

2024 Missouri Rice Planting Date and Cultivar Trials

Flood-Irrigated and Furrow-Irrigated Production Systems

Conducted by the
University of Missouri Rice Agronomy Program

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Missouri Rice Research and Merchandising Council

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Table of Contents

Experimental Procedures.....	3
Agronomic Information	4
Trial Averages	5
Planting Date Grain Yield	5
Hybrid vs. Inbred Comparison	6
Planting Date Milling Yield	7
Furrow-Irrigated Grain Yield.....	8
Furrow-Irrigated Milling Yield	9
3-Year Flood-Irrigated Rice Averages	10
3-Year Furrow-Irrigated Rice Averages	11
Rice Farm Planting Dates (Flood-Irrigated)	12
February 26	12
March 14	13
April 5.....	14
April 25.....	15
May 21	16
June 14	17
Portageville Planting Dates (Flood-Irrigated).....	18
Portageville	18
Fisk	19
Sikeston.....	20
Furrow-Irrigated Rice.....	21
Rice Farm	21
Rives.....	22
Butler	23
Portageville	24

Experimental Procedures for Rice Cultivar Trials

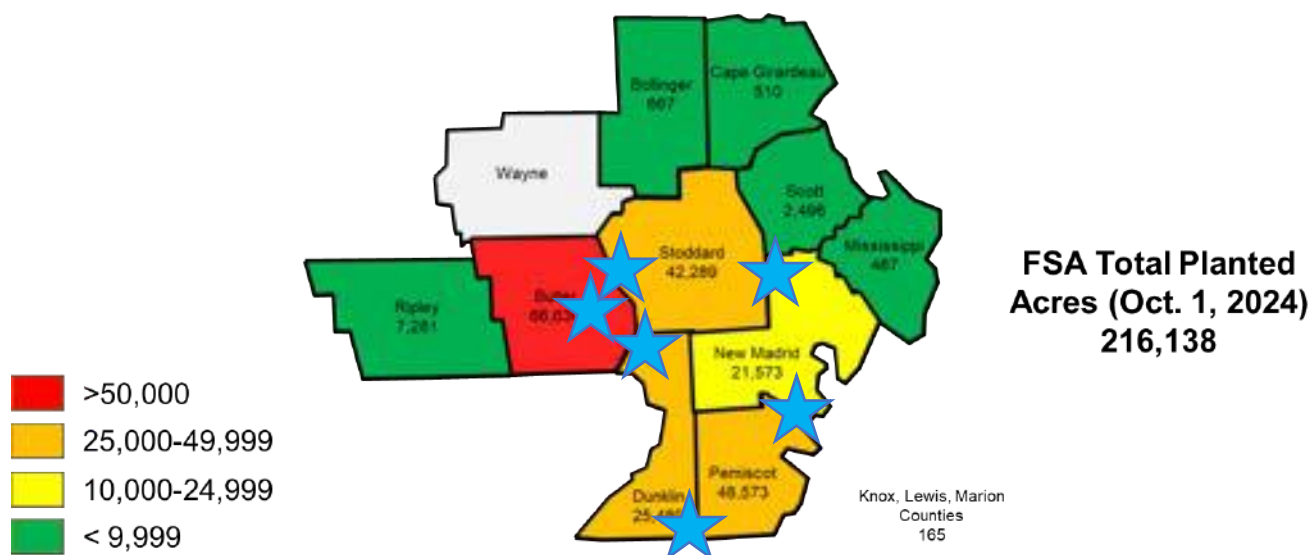
Plot Management: All flood-irrigated plots are drilled as 18 feet in length with a 3 foot alley and 7 rows wide with a 2 foot alley, while furrow-irrigated plots are drilled as 18 feet in length with a 2 foot alley and 7 rows wide with a 2 foot alley. Row spacing is 7.5". The agronomic information for each location, including nitrogen management and irrigation strategy, is included in Table 1. Trials located on research stations were managed using University of Missouri recommendations, while on-farm locations were managed according to each farmer's management style. The goal of having trials at different locations including on-farm sites is to evaluate the rice cultivars under different management practices common to the Bootheel area.

Entries: There were 24 entries evaluated in 2023. Entries are solicited from each of the rice seed growers in the Mid-South and include popular commercial varieties as well as some pre-commercial lines, which are generally one to two years away from release.

Data Collection: Rice grain yield and milling yield were collected at all locations. A 7 to 8 foot alley, depending upon location, was cut with a brush hog width-ways, whereas the plots then become 13-14 feet long for harvest. All 7 rows were harvested. Total plot weight was then divided by the area harvested (6.33 ft wide by 12-14 feet long) and adjusted to 12% moisture. A one pound sample was collected from each plot for milling, which was accomplished with a PAZ-1 laboratory mill (Zaccaria USA, Anna, TX). Milling results are reported as % head rice milling yield (%HR) - % total white rice milling yield (%TR). Canopy height and days to 50% heading were also measured for the majority of sites. Lodging was recorded at harvest at the sites where lodging existed.

Experimental Design: All trials utilize a randomized complete block design (RCBD) and are analyzed in SAS v9.4 using the PROC GLIMMIX procedure.

Figure 1. Missouri's 2024 rice acreage by county, with stars denoting trial locations.



2024 Missouri Planting Date / Furrow-Irrigated Rice Cultivar Trials

Site	Nearest Town	Planting Date	Emergence Date	Flood Date	Harvest Date	Soil Type	Location Info	Water Management	N Management	N Rate (lbs N/ac)
MRRMC PD Early	Glennonville, Dunklin County	Feb 26	March 16	May 14	August 26	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC PD1	Glennonville, Dunklin County	March 14	April 12	May 14	August 27	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC PD2	Glennonville, Dunklin County	April 5	April 19	May 14	August 27	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC PD3	Glennonville, Dunklin County	April 25	May 3	May 21	September 10	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC PD4	Glennonville, Dunklin County	May 21	May 27	June 24	October 9	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC PD5	Glennonville, Dunklin County	June 14	June 19	July 15	October 25	Silt Loam	Research Station	Flood	Single Pre-flood	120
FDRC PD1	Portageville, Pemiscot County	March 21	April 23	May 23	September 10	Silt Loam	Research Station	Flood	Single Pre-flood	150
FDRC PD2	Portageville, Pemiscot County	May 1	May 8	June 21	September 25	Silt Loam	Research Station	Flood	Single Pre-flood	150
Fisk	Fisk, Butler County	April 13	N/A	N/A	September 26	Clay	On-Farm	Flood	Single Pre-flood	150
Canalou	Canalou, Stoddard County	April 23	N/A	N/A	October 7	Clay	On-Farm	Flood	2-way split	155
MRRMC FIR Top	Glennonville, Dunklin County	April 5	April 19	June 1	September 9	Silt Loam	Research Station	Non-Flood	3-way split	166
MRRMC FIR Middle	Glennonville, Dunklin County	April 5	April 19	June 1	September 9	Silt Loam	Research Station	Muddy	3-way split	166
MRRMC FIR Bottom	Glennonville, Dunklin County	April 5	April 19	June 1	September 9	Silt Loam	Research Station	Flood	3-way split	166
FDRC FIR Top	Portageville, Pemiscot County	April 24	May 2	June 17	October 8	Clay	Research Station	Non-Flood	3-way split	196
FDRC FIR Middle	Portageville, Pemiscot County	April 24	May 2	June 17	October 8	Clay	Research Station	Muddy	3-way split	196
FDRC FIR Bottom	Portageville, Pemiscot County	April 24	May 2	June 17	October 8	Clay	Research Station	Flood	3-way split	196
Rives FIR Top	Rives, Dunklin County	April 16	N/A	N/A	September 11	Clay	On-Farm	Non-Flood	3-way split	196
Rives FIR Middle	Rives, Dunklin County	April 16	N/A	N/A	September 11	Clay	On-Farm	Muddy	3-way split	196
Rives FIR Bottom	Rives, Dunklin County	April 16	N/A	N/A	September 11	Clay	On-Farm	Flood	3-way split	196
Butler FIR Top	Poplar Bluff, Butler County	April 22	May 2	N/A	August 29	Silt Loam	On-Farm	Non-Flood	3-way split	196
Butler FIR Middle	Poplar Bluff, Butler County	April 22	May 2	N/A	August 29	Silt Loam	On-Farm	Muddy	3-way split	196
Butler FIR Bottom	Poplar Bluff, Butler County	April 22	May 2	N/A	August 29	Silt Loam	On-Farm	Flood	3-way split	196

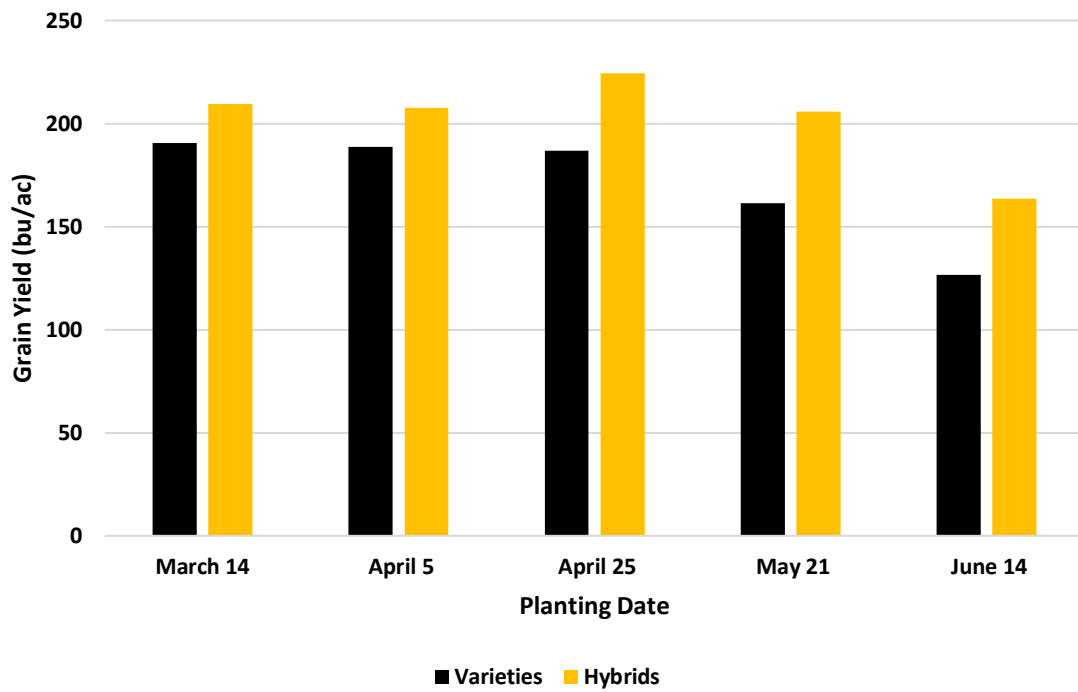
Table 1. Agronomic management information for 2024 rice cultivar trials.

2024 Missouri Planting Date Trials Grain Yield

Cultivar	Rice Farm (Glennonville)						Portageville	AVERAGE
	26-Feb	14-Mar	5-Apr	25-Apr	21-May	14-Jun	16-Mar	
DG263L	168	197	200	192	185	145	171	182
Diamond	-	200	196	194	162	124	209	181
Ozark	-	195	193	202	169	123	222	184
ProGold1	-	191	186	194	161	119	212	177
RTv7303	-	169	175	187	191	154	188	177
CLHA03	-	172	172	169	143	126	191	162
CLL16	-	198	199	186	168	116	237	184
CLL18	176	196	196	191	160	127	215	181
CLL19	-	148	174	189	147	128	216	167
PVL03	-	174	174	158	133	107	198	157
PVL04	-	189	190	190	173	131	207	180
DG563 PVL	-	209	192	196	150	119	192	176
RTv7231 MA	-	177	186	189	165	133	171	170
RT7302	-	219	207	220	216	178	215	209
RT7401	-	210	203	229	200	144	206	199
XP753	-	206	215	227	219	181	221	212
RT7421 FP	151	199	204	228	205	146	192	196
RT7521 FP	-	219	208	234	198	155	235	208
RT7331 MA	-	205	210	208	197	177	200	199
CLM05	-	210	189	182	149	129	225	181
DG353M	-	196	187	174	155	120	196	171
ProGold M3	-	206	205	188	161	113	231	184
RT3202	-	209	188	222	215	153	202	198
Taurus	-	212	194	198	172	141	224	190
AVERAGE	165	196	193	198	175	135	207	184

Averages calculated without the February 26 planting date.

Planting Date Effect – Hybrid vs Variety



Planting date effect on the average yield of hybrids and inbred varieties at the Rice Research Farm near Glennonville.

2024 Missouri Planting Date Trials Milling Yield

Cultivar	Rice Farm (Glennonville)						Portageville		AVERAGE
	26-Feb	14-Mar	5-Apr	25-Apr	21-May	14-Jun	16-Mar	13-Jun	
DG263L	58-70	50-70	51-70	55-69	61-71	60-70	63-70	57-68	57-70
Diamond	-	50-73	51-73	57-71	63-72	62-72	62-73	58-71	58-72
Ozark	-	56-75	52-73	59-72	63-72	64-73	67-75	64-71	61-73
ProGold1	-	54-72	52-72	57-71	63-72	63-72	63-71	65-71	59-72
RTv7303	-	52-71	53-69	58-69	63-70	59-70	63-70	58-69	58-70
CLHA03	-	60-73	61-72	63-71	65-72	62-72	66-72	63-70	63-72
CLL16	-	48-72	52-72	60-71	62-72	53-70	64-72	58-70	57-71
CLL18	57-72	49-71	53-72	57-70	62-72	58-72	62-72	60-70	57-71
CLL19	-	53-72	58-72	56-71	63-72	64-72	63-72	59-69	59-72
PVL03	-	58-74	58-73	62-72	64-73	63-74	65-73	60-71	61-73
PVL04	-	55-71	57-72	60-70	63-72	57-70	64-72	63-71	60-71
DG563 PVL	-	53-71	55-71	59-70	62-71	59-69	63-71	58-69	58-70
RTv7231 MA	-	40-71	46-72	55-71	61-72	60-72	57-72	48-68	52-71
RT7302	-	39-72	50-72	56-72	61-73	58-72	60-73	54-70	54-72
RT7401	-	44-72	44-72	53-71	59-72	58-71	58-72	54-71	53-72
XP753	-	38-74	41-73	49-72	57-73	57-72	58-73	48-70	50-73
RT7421 FP	54-72	40-72	45-72	53-71	60-72	60-71	58-72	48-70	52-71
RT7521 FP	-	49-72	53-72	54-71	62-72	60-71	61-72	58-70	57-71
RT7331 MA	-	33-72	39-73	53-72	56-73	57-72	59-73	51-71	50-72
CLM05	-	61-72	61-70	64-69	63-70	63-69	61-71	58-68	62-70
DG353M	-	58-74	62-71	61-70	65-72	67-71	65-71	62-69	63-71
ProGold M3	-	60-74	66-71	62-70	67-71	64-71	66-71	66-69	64-71
RT3202	-	40-72	43-72	59-71	58-72	59-71	57-71	49-69	52-71
Taurus	-	52-73	57-72	58-71	65-72	67-72	65-72	62-69	61-72
AVERAGE	57-72	50-72	52-72	57-71	62-72	61-71	62-72	57-70	57-71

2024 Missouri Furrow-Irrigated Cultivar Trials Grain Yield

Cultivar	Rice Farm (Glennonville)			Portageville*			Rives			Butler County			AVERAGE
	Top	Middle	Bottom	Top	Middle	Bottom	Top	Middle	Bottom	Top	Middle	Bottom	
DG263L	163	162	186	116	162	N/A	163	167	176	201	204	206	173
Diamond	160	180	204	128	172	N/A	158	174	169	181	171	185	171
Ozark	163	171	205	131	182	N/A	166	183	171	181	172	207	176
ProGold1	162	175	206	145	184	N/A	161	177	169	174	164	178	172
RTv7303	178	186	197	136	168	N/A	159	178	161	206	213	211	181
CLHA03	136	147	188	137	160	N/A	137	146	127	170	166	173	153
CLL16	159	171	200	123	175	N/A	144	176	168	187	181	205	172
CLL18	168	177	213	124	155	N/A	155	172	170	187	178	190	172
CLL19	151	167	198	124	172	N/A	157	167	150	178	178	185	166
PVL03	155	152	181	125	181	N/A	150	160	134	163	158	160	156
PVL04	147	149	183	130	170	N/A	139	158	159	177	172	186	161
DG563 PVL	162	181	204	135	179	N/A	168	173	164	203	195	202	179
RTv7231 MA	162	174	188	94	125	N/A	145	152	164	189	190	193	162
RT7302	178	198	247	143	182	N/A	177	207	194	226	233	213	200
RT7401	195	196	224	122	180	N/A	181	191	192	210	210	201	191
XP753	193	200	231	125	167	N/A	186	210	198	220	224	224	198
RT7421 FP	197	199	209	126	142	N/A	184	202	181	208	211	229	190
RT7521 FP	192	197	213	128	193	N/A	184	185	186	220	216	225	194
RT7331 MA	177	204	240	129	181	N/A	187	201	190	205	210	216	194
CLM05	148	161	187	144	171	N/A	168	173	159	194	142	188	167
DG353M	155	165	181	130	159	N/A	159	155	145	169	152	171	158
ProGold M3	163	190	197	132	178	N/A	169	178	152	180	167	181	172
RT3202	183	198	231	111	178	N/A	184	209	183	213	203	207	191
Taurus	161	184	206	120	162	N/A	155	176	173	193	177	193	173
AVERAGE	167	178	205	127	170	N/A	164	178	168	193	187	197	176

* Severe lodging and delayed harvest from Hurricane Helene negatively affected plot yields at Portageville.

2024 Missouri Furrow-Irrigated Cultivar Trials Milling Yield

Cultivar	Rice Farm (Glennonville)			Portageville			Rives			Butler County			AVERAGE
	Top	Middle	Bottom	Top	Middle	Bottom	Top	Middle	Bottom	Top	Middle	Bottom	
DG263L	54-70	55-70	57-71	20-68	31-68	34-68	29-70	36-69	50-69	57-70	55-70	58-70	45-69
Diamond	61-74	59-73	60-73	33-71	46-71	45-71	37-71	42-70	52-71	51-71	51-72	54-71	49-72
Ozark	65-74	66-73	65-73	39-72	54-72	58-73	40-72	44-70	50-71	50-71	51-72	53-72	53-72
ProGold1	57-73	58-73	59-73	32-72	51-71	54-72	34-71	37-69	50-70	44-71	44-71	43-71	47-71
RTv7303	58-70	56-70	60-71	31-68	40-68	43-69	33-70	39-69	50-69	53-69	56-70	55-70	48-69
CLHA03	62-72	62-72	64-72	42-71	55-70	56-71	49-70	51-70	56-69	63-71	62-71	63-71	57-71
CLL16	63-73	62-73	63-73	24-71	41-70	48-71	31-70	44-69	52-69	56-70	54-71	57-71	50-71
CLL18	62-73	61-72	62-72	33-68	48-70	48-71	40-70	41-69	54-70	50-69	52-70	52-70	50-70
CLL19	58-73	60-72	63-73	34-70	46-70	53-70	34-71	41-70	47-70	49-71	52-71	51-72	49-71
PVL03	65-74	61-73	64-74	36-72	54-72	58-73	31-73	34-71	46-71	51-72	53-73	53-73	50-72
PVL04	63-73	63-73	62-73	47-71	56-70	57-71	53-71	54-69	56-69	57-70	58-71	58-71	57-71
DG563 PVL	61-72	57-71	61-72	22-69	36-70	43-70	37-71	47-70	48-70	55-70	58-71	59-70	49-70
RTv7231 MA	53-72	57-71	60-71	13-66	26-65	23-65	20-71	23-70	31-70	53-71	53-72	54-72	39-70
RT7302	60-74	60-73	63-74	19-71	33-72	36-72	24-72	31-72	39-71	49-71	47-72	47-72	42-72
RT7401	61-73	58-73	62-73	23-71	30-70	37-71	22-72	29-71	38-71	47-71	47-71	50-71	42-71
XP753	50-73	53-74	62-74	18-72	27-72	33-73	23-72	28-72	34-72	41-72	39-72	43-72	37-72
RT7421 FP	60-73	59-73	60-72	27-70	33-70	30-70	25-72	34-71	37-71	46-71	45-72	49-72	42-71
RT7521 FP	57-72	56-72	61-73	37-71	46-71	48-71	32-71	35-70	43-69	45-71	45-71	47-72	46-71
RT7331 MA	54-74	53-73	63-74	22-72	28-72	32-73	23-72	31-72	39-71	42-72	44-73	46-72	40-72
CLM05	64-71	63-70	66-71	28-70	48-69	44-69	34-69	35-68	41-68	55-68	N/A	60-69	49-69
DG353M	65-73	65-72	65-72	33-71	51-71	58-72	39-71	41-69	49-70	62-69	63-69	62-70	54-70
ProGold M3	62-72	62-71	63-72	39-71	57-70	62-71	44-70	51-69	42-69	59-69	58-69	59-69	55-70
RT3202	57-72	59-72	66-73	17-69	30-70	34-71	28-71	33-70	38-70	47-70	48-71	46-71	42-71
Taurus	59-73	61-72	64-72	26-67	47-70	52-71	30-71	44-70	48-71	54-71	54-71	52-71	49-71
AVERAGE	60-73	59-72	62-72	29-70	42-70	45-71	33-71	39-70	45-70	51-70	52-71	53-71	48-71

2024 Missouri Flood Rice (3-Year Average)

Cultivar	2022 Flood Avg	2023 Flood Avg	2024 Flood Avg	2-Year AVERAGE	3-Year AVERAGE
DG263L	182	189	182	-	184
Diamond	177	179	181	-	179
Ozark	185	186	184	-	185
ProGold1	172	173	177	-	174
RTv7303	-	-	177	-	-
CLHA03	-	-	162	-	-
CLL16	166	178	184	-	176
CLL18	177	187	181	-	181
CLL19	-	166	167	166	-
PVL03	154	164	157	-	158
PVL04	-	175	180	178	-
DG563 PVL	-	-	176	-	-
RTv7231 MA	162	168	170	-	167
RT7302	216	221	209	-	215
RT7401	198	203	199	-	200
XP753	208	209	212	-	209
RT7421 FP	190	203	196	-	196
RT7521FP	201	-	208	205	-
RT7331 MA	208	207	199	-	205
CLM05			181	-	-
DG353M			171	-	-
ProGold M3	-	179	184	182	-
RT3202	-	201	198	200	-
Taurus	184	192	190	-	189
AVERAGE	185	188	184	186	187

2024 Missouri Furrow-Irrigated Rice (3-Year Average)

Cultivar	2022 FIR Average			2023 FIR Average			2024 FIR Average			2-Year	3-Year
	Top	Middle	Bottom	Top	Middle	Bottom	Top	Middle	Bottom	AVERAGE	AVERAGE
DG263L	161	181	199	143	160	176	161	174	190	-	172
Diamond	164	193	198	127	135	172	157	174	186	-	167
Ozark	166	181	193	130	151	185	160	177	194	-	171
ProGold1	161	199	197	121	135	176	161	175	184	-	168
RTv7303	-	-	-	-	-	-	170	186	190	-	-
CLHA03	-	-	-	-	-	-	145	155	162	-	-
CLL16	148	178	186	123	140	169	153	176	191	-	163
CLL18	158	201	204	133	154	171	158	170	191	-	171
CLL19	-	-	-	122	145	168	152	171	177	156	-
PVL03	149	171	168	124	138	167	148	163	158	-	154
PVL04	-	-	-	124	150	177	148	162	176	156	-
DG563 PVL	-	-	-	-	-	-	167	182	190	-	-
RTv7231 MA	159	177	181	133	144	158	148	160	182	-	160
RT7302	211	229	235	150	174	216	181	205	218	-	202
RT7401	193	209	220	158	170	197	177	194	206	-	191
XP753	195	225	234	146	173	208	181	200	217	-	198
RT7421 FP	177	207	216	147	167	199	179	189	206	-	187
RT7521FP	185	210	209	-	-	-	181	198	208	199	-
RT7331 MA	194	231	229	151	176	203	174	199	215	-	197
CLM05							164	162	178	-	-
DG353M							153	158	166	-	-
ProGold M3	-	-	-	126	156	179	161	178	177	163	-
RT3202	-	-	-	136	156	195	173	197	207	177	-
Taurus	179	193	205	145	155	190	157	175	191	-	177
AVERAGE	173	199	205	135	154	184	163	178	190	170	177

Rice Farm Feb 26 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	30	116	0	58-70	168
CLL18	L	34	115	0	57-72	176
RT7421 FP	L	32	118	0	54-72	151
AVERAGE		32	116	0	57-72	165

Rice Farm March 14 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	31	85	0	50-70	197
Diamond	L	35	86	0	50-73	200
Ozark	L	34	87	0	56-75	195
ProGold1	L	34	91	0	54-72	191
RTv7303	L	29	88	0	52-71	169
CLHA03	L	30	88	0	60-73	172
CLL16	L	33	90	0	48-72	198
CLL18	L	34	88	0	49-71	196
CLL19	L	28	85	0	53-72	148
PVL03	L	32	89	0	58-74	174
PVL04	L	30	91	0	55-71	189
DG563 PVL	L	32	87	0	53-71	209
RTv7231 MA	L	31	85	0	40-71	177
RT7302	L	32	85	0	39-72	219
RT7401	L	32	88	0	44-72	210
XP753	L	34	84	0	38-74	206
RT7421 FP	L	35	88	0	40-72	199
RT7521 FP	L	33	86	0	49-72	219
RT7331 MA	L	32	84	0	33-72	205
CLM05	M	36	94	0	61-72	210
DG353M	M	35	92	0	58-74	196
ProGold M3	M	29	91	0	60-74	206
RT3202	M	34	84	0	40-72	209
Taurus	M	31	89	0	52-73	212
AVERAGE		32	88	0	50-72	196

Rice Farm April 5 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	30	81	0	51-70	200
Diamond	L	32	81	0	51-73	196
Ozark	L	32	81	0	52-73	193
ProGold1	L	33	81	0	52-72	186
RTv7303	L	30	83	0	53-69	175
CLHA03	L	32	79	0	61-72	172
CLL16	L	33	83	0	52-72	199
CLL18	L	34	84	0	53-72	196
CLL19	L	29	80	0	58-72	174
PVL03	L	32	82	0	58-73	174
PVL04	L	31	83	0	57-72	190
DG563 PVL	L	33	81	0	55-71	192
RTv7231 MA	L	32	81	0	46-72	186
RT7302	L	33	84	0	50-72	207
RT7401	L	33	84	0	44-72	203
XP753	L	34	80	0	41-73	215
RT7421 FP	L	37	83	0	45-72	204
RT7521 FP	L	34	81	0	53-72	208
RT7331 MA	L	31	81	0	39-73	210
CLM05	M	34	83	0	61-70	189
DG353M	M	34	83	0	62-71	187
ProGold M3	M	31	82	0	66-71	205
RT3202	M	35	80	0	43-72	188
Taurus	M	32	82	0	57-72	194
AVERAGE		33	82	0	52-72	193

Rice Farm April 25 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	31	80	0	55-69	192
Diamond	L	38	81	0	57-71	194
Ozark	L	35	82	0	59-72	202
ProGold1	L	37	84	0	57-71	194
RTv7303	L	32	80	0	58-69	187
CLHA03	L	36	83	0	63-71	169
CLL16	L	37	87	0	60-71	186
CLL18	L	36	80	0	57-70	191
CLL19	L	34	81	0	56-71	189
PVL03	L	35	84	0	62-72	158
PVL04	L	34	86	0	60-70	190
DG563 PVL	L	33	80	0	59-70	196
RTv7231 MA	L	35	80	0	55-71	189
RT7302	L	36	80	0	56-72	220
RT7401	L	37	82	0	53-71	229
XP753	L	36	80	0	49-72	227
RT7421 FP	L	41	82	0	53-71	228
RT7521 FP	L	37	80	0	54-71	234
RT7331 MA	L	37	81	0	53-72	208
CLM05	M	37	86	0	64-69	182
DG353M	M	39	86	0	61-70	174
ProGold M3	M	35	84	0	62-70	188
RT3202	M	39	80	0	59-71	222
Taurus	M	34	82	0	58-71	198
AVERAGE		36	82	0	57-71	198

Rice Farm May 21 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	34	74	0	61-71	185
Diamond	L	38	78	0	63-72	162
Ozark	L	38	81	0	63-72	169
ProGold1	L	38	85	0	63-72	161
RTv7303	L	36	73	0	63-70	191
CLHA03	L	36	80	0	65-72	143
CLL16	L	39	82	0	62-72	168
CLL18	L	38	80	0	62-72	160
CLL19	L	34	79	0	63-72	147
PVL03	L	37	80	0	64-73	133
PVL04	L	35	86	0	63-72	173
DG563 PVL	L	34	74	0	62-71	150
RTv7231 MA	L	35	73	0	61-72	165
RT7302	L	37	78	0	61-73	216
RT7401	L	36	79	0	59-72	200
XP753	L	37	74	0	57-73	219
RT7421 FP	L	39	82	0	60-72	205
RT7521 FP	L	38	81	0	62-72	198
RT7331 MA	L	35	73	0	56-73	197
CLM05	M	38	87	0	63-70	149
DG353M	M	37	82	0	65-72	155
ProGold M3	M	36	83	0	67-71	161
RT3202	M	40	73	0	58-72	215
Taurus	M	35	80	0	65-72	172
AVERAGE		37	79	0	62-72	175

Rice Farm June 14 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	32	84	0	60-70	145
Diamond	L	35	83	0	62-72	124
Ozark	L	30	85	0	64-73	123
ProGold1	L	33	85	0	63-72	119
RTv7303	L	29	82	0	59-70	154
CLHA03	L	32	84	0	62-72	126
CLL16	L	34	88	0	53-70	116
CLL18	L	35	84	0	58-72	127
CLL19	L	29	82	0	64-72	128
PVL03	L	30	82	0	63-74	107
PVL04	L	29	84	0	57-70	131
DG563 PVL	L	32	85	0	59-69	119
RTv7231 MA	L	30	80	0	60-72	133
RT7302	L	35	81	0	58-72	178
RT7401	L	31	84	0	58-71	144
XP753	L	34	80	0	57-72	181
RT7421 FP	L	33	84	0	60-71	146
RT7521 FP	L	33	82	0	60-71	155
RT7331 MA	L	33	81	0	57-72	177
CLM05	M	34	86	0	63-69	129
DG353M	M	32	84	0	67-71	120
ProGold M3	M	29	85	0	64-71	113
RT3202	M	35	81	0	59-71	153
Taurus	M	29	85	0	67-72	141
AVERAGE		32	83	0	61-71	137

Portageville March 21 Planted

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	35	87	0	63-70	171
Diamond	L	40	91	0	62-73	209
Ozark	L	40	93	0	67-75	222
ProGold1	L	39	95	0	63-71	212
RTv7303	L	36	87	0	63-70	188
CLHA03	L	38	91	0	66-72	191
CLL16	L	41	94	0	64-72	237
CLL18	L	42	93	0	62-72	215
CLL19	L	37	89	0	63-72	216
PVL03	L	39	92	0	65-73	198
PVL04	L	37	95	0	64-72	207
DG563 PVL	L	36	90	0	63-71	192
RTv7231 MA	L	37	82	0	57-72	171
RT7302	L	38	89	0	60-73	215
RT7401	L	39	88	0	58-72	206
XP753	L	39	87	0	58-73	221
RT7421 FP	L	42	88	0	58-72	192
RT7521 FP	L	40	89	0	61-72	235
RT7331 MA	L	40	87	0	59-73	200
CLM05	M	41	93	0	61-71	225
DG353M	M	40	93	0	65-71	196
ProGold M3	M	37	90	0	66-71	231
RT3202	M	41	82	0	57-71	202
Taurus	M	36	87	0	65-72	224
AVERAGE		39	90	0	62-72	207

Fisk Flood-Irrigated

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	N/A	N/A	1	57-69	229
Diamond	L	N/A	N/A	3	59-71	235
Ozark	L	N/A	N/A	0	63-73	230
ProGold1	L	N/A	N/A	0	61-72	235
RTv7303	L	N/A	N/A	2	57-69	214
CLHA03	L	N/A	N/A	0	63-71	194
CLL16	L	N/A	N/A	2	60-72	222
CLL18	L	N/A	N/A	1	62-72	239
CLL19	L	N/A	N/A	0	61-71	208
PVL03	L	N/A	N/A	0	62-72	192
PVL04	L	N/A	N/A	0	62-72	231
DG563 PVL	L	N/A	N/A	1	59-70	239
RTv7231 MA	L	N/A	N/A	2	48-69	188
RT7302	L	N/A	N/A	1	52-73	263
RT7401	L	N/A	N/A	1	51-72	257
XP753	L	N/A	N/A	1	46-73	245
RT7421 FP	L	N/A	N/A	1	55-72	250
RT7521 FP	L	N/A	N/A	1	59-71	253
RT7331 MA	L	N/A	N/A	1	50-72	245
CLM05	M	N/A	N/A	1	63-70	236
DG353M	M	N/A	N/A	1	66-71	230
ProGold M3	M	N/A	N/A	3	65-71	246
RT3202	M	N/A	N/A	1	53-71	245
Taurus	M	N/A	N/A	5	59-71	184
AVERAGE		-	-	1	58-71	229

Sikeston Flood-Irrigated

Cultivar	Grain Length	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac
DG263L	L	30	N/A	3	50-71	193
Diamond	L	N/A	N/A	8	49-73	180
Ozark	L	N/A	N/A	5	51-74	182
ProGold1	L	34	N/A	3	50-73	186
RTv7303	L	30	N/A	3	52-71	147
CLHA03	L	33	N/A	1	56-72	161
CLL16	L	33	N/A	4	49-73	188
CLL18	L	N/A	N/A	7	52-72	159
CLL19	L	29	N/A	1	54-73	149
PVL03	L	31	N/A	1	53-74	108
PVL04	L	31	N/A	1	57-73	174
DG563 PVL	L	30	N/A	2	47-72	192
RTv7231 MA	L	30	N/A	4	37-70	135
RT7302	L	33	N/A	3	37-73	146
RT7401	L	32	N/A	3	33-72	140
XP753	L	35	N/A	1	35-73	152
RT7421 FP	L	33	N/A	2	36-73	159
RT7521 FP	L	36	N/A	2	52-73	140
RT7331 MA	L	33	N/A	2	38-73	139
CLM05	M	32	N/A	3	51-71	184
DG353M	M	31	N/A	2	51-73	169
ProGold M3	M	31	N/A	5	62-71	163
RT3202	M	35	N/A	3	43-72	140
Taurus	M	31	N/A	6	55-73	156
AVERAGE		32	N/A	3	48-72	160

Rice Farm Furrow-Irrigated Rice

Cultivar	Grain Length	-----Top-----					-----Middle-----					-----Bottom-----				
		Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac
DG263L	L	23	91	-	54-70	163	23	88	-	55-70	162	27	86	-	57-71	186
Diamond	L	33	96	-	61-74	160	35	93	-	59-73	180	36	88	-	60-73	204
Ozark	L	33	100	-	65-74	163	31	98	-	66-73	171	41	93	-	65-73	205
ProGold1	L	33	98	-	57-73	162	34	97	-	58-73	175	37	90	-	59-73	206
RTv7303	L	26	90	-	58-70	178	29	86	-	56-70	186	28	84	-	60-71	197
CLHA03	L	28	95	-	62-72	136	29	96	-	62-72	147	33	88	-	64-72	188
CLL16	L	33	102	-	63-73	159	34	96	-	62-73	171	35	92	-	63-73	200
CLL18	L	33	93	-	62-73	168	33	92	-	61-72	177	36	90	-	62-72	213
CLL19	L	26	92	-	58-73	151	29	90	-	60-72	167	32	88	-	63-73	198
PVL03	L	30	96	-	65-74	155	32	95	-	61-73	152	36	91	-	64-74	181
PVL04	L	28	100	-	63-73	147	29	98	-	63-73	149	34	93	-	62-73	183
DG563 PVL	L	26	92	-	61-72	162	28	88	-	57-71	181	32	88	-	61-72	204
RTv7231 MA	L	28	94	-	53-72	162	29	89	-	57-71	174	35	88	-	60-71	188
RT7302	L	29	98	-	60-74	178	30	97	-	60-73	198	32	90	-	63-74	247
RT7401	L	31	100	-	61-73	195	31	96	-	58-73	196	35	91	-	62-73	224
XP753	L	29	93	-	50-73	193	29	92	-	53-74	200	35	90	-	62-74	231
RT7421 FP	L	32	94	-	60-73	197	35	97	-	59-73	199	35	91	-	60-72	209
RT7521 FP	L	30	92	-	57-72	192	31	91	-	56-72	197	34	87	-	61-73	213
RT7331 MA	L	28	95	-	54-74	177	30	93	-	53-73	204	32	88	-	63-74	240
CLM05	M	31	102	-	64-71	148	31	99	-	63-70	161	35	99	-	66-71	187
DG353M	M	32	102	-	65-73	155	32	101	-	65-72	165	40	97	-	65-72	181
ProGold M3	M	29	102	-	62-72	163	31	100	-	62-71	190	33	99	-	63-72	197
RT3202	M	30	92	-	57-72	183	31	92	-	59-72	198	38	89	-	66-73	231
Taurus	M	28	102	-	59-73	161	31	99	-	61-72	184	32	90	-	64-72	206
AVERAGE		30	96	0	60-73	167	31	94	0	59-72	178	34	90	0	62-72	205

Rives Furrow-Irrigated Rice

Cultivar	Grain Length	-----Top-----					-----Middle-----					-----Bottom-----				
		Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac
DG263L	L	27	85	2	29-70	163	28	86	3	36-69	167	32	86	1	50-69	176
Diamond	L	31	87	4	37-71	158	32	89	2	42-70	174	36	86	3	52-71	169
Ozark	L	30	89	2	40-72	166	33	89	1	44-70	183	32	86	2	50-71	171
ProGold1	L	33	89	3	34-71	161	34	90	0	37-69	177	34	88	0	50-70	169
RTv7303	L	25	86	4	33-70	159	28	84	4	39-69	178	29	85	1	50-69	161
CLHA03	L	31	89	2	49-70	137	32	91	1	51-70	146	32	86	0	56-69	127
CLL16	L	32	90	4	31-70	144	33	89	4	44-69	176	34	86	2	52-69	168
CLL18	L	29	88	5	40-70	155	34	88	3	41-69	172	35	87	2	54-70	170
CLL19	L	27	86	2	34-71	157	30	88	2	41-70	167	33	88	2	47-70	150
PVL03	L	33	88	1	31-73	150	33	89	1	34-71	160	33	85	1	46-71	134
PVL04	L	31	87	2	53-71	139	33	89	1	54-69	158	31	86	0	56-69	159
DG563 PVL	L	27	86	2	37-71	168	29	89	2	47-70	173	31	85	1	48-70	164
RTv7231 MA	L	31	85	3	20-71	145	31	86	2	23-70	152	30	84	2	31-70	164
RT7302	L	28	88	4	24-72	177	30	87	3	31-72	207	33	89	2	39-71	194
RT7401	L	31	88	3	22-72	181	32	87	2	29-71	191	33	89	2	38-71	192
XP753	L	31	87	4	23-72	186	25	88	1	28-72	210	34	89	1	34-72	198
RT7421 FP	L	29	87	3	25-72	184	33	87	2	34-71	202	35	86	2	37-71	181
RT7521 FP	L	28	88	4	32-71	184	31	87	4	35-70	185	35	86	3	43-69	186
RT7331 MA	L	29	87	4	23-72	187	30	88	2	31-72	201	34	87	1	39-71	190
CLM05	M	30	91	2	34-69	168	32	89	1	35-68	173	31	87	1	41-68	159
DG353M	M	31	88	1	39-71	159	33	89	1	41-69	155	33	85	1	49-70	145
ProGold M3	M	28	89	1	44-70	169	31	90	1	51-69	178	30	86	1	42-69	152
RT3202	M	30	88	1	28-71	184	33	87	1	33-70	209	33	86	1	38-70	183
Taurus	M	27	89	4	30-71	155	29	90	3	44-70	176	28	83	1	48-71	173
AVERAGE		30	88	3	33-71	163	31	88	2	39-70	176	33	86	1	45-70	168

Butler Furrow-Irrigated Rice

Cultivar	Grain Length	-----Top-----					-----Middle-----					-----Bottom-----				
		Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac
DG263L	L	N/A	80	-	57-70	201	N/A	81	-	55-70	204	N/A	81	-	58-70	208
Diamond	L	N/A	81	-	51-71	181	N/A	82	-	51-72	171	N/A	83	-	54-71	185
Ozark	L	N/A	84	-	50-71	181	N/A	83	-	51-72	172	N/A	82	-	53-72	199
ProGold1	L	N/A	84	-	44-71	174	N/A	86	-	44-71	164	N/A	82	-	43-71	178
RTv7303	L	N/A	81	-	53-69	206	N/A	79	-	56-70	213	N/A	83	-	55-70	211
CLHA03	L	N/A	85	-	63-71	170	N/A	85	-	62-71	166	N/A	83	-	63-71	173
CLL16	L	N/A	84	-	56-70	187	N/A	85	-	54-71	181	N/A	84	-	57-71	191
CLL18	L	N/A	83	-	50-69	187	N/A	83	-	52-70	178	N/A	81	-	52-70	190
CLL19	L	N/A	80	-	49-71	178	N/A	82	-	52-71	178	N/A	79	-	51-72	185
PVL03	L	N/A	81	-	51-72	163	N/A	83	-	53-73	158	N/A	84	-	53-73	160
PVL04	L	N/A	80	-	57-70	177	N/A	83	-	58-71	172	N/A	84	-	58-71	170
DG563 PVL	L	N/A	81	-	55-70	203	N/A	82	-	58-71	195	N/A	85	-	59-70	203
RTv7231 MA	L	N/A	82	-	53-71	189	N/A	82	-	53-72	190	N/A	86	-	54-72	193
RT7302	L	N/A	81	-	49-71	226	N/A	82	-	47-72	233	N/A	82	-	47-72	228
RT7401	L	N/A	81	-	47-71	210	N/A	82	-	47-71	210	N/A	84	-	50-71	200
XP753	L	N/A	82	-	41-72	220	N/A	82	-	39-72	224	N/A	83	-	43-72	231
RT7421 FP	L	N/A	81	-	46-71	208	N/A	82	-	45-72	211	N/A	83	-	49-72	219
RT7521 FP	L	N/A	81	-	45-71	220	N/A	81	-	45-71	216	N/A	81	-	47-72	225
RT7331 MA	L	N/A	81	-	42-72	205	N/A	82	-	44-73	210	N/A	81	-	46-72	216
CLM05	M	N/A	85	-	55-68	194	N/A	85	-	N/A	142	N/A	83	-	60-69	189
DG353M	M	N/A	84	-	62-69	169	N/A	86	-	63-69	152	N/A	80	-	62-70	164
ProGold M3	M	N/A	85	-	59-69	180	N/A	86	-	58-69	167	N/A	83	-	59-69	181
RT3202	M	N/A	82	-	47-70	213	N/A	81	-	48-71	203	N/A	83	-	46-71	207
Taurus	M	N/A	84	-	54-71	193	N/A	85	-	54-71	177	N/A	82	-	52-71	193
AVERAGE		N/A	82	0	51-70	193	N/A	83	0	52-71	187	N/A	83	0	53-71	196

Portageville Furrow-Irrigated Rice

Cultivar	Grain Length	-----Top-----					-----Middle-----					-----Bottom-----				
		Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield	Canopy Height	Days to Heading	Lodging	Milling Yield	Grain Yield
		in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac	in	days	1-9	%	bu/ac
DG263L	L	24	86	6	20-68	116	27	83	0	31-68	162	27	84	N/A	34-68	N/A
Diamond	L	30	87	6	33-71	128	33	85	6	46-71	172	36	84	N/A	45-71	N/A
Ozark	L	31	86	6	39-72	131	35	86	8	54-72	182	34	90	N/A	58-73	N/A
ProGold1	L	31	88	7	32-72	145	34	87	8	51-71	184	36	93	N/A	54-72	N/A
RTv7303	L	28	84	6	31-68	136	30	84	7	40-68	168	31	84	N/A	43-69	N/A
CLHA03	L	29	87	7	42-71	137	34	85	4	55-70	160	32	88	N/A	56-71	N/A
CLL16	L	30	89	5	24-71	123	34	86	8	41-70	175	35	92	N/A	48-71	N/A
CLL18	L	32	85	8	33-68	124	32	85	8	48-70	155	37	85	N/A	48-71	N/A
CLL19	L	26	86	1	34-70	124	29	84	2	46-70	172	30	84	N/A	53-70	N/A
PVL03	L	29	84	4	36-72	125	33	86	0	54-72	181	36	88	N/A	58-73	N/A
PVL04	L	30	86	2	47-71	130	33	87	7	56-70	170	33	91	N/A	57-71	N/A
DG563 PVL	L	26	84	2	22-69	135	29	84	8	36-70	179	30	84	N/A	43-70	N/A
RTv7231 MA	L	25	86	6	13-66	94	32	85	7	26-65	125	30	84	N/A	23-65	N/A
RT7302	L	29	90	7	19-71	143	30	84	8	33-72	182	34	87	N/A	36-72	N/A
RT7401	L	28	88	9	23-71	122	32	87	7	30-70	180	34	84	N/A	37-71	N/A
XP753	L	28	89	6	18-72	125	32	86	7	27-72	167	34	84	N/A	33-73	N/A
RT7421 FP	L	28	90	7	27-70	126	34	83	9	33-70	142	34	87	N/A	30-70	N/A
RT7521 FP	L	29	88	4	37-71	128	34	84	5	46-71	193	36	85	N/A	48-71	N/A
RT7331 MA	L	29	90	5	22-72	129	32	91	6	28-72	181	31	85	N/A	32-73	N/A
CLM05	M	29	88	7	28-70	144	34	87	8	48-69	171	30	91	N/A	44-69	N/A
DG353M	M	29	89	8	33-71	130	32	87	9	51-71	159	35	92	N/A	58-72	N/A
ProGold M3	M	26	85	7	39-71	132	31	88	6	57-70	178	32	89	N/A	62-71	N/A
RT3202	M	28	84	4	17-69	111	34	83	4	30-70	178	32	84	N/A	34-71	N/A
Taurus	M	25	87	8	26-67	120	30	85	9	47-70	162	31	86	N/A	52-71	N/A
AVERAGE		28	87	6	29-70	127	32	86	6	42-70	170	33	87	N/A	45-71	N/A

* Severe lodging and delayed harvest from Hurricane Helene negatively affected plot yields at Portageville.

2024 Missouri Rice Seeding Rate Trials

Flood-Irrigated and Furrow-Irrigated Production Systems

Conducted by the
University of Missouri Rice Agronomy Program

Funding and support provided by the
Missouri Rice Research and Merchandising Council

By J.L. Chlapecka, M. Johnson, L. Rhodes, C. Hunt, A. Ablao



Table of Contents

Agronomic Information	3
Flood-irrigated Rice	4
Rice Farm	4
Portageville	7
Furrow-irrigated Rice	9
Averages	9
Portageville	11
Rives	13
Butler County (SE of Poplar Bluff).....	15
Summary	17

2024 Missouri Rice Seeding Rate Trials

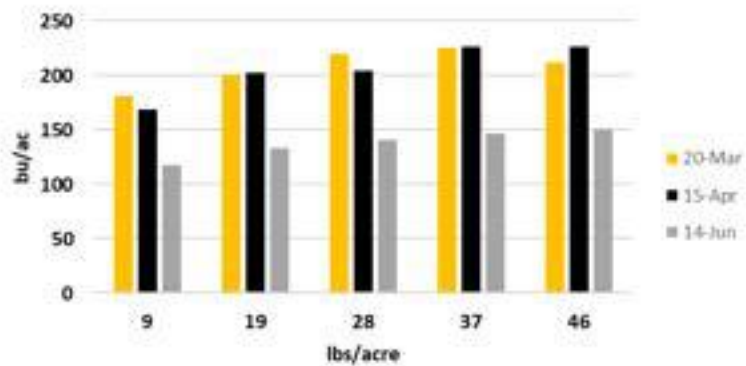
Site	Nearest Town	Planting Date	Emergence Date	Flood Date	Harvest Date	Soil Type	Location Info	Water Management	N Management	N Rate (lbs N/ac)
MRRMC Early	Glennonville, Dunklin County	March 20	April 15	May 23	August 26	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC Normal	Glennonville, Dunklin County	April 15	April 27	May 23	August 27	Silt Loam	Research Station	Flood	Single Pre-flood	120
MRRMC Late	Glennonville, Dunklin County	June 14	June 19	July 15	October 25	Silt Loam	Research Station	Flood	Single Pre-flood	120
FDRC Early	Portageville, Pemiscot County	March 21	April 23	May 23	September 10	Silt Loam	Research Station	Flood	Single Pre-flood	150
FDRC Normal	Portageville, Pemiscot County	May 1	May 8	June 21	September 25	Silt Loam	Research Station	Flood	Single Pre-flood	150
MRRMC FIR Top	Glennonville, Dunklin County	April 5	April 19	June 1	September 9	Silt Loam	Research Station	Non-Flood	3-way split	166
MRRMC FIR Middle	Glennonville, Dunklin County	April 5	April 19	June 1	September 9	Silt Loam	Research Station	Muddy	3-way split	166
MRRMC FIR Bottom	Glennonville, Dunklin County	April 5	April 19	June 1	September 9	Silt Loam	Research Station	Flood	3-way split	166
FDRC FIR Top	Portageville, Pemiscot County	April 24	May 2	June 17	October 8	Clay	Research Station	Non-Flood	3-way split	196
FDRC FIR Middle	Portageville, Pemiscot County	April 24	May 2	June 17	October 8	Clay	Research Station	Muddy	3-way split	196
FDRC FIR Bottom	Portageville, Pemiscot County	April 24	May 2	June 17	October 8	Clay	Research Station	Flood	3-way split	196
Rives FIR Top	Rives, Dunklin County	April 16	N/A	N/A	September 11	Clay	On-Farm	Non-Flood	3-way split	196
Rives FIR Middle	Rives, Dunklin County	April 16	N/A	N/A	September 11	Clay	On-Farm	Muddy	3-way split	196
Rives FIR Bottom	Rives, Dunklin County	April 16	N/A	N/A	September 11	Clay	On-Farm	Flood	3-way split	196
Butler FIR Top	Poplar Bluff, Butler County	April 22	May 2	N/A	August 29	Silt Loam	On-Farm	Non-Flood	3-way split	196
Butler FIR Middle	Poplar Bluff, Butler County	April 22	May 2	N/A	August 29	Silt Loam	On-Farm	Muddy	3-way split	196
Butler FIR Bottom	Poplar Bluff, Butler County	April 22	May 2	N/A	August 29	Silt Loam	On-Farm	Flood	3-way split	196

Materials & Methods: Seeding rate trials were planted in flood-irrigated rice on two sites, Portageville (FDRC) and the Rice Farm (MRRMC) and at three planting dates, early, normal and late planted. Furrow-irrigated trials were planted at three sites, FDRC, MRRMC, Rives (on-farm), and Butler County (on-farm southeast of Poplar Bluff) and within three areas of the field: top, middle, and bottom. One hybrid cultivar was utilized, RT7421 FP, and was planted at 4, 8, 12, 16, and 20 seed/ft². Three inbred varieties were also planted, CLL18, Ozark, and DG263L at 10, 20, 30, 40, and 50 seed/ft². Due to seed size differences, the equivalent seeding rate in pounds per acre is included for each treatment in the data tables on the following pages.

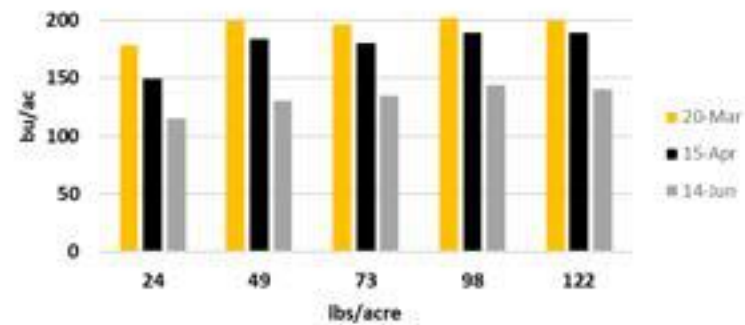
2024 Rice Farm Flood Rice Seeding Rate x Plant Date

Cultivar	Seeding Rate		20-Mar		15-Apr		14-Jun		AVERAGE	
	seed/ft ²	lb/ac	Stand	Yield	Stand	Yield	Stand	Yield	Stand	Yield
	seed/ft ²	lb/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac
RT7421 FP	4	9	2	182	3	169	4	117	3	156
RT7421 FP	8	19	3	201	6	202	7	133	5	179
RT7421 FP	12	28	3	219	9	204	10	141	7	188
RT7421 FP	16	37	5	225	11	226	13	147	10	199
RT7421 FP	20	46	6	212	11	226	15	150	11	196
DG263L	10	24	4	186	8	177	13	121	8	161
DG263L	20	48	8	192	14	182	14	132	12	169
DG263L	30	71	11	191	16	198	16	134	14	174
DG263L	40	95	15	188	18	181	17	136	17	169
DG263L	50	119	18	188	16	179	19	136	18	168
Ozark	10	24	4	178	8	149	16	115	10	148
Ozark	20	49	8	200	11	184	15	130	11	171
Ozark	30	73	9	197	14	180	17	135	14	171
Ozark	40	98	15	202	15	189	15	144	15	178
Ozark	50	122	17	200	17	189	20	140	18	177
CLL18	10	23	5	186	8	173	8	117	7	159
CLL18	20	45	9	201	12	192	10	130	10	174
CLL18	30	68	13	198	15	188	15	128	15	172
CLL18	40	91	15	197	16	184	18	126	16	169
CLL18	50	114	16	197	17	179	22	126	18	167
AVERAGE			9	197	12	188	14	132	12	172

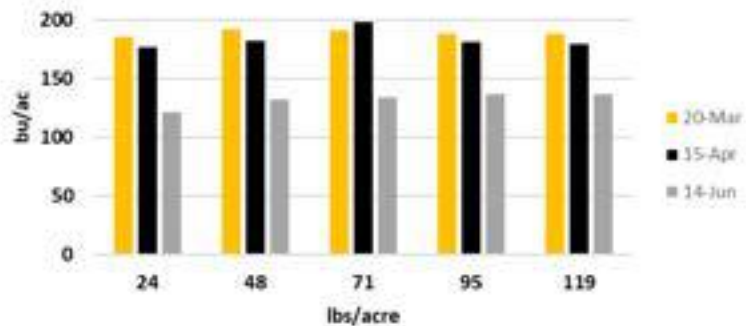
RT7421 FP



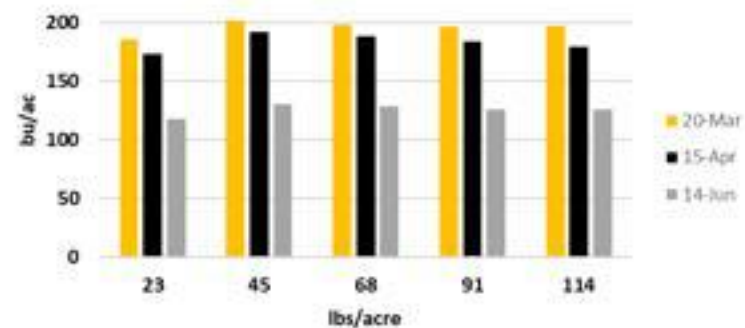
Ozark



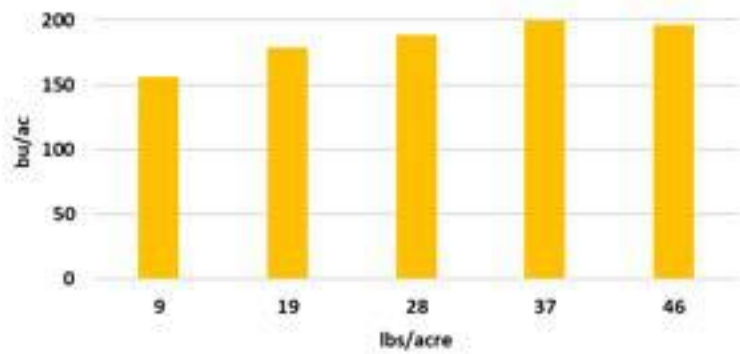
DG263L



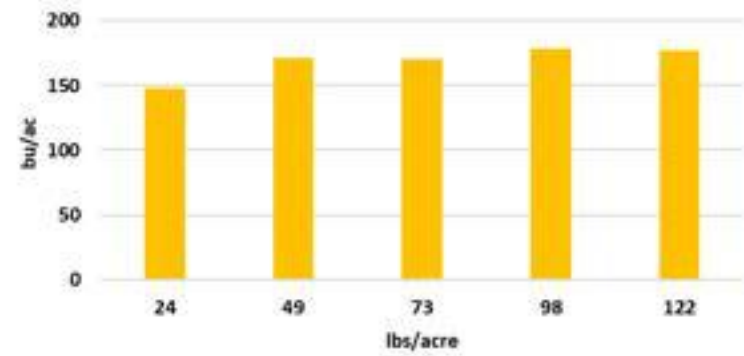
CLL18



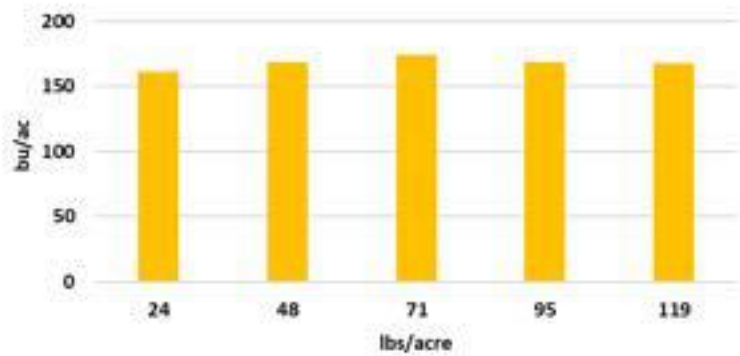
RT7421 FP



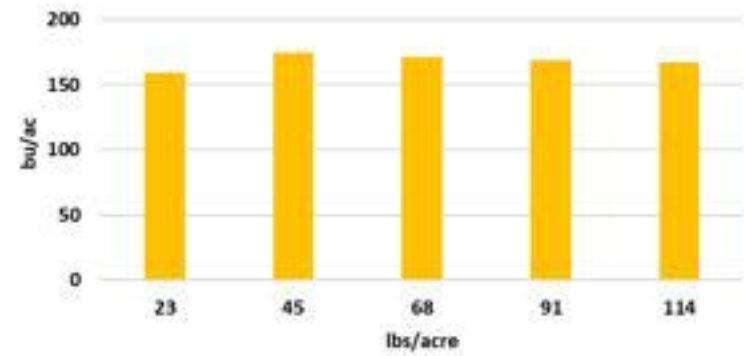
Ozark



DG263L



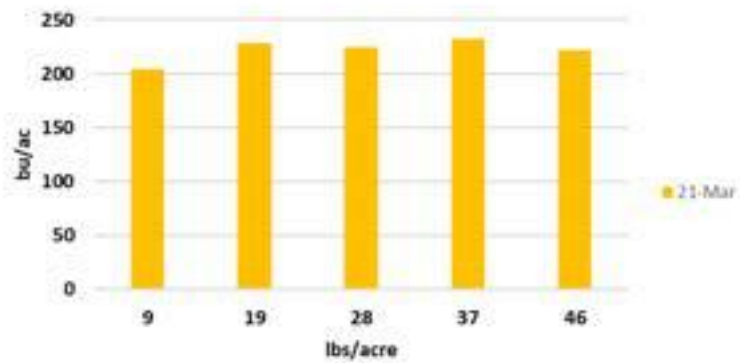
CLL18



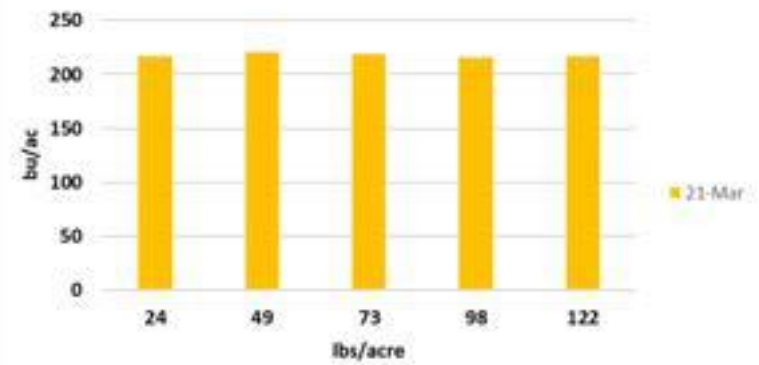
2024 Portageville Flood Rice

Cultivar	Seeding Rate		21-Mar	
	seed/ft ²	lb/ac	Stand seed/ft ²	Yield bu/ac
RT7421 FP	4	9	4	205
RT7421 FP	8	19	4	228
RT7421 FP	12	28	3	224
RT7421 FP	16	37	6	232
RT7421 FP	20	46	7	222
DG263L	10	24	7	203
DG263L	20	48	8	200
DG263L	30	71	13	196
DG263L	40	95	15	185
DG263L	50	119	17	171
Ozark	10	24	3	217
Ozark	20	49	7	221
Ozark	30	73	9	218
Ozark	40	98	13	216
Ozark	50	122	15	216
CLL18	10	23	4	215
CLL18	20	45	7	228
CLL18	30	68	12	228
CLL18	40	91	13	216
CLL18	50	114	14	226
AVERAGE			9	213

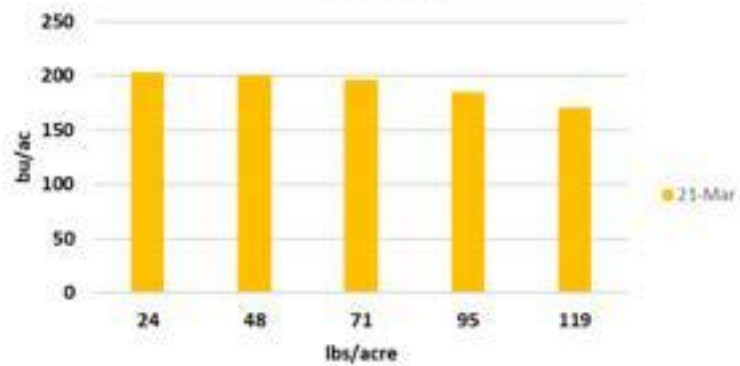
RT7421 FP



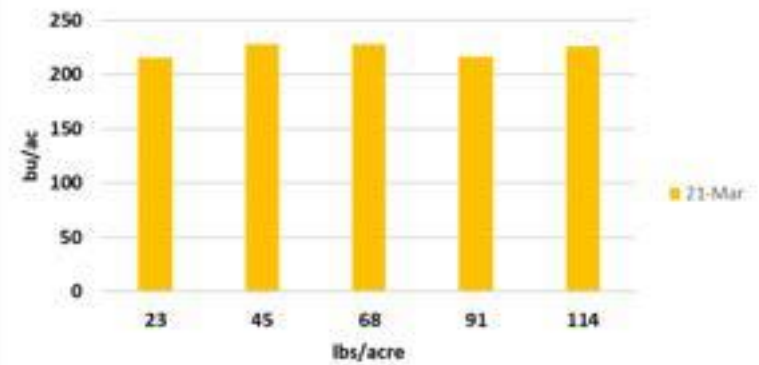
Ozark



DG263L



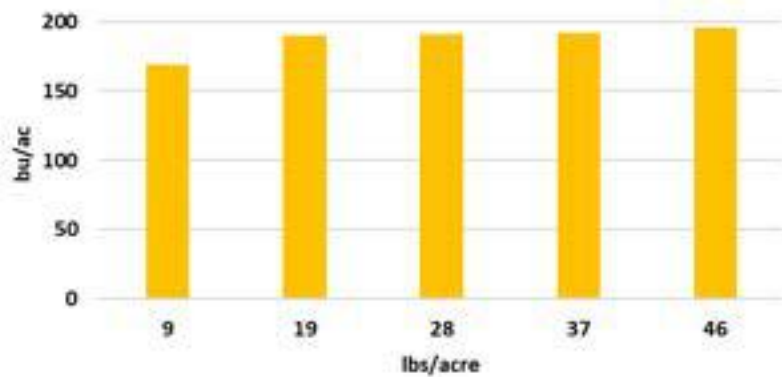
CLL18



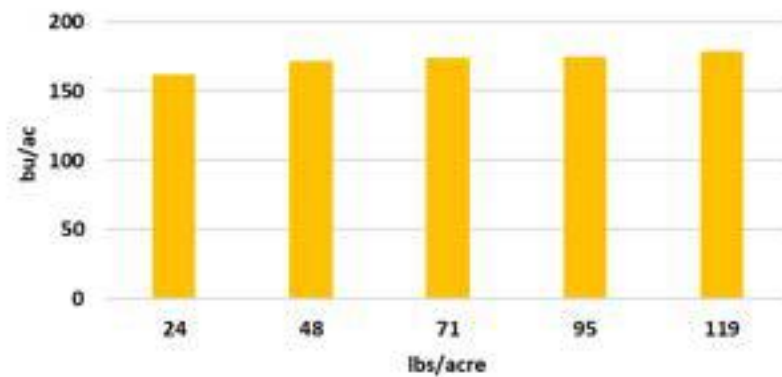
2024 Missouri Furrow-Irrigated Rice Seeding Rate Studies

Cultivar	Seeding Rate		Top		Middle		Bottom		AVERAGE	
			Stand	Yield	Stand	Yield	Stand	Yield	Stand	Yield
	seed/ft ²	lb/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac
RT7421 FP	4	9	6	162	4	178	4	167	5	169
RT7421 FP	8	19	8	175	5	193	6	202	6	190
RT7421 FP	12	28	10	174	8	196	7	203	8	191
RT7421 FP	16	37	11	178	9	192	9	204	10	191
RT7421 FP	20	46	13	189	10	195	11	202	12	195
DG263L	10	24	7	167	7	182	7	180	7	176
DG263L	20	48	10	169	12	181	10	196	11	182
DG263L	30	71	14	171	15	181	13	194	14	182
DG263L	40	95	17	176	17	173	17	181	17	177
DG263L	50	119	15	167	15	174	17	183	16	175
Ozark	10	24	8	157	9	171	7	158	8	162
Ozark	20	49	11	162	12	174	11	177	11	171
Ozark	30	73	15	164	14	175	14	183	14	174
Ozark	40	98	14	168	16	175	16	181	15	175
Ozark	50	122	16	171	18	180	19	184	18	179
CLL18	10	23	9	151	8	158	8	158	9	156
CLL18	20	45	10	159	12	166	11	172	11	166
CLL18	30	68	12	164	15	166	12	178	13	169
CLL18	40	91	13	165	17	170	15	184	15	173
CLL18	50	114	19	164	18	172	18	177	18	171
AVERAGE			12	168	12	178	12	183	12	176

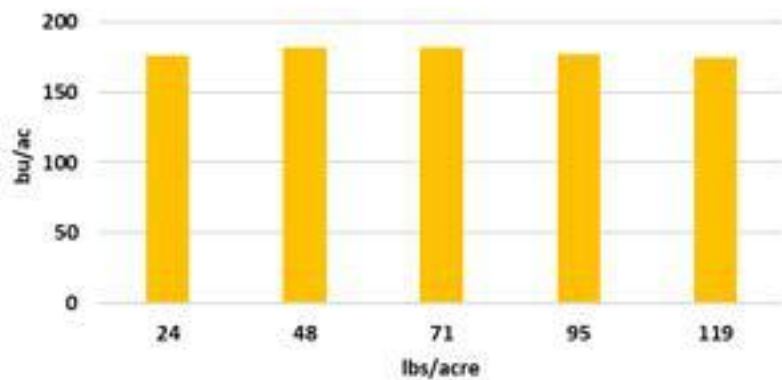
RT7421 FP



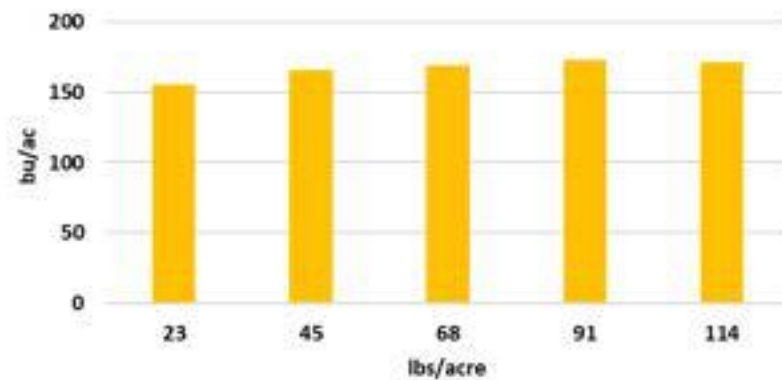
Ozark



DG263L



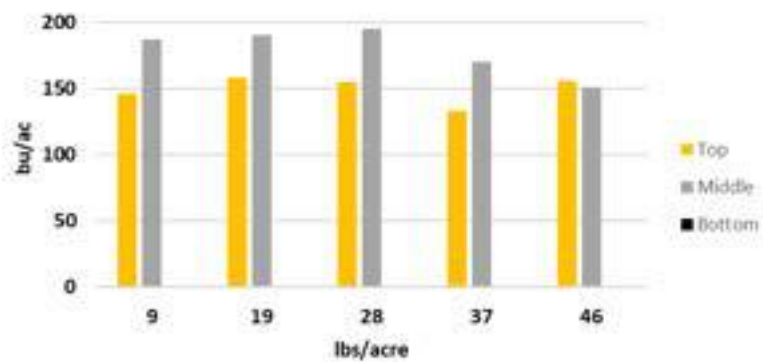
CLL18



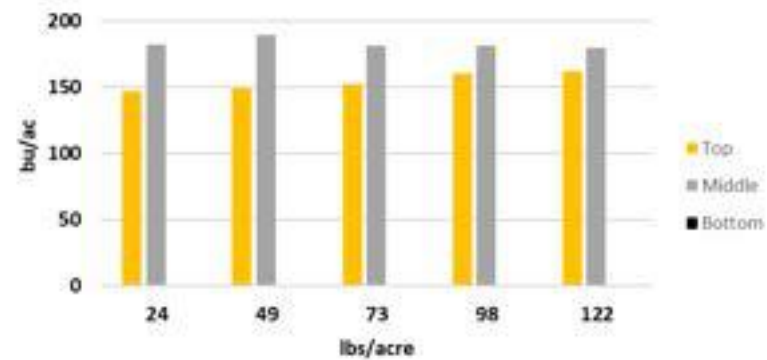
2024 Portageville Furrow-Irrigated Rice Seed Rate Study

Cultivar	Seeding Rate		Top			Middle			Bottom		
			Stand	Yield	Lodging	Stand	Yield	Lodging	Stand	Yield	Lodging
	seed/ft ²	lb/ac	seed/ft ²	bu/ac	1-9	seed/ft ²	bu/ac	1-9	seed/ft ²	bu/ac	1-9
RT7421 FP	4	9	3	146	5	4	187	3	3	N/A	N/A
RT7421 FP	8	19	6	158	6	7	190	5	7	N/A	N/A
RT7421 FP	12	28	9	155	7	8	195	6	7	N/A	N/A
RT7421 FP	16	37	10	133	6	12	170	6	9	N/A	N/A
RT7421 FP	20	46	11	156	7	13	151	7	11	N/A	N/A
DG263L	10	24	7	135	3	7	171	1	7	N/A	N/A
DG263L	20	48	12	136	2	14	172	1	8	N/A	N/A
DG263L	30	71	17	142	2	19	166	1	16	N/A	N/A
DG263L	40	95	18	157	1	21	156	1	19	N/A	N/A
DG263L	50	119	20	140	2	18	152	1	22	N/A	N/A
Ozark	10	24	6	147	4	10	182	4	7	N/A	N/A
Ozark	20	49	11	149	6	10	190	3	11	N/A	N/A
Ozark	30	73	17	153	6	18	181	3	15	N/A	N/A
Ozark	40	98	11	160	6	16	181	4	14	N/A	N/A
Ozark	50	122	18	162	7	21	180	3	21	N/A	N/A
CLL18	10	23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CLL18	20	45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CLL18	30	68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CLL18	40	91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CLL18	50	114	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AVERAGE			12	148	5	13	175	3	12	N/A	N/A

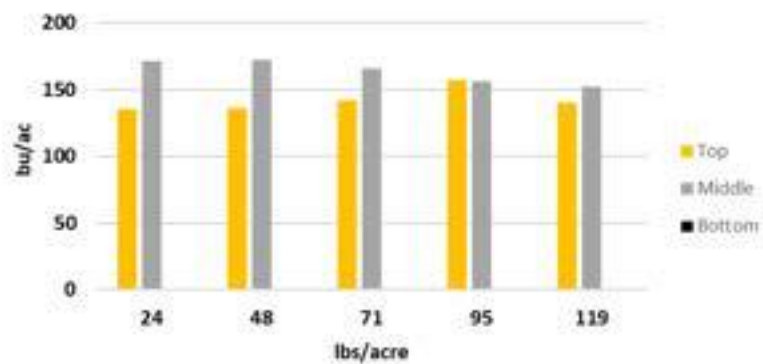
RT7421 FP



Ozark



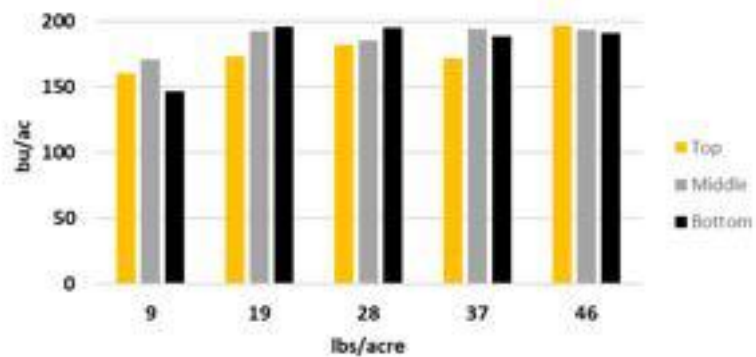
DG263L



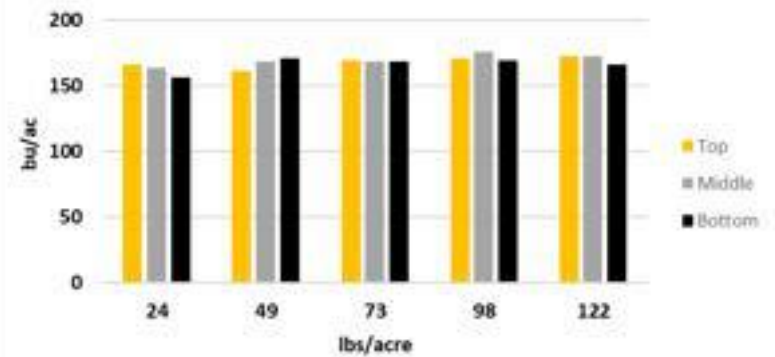
2024 Rives Furrow-Irrigated Rice Seed Rate Study

Cultivar	Seeding Rate		Top			Middle			Bottom		
	seed/ft ²	lb/ac	Stand seed/ft ²	Yield bu/ac	Lodging 1-9	Stand seed/ft ²	Yield bu/ac	Lodging 1-9	Stand seed/ft ²	Yield bu/ac	Lodging 1-9
RT7421 FP	4	9	3	161	4	5	171	1	9	147	1
RT7421 FP	8	19	6	173	4	6	193	2	5	196	2
RT7421 FP	12	28	6	182	5	6	186	2	6	195	1
RT7421 FP	16	37	3	172	4	5	194	2	8	188	3
RT7421 FP	20	46	12	197	3	5	193	2	14	191	1
DG263L	10	24	5	178	1	9	185	1	10	167	2
DG263L	20	48	10	175	3	10	176	1	15	181	2
DG263L	30	71	7	175	3	10	170	2	5	179	1
DG263L	40	95	19	172	2	14	162	2	11	157	2
DG263L	50	119	18	165	2	17	164	2	19	163	3
Ozark	10	24	6	166	1	6	164	2	5	156	1
Ozark	20	49	13	161	3	6	168	1	10	171	2
Ozark	30	73	14	169	2	9	168	1	12	168	1
Ozark	40	98	25	171	2	11	175	2	10	169	1
Ozark	50	122	11	172	2	16	172	4	11	166	3
CLL18	10	23	12	149	4	12	157	2	9	155	1
CLL18	20	45	14	169	5	9	163	4	7	161	2
CLL18	30	68	14	157	5	10	157	2	14	165	2
CLL18	40	91	13	163	4	13	163	4	13	167	2
CLL18	50	114	N/A	156	5	N/A	167	5	21	159	3
AVERAGE			11	169	3	9	172	2	11	170	2

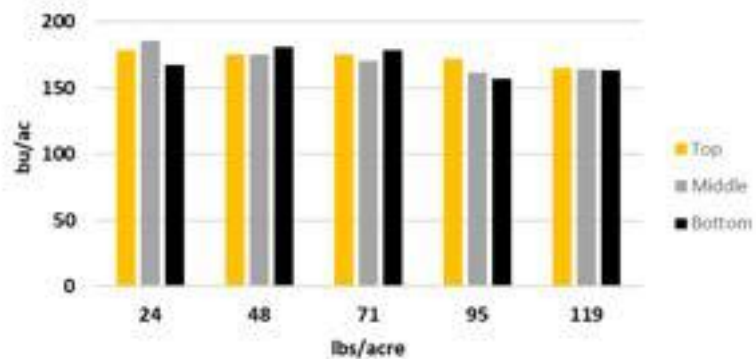
RT7421 FP



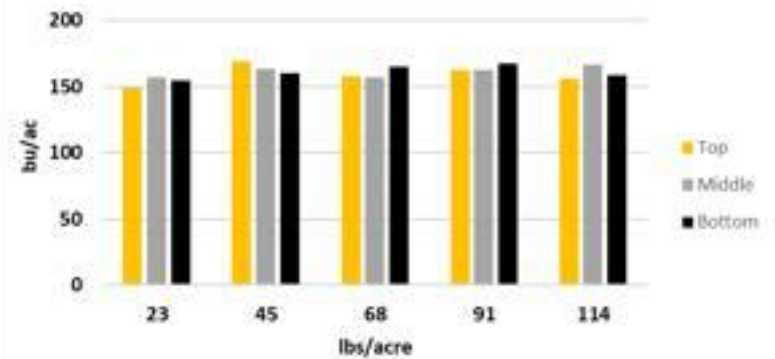
Ozark



DG263L



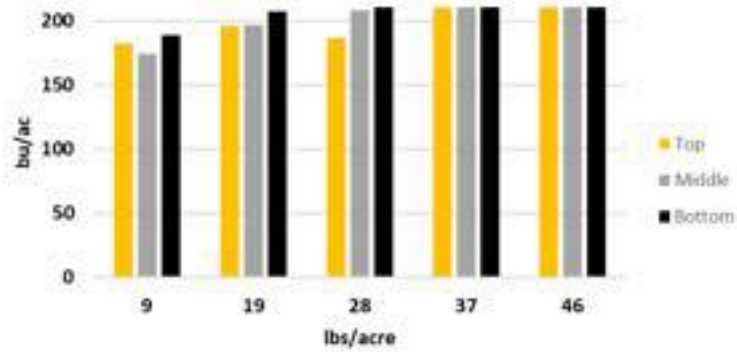
CLL18



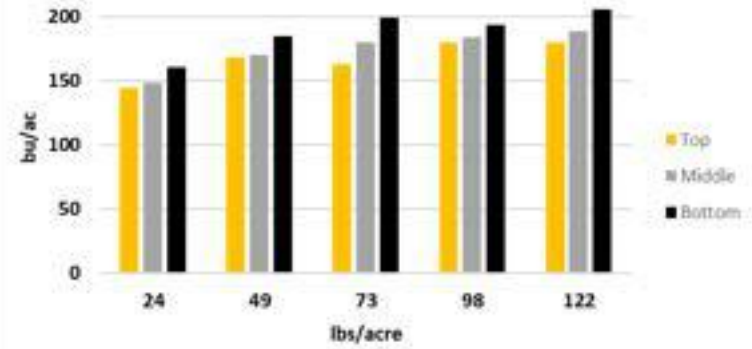
2024 Butler Co. Furrow-Irrigated Rice Seed Rate Study

Cultivar	Seeding Rate		Top		Middle		Bottom	
			Stand	Yield	Stand	Yield	Stand	Yield
	seed/ft ²	lb/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac	seed/ft ²	bu/ac
RT7421 FP	4	9	10	182	4	174	4	189
RT7421 FP	8	19	11	196	3	196	5	207
RT7421 FP	12	28	13	186	8	208	8	211
RT7421 FP	16	37	16	224	8	215	10	221
RT7421 FP	20	46	16	220	11	221	11	213
DG263L	10	24	9	191	6	188	7	194
DG263L	20	48	9	202	10	196	10	212
DG263L	30	71	15	202	15	209	12	210
DG263L	40	95	14	201	16	205	18	208
DG263L	50	119	17	206	20	206	21	206
Ozark	10	24	8	144	6	149	7	160
Ozark	20	49	9	168	11	170	11	184
Ozark	30	73	15	163	14	180	14	199
Ozark	40	98	15	180	17	184	15	194
Ozark	50	122	13	180	19	189	17	205
CLL18	10	23	10	170	7	163	7	161
CLL18	20	45	12	167	11	172	11	185
CLL18	30	68	11	190	15	179	14	191
CLL18	40	91	14	188	18	184	18	203
CLL18	50	114	19	193	19	183	19	198
AVERAGE			13	188	12	188	12	198

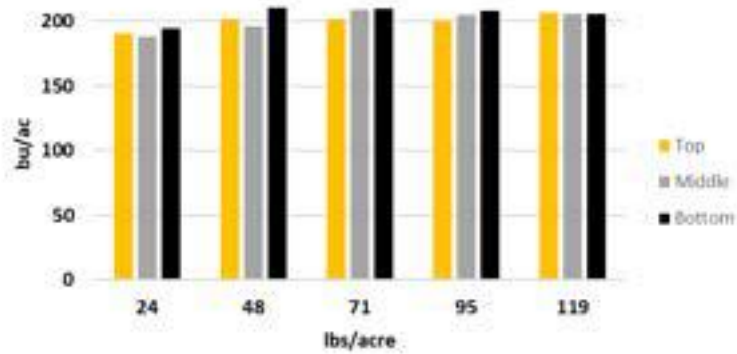
RT7421 FP



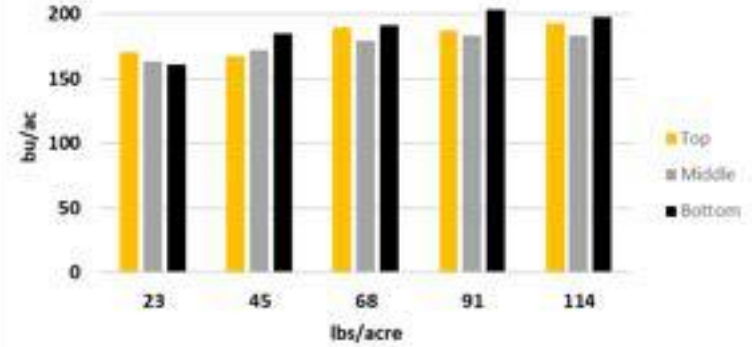
Ozark



DG263L



CLL18



Results:

Flood-Irrigated Rice: Results from the seeding rate studies suggest that seeding rate could potentially be lowered while maintaining yield potential. We've known all along that with modern-day cultivars and seeding equipment, seeding rate can likely be lowered. The reason seeding rate recommendations remain where they are (around 60-65 lbs/acre for most varieties and 23 lbs/acre for hybrids) is due to variability across a field as well as among rice drills, whereas an optimal stand will not always be achieved. Keep in mind that these studies are on a small-plot basis, where plots are just over 100 square feet as opposed to acres. This does show that the seeding rate can be bumped down in certain situations without loss of yield.

Furrow-Irrigated Rice: Furrow-irrigated rice results suggest for the third year that areas of the field where water is not backed up (upper $\frac{1}{2}$ to $\frac{2}{3}$) may benefit from an increased seeding rate. For the hybrid, RT7421 FP, an average of 1.6 bushels per acre were gained for every additional seed per square foot over 4 in the upper $\frac{2}{3}$ of the field. For comparison, that's an additional 7 bushels per acre for every additional 10 pounds per acre seeding rate. There were mixed results for inbred varieties. CLL18 benefited from increasing the seeding rate up to near 70 pounds per acre, while DG263L and Ozark yields were not heavily influenced by a higher seeding rate. In fact, DG263L yield trends lower with higher seeding rates above recommended (40 pounds per acre).

**2024 University of Missouri
Crop Protection
Rice Research Trial Results**



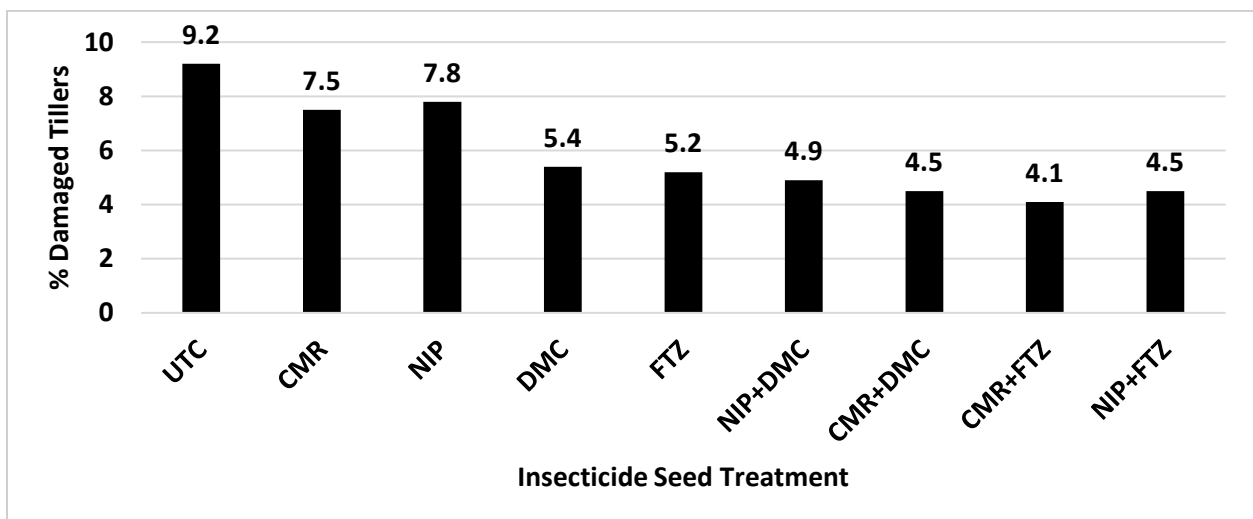
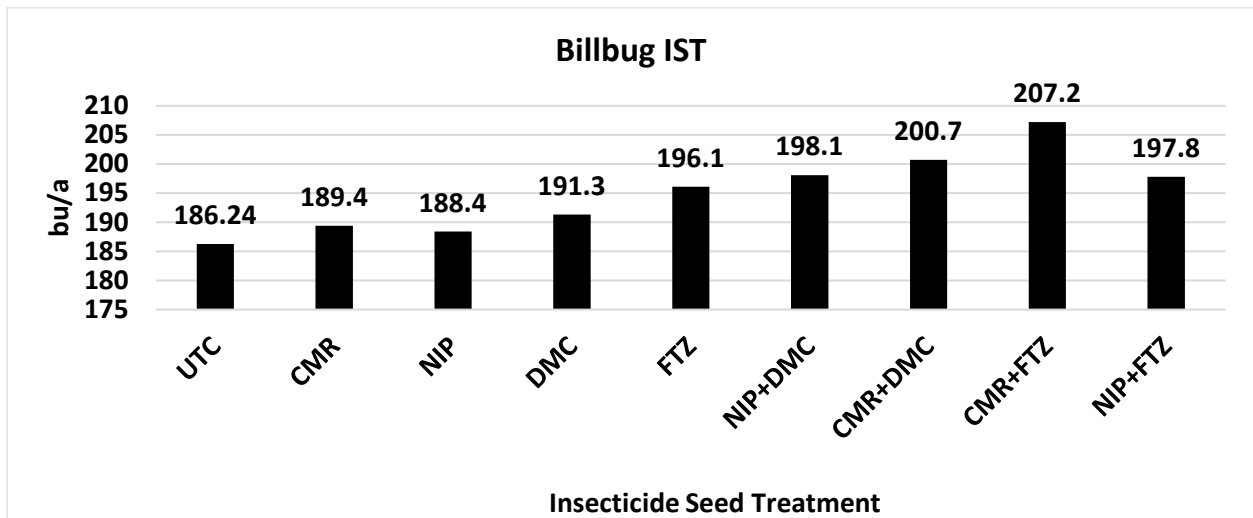
The table below lists the abbreviations and information associated with treatments associated with conducted trials in this packet.

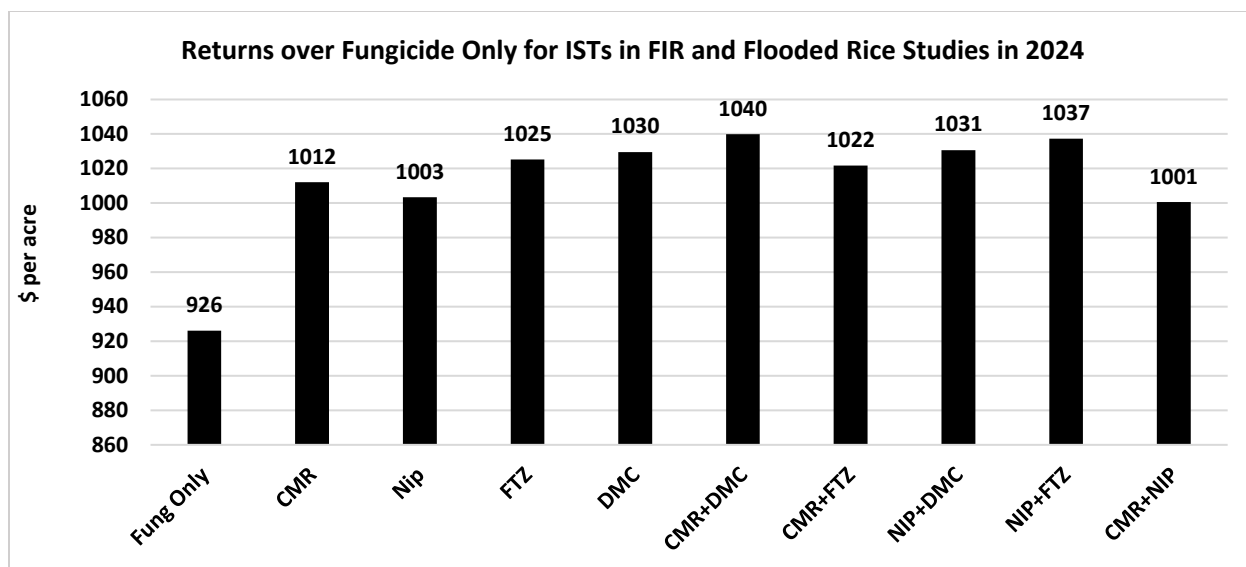
Treatment Name	Active Ingredient	Rate	Insecticide Class	Avg. Price on Hybrid Rice
Fungicide Only				
CruiserMaxx (CMR)	Thiamethoxam	7.0 oz/a	Neonicotinoid	\$9.00/a
NipsIT (NIP)	Clothianidin	2.9 oz/a	Neonicotinoid	\$7.00/a
Dermacor X-100 (DMC)	Chlorantraniliprole	5.0 oz/a	Diamide	\$14.40/a
Fortenza (FTZ)	Cyantraniliprole	3.47 oz/a	Diamide	\$9.50/a
CMR + DMC	Thiamethoxam + Chlorantraniliprole	7.0 oz/a 5.0 oz/a	Neonicotinoid + Diamide	\$24.40/a
CMR + FTZ	Thiamethoxam + Chlorantraniliprole	7.0 oz/a 3.47 oz/a	Neonicotinoid + Diamide	\$18.50/a
NIP + DMC	Clothianidin + Chlorantraniliprole	2.9 oz/a 5.0 oz/a	Neonicotinoid + Diamide	\$21.40/a
NIP + FTZ	Clothianidin + Cyantraniliprole	2.9 oz/a 3.47 oz/a	Neonicotinoid + Diamide	\$16.50/a
END	Thiamethoxam + Lambda-cyhalothrin	5 oz/a	Neonicotinoid + Pyrethroid	\$8.00/a
VAN	Chlorantraniliprole	1.2 oz/a	Diamide	\$17.00/a

Project Title: Evaluation of Selected Insecticides and Delivery Methods for Suppression of Rice Billbug in Furrow-irrigated Rice

Objective: Evaluate the performance of current insecticide seed treatments available to suppress rice billbug in Missouri furrow-irrigated rice production systems.

Results:





Trial Results:

Grain Yield

Despite no statistical differences, trends in the data set were observed. Numerical increases in yield were observed when including any insecticide seed treatment to rice plots. No significant differences were observed between insecticide seed treatments with respect to damage tillers or grain yield. Cruisermaxx+ Fortenza provided the highest numerical yield compared to all treatments. When a combination seed treatment was utilized, the numerical yields were greater compared to single products alone. Cruisermaxx and NipsIt only increased rice yields by 3.2 and 2.2 bushels, respectively.

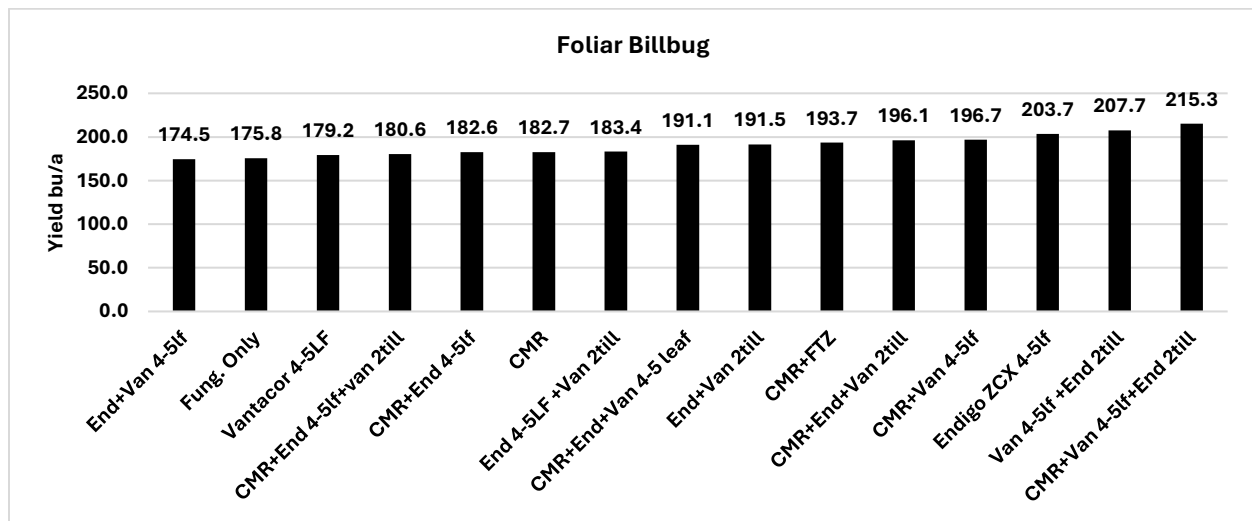
Damaged Tillers

Trends were also observed in damaged tillers data that was collected from this trial. Numerical decreases in percent damaged tillers can be observed in rice plots that had diamide seed treatments present. Lowest numerical damaged tillers were plots that had combination seed treatments.

Conclusions:

Rice billbug pressure was low compared to injury that was observed in 2022 but was higher than pressure observed in 2023. Average grain yield was significantly higher in 2024, more consistently may allow data to significantly separate in 2025.

Objective: Evaluate the performance of currently available foliar insecticides for suppression of rice billbug in Missouri furrow-irrigated rice production systems.



***4-5 lf** denotes that application was made at the 4-5 leaf growth stage

***2 till** denotes that application was made when the 2nd tiller was present

Trial Results:

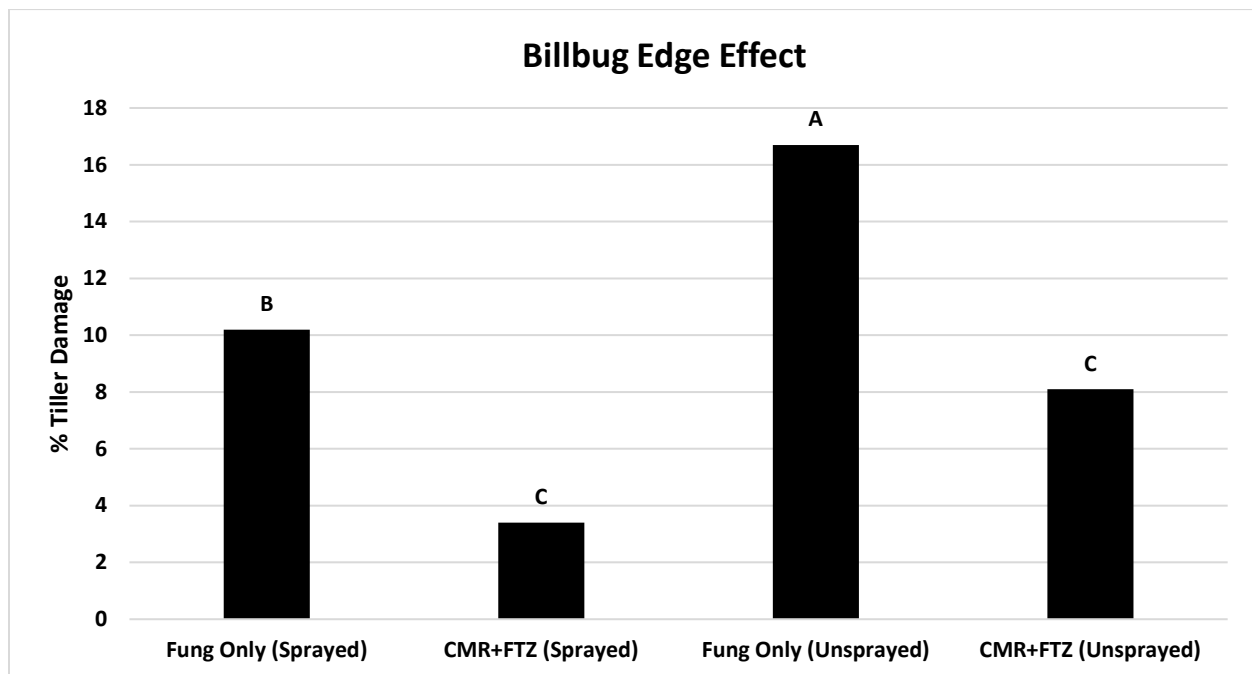
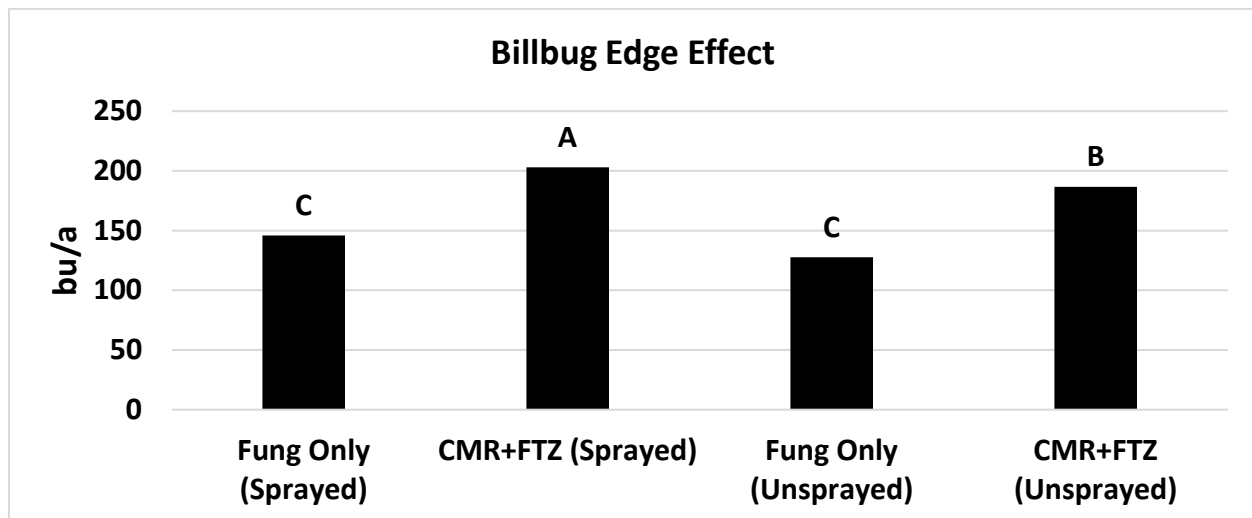
Grain Yield

No significant differences were observed between treatments. Two highest numerical rice yields were treatments receiving Vantacor at 4-5 leaf stage followed by Endigo ZCX at the 2nd tiller stage. This is likely due to the Vantacor having residual and beginning to move through the plant, this allows to let the billbug to ingest a first initial dose of poison. Following that with a knockdown product like Endigo ZCX is likely allows the already sick pest to be terminated.

Conclusions:

Though data set is not significantly different, data suggest that the tested spray regime may have success in controlling billbug. This trial should be repeated at the successful timings with various insecticide mixtures.

Objective: 4. Determine if field perimeter or edge treatments of foliar insecticide can control rice billbug prior to infestation in production fields.



Trial Results:

Grain Yield

Differences were observed with respect to grain yield in this study. Rice treated with an insecticide seed treatment followed by a foliar application resulted in greatest yields. All rice receiving insecticide regardless of application method resulted in greater yields compared to plots receiving no insecticide. Unsprayed plots containing insecticide seed treatments showed a significant decrease between plots receiving IST and a foliar spray as well as fungicide only plots receiving a foliar insecticide.

Damaged Tillers

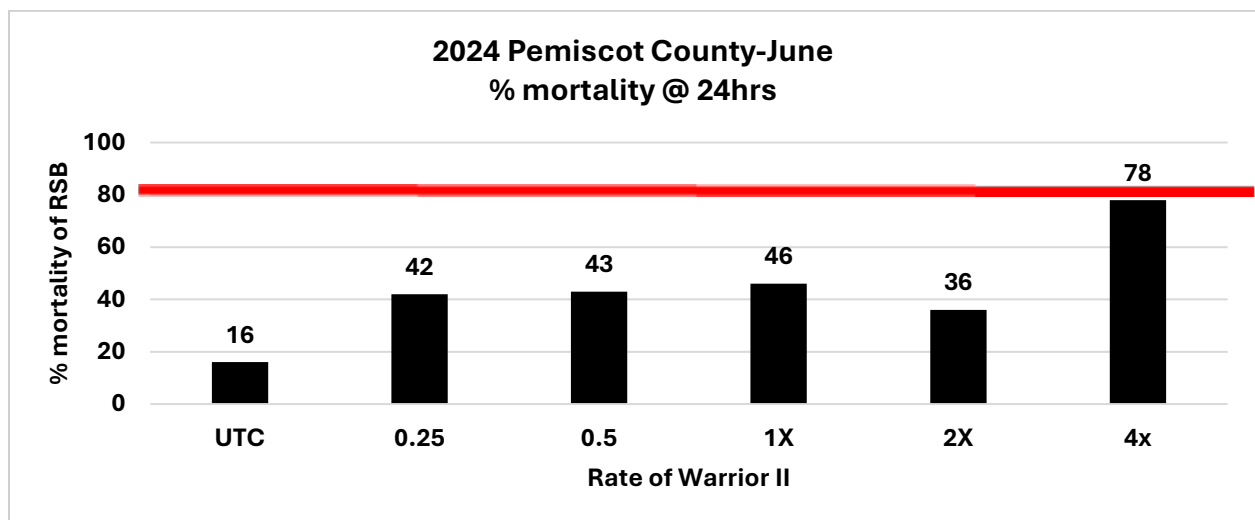
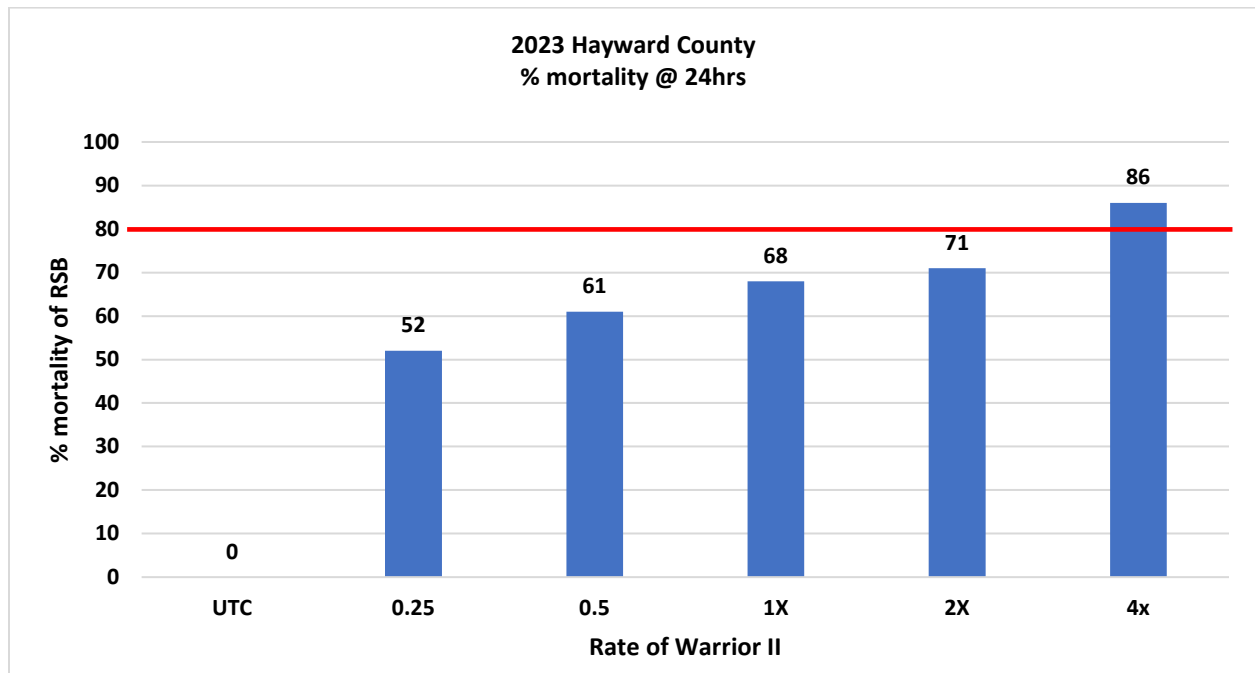
Highest tiller damage percentages were observed in the edge effect studies across all billbug trials. No differences were observed between strips with insecticide seed treatment. Treating the fungicide only strip with Clothianidin showed a significant reduction in tiller damage compared to fungicide only rice receiving no insecticide.

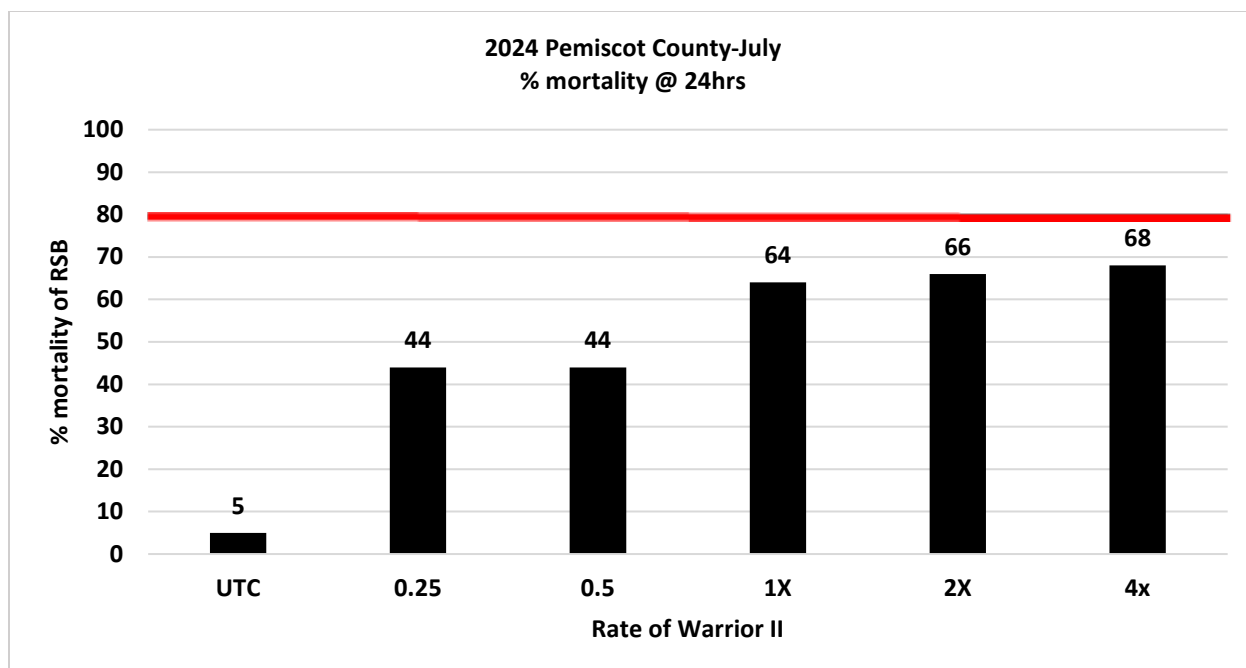
Conclusions:

Based on damage percentages across all rice billbug trials, preliminary observations suggest that rice billbug feeding was more severe on field edge. Though field dependent, anecdotal observations suggest that water scarcity may increase billbug feeding. Further research should expand on implementing water as a possible cultural control tactic to suppress rice billbug feeding.

Project Title: Evaluation of Insecticide Efficacy for Control of Rice Stink Bug in Missouri Rice

Objectives: Monitor potential rice stink bug resistance to applications of lambda-cyhalothrin.





Results: Results from this bioassay suggest that a 4x rate of lambda-cyhalothrin is required to achieve an acceptable level of control for rice stink bug. The standard applied rate of lambda-cyhalothrin provides only 68% control of rice stink bug, increasing possibility of yield and quality losses to Missouri rice producers. Doubling the amount of ai applied only allowed a 3% increase in control compared to the standard recommended rate.

Additional notes: This Missouri population was taken from wheat early in the 2023 growing season, data from Arkansas suggest that rice stink bug population increase percentage of survival in later generations. Missouri data coincides with with Arkansas findings where resistance increases later in the season.

Conclusions:

Rice stink bug populations showing possible resistance to applications of lambda-cyhalothrin are being frequently identified across the mid-south. Decades of use of solely lambda-cyhalothrin, have created potential resistance issues and alternative insecticides are not in large supply.

This trial should be repeated in 2025, obtaining more rice stink bug populations across the rice producing counties of Missouri to strengthen data set, and determine where resistant populations are present.