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Arkansas Rice Performance Trials, 2002-2004¹

Variety selection is one of the most important management decisions made each year by rice producers. This choice is generally based upon past experience, seed availability, agronomic traits and variety yield potential. When choosing a rice variety, grain and milling yields, lodging, maturity, disease susceptibility, seeding date, field characteristics, the potential for quality reductions due to pecky rice, and market strategy should all be considered. Variety performance data included in this publication are from the Arkansas Rice Performance Trials (ARPT), disease observation plots in grower fields, and from seeding date studies conducted during 2002-2004. Additional information can be found on the Arkansas Cooperative Extension website (www.uaex.edu) and the annual B.R. Wells Rice Research Series publication (<http://www.uark.edu/depts/agripub/Publications/researchseries/>).

Varieties grown in the Arkansas Rice Performance Trials (ARPT) in 2004 averaged **170** bu/A of rough rice compared to the state average yield of **151.1** bu/A as reported by the USDA Crop Reporting Service (<http://jan.mannlib.cornell.edu/reports/nassr/field/pcp-bb/2004/>). This is consistent with the differences usually observed between small plot research and commercial field yields. Data averaged over years and locations are more reliable than a single year of data for evaluating rice performance for such important factors as grain and milling yields, kernel size, maturity, lodging resistance, plant height and disease susceptibility.

The ARPT, seeding date studies, disease observation tests, and evaluations for pecky rice are supported through grower check-off funds administered by the Arkansas Rice Research and Promotion Board. These studies are conducted every year to compare promising new

¹Prepared by: Charles E. Wilson, Jr., Professor/Extension Agronomist-Rice; Karen Moldenhauer, Professor, RREC; James Gibbons, Research Assistant Professor; Rick Cartwright, Assistant Professor/Extension Plant Pathologist; Fleet Lee, Professor; Rick Norman, Professor; John Bernhardt, Research Assistant Professor; Maurice Blocker, Program Associate; Amanda Tolbert, Program Assistant; Keith Taylor, Program Associate; Jill Bulloch, Program Technician; Jeff Branson, Program Associate; Stewart Runsick, Program Associate, Tony Richards, Program Associate, and Danny Boothe, Program Associate.

experimental lines and newly-released varieties from the breeding programs in Arkansas, Louisiana, Texas, Mississippi and California with established varieties currently grown in Arkansas. Descriptions of varieties included in the ARPT and disease observation tests are provided in Table 8 at the end of this report. The 2004 ARPT were conducted at six locations in Arkansas (Figure 1). Multiple locations each year allow for continued reassessment of the performance and adaptability of advanced breeding lines and commercial varieties to environmental conditions, soil properties, and management factors. Four maturity groups, early-season, very-short-season, short-season, and mid-season, were grown at each ARPT location. Twenty-six entries, which were either promising breeding lines or established varieties, were grown in each of the four maturity groups.

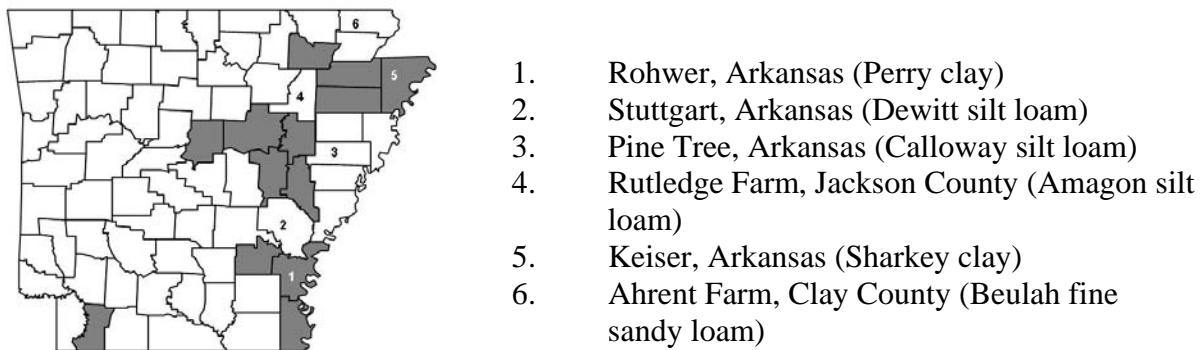


Figure 1. Locations (1 - 6) of the Arkansas Rice Performance Trials and Rice Disease Monitoring Sites (shaded) conducted in 2004.

The 2004 ARPT tests were located at Stuttgart (RREC), Rohwer (SEREC), Pine Tree (PTBS), Keiser (NEREC), on the Rutledge farm in Jackson County, and on the Ahrent farm in Clay County (CC) and seeded on April 29, April 20, April 19, May 25, April 2, and April 15, respectively. Cultural practices varied somewhat among the ARPT locations, but overall the trials were grown under conditions of high productivity. Nitrogen was generally applied in a two-way split application with 100 lb N/A applied pre-flood and a single mid-season application of 30 to 60 lb N/A to ARPT tests located on Agricultural Experiment Stations. Phosphorus and potassium fertilizers were applied before seeding at the Stuttgart, Pine Tree, and Clay County locations.

The average yields for the 2002, 2003, and 2004 ARPT are listed in Table 1. Agronomic traits measured in 2004 are presented in Table 2 and the yield results from the 2004 ARPT are shown in Table 3. Averaged across all locations, Francis, Banks, and Wells were the top yielding conventional varieties in the 2004 ARPT (Table 3). The hybrids Rice Tec XP 710, XP 712, and CL XL8 were the highest yielding cultivars in the three year study (Table 1) but other hybrids are also promising (Table 3). ARPT yield data from 2002, 2003, and 2004 shows that these same varieties tend to be the top yielding rice varieties in Arkansas each year. Francis, Banks, and Wells were the top three yielding varieties from 2002 to 2004 (Table 1).

The most recent disease ratings for each variety are listed in Table 4. Ratings for disease susceptibility should be evaluated critically to optimize variety selection. Varieties should be selected for specific fields, relative to the potential yield limitations observed in historical yields.

For example, Francis and Wells are both susceptible to rice blast disease and should be planted in fields with low risk of this disease. Other varieties should be considered for fields that have limited water availability, poor water-holding ability, historical blast infestations, high risk of straighthead, and tree lines or other natural barriers that encourage long dew periods. Ratings are a general guide based on our expectations of the cultivar reaction under conditions that strongly favor disease; however, environment will modify the actual reaction in different fields. Do not expect these ratings to be an absolute predictor of variety performance with respect to a particular disease in all situations.

Descriptions of the varieties tested in the 2004 ARPT are provided in Table 8. The only released varieties reported in the 2004 ARPT data not previously grown for commercial production are Banks, Medark, and Cybonnet. Banks is a high-yielding LaGrue-type long-grain variety released by the University of Arkansas in 2004 with resistance to most races of blast. It combines the rice blast resistance found on Ahrent, Drew, and Kaybonnet, with the yield potential of Wells and LaGrue. Cybonnet is a high-yielding long-grain variety released by the University of Arkansas in 2004 with similar yield and milling characteristics as Cocodrie. However, the high-oil bran that is often found in Cocodrie is not present in Cybonnet. Cybonnet also has improved straighthead tolerance compared to Cocodrie. It has similar disease susceptibility as Cocodrie for the other major diseases. Medark is a high-yielding medium grain variety released by the University of Arkansas that is comparable to Bengal. It has similar yield and milling potential but provides some disease benefits, such as better blast resistance than Bengal. Other advanced experimental lines and hybrids are also included in Tables 1-5. These lines are under consideration for release and may be available for production in 2006 or 2007.

Each year replicated variety trials are established in numerous grower fields to monitor rice variety reaction to rice diseases (Tables 4 and 5). The counties where the 2004 Rice Disease Monitoring Plots (ARDMP) were located are shaded in Fig. 1. Yield information from these trials provides additional valuable information on how varieties and advanced experimental lines perform across the state when subjected to different environments and management practices. Variety disease reaction data from these trials are used to help establish disease susceptibility ratings presented in Table 4. In general, information from these trials on variety yield potential supports data from the ARPT. Similar to the ARPT, the top yielding conventional varieties in the ARDMP were Francis, Wells, Ahrent, and Bengal. Several new hybrids were evaluated and show outstanding yield potential. Selection of varieties or hybrids should, however, be based on input costs, milling quality, disease resistance, insect susceptibility, and agronomic traits (such as lodging potential) in addition to grain yield to completely assess the most suitable variety or hybrid for a particular situation.

Planting date studies are conducted annually to establish rice DD50 thresholds and to evaluate performance of new varieties over a range of seeding dates at the RREC (Tables 6 and 7). Results from 2001, 2002, and 2003 planting date studies can be found in Rice Information Sheet No. 148, 151, and 154, respectively. These publications are available either on the Cooperative Extension Service website (<http://www.aragriculture.org>) or at your local county Extension office.

Seeding date studies were drill seeded and fertilized and flooded at the 5-leaf stage. Urea was applied as a single pre-flood application of 120 lb N/A to all varieties. Most varieties produced their highest yield when seeded on either April 1 or April 29. Later planted rice is more likely to head during the high temperatures commonly encountered during August and September. Temperatures above 95°F are detrimental to pollination and may result in excessive blanking. Also, shorter vegetative growth with later planting and cool weather during grain fill results in less stored carbohydrates needed for grain filling (Table 6). Subsequently, late-planted rice tends to result in 17 to 68% reduction in yield potential. Ahrent, Medark, Drew, Wells, Francis, and Cheniere were among the most consistent varieties across all planting dates.

Growers are encouraged to seed newly released varieties on a small acreage to evaluate performance under their specific management practices, soils and environment. Growers are also encouraged to seed rice acreage in several varieties to reduce the risk of disease epidemics and environmental effects. Varieties that have been tested under Arkansas growing conditions will reduce potential risks associated with crop failure. Fields should be planted in varieties that most match the situations in the area. For example, varieties that are very susceptible to rice blast should be avoided in fields with marginal water capacity, tree lines, and river bottoms where rice blast is a chronic problem. Additional information on specific varieties not listed in this publication is available upon request. Contact your local county Extension agent for more information.

ADDITIONAL INFORMATION SOURCES

Univ. of Arkansas Cooperative Extension Service Web www.uaex.edu

- Rice Information Sheet No. 148
- Rice Information Sheet No. 149
- Rice Information Sheet No. 151
- Rice Information Sheet No. 153
- Rice Information Sheet No. 154

University of Arkansas Agricultural Publications

<http://www.uark.edu/depts/agripub/Publications/>

- B.R. Wells Rice Research Studies 2001 - 2003

Louisiana State University

<http://www.agctr.lsu.edu/Subjects/rice/RiceHome.htm>

Table 1. Results of the Arkansas Rice Performance Trials averaged across the three-year period of 2002-2004.

Maturity Group and Variety	Grain Length ¹	Straw Strength ²	50% Heading ₃	Plant Height	Milled Grain Weight	Pecky Rice ⁴	Milling Yield				Grain Yield by Year			
							2002	2003	2004	Mean	2002	2003	2004	Mean
		Rating	Days	in.	mg	%	% Head Rice - % Total Rice				Bushels / Acre			
Very Short Season														
Jefferson	L	2	85	38	20.0	1.47	61 - 70	65 - 72	59 - 71	62 - 71	159	146	149	151
Maybelle	L	3	80	39	16.7	1.21	58 - 72	62 - 71	57 - 71	59 - 71	141	118	143	134
RU0101093 ⁵	L	4	80	41	17.5	0.88	61 - 71	65 - 71	62 - 72	63 - 71	171	153	146	157
Short Season														
Ahrent	L	3	88	41	16.2	1.98	66 - 72	64 - 71	68 - 75	66 - 73	176	165	160	167
Cocodrie	L	2	90	38	18.0	2.56	68 - 72	69 - 73	65 - 73	67 - 73	185	164	170	173
Cybonnet	L	2	90	37	17.4	1.63	69 - 74	68 - 73	68 - 73	68 - 73	174	180	163	172
Francis	L	3	89	40	16.9	1.62	67 - 72	69 - 72	69 - 73	68 - 72	203	198	177	193
Medark	M	2	90	37	20.4	3.32	67 - 73	68 - 72	68 - 73	68 - 73	168	174	171	171
Pirogue	S	4	90	39	19.4	3.26	66 - 72	67 - 72	67 - 72	67 - 72	160	167	187	171
RiceTec CL XL8	L	4	88	43	18.2	1.25*	-	65 - 71	64 - 72	64 - 71	-	191	220	206
RiceTec XP 712	M	4	89	43	16.9	1.87*	-	65 - 72	63 - 72	64 - 72	-	219	204	212
Saber	L	1	90	40	14.8	1.21	64 - 74	66 - 73	69 - 74	66 - 74	173	167	147	163
Mid-Season														
Banks	L	4	92	44	17.2	1.59	66 - 72	64 - 71	68 - 75	66 - 73	199	197	173	190
Bengal	M	2	92	37	20.4	3.67	68 - 72	69 - 73	65 - 73	67 - 73	195	174	157	175
Cheniere	L	2	92	35	16.5	1.14*	-	68 - 73	68 - 73	68 - 73	-	186	159	172
Cypress	L	2	92	37	17.7	2.23	67 - 72	69 - 72	69 - 73	68 - 72	169	172	150	164
Drew	L	5	93	44	16.3	1.57	67 - 73	68 - 72	68 - 73	68 - 73	186	182	167	178
Kaybonnet	L	5	91	43	15.3	1.30	66 - 72	67 - 72	67 - 72	67 - 72	164	176	157	166
LaGrue	L	4	92	44	18.1	1.22	63 - 71	65 - 71	64 - 72	64 - 71	196	180	159	178
Rice Tec XP 710	L	4	92	43	21.0	1.62*	-	65 - 72	63 - 72	64 - 72	-	235	200	217
Wells	L	3	91	40	19.2	1.85	64 - 74	66 - 73	69 - 74	66 - 74	197	197	174	189

1 Grain Length: L=long grain; M=medium grain

2 Relative straw strength based on field tests using the scale: 0=very strong straw, 9=very weak straw.

3 Number of days from emergence until 50% of the panicles are visibly emerging from the boot

4 Average percent, by weight, in brown rice for stink bug damage during 2001-2003. * indicate data from 2003 only.

5 Experimental line; seed not for sale.

Table 2. Agronomic traits of selected varieties in the 2003 Arkansas Rice Performance Trials.

Maturity Group and Variety	GrainType¹	Straw Strength²	50% Heading³	Plant Height	Milled Grain Weight
		Rating	Days	in.	mg
Very Short Season					
Jefferson	L	2	85	36	19.9
Maybelle	L	3	81	38	16.8
Rice Tec XP723	L	4	85	42	19.8
RU0101093	L	4	79	41	16.6
Short Season					
AB 8198	L	4	87	42	21.5
AB 8684	M	3	90	35	20.1
Ahrent	L	3	88	40	16.7
Cocodrie	L	2	89	36	17.9
Cybonnet	L	2	91	35	17.4
Francis	L	3	89	39	17.4
Medark	M	2	89	34	21.1
Pirogue	S	4	88	38	19.8
Rice Tec CL XL8	L	4	87	41	17.9
Rice Tec XP712	M	4	87	40	17.3
Rice Tec XP716	M	4	90	42	17.9
Saber	L	3	90	38	15.1
Mid-Season					
AB 8649	L	3	91	39	20.6
Banks	L	4	94	41	17.2
Bengal	M	2	89	35	20.5
Cheniere	L	2	91	35	16.7
Cypress	L	2	92	35	17.8
Drew	L	5	93	40	16.7
Kaybonnet	L	5	90	40	15.5
LaGrue	L	4	93	42	18.3
Rice Tec XP710	L	3	91	41	21.0
Wells	L	3	91	39	19.1

¹ Grain type: L=long grain; M=medium grain; S=Short grain

² Numerical rating for straw strength, lodging susceptibility increases as rating number increases.

³ Number of days from emergence until 50% of the panicles are visibly emerging from the boot.

⁴ Plant height is the average distance from soil surface to the tip of erect panicle.

⁵ Experimental lines; seed not for sale.

Table 3. Results of the 2004 Arkansas Rice Performance Trials.

Maturity Group and Variety	Milling Yield						Grain Yield						
	Clay Co.	Jackson Co.	NEREC	RREC	SEREC	Mean	Clay Co.	Jackson Co.	NEREC	PTBS	RREC	SEREC	Mean
	% Head Rice - % Total Rice						Bushels / Acre						
Very Short Season													
Jefferson	61-73	60-72	57-70	65-71	50-70	59-71	163	139	155	145	136	159	149
Maybelle	63-73	57-72	56-71	65-71	42-69	57-71	153	149	155	.	133	118	143
Rice Tec XP723	69-74	68-75	63-71	65-71	61-72	66-73	288	266	105	177	176	190	201
RU0101093	64-73	61-72	63-71	69-72	52-70	62-72	161	142	137	.	161	123	146
Short Season													
AB 8198	65-74	66-74	64-73	65-73	63-72	65-73	203	188	103	182	148	161	164
AB 8684	68-75	68-74	68-72	70-73	53-71	66-73	184	164	99	206	174	155	164
Ahrent	69-73	66-72	61-70	66-69	56-71	64-71	157	133	143	202	174	146	160
Cocodrie	70-75	69-74	66-72	66-70	63-72	67-73	199	198	146	171	161	135	170
Cybonnet	71-75	70-75	69-73	69-72	65-72	69-74	197	178	128	173	142	157	163
Francis	68-74	63-72	65-72	66-72	61-72	65-72	213	126	181	204	166	171	177
Medark	69-74	69-73	69-75	68-72	62-72	68-73	192	153	157	202	165	159	171
Pirogue	69-75	69-74	59-73	66-70	61-72	65-73	179	189	182	216	164	198	187
Rice Tec CL XL8	66-74	64-73	67-73	60-70	57-71	63-72	268	234	179	236	203	191	220
Rice Tec XP712	66-72	65-73	63-72	66-72	55-70	64-72	260	208	177	211	200	171	204
Rice Tec XP716	70-73	68-72	69-72	68-72	55-70	67-72	241	229	73	210	154	159	179
Saber	60-72	63-71	65-69	64-69	57-68	62-70	161	148	149	153	135	138	147
Mid-Season													
AB 8649	60-73	66-74	68-74	50-67	60-71	62-72	186	186	172	173	111	156	164
Banks	70-82	66-72	70-74	68-72	62-71	68-75	200	200	139	214	150	136	173
Bengal	68-74	67-74	67-73	68-72	54-72	65-73	205	109	123	201	171	134	157
Cheniere	68-75	68-74	69-73	66-71	64-73	68-73	201	139	137	176	155	148	159
Cypress	70-75	70-74	70-74	68-72	67-72	69-73	179	164	123	173	122	141	150
Drew	71-74	70-74	65-72	68-72	64-72	68-73	199	178	148	187	146	143	167
Kaybonnet	71-75	69-73	64-72	67-70	64-71	67-72	184	162	144	175	134	146	157
LaGrue	66-73	66-72	68-73	59-69	61-70	64-72	196	156	136	185	127	153	159
Rice Tec XP710	67-74	63-73	62-71	60-70	60-71	63-72	237	203	159	235	172	193	200
Wells	69-76	68-75	68-74	67-73	60-72	69-74	206	177	173	193	144	150	174
Average	67-74	66-73	65-72	65-71	59-71	65-73	191	174	138	161	152	195	170

¹ HR-TR = %Head Rice - % White Rice; Milling data is the average of head rice and total rice yields from Clay Co., Jackson Co., and RREC.

² Experimental lines; seed not for sale.

Table 4. Rice variety reactions¹ to diseases (2004).

Variety	Sheath Blight	Blast	Stem Rot	Kernel Smut	False Smut	Brown Spot	Straighthead	Lodging	Black Sheath Rot
AB 8198	MS	S	MS	MS	MS	R	VS	S	MS
AB 8649	MS	R*	S	MS	MS	R	MS	S	MS
AB 8684	MS	R*	MS	MS	MS	R	VS	MS	MR
Ahrent	MS	R*	S	MS	S	S	S	MS	MS
Banks	MS	R*	S	VS	S	R	MS	MS	MS
Bengal	MS	S	VS	MS	MS	VS	VS	MR	MR
Cheniere	MS	MS	S	VS	S	R	MS	MR	MS
Clearfield 161	VS	S	S	S	S	R	S	S	S
Cocodrie	S	MS	S	VS	S	R	VS	MR	MS
Cybonnet	VS	R*	S	S	S	R	MS	MS	S
Cypress	VS	MS	MS	S	S	R	MS	MS	S
Drew	MS	R*	MS	MS	S	S	MS	MS	MS
Francis	MS	S	S	VS	S	R	MS	MS	MS
LaGrue	MS	S	MS	VS	S	R	MS	MS	MS
MedArk	MS	MS	S	MS	MS	R	S	MR	MR
Newbonnet	MS	VS	S	VS	S	R	MR	MS	MS
Pirogue	MS	R*	MS	MS	MS	R		MS	MS
Saber	MS	R*	S	S	MR	R	MS	MR	VS
TX 8181	S	R*	S	S	MS	R	MS	R	MS
TX 9092	S	MR*	S	S	S	R	MS	MR	MS
Wells	MS	S	S	MS	S	R	MS	MS	MS
RiceTec XL7	MS	R*	S	MS	MS	R	MS	S	S
RiceTec XL8	MS	R*	S	MS	MS	R	MS	MS	MS
RiceTec CL XL8	MS	R*	S	MS	MS	R	MS	MS	MS
RiceTec XP710	MR	MR*	MS	MS	MS	R	VS	MS	MS
RiceTec XP712	MR	R*	S	MS	MS	R	MS	MS	MR

¹ Reaction: R = Resistant; MR = Moderately Resistant; MS = Moderately Susceptible; S = Susceptible; VS = Very Susceptible. Reactions were established from both historical and recent observations from test plots and in grower fields across Arkansas. In general, these reactions would be expected under conditions that favor severe disease development including excessive nitrogen rates (most diseases) or low flood depth (blast).

² All varieties are considered susceptible to bacterial panicle blight under ideal conditions, although commercial damage has been observed only in Bengal, Cypress and Francis to date. MedArk is also suspected to be susceptible under commercial conditions in the future.

* Resistant to common strains of the rice blast fungus in Arkansas. Susceptible to an unusual variant strain of the rice blast fungus that has been rare in the field to date or reaction to the variant strain not known at the time of publication.

Table prepared by R.D. Cartwright, Associate Professor/Extension Plant Pathologist and F.N. Lee, Professor of Plant Pathology.

Table 5a. Performance of selected varieties in replicated rice disease monitoring tests located in grower fields in Arkansas during 2003.

	Chicot	Craighead	Desha	Lawrence	Lincoln	Mississippi	Poinsett East	Woodruff	Mean¹
	-----Bushels/acre-----								
AB8198	174	185	173	192	212	148	186	214	176
AB8649	180	184	174	168	201	167	225	219	174
AB8684	193	166	194	166	199	178	210	214	179
Ahrent	165	171	162	155	202	155	164	216	172
AMS114-109	193	186	153	164	148	130	241	221	181
AMS114-33	182	139	166	146	183	146	195	201	168
AR0101093	186	163	153	129	167	146	197	164	167
Banks	193	162	177	175	192	187	198	226	178
Bengal	198	180	191	151	192	169	207	215	181
Cheniere	198	188	183	182	177	166	229	205	183
CL161	182	146	175	168	164	150	195	170	162
Cocodrie	201	190	174	185	146	164	185	194	178
Cybonnet	186	180	187	190	166	172	224	181	176
Cypress	174	175	175	157	166	138	193	184	165
Francis	200	197	179	169	190	176	209	202	184
LaGrue	195	182	188	166	194	209	207	196	176
Medark	196	204	184	157	199	148	228	204	182
CL XL8	228	206	197	198	215	199	260	255	217
XP 710	226	262	218	191	244	197	264	274	226
XP 712	218	236	205	208	194	213	256	242	211
XP 716	237	173	216	184	202	199	270	230	197
XP 723	239	217	217	216	225	178	272	241	224
RU0104055	173	173	147	159	182	138	172	191	161
Wells	208	181	176	171	189	180	247	199	188
Wells IMI	172	159	164	153	156	146	202	181	166
Mean	196	184	181	172	188	168	217	210	184
LSD	13.4	23.5	19.8	31.0	26.8	26.0	49.4	31.3	
C.V. (%)	4.2	7.8	6.5	11.0	8.5	9.6	13.8	8.9	

¹Mean = average across 14 locations

Table 5b. Performance of selected varieties in replicated rice disease monitoring tests located in grower fields in Arkansas during 2004 (con.).

Cultivar	Faulkner	Lafayette	Monroe	Poinsett West	Prairie	White	Mean ¹	C.V. (%)
	-----Bushels/acre-----							
AB8198	185	131	73	133	209	149	176	16.1
AB8649	198	132	146	132	166	109	174	19.6
AB8684	201	118	191	124	204	155	179	17.6
Ahrent	173	127	182	147	219	180	172	15.6
AMS114-109	197	116	211	156	257	192	181	23.2
AMS114-33	200	103	168	115	220	193	168	21.4
AR0101093	182	117	171	145	231	187	167	18.2
Banks	211	99	143	128	204	162	178	19.4
Bengal	214	113	155	137	218	170	181	17.8
Cheniere	199	132	169	131	226	159	183	16.7
CL161	181	101	125	108	212	158	162	19.2
Cocodrie	222	102	184	142	223	187	178	18.8
Cybonnet	203	116	178	102	202	182	176	19.0
Cypress	181	104	151	118	200	179	165	17.3
Drew	185	99	93	94	185	176	148	31.8
Francis	215	100	212	142	234	173	184	18.6
LaGrue	191	93	147	107	190	172	176	20.4
Medark	199	129	158	139	213	171	182	16.9
CL XL8	243	176	147	182	248	214	217	12.8
Rice Tec XP 710	224	165	182	169	264	237	226	16.2
Rice Tec XP 712	242	155	176	170	233	171	211	15.0
Rice Tec XP 716	162	159	76	131	240	164	197	20.2
Rice Tec XP 723	259	148	192	194	292	214	224	17.2
RU0104055	200	89	180	102	214	153	161	22.3
Wells	211	110	183	157	244	171	188	19.2
Mean	203	121	160	136	222	175	182	20.4
LSD	23.0	36.5	46.8	19.2	36.2	36.4		
C.V. (%)	6.9	18.3	17.9	8.6	9.9	12.2		

¹Mean = average across 14 locations²C.V.= coefficient of variation, provides an indication of variability across environments

Table 6. Influence of seeding date on grain yield of selected rice varieties studies conducted at the RREC during 2004.

Variety	Milling Yield					Grain Yield				
	1-Apr	29-Apr	21-May	7-Jun	Mean	1-Apr	29-Apr	21-May	7-Jun	Mean
	%HR-%TR					Bushels/acre				
Ahrent	66-72	58-71	58-69	58-70	60-70	161	181	156	142	160
AR0101093	65-72	50-72	50-72	56-71	55-72	187	177	158	138	165
Banks	64-71	59-72	63-71	61-71	62-71	186	193	169	134	171
Bengal	70-74	63-74	56-72	67-73	64-73	202	203	155	158	180
Cheniere	66-73	61-73	62-72	59-72	62-73	188	204	165	149	176
CL161	68-72	64-72	65-72	67-72	66-72	170	180	136	125	153
Cocodrie	65-73	62-73	63-72	54-72	56-72	182	202	159	141	171
Cybonnet	69-73	62-72	63-71	62-72	63-72	191	179	146	135	162
Drew	67-73	63-72	59-72	65-72	65-72	172	185	149	142	162
Francis	67-73	59-73	59-71	63-72	63-72	212	214	162	163	188
Lagrué	64-71	59-71	57-69	63-72	62-72	175	209	142	124	162
Medark	70-75	63-74	64-73	61-71	60-71	194	181	152	153	170
Rice Tec CLXL8	62-73	53-73	55-73	65-73	66-74	216	244	214	156	208
Rice Tec XP710	60-72	53-72	53-71	58-73	59-73	239	250	212	141	211
Rice Tec XP712	65-73	56-73	60-72	48-70	53-71	214	248	201	158	205
Rice Tec XP716	69-73	65-73	64-72	64-72	61-73	246	226	179	75.5*	182
Rice Tec XP723	65-73	55-73	60-72	69-72	67-73	235	255	212	79.1*	195
Wells	65-74	56-73	56-72	56-72	59-72	203	195	172	156	181
Mean	66 - 73	59 - 73	59 - 72	61 - 72	61 - 72	199	207	169	137	178
LSD _(0.05)	2 - 1	4 - 1	4 - 1	2 - 1	2 - 1	13	16	13	14	7
C.V., %	1.8-0.8	4.3 - 0.7	3.8 - 0.9	2.5 - 0.6	3.4 - 0.8	4.5	5.5	5.5	7.4	5.6

Table 7. Influence of seeding date on days from emergence to ½” Internode elongation and 50% heading for selected rice varieties in seeding date studies conducted at the RREC during 2003.

Variety	Days to ½” Internode Elongation					Days to 50% Heading				
	1-Apr	29-Apr	21-May	7-Jun	Mean	1-Apr	29-Apr	21-May	7-Jun	Mean
	days after emergence					days after emergence				
Ahrent	--	--	--	--	--	--	96	77	--	87
AR0101093	51	43	41	44	45	70	86	67	--	74
Banks	52	48	45	50	49	89	96	77	--	87
Bengal	57	52	48	48	51	87	97	78	--	87
Cheniere	53	49	44	49	49	87	96	77	--	87
CL161	--	--	--	--	--	87	96	77	--	87
Cocodrie	51	46	38	43	45	85	98	79	--	87
Cybonnet	50	48	42	43	46	88	98	79	--	88
Drew	--	--	--	--	--	90	99	80	--	90
Francis	51	49	45	45	48	84	99	80	--	88
Lagrué	--	--	--	--	--	--	99	80	--	90
Medark	56	52	48	50	52	85	99	80	--	88
Rice Tec CLXL8	53	49	44	44	48	85	95	76	--	85
Rice Tec XP710	50	47	42	43	46	87	98	79	--	88
Rice Tec XP712	56	52	48	50	52	85	99	80	--	88
Rice Tec XP716	55	49	48	49	50	87	99	80	--	89
Rice Tec XP723	51	45	41	43	45	84	99	80	--	88
Wells	56	49	45	50	50	85	94	75	--	85
Mean	53	48	44	47	48	85	97	78	--	87

Table 8. General characteristics of varieties tested in the Arkansas Rice Performance Trials and Arkansas Rice Disease Monitoring Program.

Variety/Hybrid	Year Released & State	Pedigree	Highlights
AB 8198	Busch Ag Research	Proprietary Line	A very-short season long-grain rice variety with good milling.
AB 8649	Busch Ag Research	Proprietary Line	A short season long-grain rice variety with good milling.
AB 8649	Busch Ag Research	Proprietary Line	A short season medium grain variety with good milling quality.
Ahrent	2001 – Arkansas	Line from recurrent selection – many crosses and parents	A short season, long-grain with good grain and milling yield potential, and blast resistance from the recurrent selection program
Baldo	Italian variety	Aborio/Strite 136	A very short season, largekerneled, medium grain used for risotto.
Banks	2004 – Arkansas	LaGrue//Lemont/RA73/3/LaGrue/4/LaGrue	A short-season, long-grain LaGrue type rice with blast resistance.
Bengal	1992 – Louisiana	Mars/M-201//Mars	A short season, semi dwarf, medium-grain with good yield potential and milling quality. It has a preferred large grain size. Represented about 9.9% of 2004 rice acreage in Arkansas.
Bolivar	2001 – Texas	Gulfmont*2/Teqing	A very-short season long-grain with the same parboiling and canning properties as Dixiebelle.
Cheniere	2003 – Louisiana	Newbonnet/Katy/3/82CAY21/Lemont//L-202	A very short season, semi-dwarf long-grain with good yield potential, less oil in bran than Cocodrie, and improved straighthead tolerance. It has L202 and Jodon cooking type.
CL 161	2002 – BASF, Horizon Ag	Developed from Cypress	A midseason, semi-dwarf, long-grain similar to Cypress with high tolerance to Newpath herbicide. It is susceptible to sheath blight, moderately resistant to blast and moderately susceptible to straighthead. Represented about 13.2% of the 2004 rice acreage in Arkansas.
CL XL8	2003 – Rice Tec, Inc.	Proprietary Hybrid	A short-season, long grain with excellent yield potential and high tolerance to Newpath herbicide, moderate resistance to sheath blight, and resistance to blast. Represented about 2.5% of the 2004 rice acreage in Arkansas.
Cocodrie	1997 – Louisiana	Cypress//82CAY21/Tebonnet	A short season semi-dwarf long-grain with good yield potential and milling quality. Represented about 15.3% of the 2004 rice acreage in Arkansas.
Cybonnet	2004 – Arkansas	Cypress//Newbonnet/Katy	A short season, semidwarf long grain with good yield potential and excellent milling quality similar to Cypress. It has blast resistance similar to Katy.
Cypress	1992 – Louisiana	L-202/Lemont	A mid-season, semi-dwarf long-grain with good yield potential and excellent milling quality and excellent seedling vigor.
Dellmati	1999 – Louisiana	DMSI//Lemont/Newbonnet/3/Lemont	A semidwarf, aromatic long grain which elongates when cooked.
Dellrose	1995 – Louisiana	Lemont/Della	A semidwarf, aromatic long grain with high yield potential and good milling quality. It has grain size similar to Della.
Drew	1996 – Arkansas	Newbonnet/Katy	A mid-season, long-grain with average yield potential and milling quality. It is blast resistant, straighthead tolerant, and has a larger kernel size than Kaybonnet.
Francis	2002 – Arkansas	Lebonnet/9902/3/Dawn/9695/Starbonnet/4/LaGrue	A very sort season, long-grain with excellent yield potential, susceptible to rice blast. Represented about 11.3% of the 2003 rice acreage in Arkansas.
Jefferson	1999 – Texas	Vista/Lebonnet//Rosemont	A very short season, semidwarf, long-grain rvariety with good yield potential. It is moderately susceptible to sheath blight and susceptible to blast.
Kaybonnet	1994 – Arkansas	Katy/Newbonnet	A short season, long-grain with good yield potential and good milling quality. It is resistant to rice blast and has a small grain size.
Koshihikari	Japanese variety	Norin 22/Norin 1	A premium quality short-grain with low yield potential and good milling quality. It is the standard for Japanese quality.

Table 8 (con.). General characteristics of varieties tested in the Arkansas Rice Performance Trials and Arkansas Rice Disease Monitoring Program.

Variety/Hybrid	Year Released & State	Pedigree	Highlights
LaGrue	1993 – Arkansas	Bonnet73/Nova76/Bonnet73/3/Newrex	A short season, long-grain with excellent yield potential and variable milling quality. It is susceptible to rice blast and kernel smut.
Lemont	1983 – Texas	Lebonnet/CI9881/PI331581	A mid-season, semidwarf long-grain with good yield potential and milling quality. It has poor seedling vigor.
Madison	1997 – Texas	Lemont/Katy	A mid-season, semidwarf long-grain with blast resistance similar to Katy.
Maybelle	1990 – Texas	Skybonnet/L-201	Very short season long grain with good yield potential and poor milling quality.
Medark	2004 – Arkansas	Bengal/Short Rico	A short season, semidwarf, medium-grain with good yield potential and milling quality. It has a preferred large grain size.
Newbonnet	1983 – Arkansas	Dawn/Bonnet73	A mid-season, long-grain with good yield potential and good milling quality. It is susceptible to rice blast.
Pirogue	2002 – Louisiana	PY 678	A short-season, short grain with good yield potential and good milling quality.
RU0101093	Experimental – Arkansas	RU9101001//Tebonnet/Katy/3/LaGrue	A very short season, long grain with good yield potential and rice blast resistance. It is one of the earliest maturing long-grain rice lines.
Saber	2001 – Texas	Gulfmont/RU8703169/Teqing	A mid-season, semidwarf long grain with resistance to some rice blast races. It has yield and quality characteristics similar to Cypress.
Wells	1999 Arkansas	Newbonnet/3/Lebonnet/CI9902//Labelle	A short season, long grain with excellent yield potential, average milling quality, kernel size similar to Lemont, and susceptible to rice blast. Represented about 39.8% of the 2004 rice acreage in Arkansas.
XL 7	2002 – Rice Tec, Inc.	Proprietary Hybrid	A short-season long-grain hybrid with good yield potential, average milling quality, and moderate resistance to sheath blight and blast.
XL 8	2002 – Rice Tec, Inc.	Proprietary Hybrid	A short-season long-grain hybrid with excellent yield potential, average milling quality, and moderate resistance to sheath blight and blast.
XP 710	Experimental – Rice Tec	Proprietary Hybrid	A short-season long-grain hybrid with good yield potential, average milling quality, and resistance to blast and moderately resistant to sheath blight.
XP 712	Experimental – Rice Tec	Proprietary Hybrid	A short-season medium-grain hybrid with good yield potential, average milling quality, and resistance to blast and moderately resistant to sheath blight.
XP 716	Experimental – Rice Tec	Proprietary Hybrid	A short-season medium-grain hybrid with good yield potential, average milling quality, and resistance to blast and moderately resistant to sheath blight.
XP 723	Experimental – Rice Tec	Proprietary Hybrid	A short-season long-grain hybrid with good yield potential, average milling quality, and resistance to blast and moderately resistant to sheath blight.