, disease and lodging incidence are subject to decrease without sacrificing yield and quality.

Suggested conventional varieties for Mississippi rice growers are Bowman, Cocodrie, Cheniere, Rex, Templeton, and Wells. Sabine is often grown on limited acreage by contract. Hybrid rice cultivars perform well in Mississippi. RiceTec, Inc., and Bayer should be contacted for seed availability. For growers who need to utilize the Clearfield technology to control red rice, CL111, CL131, CL142-AR, CL151, CL152, CL162, and CL181-AR varieties will be available in 2012. Clearfield rice hybrids perform well in Mississippi. Clearfield hybrids will be solely offered by RiceTec, Inc. Seed costs for Clearfield rice have increased substantially in recent years. Clearfield rice should be used as a tool with careful attention given to stewardship so that the technology can last into the future. Stewardship should encompass minimizing the potential for outcrossing of red rice and Clearfield rice. Stewardship should also include addition of residual and contact herbicides for grass control so that selection pressure is minimized. Incidences of suspected Newpath resistant barnyard-grass have increased in the last few years. Outcrossing and grass resistance jeopardize this important technology.

As has been demonstrated in previous years, no variety or hybrid is perfect. Each variety that is released has qualities or characteristics that add value to the marketplace. Varietal

performance over time and in different environments should be considered when choosing which to plant. For varieties with high yield potential, consider risks such as lodging and disease and plan to manage for those yield limiting factors. Multiple varieties, both Clearfield and conventional, are recommended for averaged sized rice farms to further spread the risks associated with rice production.

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Table 1. Performance of rice cultivars and lines grown on Sharkey clay soil near Tunica, Tunica County, Mississippi, 2011.¹

Entry	Yield ²	Milled Head Rice	Whole Milled Rice	Total Milled Rice	Harvest Moisture	Bushel weight	Plant Height	50% Heading ³	Lodging	Lodging ⁴	1000 Seed weight ⁵
	bu/A	lb/A		%		lb	in	days	%	(0-5)	%
Conventional											
Arize1003	241	5862	54	68	14.4	33.8	52	94	60	4	23.5
Bowman	196	5116	58	67	16.3	38.7	43	87	0	0	24.4
Caffey ⁶	201	5967	66	72	14.9	42.4	39	81	0	0	27.6
Catahoula	226	5909	58	72	13.5	41.9	43	77	0	0	23.0
Cheniére	231	6335	61	71	13.1	39.5	43	78	0	0	21.7
Cocodrie	202	5630	62	72	13.0	40.0	42	75	0	0	22.5
01H10010	263	5916	50	67	15.1	34.0	50	84	80	4	23.6
Rex	239	6572	61	69	14.1	40.7	43	78	0	0	25.9
RoyJ	183	5104	62	72	18.2	38.2	45	84	0	0	22.6
Taggart	176	4271	54	69	16.8	39.7	45	83	0	0	26.8
Templeton	222	6096	61	71	14.3	40.9	44	79	5	1	21.2
XL723	270	7649	63	71	12.8	37.6	50	76	0	0	24.5
XP753	296	7469	56	71	12.7	38.1	47	73	0	0	22.9
XP754	255	6323	55	71	16.7	35.9	44	81	35	2	23.3
RU1004197	245	6611	60	70	13.2	40.4	42	74	0	0	23.8
RU1104077	221	5772	58	70	15.1	41.4	42	82	0	0	23.7
RU1104191	182	4747	58	70	15.2	41.8	39	82	0	0	23.6
RU1104156	209	6104	65	70	15.2	39.0	39	78	0	0	24.2
Clearfield											
CL111	217	5463	56	70	13.5	39.6	45	72	50	4	22.3
CL131	150	4128	61	71	14.0	37.5	39	77	0	0	21.0
CL142 AR	261	4820	41	70	13.5	40.0	48	77	35	2	25.4
CL151	197	5146	58	70	14.5	37.8	44	74	65	4	21.8
CL152	216	6027	62	69	14.1	39.1	45	79	0	0	20.2
CL162	211	5689	60	71	13.9	38.4	47	73	40	2	23.7
CL181 AR	225	5981	59	69	15.0	39.3	43	78	10	2	22.5
CL261 ⁵	229	6699	65	70	16.2	42.1	46	77	50	3	24.0
CLXL729	269	7025	58	70	13.4	38.0	52	75	40	2	23.9
CLXL745	300	7696	57	70	12.4	36.3	50	72	10	1	23.6
CLXP756	285	6790	53	71	15.7	36.8	47	84	25	2	22.9
RU1004083	264	7013	59	70	14.7	39.8	44	75	3	1	23.4
RU1104122	249	6623	59	71	14.4	38.2	44	79	35	3	23.7

¹**Planting date:** May 11. **Emergence:** May 24. **Herbicides:** Roundup® at 1qt/acre + Command® at 1gal/6 acre + Firstshot® at 0.9oz/acre on May 11; RicePro® 1 gal/acre + Crop Oil 1pt on June 8. **Fertilizer:** 270 lb/acre urea on June 9; 130 lb/acre urea on June 30. **Insecticide:** Mustang Max® at 1gal/35 acre on July 27. **Fungicide:** Quilt XL® 10.5 oz/acre on July 27. **Permanent Flood:** June 10. **Drained Field:** September 3. **Harvested:** September 27.

A difference of 38 bushels per acre is required for one variety to differ from another at the 5% probability level. C.V. = 9%.

²Rough rice at 12% moisture.

³Days after emergence.

⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground.

⁵Weight of 1000 kernels.

⁶Medium grain

Table 2. Performance of rice cultivars and lines grown on Alligator clay soil near Clarksdale, Coahoma County, Mississippi, 2011.¹

Entry	Yield ² bu/A	Milled Head Rice lb/A	Whole Milled Rice	Total Milled Rice %	Harvest Moisture	Bushel weight lb	Plant Height in	50% Heading ³ days	Lodging %	Lodging ⁴ (0-5)	1000 Seed weight ⁵ %
Conventional											
Arize1003	283	7001	55	66	19.2	33.4	50	104	87	4	25.4
Bowman	220	5854	59	69	16.0	42.8	42	96	0	0	24.8
Caffey ⁶	218	6266	64	72	18.4	44.6	41	97	0	0	28.4
Catahoula	211	5312	56	70	15.2	42.4	43	93	0	0	23.7
Cheniere	164	4363	59	71	15.9	41.0	41	95	0	0	21.3
Cocodrie	227	5929	58	68	14.6	41.7	45	91	0	0	22.7
01H10010	255	6085	53	66	17.6	31.6	52	99	53	2	24.4
Rex	228	5326	52	66	14.4	40.2	46	90	0	0	25.4
RoyJ	185	4735	57	70	21.5	40.8	47	100	0	0	22.9
Taggart	222	5902	59	70	17.6	42.1	50	99	0	0	26.7
Templeton	198	5261	59	69	13.9	42.5	46	99	0	0	20.7
XL723	315	7937	56	70	13.4	38.2	50	93	33	2	24.6
XP753	320	7354	51	72	12.8	39.6	45	88	0	0	23.6
XP754	283	8154	64	72	19.3	40.0	46	100	0	0	24.9
RU1004197	219	5628	57	68	15.7	41.6	44	93	0	0	22.9
RU1104077	249	6395	57	67	17.0	44.0	43	96	0	0	23.8
RU1104191	237	6076	57	67	16.7	43.9	42	98	0	0	24.1
RU1104156	231	5934	57	69	17.5	40.2	45	95	0	0	25.0
Clearfield											
CL111	242	5873	54	69	14.7	40.0	46	91	83	3	24.0
CL131	155	4046	58	68	14.9	38.4	39	95	0	0	21.8
CL142 AR	214	5014	52	69	15.4	40.7	52	95	17	1	26.6
CL151	224	5548	55	69	16.6	38.4	43	92	83	4	23.2
CL152	205	5443	59	66	17.6	41.2	45	99	0	0	20.7
CL162	200	4853	54	68	18.0	37.4	48	92	33	2	23.7
CL181 AR	111	2537	51	64	18.7	33.0	42	97	0	0	23.2
CL261 ⁶	223	5325	53	65	17.1	38.4	46	91	80	3	23.0
CLXL729	295	7165	54	68	13.3	37.8	51	96	70	2	23.6
CLXL745	326	8352	57	71	14.0	37.6	48	89	23	1	23.9
CLXP756	279	7914	63	73	20.3	39.6	45	100	0	0	24.2
RU1004083	240	5721	53	70	15.6	42.1	44	91	0	0	22.5
RU1104122	215	5706	59	68	18.0	40.9	43	98	0	0	23.5

¹**Planting date:** April 13. **Emergence:** April 25. **Herbicides:** ½ lb/acre Facet[®] + 10oz/acre Grandstand[®] + 0.5 oz/acre Regiment[®] on May 22. **Fertilizer:** 326 lb/acre of urea on May 19 (Applied by MSU). **Insecticide:** 1 gal/75 acres Karate[®] on August 5. **Fungicide:** 6 oz/acre Quadris[®] on July 6 and on July 24. **Permanent Flood:** May 26. **Drained field:** August 28.

Harvested: September 13. **A difference of 23 bushels per acre is required for one variety to differ from another at the 5% probability level. C.V. = 7%.**

²Rough rice at 12% moisture.

³Days after emergence.

⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground.

⁵Weight of 1000 kernels.

⁶Medium grain

Table 3. Performance of rice cultivars and lines grown on Sharkey clay soil near Renova, Bolivar County, Mississippi, 2011.¹

Entry	Yield ² bu/A	Milled Head Rice lb/A	Whole Milled Rice	Total Milled Rice %	Harvest Moisture	Bushel weight lb	Plant Height in	50% Heading ³ days	Lodging %	Lodging ⁴ (0-5)	1000 Seed weight ⁵ g
Conventional											
Arize1003	237	5545	52	67	19.6	33.5	45	96	90	4	26.2
Bowman	232	6360	61	71	18.0	41.9	44	88	17	0	25.3
Caffey ⁶	237	7041	66	73	18.0	43.7	42	89	0	0	27.7
Catahoula	258	6728	58	71	14.2	41.6	46	86	0	0	23.2
Cheniere	264	7716	65	73	13.1	40.7	41	84	10	1	21.0
Cocodrie	263	7088	60	71	15.2	41.2	41	85	10	1	22.2
01H10010	213	4787	50	66	19.3	31.2	47	85	90	4	17.8
Rex	270	6935	57	68	14.2	41.1	45	83	0	0	25.5
RoyJ	223	5429	54	71	17.1	41.2	48	89	0	0	22.1
Taggart	255	6758	59	71	15.5	41.2	49	90	0	0	23.4
Templeton	233	5557	53	70	15.3	39.3	49	88	80	3	20.8
XL723	318	8165	57	70	11.9	37.6	49	82	57	2	23.6
XP753	340	8716	57	72	12.8	39.2	50	85	53	1	24.0
XP754	276	6737	54	71	18.8	38.0	50	87	87	3	24.2
RU1004197	274	7516	61	71	14.1	41.1	41	85	0	0	22.9
RU1104077	243	6332	58	71	16.4	44.0	43	87	3	1	24.8
RU1104191	250	6528	58	70	17.5	44.1	44	88	8	1	25.1
RU1104156	255	7105	62	69	15.4	39.8	44	86	0	0	25.2
Clearfield											
CL111	255	6663	58	70	13.7	39.3	43	80	77	4	24.2
CL131	238	6640	62	72	12.7	40.8	38	82	20	1	21.1
CL142 AR	272	6971	57	72	16.2	42.6	47	83	73	3	25.4
CL151	261	7047	60	72	14.7	38.3	41	81	83	4	22.3
CL152	265	6920	58	68	14.2	41.5	41	85	0	0	20.6
CL162	230	5596	54	69	14.7	39.5	42	82	83	4	24.6
CL181 AR	241	6296	58	69	15.6	40.7	38	85	0	0	23.1
CL261 ⁶	222	6101	61	70	14.5	43.9	41	85	43	2	23.9
CLXL729	286	6696	52	68	13.2	38.7	47	81	50	2	23.4
CLXL745	312	7999	57	71	12.3	37.2	48	80	90	3	24.9
CLXP756	272	6856	56	72	18.8	37.5	46	86	90	4	23.6
RU1004083	243	6243	57	71	15.4	41.5	45	86	50	3	22.9
RU1104122	249	6502	58	70	14.6	41.2	43	86	57	3	24.7

¹**Planting date:** April 14. **Emergence:** April 23. **Herbicides:** 1 gal/16 acre Super Wham[®] + ½ lb/acre Facet[®] + 2 pint/acre Prowl[®] + 1 pint/acre crop oil on April 30; 0.5oz/acre Permit[®] on May 20; 0.5oz/acre Clincher[®] + 1qt/acre crop oil on June 6; 1gal/16 acre Blazer[®] on June 21. **Fertilizer:** 50 lb/acre DAP + 50 lb/acre Ammonium sulfate on April 30; 100 lb/acre urea + Agrotain on May 20, June 6, and Jun 21; 100lb/acre urea on June 28. **Insecticide:** 1gal/60 acres Karate Z[®] on July 28. **Fungicide:** 14oz/acre Quilt XL[®] on July 15. **Permanent Flood:** May 24. **Drained field:** August 15. **Harvested:** August 30.

A difference of 22 bushels per acre is required for one variety to differ from another at the 5% probability level. C.V. = 6%

²Rough rice at 12% moisture.

³Days after emergence.

⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground.

⁵Weight of 1000 kernels.

⁶Medium grain.

Table 4. Performance of rice cultivars and lines grown on Sharkey clay soil near Litton, Bolivar County, Mississippi, 2011.¹

Entry	Yield ²	Milled Head Rice	Whole Milled Rice	Total Milled Rice	Harvest Moisture	Bushel weight	Plant Height	50% Heading ³	Lodging	Lodging ⁴	1000 Seed weight ⁵
	bu/A	lb/A	%			lb	in	days	%	(0-5)	g
Conventional											
Arize1003	272	6372	52	66	20.2	36.0	46	106	87	3	26.3
Bowman	199	5011	56	67	16.4	43.3	42	100	0	0	25.2
Caffey ⁶	200	5578	62	72	18.3	44.8	41	98	0	0	28.8
Catahoula	173	4207	54	69	15.2	42.6	44	96	0	0	23.6
Cheniére	150	3925	58	70	17.3	41.6	39	97	0	0	21.7
Cocodrie	212	5616	59	68	15.6	42.7	43	97	10	1	22.5
01H10010	247	5993	54	68	17.4	34.3	47	102	87	3	25.4
Rex	210	4623	49	65	15.1	40.1	45	95	0	0	24.7
RoyJ	202	5182	57	70	17.7	42.2	45	103	0	0	24.2
Taggart	199	4734	53	69	14.5	43.5	48	101	0	0	26.6
Templeton	194	4618	53	68	13.5	43.4	45	100	30	1	21.3
XL723	296	7317	55	69	12.8	39.0	49	95	73	2	24.6
XP753	306	7433	54	70	13.5	39.4	45	93	17	1	23.1
XP754	282	7486	59	72	19.1	39.7	44	101	83	2	24.8
RU1004197	207	5322	57	69	15.6	40.8	42	95	67	3	22.3
RU1104077	218	5393	55	66	15.7	43.6	42	101	0	0	24.3
RU1104191	231	6041	58	68	17.2	44.6	43	101	0	0	24.2
RU1104156	214	5189	54	67	14.4	38.8	44	95	60	2	24.0
Clearfield											
CL111	232	5634	54	69	15.6	41.4	42	94	87	3	24.3
CL131	199	4833	54	68	13.3	40.8	39	95	0	0	21.7
CL142 AR	195	4477	51	69	15.3	43.2	48	97	0	0	26.3
CL151	201	4695	52	67	19.1	39.4	41	95	90	3	22.1
CL152	163	4026	55	66	18.4	41.3	43	100	0	0	21.4
CL162	192	4320	50	67	16.0	38.8	44	94	63	3	24.4
CL181 AR	135	3154	52	68	17.5	42.4	41	99	0	0	23.7
CL261 ⁶	185	4752	57	67	15.5	40.8	43	95	67	2	23.2
CLXL729	284	6519	51	67	11.9	38.3	46	95	73	2	23.2
CLXL745	297	7613	57	72	14.6	38.1	45	89	90	3	25.2
CLXP756	291	7735	59	72	19.5	39.7	45	101	90	2	25.3
RU1004083	200	4331	48	67	14.5	40.6	42	96	23	1	22.4
RU1104122	202	5443	60	68	16.4	42.4	42	99	0	0	24.0

¹**Planting date:** April 13. **Emergence:** April 22. **Herbicides:** Compadre[®] at 6.4 oz /acre + Gramoxone Inteon[®] at 40oz/acre on March 25; Facet 75DF[®] at 0.25 lb/acre + Aim EC[®] at 0.75 oz/acre + Regiment[®] 0.65 dry oz/acre + Soysurf -xtra[®] at 12.8oz/acre on May 30. **Fertilizer:** 100 lb/acre DAP + 100 lb/acre Ammonium nitrate on May 5; 285lb/acre urea on May 30; 150lb/acre urea on June 22. **Insecticides:** Karate[®] with Zeon 1.8 oz/acre on May 30 and July28. **Fungicides:** Quilt[®] at 14 oz/acre on July 16.

Permanent flood: May 28. **Drained field:** August 27. **Harvested:** September 10.

A difference of 17 bu/acre is required for one variety to differ from another at the 5% significance level. C.V. = 5%.

²Rough rice at 12% moisture.

³Days after emergence.

⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground.

⁵Weight of 1000 kernels.

⁶Medium grain.

**Table 5. Performance of rice cultivars and lines grown
on Sharkey clay soil near Stoneville, Washington County, Mississippi, 2011.¹**

Entry	Yield ² bu/A	Milled Head Rice lb/A	Whole Milled Rice	Total Milled Rice %	Harvest Moisture	Bushel weight lb	Plant Height in	50% Heading ³ days	Lodging %	Lodging ⁴ (0-5)	1000 Seed weight ⁵ g
Conventional											
Arize1003	216	5348	55	66	19.0	33.8	50	100	30	1	24.8
Bowman	235	6143	58	70	15.0	41.9	40	90	0	0	25.2
Caffey ⁶	247	7004	63	70	15.2	42.0	41	90	0	0	27.5
Catahoula	250	6643	59	70	14.2	41.7	42	87	0	0	23.6
Cheniere	236	6269	59	70	13.6	38.3	39	86	0	0	21.1
Cocodrie	232	6254	60	70	13.8	40.1	43	86	0	0	23.1
01H10010	169	3725	49	66	22.7	34.1	50	92	60	3	24.0
Rex	250	6532	58	68	13.9	38.9	43	85	0	0	26.8
RoyJ	232	5647	54	69	16.2	39.4	45	94	0	0	21.4
Taggart	252	6228	55	70	14.9	40.2	50	93	0	0	26.4
Templeton	237	5856	55	68	14.5	41.1	48	92	0	0	20.7
XL723	302	8164	60	70	12.8	37.4	49	84	0	0	24.4
XP753	322	8268	57	71	12.4	39.4	46	84	0	0	23.8
XP754	281	7448	59	71	16.2	38.5	47	92	40	2	22.2
RU1004197	230	5890	57	67	13.3	39.7	40	85	0	0	22.3
RU1104077	260	6783	58	68	14.2	41.8	41	91	0	0	24.6
RU1104191	274	6791	55	68	14.4	42.3	42	89	0	0	24.2
RU1104156	271	7446	61	69	14.6	40.1	41	86	0	0	26.5
Clearfield											
CL111	231	5916	57	68	14.9	39.0	44	86	37	2	23.5
CL131	235	6771	64	71	13.4	39.2	41	86	0	0	22.3
CL142 AR	276	6581	53	68	15.3	41.6	51	88	0	1	25.2
CL151	252	6581	58	69	13.8	39.5	42	86	0	0	22.3
CL152	231	5932	57	66	13.9	38.6	43	92	0	0	19.9
CL162	217	5479	56	68	15.8	38.3	47	87	33	3	23.8
CL181 AR	238	6008	56	67	14.7	39.3	42	88	0	0	23.2
CL261 ⁶	209	5932	63	68	16.2	41.9	46	87	27	1	24.4
CLXL729	274	7017	57	69	12.7	37.4	50	86	17	1	23.8
CLXL745	286	7204	56	69	12.1	36.1	48	83	7	1	23.8
CLXP756	277	6987	56	72	15.1	39.3	50	93	33	2	23.7
RU1004083	251	6790	60	70	14.3	40.3	42	88	0	0	24.2
RU1104122	255	6414	56	67	13.7	39.3	44	91	0	0	23.3

¹**Planting date:** April 8. **Emergence:** April 19. **Herbicides:** 17 fl oz/acre Ricestar HT + 0.5 fl oz/acre Aim on May 6; 0.6 oz/acre Regiment + 0.5 oz/acre Permit, + 0.75 fl oz/acre Aim + 1.0% v/v UAN + 0.125% v/v Kinetic on May 18. **Fertilizer:** 300 lb/acre of urea on May 19; 100 lb/acre of urea on June 20. **Insecticide:** 2.56 fl oz/acre Karate on July 18. **Permanent Flood:** May 19. **Drained field:** August 10. **Harvested:** August 29.

A difference of 28 bushels per acre is required for one variety to differ from another at the 5% probability level. C.V. = 7%.

²Rough rice at 12% moisture.

³Days from emergence.

⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground.

⁵Weight of 1000 kernels.

⁶Medium grain.

**Table 6. Performance of rice cultivars and lines grown
on Sharkey clay soil near Hollandale, Washington County, Mississippi, 2011.¹**

Entry	Yield ² bu/A	Milled Head Rice lb/A	Whole Milled Rice	Total Milled Rice %	Harvest Moisture	Bushel weight lb	Plant Height in	50% Heading ³ days	Lodging %	Lodging ⁴ (0-5)	1000 Seed Weight ⁵ g
Conventional											
Arize1003	226	4985	49	67	19.3	34.2	47	93	0	0	25.3
Bowman	223	5607	56	70	16.5	42.8	41	91	0	0	25.5
Caffey ⁶	179	4267	53	70	16.9	43.0	38	91	0	0	27.3
Catahoula	220	4660	47	70	13.4	42.4	39	84	0	0	22.9
Cheniere	224	5956	59	71	13.1	40.3	39	88	0	0	20.9
Cocodrie	212	5732	60	70	15.0	41.7	39	87	0	0	23.2
01H10010	244	5170	47	65	19.6	35.7	48	93	0	0	24.3
Rex	216	5545	57	68	14.4	40.8	40	86	0	0	26.5
RoyJ	191	4546	53	71	16.9	40.9	42	92	0	0	22.6
Taggart	206	4535	49	71	16.3	42.7	46	91	0	0	26.8
Templeton	215	4751	49	70	14.4	41.9	44	89	0	0	20.5
XL723	291	7340	56	70	13.3	38.1	47	86	0	0	24.3
XP753	260	6073	52	71	15.0	38.0	43	88	0	0	23.0
XP754	253	5696	50	70	19.6	37.8	44	93	0	0	23.8
RU1004197	219	6009	61	71	13.7	41.2	39	90	0	0	22.9
RU1104077	237	5646	53	69	15.2	42.0	41	90	0	0	24.7
RU1104191	211	4743	50	68	14.9	43.3	41	88	0	0	25.3
RU1104156	219	5625	57	69	14.2	39.7	38	86	0	0	25.1
Clearfield											
CL111	274	6537	53	70	12.6	40.6	43	83	0	0	24.5
CL131	238	6112	57	71	12.7	41.2	37	83	0	0	21.2
CL142 AR	273	4914	40	71	14.0	43.5	47	85	0	0	25.1
CL151	253	5689	50	71	13.0	40.4	40	83	0	0	23.0
CL152	249	6490	58	68	13.8	41.3	42	90	0	0	20.6
CL162	233	5441	52	70	13.5	39.0	45	85	0	0	24.9
CL181 AR	230	5484	53	69	14.6	39.9	38	88	0	0	23.0
CL261 ⁶	221	6073	61	72	14.3	43.5	43	85	0	0	23.2
CLXL729	254	5724	50	68	13.8	37.6	48	85	0	0	23.3
CLXL745	233	5345	51	70	12.9	34.1	46	88	0	0	24.3
CLXP756	249	5944	53	72	19.1	38.5	45	93	0	0	24.1
RU1004083	249	5259	47	70	13.8	41.9	40	84	0	0	23.2
RU1104122	254	6393	56	69	14.2	41.3	44	90	0	0	23.9

¹**Planting date:** April 14. **Emergence:** April 22. **Herbicides:** Command[®] + Roundup[®] at 1 gal/6 acres on April 13; Regiment[®] at 0.05 oz/acre + Permit[®] at 0.5 oz/acre + 1% Soy-surf on May 16. **Fertilizer:** Agrotain treated Urea at 200 lb/acre pre-flood on May 17; Urea at 100 lb/acre on June 10; Urea at 100 lb/acre on June 17.

Date flushed: April 27. **Insecticide:** Kaiso[®] at 1 gal/ 7 acres on July 18. **Fungicide:** Quilt XL[®] at 14 oz/acre on July 4.

Permanent flood: May 17. **Drained field:** August 14. **Harvested:** August 29.

A difference of 25 bushels per acre is required for one variety to differ from another at the 5% probability level. C.V. = 7%

²Rough rice at 12% moisture

³Days after emergence.

⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground.

⁵Weight of 1000 kernels.

⁶Medium grain.

Table 7. Average rough rice yields of varieties, hybrids, and lines evaluated in on-farm trials at six locations, 2011.

Entry	Location						Average	Stability ²
	Tunica	Clarksdale	Renova	Litton	Stoneville	Hollandale		
Conventional								
Arize1003	241	283	237	272	216	226	246	10.7
Bowman	196	220	232	199	235	223	218	7.6
Caffey ¹	201	218	237	200	247	179	214	11.9
Catahoula	226	211	258	173	250	220	223	13.6
Cheniere	231	164	264	150	236	224	212	21.0
Cocodrie	202	227	263	212	232	212	225	9.7
01H10010	263	255	213	247	169	244	232	15.2
Rex	239	228	270	210	250	216	236	9.5
RoyJ	183	185	223	202	232	191	203	10.1
Taggart	176	222	255	199	252	206	218	14.2
Templeton	222	198	233	194	237	215	217	8.2
XL723	270	315	318	296	302	291	299	5.9
XP753	296	320	340	306	322	260	307	9.0
XP754	255	283	277	282	281	253	273	5.1
RU1004197	245	219	274	207	230	219	232	10.4
RU1104077	221	249	243	218	260	237	238	6.8
RU1104191	182	237	250	231	274	211	231	13.8
RU1104156	209	231	255	214	271	219	233	10.6
Clearfield								
CL111	217	242	255	232	231	274	242	8.3
CL131	150	155	238	199	235	238	203	20.4
CL142 AR	261	214	272	195	276	273	249	14.0
CL151	197	224	261	201	252	253	231	12.1
CL152	216	205	265	163	231	249	222	16.2
CL162	211	200	230	192	217	233	214	7.6
CL181 AR	225	111	241	135	238	230	197	29.4
CL261 ¹	229	223	222	185	209	221	215	7.4
CLXL729	269	295	286	284	274	254	277	5.2
CLXL745	300	326	312	297	286	233	292	11.0
CLXP756	285	279	272	291	277	249	276	5.3
RU1004083	264	240	243	200	251	249	241	9.1
RU1104122	249	215	249	202	255	254	237	9.6
Mean	230	232	258	219	249	234	237	
LSD	38	23	22	17	28	25		
CV	9	7	6	5	7	7		
Planting Date	May 11	April 13	April 14	April 13	April 8	April 14	--	
Emergence date	May 24	April 25	April 23	April 22	April 19	April 22	--	

¹Medium grain.

²Stability represents the ability of the entry to perform similarly across the six environments. The lower the number, the more stable it performed.

Table 8. Average agronomic and milling performance of varieties, hybrids, and lines grown at six on-farm locations, 2011.

Entry	Origin ¹	Average Yield		Milling Yield		Bushel weight	Plant height	50% heading ³	Lodging	Lodging ⁴	1000 seed weight ⁵	Approximate seed/pound
		Rough rice ²	Milled Head rice	Whole	Total							
		bu/A	lb/A	%	%	lb	in	days	%	(0-5)	g	no.
Conventional												
Arize1003	Bayer	248	5907	53	67	34.1	48	99	71	3	25.3	17929
Bowman	MS	219	5710	58	69	42.1	42	92	4	0	25.1	18072
Caffey ⁶	LA	214	5979	62	71	43.5	41	91	0	0	27.9	16258
Catahoula	LA	223	5517	55	70	42.1	43	88	0	0	23.3	19468
Cheniere	LA	210	5683	60	71	40.3	40	89	2	0	21.3	21296
Cocodrie	LA	226	6097	60	70	41.3	42	88	4	0	22.7	19982
01H10010	Bayer	229	5142	50	66	33.4	49	93	74	3	23.3	19468
Rex	MS	237	5860	55	67	40.3	44	87	0	0	25.8	17581
RoyJ	AR	205	5163	56	70	40.5	45	94	0	0	22.6	20071
Taggart	AR	221	5459	55	70	41.7	48	93	0	0	26.1	17379
Templeton	AR	216	5350	55	69	41.6	46	92	24	1	20.9	21703
XL723	RT	300	7841	58	70	38.0	49	87	35	1	24.3	18667
XP753	RT	308	7485	54	71	39.0	46	86	15	0	23.4	19385
XP754	RT	273	6877	56	71	38.5	46	93	50	2	23.9	18979
RU1004197	MS	233	6176	59	69	40.8	41	88	14	1	22.9	19808
RU1104077	MS	239	6021	56	68	42.9	42	92	1	0	24.3	18667
RU1104191	MS	234	5892	56	68	43.4	42	91	2	0	24.4	18590
RU1104156	MS	235	6227	59	68	39.6	42	88	13	0	25.0	18144
Clearfield												
CL111	LA HA	243	6019	55	69	40.0	44	85	68	3	23.8	19059
CL131	LA HA	206	5461	59	70	39.8	39	87	4	0	21.5	21098
CL142 AR	AR HA	248	5464	49	70	42.0	49	88	25	1	25.7	17650
CL151	LA HA	233	5775	55	69	39.0	42	86	64	3	22.5	20160
CL152	LA HA	222	5788	58	67	40.6	43	91	0	0	20.6	22019
CL162	MS HA	214	5199	54	69	38.6	45	86	51	3	24.2	18744
CL181 AR	AR HA	195	4827	55	67	39.1	40	90	1	0	23.1	19636
CL261 ⁶	LA HA	214	5778	60	68	41.7	44	87	54	2	23.6	19220
CLXL729	RT	277	6618	53	68	38.0	49	87	51	2	23.5	19302
CLXL745	RT	292	7351	56	70	36.6	47	84	46	2	24.3	18667
CLXP756	RT	275	7056	57	72	38.6	46	93	49	2	24.0	18900
RU1004083	MS	240	5832	54	69	41.1	43	87	16	1	23.1	19636
RU1104122	MS	236	6172	58	69	40.7	43	91	17	1	23.9	18979
Mean		238	5962	56	69	40	44	90	24	1	24	-
LSD		17	-	3	1	1	1	1	16	1	1	-
CV		11	-	7	2	4	4	2	122	118	4	-

¹Origin: AR = Arkansas; LA = Louisiana; LA-HA – Louisiana released and marketed by Horizon Ag, LLC; MS = Mississippi; RT = RiceTec, Inc.

²Rough 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. = 11%.

³Days after emergence. ⁴(0-5) 0 = plants totally erect, 5 = plants completely on ground. ⁵Weight of 1000 kernels. ⁶Medium grain

Table 9. Annual and average grain yields along with agronomic and milling data averages of rice varieties grown in the Delta in on-farm trials from 1991 to 2011.¹

Variety	Grain yield ²							3-year Avg.	Total avg. ³	tests	Milling yield ⁴		Bushel weight	Plant height	Days to Heading ⁵	Lodging	1000 Seed weight ⁶	Sheath blight ⁷	Seeds/pound
	2005	2006	2007	2008	2009	2010	2011				Total	Whole							
Conventional	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A	no.	%	%	lb	in	no.	%	g	score	~ no.
Arize1003	-	-	-	-	255	-	248	-	252	11	68	56	36	47	100	40	26	2	17685
Bowman	178	208	216	200	198	198	219	205	202	44	68	54	44	40	89	13	25	4	18184
Caffey ⁸	-	-	-	-	-	-	214	-	214	6	71	62	44	41	91	0	28	-	16258
Catahoula	-	-	202	193	182	213	223	206	203	30	71	57	43	40	86	3	24	3	19381
Cheniere	168	190	-	190	208	203	210	207	198	51	70	58	42	38	87	12	22	5	21389
Cocodrie	176	194	213	188	198	227	226	217	191	100	68	58	42	40	83	11	24	5	19594
01H10010	-	-	-	-	-	-	229	-	229	6	66	50	33	49	93	74	23	-	19468
Rex	-	-	212	219	212	211	237	220	218	24	68	57	42	42	84	0	26	3	17169
RoyJ	-	-	-	-	-	-	205	-	205	6	70	56	41	45	94	0	23	-	20071
Taggart	-	-	-	-	208	217	221	215	215	17	70	54	43	45	92	0	27	0	17012
Templeton	-	-	-	199	209	204	216	210	207	23	70	57	44	43	88	12	22	0	20479
XL723	-	-	-	-	-	-	300	-	300	6	70	58	38	49	87	35	24	-	19385
XP753	-	-	-	-	-	-	308	-	308	6	71	54	39	46	86	15	23	-	19386
XP754	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RU1004197	-	-	-	-	-	-	233	-	233	6	69	59	41	41	88	14	23	-	19808
RU1104077	-	-	-	-	-	-	239	-	239	6	68	58	43	42	92	1	24	-	18667
RU1104191	-	-	-	-	-	-	234	-	234	6	68	56	43	42	91	2	24	-	18590
RU1104156	-	-	-	-	-	-	235	-	235	6	68	58	40	42	88	13	25	-	18144
Clearfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CL111	-	-	-	-	208	224	243	225	225	17	70	60	42	42	84	24	25	2	18336
CL131	161	187	-	179	176	181	182	188	182	37	70	59	42	36	87	9	22	6	20622
CL142 AR	-	-	-	-	-	231	248	-	240	12	68	50	42	46	86	13	26	-	17384
CL151	-	-	-	194	220	225	233	226	218	23	70	57	41	40	85	42	23	2	20143
CL152	-	-	-	-	-	-	222	-	222	6	67	58	41	43	91	0	21	-	22019
CL162	-	-	-	-	207	199	214	207	207	17	70	58	41	43	84	19	25	2	18041
CL181 AR	-	-	-	-	-	191	195	-	193	12	67	56	41	40	88	1	24	-	19268
CL261 ⁸	-	-	-	-	-	181	214	-	198	12	69	63	43	43	85	29	24	-	19060
CLXL729	-	-	-	-	-	-	277	-	277	6	68	53	38	49	87	51	24	-	19302
CLXL745	-	-	-	-	-	268	292	-	280	12	71	57	38	45	80	31	25	-	18406
CLXP756	-	-	-	-	-	-	275	-	275	6	72	57	39	46	93	49	24	-	18900
RU1004083	-	-	-	-	-	-	240	-	240	6	69	54	41	43	87	16	23	-	19636
RU1104122	-	-	-	-	-	-	236	-	236	6	68	56	41	43	91	17	24	-	18979

¹Test locations were in farmers' fields extending from northern to southern Delta areas.

²Rough rice at 12% moisture content. Data columns for 1991 to 2002 were omitted, but their numbers were included in the average yield and total test numbers.

³Average of the three most recent years tested.

⁴Values for milling, agronomic characteristics and sheath blight are accumulated means over all years of testing.

⁵Days after emergence.

⁶Weight of 1000 kernels at 12% grain moisture content.

⁷Sheath blight scores using average percent of all plants infected on a plot basis.

⁸Medium grain.

Table 10. Annual and average grain yields and agronomic characteristics of long grain commercial varieties grown in the Uniform Regional Rice Nursery 1990 - 2011.

Variety ¹	Origin ²	Grain yield			Years in test no.	Milling yield		Plant height in	50% heading days	Lodging %
		2011	3-yr avg.	Avg.		Total	Whole			
		bu/A	bu/A	bu/A		%	%			
Conventional										
Caffey ³	LA	203	216	215	5	67	53	39	85	3
Catahoula	LA	192	200	196	9	69	55	40	87	5
Cheniere	LA	189	195	194	12	68	55	37	85	6
Cocodrie	LA	215	202	192	17	67	55	39	83	6
Francis	AR	216	208	207	13	66	49	41	84	12
Jazzman	LA	196	194	195	6	68	60	41	89	0
Jazzman 2	LA	168	158	162	4	67	58	37	84	0
JES	AR	223	215	215	3	68	59	37	88	0
Jupiter ³	LA	216	-	223	2	65	60	38	87	0
Presidio	TX	177	190	189	13	68	54	39	83	5
Rex	MS	217	200	202	4	68	59	41	86	0
Rondo	TX	219	217	223	6	67	48	42	91	19
Roy J	AR	188	201	203	4	69	53	42	91	0
Sabine	TX	169	162	175	11	67	52	36	88	0
Taggart	AR	202	203	230	6	69	54	44	90	0
Templeton	AR	196	204	203	6	69	55	46	90	0
Wells	AR	194	199	196	16	69	49	42	84	3
Clearfield										
CL111	LA	206	-	206	2	68	59	40	84	0
CL142 AR	AR	186	-	189	2	68	51	42	89	1
CL151	LA	219	223	223	3	68	59	39	85	3
CL152	LA	213	200	197	4	67	59	41	85	15
CL162	MS	211	-	205	2	67	55	43	84	0
CL181 AR	AR	194	-	182	2	67	56	35	88	0
CL261 ³	LA	155	-	157	2	66	58	38	84	0

¹Rondo and Sabine have the Rexmont cooking and processing qualities; Jazzman Jazzman 2, and JES are long grain aromatics.

²Origin: AR = Arkansas, CL = Horizon Ag, LA = Louisiana, MS = Mississippi, TX = Texas.

³ Medium grain.

Table 11. Reactions of rice varieties and hybrids to common diseases.¹

Variety/Hybrid	Sheath blight	Blast	Stem rot	Kernel Smut	False smut	Brown leaf spot	Straight head	Lodging	Black Sheath Rot	Bacterial panicle blight	Narrow brown leaf spot	Leaf smut
Bowman	MS	S	S	S	S	R	MS	MR	MS	S	MR	--
Catahoula	S	R	S	S	S	R	S	MS	MS	MS	MR	--
Cheniere	S	S	S	S	S	MR	MR	MS	MS	MS	VS	MR
CL111	VS	S	VS	S	S	R	MS	S	S	S	S	
CL131	VS	MS	S	S	S	R	VS	MR	S	VS	VS	--
CL151	S	VS	VS	S	S	R	VS	VS	S	VS	S	--
CL161	VS	MS	S	S	S	R	MS	MS	S	S	S	MS
CL142-AR	MS	S	S	S	S	R	MS	MS	S	S	MS	
CL162	S	MS	--	--	--	--	MS	MS	--	MS	MR	MR
CL171-AR	VS	S	VS	S	S	R	MS	MS	S	S	S	MR
CL181-AR	VS	S	VS	S	S	R	MS	MR	S	VS	MS	
CL261	MS	MS	S	MS	S	R	S	MR	MS	S	S	
CLXL729	MS	MR	MS	MS	S	R	MR	S	MS	MR	MS	--
CLXL745	MS	MR	MS	MS	S	R	MR	S	MS	MR	MS	--
Cocodrie	MS	S	S	S	S	MR	VS	MS	MS	VS	MS	MS
Rex	MS	S	S	S	S	MS	MS	MR	S	S	MS	MS
Sabine	S	S	S	S	S	R	--	MR	S	S	MS	--
Taggart	MS	S	S	S	S	--	--	MS	S	S	--	--
Templeton	MS	R	S	S	S	--	--	MS	S	S	--	--
Wells	S	S	S	MS	S	MR	MR	S	--	VS	R	--
XL723	MS	MR	MS	MS	S	R	MR	S	MS	MR	MS	--

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

Note: These ratings are subject to change as new or further information may become available.

Table 12. Nitrogen fertilizer rate guidelines.

Varieties	Clay Soils ¹			Silt loam soils ²		
	Preflood	Midseason	Boot Split	Preflood	Midseason	Boot Split
Bowman	120-150	30-60	0	90-120	30-60	0
Catahoula	120-150	30-60	0	90-120	30-60	0
Cheniere	120-150	30-60	0	90-120	30-60	0
CL111	120	45	0	90-120	45	0
CL131	120-150	30-60	0	90-120	30-60	0
CL142-AR ³	120	45	0	90-120	45	0
CL151 ³	90-135	0-45		90	45	0
CL162	120	45	0	90-120	45	0
CL181-AR	120-135	45	0	90-120	45	0
Cocodrie	120-150	30-60	0	90-120	30-60	0
Rex	120-150	45	0	120	45	0
Sabine	120-150	30-60	0	90-120	30-60	0

¹Clay soils include soils with CEC greater than 20 cmol_c kg⁻¹.
²Silt loam soils include soils with CEC less than 20 cmol_c kg⁻¹.
³CL151 is highly prone to lodging.