

# ARICE

## INFORMATION

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### Arkansas Rice Performance Trials, 2004-2006<sup>1</sup>

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 2004-2006. Additional information can be found on the Arkansas Cooperative Extension website ([www.uaex.edu](http://www.uaex.edu)) and the annual B.R. Wells Rice Research Series publication (<http://www.uark.edu/depts/agripub/Publications/researchseries/>).

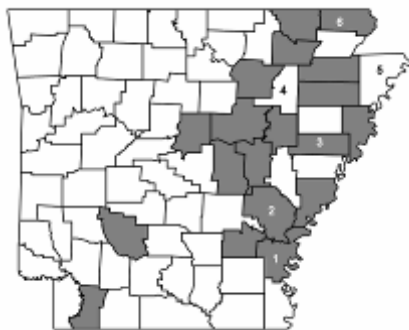
Varieties grown in the Arkansas Rice Performance Trials (ARPT) in 2006 averaged **183** bu/A of rough rice compared to the state average yield of **151.6** bu/A as reported by the USDA Crop Reporting Service ([http://www.nass.usda.gov/Statistics\\_by\\_State/Arkansas/Publications/Crops\\_Releases/Crop\\_Production\\_Monthly/2006/crpdnov06.pdf](http://www.nass.usda.gov/Statistics_by_State/Arkansas/Publications/Crops_Releases/Crop_Production_Monthly/2006/crpdnov06.pdf)). 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

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Promotion Board. These studies are conducted every year to compare promising new 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 2006 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.



1. Rohwer, Arkansas (Perry clay)
2. Stuttgart, Arkansas (Dewitt silt loam)
3. Pine Tree, Arkansas (Calloway silt loam)
4. Rutledge Farm, Jackson County (Amagon silt loam)
5. Keiser, Arkansas (Sharkey clay)
6. Ahrent Farm, Clay County (Beulah fine sandy loam)

**Figure 1. Locations (1 - 6) of the Arkansas Rice Performance Trials and Rice Disease Monitoring Sites (shaded) conducted in 2006.**

The 2006 ARPT tests were located at Rohwer (SEREC), Stuttgart (RREC), Pine Tree (PTBS), on the Rutledge farm in Jackson County, at Keiser (NEREC), and on the Ahrent farm in Clay County (CC) and seeded on May 17, May 19, April 13, April 14, April 12, and April 17, respectively. Cultural practices varied somewhat among the ARPT locations, but overall the trials were grown under conditions for high yield. Nitrogen was typically 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 Experiment Stations. Phosphorus and potassium fertilizers were applied before seeding at the Stuttgart, Pine Tree, Jackson County, and Clay County locations. The trial at Stuttgart was initially planted on April 11 but suspected lespedeza worms and seedling disease problems resulted in replanting on May 19.

The average yields for the 2004, 2005, and 2006 ARPT are listed in Table 1. Agronomic traits measured in 2006 are presented in Table 2 and the yield results from the 2006 ARPT are shown in Table 3. Averaged across all locations, Francis, Banks, and Wells were the top yielding conventional varieties in the 2006 ARPT (Table 3). Rice Tec XL 723, CL XP 729, and CL XL730 hybrids were the highest yielding cultivars in the three year study (Tables 1 and 2). ARPT yield data from 2004, 2005, and 2006 show that these same varieties tend to be the top yielding rice varieties in Arkansas each year. Jupiter, Francis, and Wells were the top three yielding conventional varieties from 2004 to 2006 (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. Also, resistance to particular diseases, like blast, can be overcome by the fungus over time. This has happened to the variety Banks since 2004. Released originally as resistant (R) to blast disease, it is now considered to be susceptible due to a buildup of the new blast race IE-1k, which attacks Banks. Banks should no longer be considered a blast resistant variety in Arkansas. 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 2006 ARPT are provided in Table 8. CL 171 AR, a new Clearfield variety released by Horizon AG, BASF, LSU, and the University of Arkansas, was tested on a widespread basis for the first time in 2006. CL 171 AR is a long-grain rice with Wells plant type but has CL 161 leaf color (paler green). CL 171 AR has comparable yield potential and slightly better sheath blight tolerance than CL 161, and better blast resistance in 2006 field observations than either Wells or CL 161. One new hybrid, RiceTec XP 729, was evaluated in 2006 and data for RiceTec CL XL8 was not included because the seed provided was impure and did not represent CL XL8 either visually or in productivity.

Each year replicated variety trials are established in numerous grower fields to monitor rice variety reaction to diseases (Tables 4 and 5). The counties where the 2006 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, Jupiter, Banks, and Wells. Rice Tec XL 723 continues to be the highest yielding entry across all locations but CL XP 729 and CL XL 730 also appear to have outstanding yield potential (Table 5). Yield variability among the various locations represent different environments, but also susceptibility to various diseases present at specific locations. For example, severe straighthead was present at the Clay county site, severe stem rot was present at the Lonoke county site, and blast and narrow-brown leaf spot were present at the Jackson county site. Narrow brown leaf spot, affecting the panicle, was present at all the later planted locations and was severe at the Faulkner and Jackson County sites.

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 2003, 2004, and 2005 planting date studies can be found in Rice Information Sheet No. 154, 156, and 162, 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 then 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 March 16 or April 9 (Table 6). 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 - 68% reduction in yield potential. Banks, Cybonnet, Francis, Jupiter, Rice Tec CL XP729, Rice Tec XP723, Rice Tec CL XL 730, and Wells 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. 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](http://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
- Rice Information Sheet No. 156
- Rice Information Sheet No. 162

University of Arkansas Agricultural Publications

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

- B.R. Wells Rice Research Studies 2001 - 2005

**Table 1. Results of the Arkansas Rice Performance Trials averaged across the three-year period of 2004-2006.**

Maturity Group and Variety	Grain Length <sup>1</sup>	Straw Strength <sup>2</sup>	50% Heading <sub>3</sub>	Plant Height	Milled Grain Weight	Pecky Rice <sup>4</sup>	Milling Yield				Grain Yield by Year			
							2004	2005	2006	Mean	2004	2005	2006	Mean
		Rating	Days	in.	mg	%	% Head Rice - % Total Rice				Bushels / Acre			
<b>Very Short Season</b>														
Jefferson	L	3.0	86	39	19.3	1.27	59 - 71	51 - 70	54-69	55-70	149	165	149	154
Rice Tec XP 723	L	3.0	86	43	19.4	1.10	65 - 73	60 - 71	62-70	62-71	201	219	224	215
Spring	L	4.0	81	41	16.4	0.63	62 - 72	51 - 69	53-69	55-70	146	157	150	151
Trenasse	L	3.0	85	38	19.0	1.20	64 - 72	57 - 70	58-69	58-69	174	177	166	172
<b>Short Season</b>														
Ahrent	L	3.7	88	41	16.0	1.38	64 - 71	57 - 68	56-68	59-69	160	159	146	155
Bengal	M	3.0	89	37	20.2	2.22	65 - 73	67 - 73	66-71	66-72	157	204	184	182
Cheniere	L	2.0	90	36	16.6	1.00	67 - 73	60 - 71	61-70	63-71	159	197	185	180
CL 131	L	2.0	89	33	16.7	1.41	-	59 - 72	60-71	60-71	-	193	172	183
CL 161	L	2.0	91	39	16.4	1.33	-	62 - 70	62-71	62-71	-	187	176	182
CL 171 AR	L	3.0	92	38	18.2	1.42	65 - 73	60 - 72	61-71	62-72	155	194	173	174
Cocodrie	L	2.0	90	37	17.7	1.56	67 - 72	61 - 71	63-71	64-71	170	195	162	176
Cybonnet	L	2.0	90	37	17.6	0.99	69 - 73	61 - 71	63-71	64-72	163	202	186	184
Francis	L	3.0	89	40	17.0	0.75	65 - 72	62 - 71	59-70	62-71	177	210	208	198
Jupiter	M	3.3	89	38	18.8	1.66	-	67 - 72	66-71	66-71	-	209	193	201
Medark	M	2.0	88	35	20.3	2.67	67 - 73	66 - 72	65-71	66-72	171	195	179	182
Presidio	L	3.3	88	37	17.2	1.21	64 - 72	58 - 70	61-70	61-71	157	161	165	161
Rice Tec CLXL730	L	4.3	88	46	18.6	1.43	-	57 - 71	59-71	58-71	-	225	220	222
Wells	L	3.0	91	41	18.9	0.92	66 - 74	55 - 72	57-71	60-72	174	211	198	194
<b>Mid-Season</b>														
4484	L	4.5	96	41	18.5	2.29	-	62 - 69	53-69	57-69	-	196	195	196
Banks	L	4.0	94	43	17.3	0.68	67 - 74	56 - 70	62-70	62-71	173	193	206	191
Drew	L	4.7	93	41	16.6	0.78	68 - 73	59 - 72	59-70	62-71	167	193	168	176
LaGrue	L	4.0	93	43	18.1	0.65	64 - 71	57 - 70	59-70	60-70	159	205	197	187

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

2 Relative straw strength based on field tests using the scale: 0=very strong straw, 5=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.

**Table 2. Agronomic traits of selected varieties in the 2006 Arkansas Rice Performance Trials.**

<b>Maturity Group and Variety</b>	<b>Grain Type<sup>1</sup></b>	<b>Straw Strength<sup>2</sup></b>	<b>50% Heading<sup>3</sup></b>	<b>Plant Height<sup>4</sup></b>	<b>Milled Grain Weight</b>	<b>Pecky Rice<sup>5</sup></b>
		<b>Rating</b>	<b>Days</b>	<b>in.</b>	<b>mg</b>	<b>%</b>
<b>Very Short Season</b>						
Jefferson	L	3	87	40	18.13	1.38
Rice Tec XP723	L	3	87	43	18.65	1.68
Spring	L	4	83	41	15.81	0.89
Trenasse	L	3	86	40	18.72	1.52
<b>Short Season</b>						
Ahrent	L	4	90	41	15.20	1.87
Bengal	M	3	90	37	19.61	3.13
Cheniere	L	2	91	37	16.46	1.41
CL 131	L	2	89	33	16.64	1.67
CL 161	L	2	92	39	16.14	1.34
CL 171 AR	L	3	91	38	18.12	1.42
Cocodrie	L	2	91	37	17.68	2.14
Cybonnet	L	2	90	38	17.44	1.37
Francis	L	3	90	40	16.86	1.13
Jupiter	M	4	90	38	18.40	2.58
Medark	M	2	89	36	19.70	2.51
Presidio	L	3	89	39	16.39	1.17
Rice Tec CL XP 729	L	4	89	44	18.27	1.75
Rice Tec CL XL 730	L	4	89	46	18.38	1.67
Wells	L	3	91	42	18.58	1.19
<b>Mid-Season</b>						
4484	L	5	95	41	18.07	2.29
Banks	L	4	93	45	17.22	0.80
Drew	L	5	92	39	16.86	1.31
LaGrue	L	4	92	44	17.78	0.82

<sup>1</sup> Grain type: L=long grain; M=medium grain; S=Short grain

<sup>2</sup> Numerical rating for straw strength, lodging susceptibility increases as rating number increases.

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

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

<sup>5</sup> Average percent, by weight, in brown rice for stink bug damage.

**Table 3. Results of the 2006 Arkansas Rice Performance Trials.**

Maturity Group and Variety	Milling Yield							Grain Yield						
	Clay Co.	Jackson Co.	NEREC	PTBS	RREC	SEREC	Mean	Clay Co.	Jackson Co.	NEREC	PTBS	RREC	SEREC	Mean
	%HR-%TR							Bushels/acre						
<b>Very Short Season</b>														
Jefferson	55-68	47-67	51-68	56-68	55-70	61-72	54-69	148	172	150	151	139	135	149
Rice Tec XP723	63-71	57-68	60-69	61-70	62-71	67-74	62-70	253	281	250	213	143	202	224
Spring	51-69	52-68	50-68	58-69	56-70	53-70	53-69	111	198	189	102	160	141	150
Trenasse	59-70	50-66	54-67	63-70	60-70	62-72	58-69	121	203	191	161	158	160	166
<b>Short Season</b>														
Ahrent	59-68	51-66	55-67	64-69	62-68	49-69	56-68	129	142	151	155	160	138	146
Bengal	70-72	63-69	65-70	70-72	67-71	60-73	66-71	178	211	195	182	177	159	184
Cheniere	60-69	51-66	57-68	64-71	68-73	66-74	61-70	195	219	180	189	180	146	185
CL 131	61-71	51-67	59-69	67-72	64-72	55-75	60-71	177	217	187	157	153	140	172
CL 161	61-70	54-68	61-68	68-72	68-72	61-75	62-71	186	224	156	192	165	135	176
CL 171 AR	59-70	55-69	62-69	68-72	67-72	54-75	61-71	193	218	173	188	157	109	173
Cocodrie	62-70	55-68	60-70	65-72	66-72	69-75	63-71	103	210	176	159	182	142	162
Cybonnet	63-71	58-69	61-69	68-72	65-71	63-75	63-71	221	228	197	178	162	133	186
Francis	60-70	51-67	57-68	62-69	63-72	65-74	59-70	205	237	215	199	207	184	208
Jupiter	70-72	66-70	62-69	67-70	67-70	63-73	66-71	192	241	196	176	172	181	193
Medark	70-72	60-69	66-70	69-72	67-70	60-71	65-71	170	210	187	178	172	159	179
Presidio	63-71	52-67	59-68	63-69	62-70	66-73	61-70	163	173	174	166	150	164	165
Rice Tec CL XP 729	62-70	55-68	56-68	62-70	58-68	55-73	58-70	279	275	263	246	161	162	231
Rice Tec CL XL730	63-71	56-70	54-68	63-72	62-72	54-74	59-71	249	279	215	209	198	168	220
Wells	61-72	43-68	55-69	62-72	63-72	60-75	57-71	233	235	205	205	166	146	198
<b>Mid-Season</b>														
4484	57-68	51-68	55-67	57-68	59-69	40-72	53-69	182	231	228	186	177	165	195
Banks	59-67	63-69	60-68	67-71	62-71	60-74	62-70	208	269	214	180	191	171	206
Drew	58-69	56-68	61-69	58-69	62-70	60-73	59-70	186	206	179	166	162	108	168
LaGrue	61-70	52-67	56-68	59-69	64-71	61-74	59-70	218	241	180	193	179	169	197
Average	61-70	54-68	58-68	64-71	63-71	60-73	60-70	187	222	192	179	168	152	183

<sup>1</sup> HR-TR = %Head Rice - %White Rice;

**Table 4. Rice variety reactions<sup>1</sup> to diseases (2006).**

Variety/Hybrid	Sheath Blight	Blast	Stem Rot	Kernel Smut	False Smut	Brown Spot	Straight head	Lodging	Black Sheath Rot	Bacterial Panicle Blight	Narrow Brown Leaf Spot
Bengal	MS	S	VS	MS	MS	VS	VS	MR	MR	VS	S
Jupiter	MS	MR	S	MS	MS	R	MS	MR	MR	MR	MS
Banks	MS	S	S	VS	S	R	MS	MS	MS	S	S
Cheniere	S	MS	S	VS	S	R	MS	MR	MS	S	S
Clearfield 131	VS	MS	S	S	S	R	VS	MR	S	S	VS
Clearfield 151	VS	VS	S	S	S	R	VS	MR	S	S	S
Clearfield 161	VS	S	S	S	S	R	MS	MS	S	S	MS
CL 171AR	S	MS	S	S	S	R	MS	MS	MS	S	MS
Cocodrie	S	MS	S	VS	S	R	VS	MR	MS	S	MS
Cybonnet	VS	R	S	S	S	R	MS	MR	S	MS	S
Francis	MS	VS	S	VS	S	R	MS	MS	MS	VS	S
Pace	MS	MR	S	S	S	R	MS	MR	MS	MR	MS
Presidio	MS	S	S	MS	S	R	MS	MR	MS	MR	MS
Sierra	MS	VS	S	S	S	R	MS	MR	MS	MS	MS
Spring	S	MS	VS	MS	MS	R	VS	S	MS	S	MS
Trenasse	VS	S	S	S	S	R	VS	MS	MS	S	MS
Wells	S	S	VS	MS	S	R	MS	MS	MS	S	S
RiceTec XP710	MR	R	S	MS	S	R	VS	MS	MS	MR	MR
RiceTec XP723	MS	R	S	MS	S	R	MR	MS	MS	R	MR
RiceTec CL XP729	MS	MR	S	MS	S	R	MR	MS	MS	MR	MR
RiceTec CL XL730	S	MR	S	MS	S	R	MR	S	MS	MR	MR

<sup>1</sup> 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).

<sup>2</sup> Based on reaction to common races of the rice blast fungus in Arkansas for the most part; however, Banks and other Pi-ta resistant gene based varieties are susceptible to Race IE-1k, a previously rare race that has increased in importance in the state since 2004. All rice varieties should be monitored periodically for blast since the blast fungus is capable of developing new races that can overcome known resistance genes.

*Table prepared by R.D. Cartwright, 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 2006.**

<b>Cultivar</b>	<b>Clark</b>	<b>Clay</b>	<b>Crittenden</b>	<b>Desha</b>	<b>Faulkner</b>	<b>Independence</b>	<b>Jackson</b>	<b>Lafayette</b>	<b>Lawrence</b>	<b>Mean<sup>1</sup></b>	<b>C.V.</b>
	-----Bushels/acre-----									<b>%</b>	
4484	84	160	144	151	168	116	122	140	215	162	23.2
Banks	137	160	135	140	152	148	125	171	203	167	18.3
Bengal	137	142	135	130	160	134	93	126	201	151	23.8
Cheniere	120	135	121	109	154	142	89	147	181	153	21.2
CL 131	129	82	124	111	135	160	128	129	169	151	21.3
CL 161	134	120	115	105	134	127	90	214	179	149	23.5
CL 171 AR	131	138	112	101	141	162	90	194	176	151	21.2
Cocodrie	118	77	130	137	127	141	101	243	186	157	26.8
Cybonnet	142	136	118	96	119	155	141	196	182	157	19.3
Francis	144	144	127	119	144	148	87	229	189	170	30.5
Jupiter	110	175	126	119	180	156	124	203	201	168	23.3
Medark	89	151	115	96	153	114	88	200	184	147	29.9
Pace	103	168	100	128	137	146	114	222	186	158	24.0
Pirogue	103	156	135	91	81	130	98	114	213	141	40.3
Presidio	123	143	105	118	139	127	101	183	153	150	19.9
Rice Tec CL XP 729	140	215	162	113	176	213	153	186	246	206	23.0
Rice Tec CL XL 730	99	207	170	150	170	193	176	165	250	200	21.8
Rice Tec XL 723	176	217	165	136	157	184	211	143	249	207	21.6
RU0501084	127	142	129	109	117	145	98	165	210	155	21.5
RU0501099	109	144	131	130	146	144	117	169	196	158	19.2
RU0501136	54	142	121	111	134	122	73	159	154	143	34.8
RU0501145	129	162	137	129	134	152	102	173	182	169	22.9
Spring	55	114	99	81	105	131	106	195	171	128	48.0
Trenasse	103	85	147	133	126	138	126	141	204	155	21.3
Wells	167	171	122	137	167	159	96	101	193	167	21.6
<b>Mean</b>	<b>119</b>	<b>147</b>	129	119	142	147	114	172	195	161	
<b>C.V. (%)</b>	24.5	24.3	14.2	15.4	16.1	15.8	27.0	21.3	13.2	11.8	

<sup>1</sup>Mean = average across 19 locations

<sup>2</sup>C.V.= coefficient of variation, provides an indication of yield variability across environments. Lower numbers are better.

**Table 5b. Performance of selected varieties in replicated rice disease monitoring tests located in grower fields in Arkansas during 2006 (con.).**

Cultivar	Lincoln	Lonoke	Phillips	Prairie	Poinsett	Randolph	St. Francis	White	Woodruff	Mean <sup>1</sup>	C.V.
	-----Bushels/acre-----										%
4484	196	166	207	141	140	192	213	151	212	162	23.2
Banks	160	206	197	171	162	194	176	187	190	167	18.3
Bengal	121	190	152	157	140	200	191	130	179	151	23.8
Cheniere	169	177	166	150	155	183	163	191	207	153	21.2
CL 131	171	157	143	163	165	197	162	199	193	151	21.3
CL 161	159	143	160	144	151	188	175	168	175	149	23.5
CL 171 AR	147	162	147	165	159	195	163	181	163	151	21.2
Cocodrie	159	146	163	154	160	198	183	210	188	157	26.8
Cybonnet	160	170	154	154	163	194	184	196	175	157	19.3
Francis	159	199	219	167	174	207	207	203	198	170	30.5
Jupiter	93	169	200	156	186	217	185	224	200	168	23.3
Medark	122	149	177	128	132	189	162	202	198	147	29.9
Pace	141	177	173	135	136	206	181	193	197	158	24.0
Pirogue	65	158	200	139	165	199	220	183	84	141	40.3
Presidio	175	199	155	140	129	174	177	165	188	150	19.9
Rice Tec CL XP 729	149	284	226	237	233	262	228	254	225	206	23.0
Rice Tec CL XL 730	153	278	232	211	218	232	260	220	211	200	21.8
Rice Tec XL 723	144	290	226	234	252	242	243	238	223	207	21.6
RU0501084	153	189	142	151	172	191	184	192	177	155	21.5
RU0501099	131	198	175	165	157	191	187	191	165	158	19.2
RU0501136	80	171	158	148	157	182	200	202	212	143	34.8
RU0501145	200	210	195	166	152	205	198	212	213	169	22.9
Spring	126	208	155	166	17	191	185	184	24	128	48.0
Trenasse	164	164	177	168	169	204	174	195	175	155	21.3
Wells	175	196	184	182	166	204	194	194	193	167	21.6
<b>Mean</b>	<b>147</b>	<b>190</b>	<b>179</b>	<b>164</b>	<b>160</b>	<b>201</b>	<b>192</b>	<b>195</b>	<b>183</b>	<b>161</b>	
<b>C.V. (%)</b>	22.1	21.3	15.5	16.7	26.2	9.6	13.1	13.2	23.6	11.8	

<sup>1</sup>Mean = average across 19 locations

<sup>2</sup>C.V.= coefficient of variation, provides an indication of yield variability across environments. Lower numbers are better.

**Table 6. Influence of seeding date on grain yield of selected rice varieties studies conducted at the RREC during 2006.**

Variety	Grain Yield <sup>1</sup>					Milling Yield				
	March 16	April 14	May 9	June 5	Mean	March 16	April 14	May 9	June 5	Mean
	Bushels/acre					%HR-%TR				
4484	119	168	104	107	124	45-68	45-68	58-67	59-70	52-68
Banks	171	181	131	116	150	61-70	50-68	58-68	63-72	58-69
Cheniere	155	171	105	115	137	63-72	59-69	61-69	65-72	62-71
CL131	154	166	119	119	139	64-71	58-68	57-69	63-71	61-70
CL161	123	154	109	110	124	62-69	58-67	63-69	61-71	61-69
CL171 AR	154	177	104	114	137	66-73	61-69	61-69	61-71	62-71
Cybonnet	169	179	108	123	145	65-71	55-67	63-70	60-71	61-70
Francis	172	178	125	124	150	63-71	53-68	58-69	63-72	59-70
Jupiter	162	167	116	107	138	65-70	56-69	60-69	63-71	61-70
Medark	115	131	86	93	106	63-71	58-68	60-69	64-72	61-70
Pace	136	140	96	110	120	61-70	50-68	58-68	62-71	58-69
Pirogue	64	109	99	70	85	63-73	60-69	60-70	60-70	61-71
Presidio	119	140	107	106	118	63-70	61-70	57-69	62-71	61-70
Rice Tec CLXL730	196	248	203	156	200	60-72	57-69	60-70	62-71	60-71
Rice Tec CLXP729	217	276	219	180	223	58-71	56-69	57-69	63-72	58-70
Rice Tec XL723	218	265	208	177	217	58-70	57-70	58-70	65-71	60-70
RU0401182	152	167	119	136	143	61-72	58-68	59-69	62-72	60-70
Spring	102	139	131	111	121	52-69	56-69	51-69	66-72	56-69
Trenasse	159	158	133	98	137	56-68	50-66	53-67	64-71	56-68
Wells	158	178	133	142	153	61-72	51-70	55-70	64-72	58-71
Mean	151	175	128	121	143	60-71	58-69	58-69	63-71	59-70

**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 2006.**

Variety	Days to ½” Internode Elongation					Days to 50% Heading				
	March 16	April 14	May 9	June 5	Mean	March 16	April 14	May 9	June 5	Mean
	days after emergence					days after emergence				
4484	71	64	49	49	58	106	98	85	83	93
Banks	-	-	-	-	-	98	92	80	79	87
Cheniere	-	-	-	-	-	95	88	78	75	84
CL131	66	62	49	46	56	95	88	78	73	84
CL161	70	61	48	46	56	102	93	79	78	88
CL171 AR	66	61	52	48	57	96	92	79	77	86
Cybonnet	-	-	-	-	-	96	91	79	77	86
Francis	67	61	48	49	56	97	89	79	76	85
Jupiter	75	66	53	52	61	99	88	79	75	85
Medark	72	66	51	50	60	97	88	78	73	84
Pace	73	66	54	52	61	98	91	80	76	86
Pirogue	79	69	57	58	66	95	86	77	78	84
Presidio	70	66	50	50	59	94	87	75	73	82
Rice Tec CLXL730	66	58	48	45	54	97	90	79	77	86
Rice Tec CLXP729	65	60	49	47	55	96	89	79	76	85
Rice Tec XL723	66	58	48	45	54	96	88	77	75	84
RU0401182	70	64	50	51	59	101	93	82	79	89
Spring	65	56	44	43	52	85	80	68	67	75
Trenasse	67	58	45	46	54	91	83	71	69	79
Wells	69	64	50	49	58	97	91	79	77	86
Mean	69	62	50	49	57	96	89	78	76	85

**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
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
Banks	2004 – Arkansas	LaGrue//Lemont/RA73/3/LaGrue/4/LaGrue	A short-season, long-grain LaGrue type rice originally listed with blast resistance, however a new race of the blast fungus IE-1k has overcome the resistance in Banks. Therefore, Banks is now considered susceptible to blast in Arkansas.
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 6.2% of the 2006 rice acreage in Arkansas.
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. Represented about 10.6% of the 2006 rice acreage in Arkansas. Due to the LL601 (Liberty Link GMO issue, Cheniere will no longer be grown in the southern U.S.
CL 131	2005– BASF, Horizon Ag	Proprietary variety; Developed from Cocodrie	A midseason, semi-dwarf long-grain similar to CL 161 with shorter plant height, moderately susceptible to blast, very susceptible to straighthead and sheath blight, but improved grain yield potential. Represented about 13.1% of the 2006 rice acreage in Arkansas.
CL 161	2002 – BASF, Horizon Ag	Proprietary variety; Developed from Cypress	A midseason, semi-dwarf, long-grain similar to Cypress with high tolerance to Newpath herbicide. It is very susceptible to sheath blight, susceptible to blast and moderately susceptible to straighthead. Represented about 6.7% of the 2006 rice acreage in Arkansas.
CL 171 AR	2006 - BASF, Horizon Ag	Proprietary variety; Developed from Wells	A midseason, semi-dwarf, long-grain similar to Wells with high tolerance to Newpath herbicide. It is susceptible to sheath blight, moderately susceptible to blast and straighthead. Yield is similar to CL 161.
CL XL8	2003 – Rice Tec, Inc.	Proprietary Hybrid	A short-season, long grain with high yield potential and adequate tolerance to Newpath herbicide, moderately susceptible to sheath blight, and resistant to blast. Represented about 5.6% of the 2006 rice acreage in Arkansas.
CL XL 730	2005– Rice Tec, Inc.	Proprietary Hybrid	A short-season, long grain with excellent yield potential and high tolerance to Newpath herbicide, moderately susceptible to sheath blight, and resistant to blast. Somewhat susceptible to lodging under extreme conditions. Represented about 4.8% of the 2006 rice acreage in Arkansas.
Cocodrie	1997 – Louisiana	Cypress//82CAY21/Tebonnet	A short season semi-dwarf long-grain with good yield potential and milling quality. Susceptible to sheath blight and other diseases. High bran oil content makes it somewhat of a milling concern to certain buyers. Represented about 4.4% of the 2006 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 and moderately susceptible to straighthead. Very susceptible to sheath blight.
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.

**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
Francis	2002 – Arkansas	Lebonnet/9902/3/Dawn/9695/Starbonnet/4/La Grue	A very short season, long-grain with excellent yield potential, susceptible to rice blast and very susceptible to kernel smut. It is the best long grain for high pH and salt soils of NE Arkansas west of Crowley’s ridge but should not be stressed for water due to blast concerns. Represented about 9.6% of the 2006 rice acreage in Arkansas.
Jefferson	1999 – Texas	Vista/Lebonnet//Rosemont	A very short season, semidwarf, long-grain variety with good yield potential and average milling quality. It is moderately susceptible to sheath blight and susceptible to certain races of the blast fungus.
Koshihikari	Japanese variety	Norin 22/Norin 1	A premium quality short-grain with low yield potential but good milling quality. It is the standard for Japanese eating quality rices. Very susceptible to lodging under almost all growing conditions.
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 very susceptible to kernel smut.
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.
Pirogue	2002 – Louisiana	PY 678	A short-season, short grain with good yield potential and good milling quality. Few, if any, disease problems at this time.
Presidio	2005 – Texas	Vista/Lebonnet//Rosemont/Maybelle	A mid-season, semidwarf long grain with resistance to some rice blast races. It has yield and quality characteristics similar to Cypress.
Spring	Experimental – Arkansas	RU9101001//Tebonnet/Katy/3/LaGrue	A very short season, long grain with good yield potential under ideal conditions. It is susceptible to sheath blight, very susceptible to stem rot, prone to lodging and has variable rice blast resistance. It is one of the earliest maturing long-grain rice lines.
Trenasse	2005 - Louisiana	Cypress//82CAY21/Tebonnet	A very short season, long grain with excellent yield potential. It is very susceptible to sheath blight, straighthead, and susceptible to blast.
Wells	1999 Arkansas	Newbonnet/3/Lebonnet/CI9902//Labelle	A short season, long grain with excellent yield potential, average to good milling quality, large kernel size similar to Lemont, but is susceptible to rice blast. Only moderately susceptible to kernel smut and most other diseases and is the most widely adapted long grain rice in Arkansas. Represented about 30.1% of the 2006 rice acreage in Arkansas.
XL 723	2003- Rice Tec Hybrid	Proprietary Hybrid	A short-season long-grain hybrid with excellent yield potential, average milling quality, but resistant to blast and moderately susceptible to sheath blight.