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COMPREHENSIVE RESEARCH ON RICE
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PROJECT TITLE: Cooperative Extension Rice Variety Adaptation and Cultural Practice Research

PROJECT LEADER:

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OBJECTIVES AND EXPERIMENTS CONDUCTED BY LOCATION TO ACCOMPLISH OBJECTIVES:

Objective I

To evaluate newly developed cultivars and existing varieties in on-farm trials under grower conditions in cooperation with the Rice Experiment Station for the purpose of new variety development and release. Cultivar trials were conducted by maturity group at different locations in the Sacramento Valley. Several experimental cultivars were evaluated at each location within these groups to compare their performance in different environments of the rice-growing region. All sites were water seeded.

Very Early Maturity Group: Two uniform trials for each of the advanced and experimental lines were conducted at each of the following on-farm sites: the Lauppe Ranch (south Sutter County), the Erdman Ranch (District 108, Yolo County), and at the Rehman Ranch (south Yolo County). In addition to the three on-farm sites, two additional tests were conducted at the Rice Experiment Station (RES) in Butte County. The Advanced test at each site included 17 entries (9 commercial varieties and eight advanced breeding lines) in four replications. The Preliminary tests included 34 entries (five commercial varieties as checks and 29 preliminary breeding lines) in two replications.

Early Maturity Group: Two uniform tests were conducted at each of the following on-farm sites: the Larrabee Ranch (Glenn County), the Dennis Ranch (Colusa County), and the Mike Bosworth Ranch (District 10, Yuba County). Two additional trials, Advanced and Preliminary, were conducted at the RES. The Advanced test at each site included 17 entries (eight commercial varieties and 9 advanced breeding lines) in four replications. The Preliminary tests included 38 entries (six commercial varieties and 32 preliminary breeding lines) in two replications.

Intermediate and Late Maturity Group: Two uniform tests were conducted at each of the following on-farm sites: the Wiley Ranch (Glenn County) and the Schohr Ranch (Butte County). Two additional tests were conducted at the RES. The Advanced test at each site included 13 entries (eight commercial varieties and four advanced breeding lines) in four replications. The Preliminary tests included 22 entries (four commercial varieties and 18 preliminary breeding lines) in two replications.

Objective II

Extension-Based Equipment and Service: A centrally-based equipment pool is maintained by Project RM-2 to provide services for planting, fertilizing, treatment application, and harvesting of rice and to provide professional technical assistance to UC research project leaders engaged in rice.

To provide professional technical assistance to other UC research project leaders, we assisted in approximately 30 trials including the 16 variety tests. Equipment from the UCCE-based pool for planting and harvesting field experiments was used at 12 sites at different times during the season. The most heavily used equipment was the ALMACO combine. Both of the rice combines were maintained according to the established maintenance schedules, and the SWECO combine was updated with a new computer and weigh system.

The ALMACO rice combine was used to harvest all 16 statewide trials, and RES trials were harvested with their ALMACO combine. The SWECO rice combine was used to harvest a small increase of wild rice.

Objective III

Extension Education: We disseminated research-based information to California rice producers, dryer operators, millers and the general public through four winter grower meetings, field demonstrations, personal communication, and other printed material. We hosted the annual Rice Breeder's Field Tour. The UCCE rice website is online and new materials are being added as they become available.

SUMMARY OF 2017 RESEARCH BY OBJECTIVE

Objective I - Rice Variety Evaluation

Eight uniform advanced breeding line trials and eight preliminary breeding line trials were conducted throughout the major rice producing areas of California. The rice breeders at the RES conducted six additional tests, two from each of the three maturity groups. Many of the experimental lines have been tested and screened in previous years and many lines were in advanced stages (2 or more years) of testing. The RES provided the seed for public varieties and experimental cultivars. No proprietary lines were tested.

The following analyses provide single-location yield summaries for the advanced and preliminary line tests and over-location agronomic performance summaries for each entry in each maturity category. For quick reference, grain yields of selected commercially available varieties tested in very early, early and intermediate-late tests across years and locations are summarized in Tables 6, 12 and 17. An Agronomy Progress Report, to be published early next year, will provide agronomic performance results for all entries in each experiment.

Very Early Maturity Tests (< 90 days to 50% heading at Biggs): Nine commercial varieties and eight advanced breeding lines were compared in four very early advanced tests. The preliminary tests evaluated five commercial varieties and 29 preliminary lines in separate tests at each location. Commercial varieties at each location included S102, CA201, CH202, CM101, CM203, M104, M105, M205, M206, M208, M209, A202, L206, and L207.

Grain yields in the advanced tests averaged 8,960 overall, 9,930 lbs/ac at Biggs-RES, 9,320 lbs/ac at Sutter, 8,930 lbs/ac at Yolo and 7,650 lbs/ac at South Yolo (Tables 1-5). The three highest yielding entries, on average, were long grain L207, long grain line 14Y1006, and short grain line 10Y2043 (9,880, 9,680, and 9,640 lbs/ac respectively). The top yielding commercial varieties L207, CM203, M105 and M206 ranked first, fourth, eighth, and ninth respectively. Averaged across four locations, cultivar yields in the preliminary tests ranged from 9,340 to 6,710 lbs/ac (Table 1). Average grain moisture at harvest increased 0.2%, lodging decreased 12%, while days to 50% heading decreased 6 days from 88 to 82 in 2017 as compared to 2016. Seedling vigor and plant height were essentially the same as in 2016. Field preparation

and planting was delayed because of a wet spring. Harvest was completed within the normal time frame. Yields were down 13% from 2016.

Comparing the commercial standard entries over a 5-year period and across locations, M105, M206, and M104 were the three highest yielding varieties (Table 6).

Early Maturity Tests (90-97 days to 50% heading at Biggs): Eight commercial varieties and 9 advanced lines were compared in four early advanced tests. The preliminary tests included six commercial varieties and 32 preliminary lines evaluated in separate tests at each location. Commercial varieties at each location were S102, CH201, CH202, CM101, CM203, M104, M105, M205, M206, M208, M209, A202, L206, and L207.

Yields in the advanced line tests averaged 9,180 lbs/ac overall, 10,660 lbs/ac at the RES, 9,240 lbs/ac at Butte, 8,230 lbs/ac at Colusa, and 8,580 lbs/ac at Yuba (Tables 7-11). Advanced long grain 14Y1006 was the highest yielding entry (10,330 lbs/ac) when averaged over four locations in 2017 (Table 7). Advanced short grain line 10Y2043, long grain L207, and medium grain premium quality 12Y2175 yielded second, third, and fourth respectively. The yield of commercial varieties M209, L206, M206, M105, and CH202 ranked sixth, ninth, twelfth, fourteenth, and fourteenth over all locations (Table 7). Average days to 50% heading was 80. The commercial standard M206 averaged 77 days over four locations. The average yield of M105 decreased 12.6% compared to 2016. In the preliminary tests CM203 was the highest yielding commercial variety with two experimental lines yielding higher.

L207 was the highest yielding commercial variety (10,200 lbs/ac) followed by M209 (9,468 lbs/ac) and L206 (9,415 lbs/ac) when averaged over the last 5 years and across locations (Table 12).

Intermediate-Late Maturity Tests (> 97 days to 50% heading at Biggs) - Eight commercial varieties and four advanced lines were compared in three intermediate-late tests. The preliminary tests included four commercial varieties and 18 preliminary lines that were evaluated in separate tests at each location. Commercial varieties at each location included S102, M104, M105, M205, M206, M208, M209, M401, M402, A202, L206, and L207.

Yields in the advanced line tests averaged 8,980 lbs/ac overall, 10,450 lbs/ac at the RES, 8,940 lbs/ac at Butte, and 7,550 lbs/ac at Glenn (Tables 13-15). The 2017 advanced over location average yield decreased 210 lbs/ac (2.3%) compared to the 2016 average. The average yields at Biggs decreased 460 lbs/ac, increased 200 lbs/ac at Butte, and decreased 1310 lbs/ac at Glenn. In the advanced tests, L207 was the highest yielding commercial variety (9,600 lbs/ac), ranking fourth overall. L206 and M209 were the next highest yielding commercial varieties across locations, ranking sixth and seventh respectively (Table 13). The long grain entry 14Y1006 was the highest yielding advanced entry across all locations at 10,050 lbs/ac. Average days to 50% heading decreased eight days compared to 2016. M401 and M402 were the latest varieties (111 and 108 days respectively) to reach 50% heading among the commercial varieties at all locations.

Averaged over the last 5 years and across locations, L206 is the highest yielding (9,407 lbs/ac) commercial variety closely followed by M209 at 9,250 lbs/ac (Table 17).

Objective II - Assistance to Other Projects

Both the UC SWECO and ALMACO plot combines were serviced and maintained during the harvest season. The SWECO harvester was updated with a new weigh system and computer to match the ALMACO system. The ALMACO was used to harvest all rice trials, with the SWECO being used to harvest a small increase of wild rice.

The rice equipment pool including a precision Clampco fertilizer applicator, SWECO 324 plot combine, ALMACO SP40 plot combine, moisture meters, remote temperature stations, and other equipment were available for use along with personnel to provide technical assistance for numerous field experiments in 2017. Equipment from the UCCE-based pool for planting and harvesting field experiments was used at 12 sites at different times during the season. The ALMACO was used to harvest 16 variety tests, five foliar stimulant, and nine various trials at the RES. Over 1,600 experimental plots were harvested in 2017. In addition to equipment assistance to other projects, labor from this project was used to plant, collect samples, and monitor growth in several field experiments. Assistance was also provided to four winter rice growers meetings, the RES Rice Field Day, the annual Rice Breeder's field tour, and to the several UC campus based Rice Research Board meetings held each year.

The following extension education materials were designed, formatted and printed with support from this project:

1. The Annual Agronomy Progress Report No. 324 "California Rice Varieties: Description and Performance Summary of the 2016 Multiyear Statewide Rice Variety Tests in California".
2. The UCCE website is online and is continually being updated.

Recent relevant Publications and Reports:

1. Espe, M. H. Yang, K.G. Cassman, N. Guilpart, H. Sharifi, and B.A. Linquist (2016) Estimating yield potential in temperate high-yielding, direct-seeded rice US rice production systems. *Field Crops Research* 193:123-132.
2. Espe, M, K.G. Cassman, H. Yang, N. Guilpart, P. Grassini, J. Van Wart, M. Anders, D. Beighley, D. Harrell; S. Linscombe, K. McKenzie, R. Mutters, L.T. Wilson, B.A. Linquist. (2016) Yield gap analysis of US rice production systems shows opportunities for improvement. *Field Crops Research* 196:276-283.
3. Sharifi, H., R.J. Hijmans, J.E. Hill, B. Linquist. (2017) Using stage-dependent temperature parameters to improve phenological model prediction accuracy in rice (*Oryza sativa*) models. *Crop Science* 57:444-453.
4. Espe, M.B., J.E. Hill, K. McKenzie, R.J. Hijmans, L.A. Espino, R. Mutters, M. Lienfelder-Miles; C. van Kessel, B.A. Linquist. (2017) Point stresses during reproductive stage rather than warming seasonal temperature determines yield in temperate rice. *Global Change Biology* 23:4386-4395 DOI: 10.1111/gcb.13719.

CONCISE GENERAL SUMMARY OF CURRENT YEAR'S RESULTS:

Sixteen on-farm rice variety evaluation trials were conducted throughout the rice growing region of California, with standard varieties compared to preliminary and advanced lines across a range of environments, cultural practices and disease levels. Six similar tests were conducted at the RES in Biggs, CA. Average yields across varieties and locations in the advanced line tests ranged from 8,960 lbs/acre in the very early tests to 9,180 lbs/acre in the early tests. In the intermediate/late tests the advanced lines average yield was 8,980 lbs/acre. Field preparation and planting were completed in late May because of a wet spring. Several advanced lines in 2017 produced high yields as well as demonstrating important breeding goals aside from yield (disease resistance, grain quality, specialty types, etc.). Testing advanced and preliminary lines under a variety of conditions remains a critical aspect of releasing varieties adapted to changing cultural practices, markets, and pests.

Project RM-2 was involved in the planting, sampling and harvesting of more than 12 trial sites throughout the rice growing areas. This project was also involved in several educational activities including the winter rice grower meetings, the RES rice field day, promoting work through fact sheets and publications, and updating of the UCCE rice website.

Table 1. 2017 Four Location Very Early Rice Variety Trials

Advanced Lines and Varieties

		Single Location Yields															
		Over All Ave Grain Yield at 14% Moisture lbs/ac		Biggs		Sutter		Yolo		South Yolo		Grain Moisture at Harvest (%)		Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
Variety	Grain Type	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank				
L207	L	9880	1	10490	5	10200	1	10500	1	8340	5	15.4	4.8	81	4	39.0	
14Y1006	L	9680	2	11010	2	10060	4	8890	8	8740	2	16.2	4.8	78	16	36.2	
10Y2043	S	9640	3	10720	4	10000	5	8760	10	9080	1	16.1	4.8	80	25	34.3	
CM203	SWX	9510	4	10410	6	10120	3	9610	2	7890	7	17.6	4.8	81	26	37.7	
12Y2175	MPQ	9270	5	11830	1	10120	2	8390	14	6740	16	17.7	4.7	85	13	37.7	
15Y2031	SWX	9060	6	10390	7	9900	6	8850	9	7110	11	17.9	4.8	82	14	37.5	
15Y84	A	9010	7	10810	3	8620	15	9560	3	7050	12	15.3	4.8	86	3	33.8	
M105	M	8950	8	9270	13	9380	8	8550	12	8590	4	16.0	4.8	77	26	37.1	
M206	M	8840	9	9680	11	9240	10	8890	7	7530	9	17.1	4.8	81	20	37.1	
M209	M	8840	10	10150	8	8790	13	9130	6	7280	10	17.9	4.8	86	6	36.5	
12Y3097	MB	8780	11	9910	9	9750	7	8530	13	6920	14	17.1	4.8	81	23	37.4	
S102	S	8750	12	9260	14	8770	14	8360	16	8610	3	14.0	4.8	78	27	36.2	
L206	L	8630	13	9850	10	8580	16	9250	4	6860	15	15.6	4.7	81	6	33.9	
M208	MB	8450	14	9340	12	9130	11	8380	15	6940	13	16.8	4.8	84	18	38.5	
15Y2024	SPQ	8420	15	8450	16	8840	12	8710	11	7670	8	16.5	4.8	83	14	34.3	
17Y13	MH	8390	16	9250	15	9320	9	8320	17	6660	17	16.8	4.8	81	12	35.9	
CH202	SPQ	8240	17	8070	17	7640	17	9210	5	8050	6	16.0	4.8	82	41	34.3	
MEAN		8960		9930		9320		8930		7650		16.5	4.8	82	17	36.3	
CV		5.5		6.0		3.4		6.3		5.9		5.4	1.6	1.5	72.9	4.5	
LSD (.05)		975		844		451		802		642		2.2	0.1	3	19	1.5	

Preliminary Lines and Varieties

16Y1007	SR	9340	1	9290	10	10150	2	10060	3	7850	10	15.0	4.8	83	8	37.9
16Y3019	M	9280	2	10380	2	9890	8	9610	7	7250	24	16.7	4.8	80	12	38.2
15Y2100	SLA	9250	3	10670	1	8850	23	9300	13	8170	6	15.6	4.8	84	13	37.2
16Y2028	SLA	9110	4	9950	5	11100	1	7560	32	7840	11	15.6	4.7	82	30	38.2
16Y2085	S	9010	5	9470	7	8820	25	9910	5	7820	12	15.8	4.8	82	2	34.0
16Y2009	S	9000	6	9620	6	8990	20	9440	8	7960	7	16.0	4.8	81	54	39.1
16Y1015	L	8980	7	8740	18	10070	3	8910	18	8180	5	15.3	4.8	80	21	38.6
15Y1027	L	8940	8	7800	33	9920	6	10180	2	7870	9	15.3	4.8	79	3	39.1
M104	M	8930	9	8790	17	9030	19	9670	6	8240	3	14.5	4.8	76	24	36.1
16Y1020	L	8930	10	8300	24	9750	11	10190	1	7470	18	15.1	4.8	82	50	39.7
16Y3048	M	8890	11	8420	23	10040	4	9330	11	7800	13	15.8	4.8	81	16	39.0
16Y2052	SWX	8890	12	9210	11	9910	7	8560	24	7870	8	16.2	4.8	81	32	34.8
16Y3020	M	8840	13	8050	30	9560	13	9320	12	8420	2	15.1	4.8	79	18	37.7
14Y3032	M	8790	14	8240	27	10030	5	9380	10	7520	16	15.5	4.8	79	23	36.2
14Y3143	MSR	8760	15	10330	3	9260	17	8270	28	7170	26	16.8	4.8	81	7	39.3
16Y3016	M	8720	16	8640	21	9360	15	8660	23	8210	4	15.8	4.8	76	18	36.6
16Y2091	S	8700	17	8890	16	9220	18	9170	15	7510	17	15.3	4.8	83	14	35.8
13Y3152	M	8660	18	9470	8	8970	21	8830	19	7370	22	15.8	4.8	83	8	36.6
15Y3036	M	8630	19	10200	4	8600	27	8320	27	7390	21	15.1	4.8	83	23	36.2
16Y3010	M	8550	20	9130	13	8230	31	9270	14	7560	14	18.0	4.8	84	2	34.5
16Y3011	M	8450	21	8050	31	9280	16	9060	16	7430	19	16.0	4.8	78	16	37.7
14Y3035	M	8440	22	8930	14	9780	10	8690	21	6350	31	17.5	4.9	84	19	38.5
13Y3030	M	8410	23	8250	26	9840	9	8330	26	7230	25	15.3	4.8	79	16	37.1
16Y1192	L	8360	24	8720	19	8890	22	8690	22	7130	28	15.3	4.8	84	4	38.3
14Y3099	MB	8330	25	8910	15	9690	12	8050	30	6650	30	15.7	4.8	81	10	35.8
16Y2058	BG	8310	26	9190	12	8430	29	8060	29	7550	15	16.3	4.7	83	14	37.5
16Y2127	SPQ	8300	27	8280	25	8730	26	8780	20	7420	20	16.6	4.8	83	17	35.7
M205	M	8300	28	9430	9	8100	32	8390	25	7280	23	17.3	4.8	87	2	35.4
16Y3045	MB	8280	29	8490	22	9480	14	9010	17	6130	33	16.2	4.8	82	2	35.6
16Y1013	L	8170	30	8650	20	8590	28	10020	4	5410	34	15.6	4.8	81	1	33.9
A202	A	8100	31	7890	32	8820	24	9410	9	6260	32	16.8	4.8	85	2	37.6
CM101	SWX	7940	32	8140	28	7250	33	7790	31	8570	1	14.6	4.8	79	24	35.1
89Y235	BG	7650	33	8090	29	8340	30	6990	34	7170	27	14.6	4.6	81	35	36.3
CA201	SLA	6710	34	5990	34	6650	34	7350	33	6870	29	15.3	4.8	82	25	34.8
MEAN		8590		8840		9160		8900		7440		15.8	4.8	81	17	36.9
CV		7.8		9.7		6.4		5.7		9.1		7.4	1.1	1.9	93.0	4.0
LSD (.05)		1043		1743		1188		1034		1380		2.0	0.1	3.0	23.7	2.1

S = short; M = medium; L = long; BG = bold grain; PQ = premium quality; WX = waxy; LA = long grain aromatic;
 LBL = long grain blast resistant; MB = medium blast resistant; SR stem rot resistant; SLA = short grain low amalose.
 Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.
 Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 2. 2017 Biggs Very Early Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac			Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank	Rank					
12Y2175	MPQ	11830	1		22.8	4.7	82	20	41.9
14Y1006	L	11010	2		16.5	4.9	69	15	38.1
15Y84	A	10810	3		15.4	4.9	75	3	36.6
10Y2043	S	10720	4		16.6	4.9	73	28	36.6
L207	L	10490	5		15.3	4.9	73	8	42.6
CM203	SWX	10410	6		19.5	4.9	72	33	40.2
15Y2031	SWX	10390	7		18.4	4.8	74	25	39.6
M209	M	10150	8		21.0	4.9	77	13	40.1
12Y3097	MB	9910	9		20.0	4.9	71	38	40.1
L206	L	9850	10		14.9	4.8	70	13	34.9
M206	M	9680	11		20.6	4.9	70	40	40.5
M208	MB	9340	12		17.4	4.9	71	30	41.1
M105	M	9270	13		18.5	4.9	67	25	40.1
S102	S	9260	14		12.0	4.9	72	23	38.8
17Y13	MH	9250	15		19.2	4.9	70	25	37.5
15Y2024	SPQ	8450	16		15.6	4.8	74	15	35.1
CH202	SPQ	8070	17		17.2	4.8	72	53	35.7
MEAN		9930			17.7	4.9	72	24	38.8
CV		6.0			7.1	0.3	1.8	57.5	4.8
LSD (.05)		844			1.8	0.1	1.9	19	6.7

Preliminary Lines and Varieties

15Y2100	SLA	10670	1		17.1	4.9	80	5	40.4
16Y3019	M	10380	2		18.7	4.9	69	15	39.4
14Y3143	MSR	10330	3		19.1	4.9	74	20	42.3
15Y3036	M	10200	4		17.4	4.9	71	20	38.2
16Y2028	SLA	9950	5		16.3	4.8	76	30	39.0
16Y2009	S	9620	6		18.2	4.9	73	60	42.1
16Y2085	S	9470	7		16.1	4.9	73	0	35.2
13Y3152	M	9470	8		17.2	4.9	73	5	38.2
M205	M	9430	9		20.0	4.9	79	5	37.4
16Y1007	SR	9290	10		15.2	4.9	72	0	38.2
16Y2052	SWX	9210	11		19.0	4.9	73	45	36.8
16Y2058	BG	9190	12		18.2	4.7	77	30	40.6
16Y3010	M	9130	13		20.8	4.9	75	0	35.4
14Y3035	M	8930	14		18.7	4.9	75	25	41.5
14Y3099	MB	8910	15		15.9	5.0	69	10	36.2
16Y2091	S	8890	16		17.6	4.9	74	5	36.4
M104	M	8790	17		15.7	4.9	64	25	36.0
16Y1015	L	8740	18		15.1	4.9	69	0	37.6
16Y1192	L	8720	19		15.3	4.9	75	5	39.8
16Y1013	L	8650	20		14.3	4.8	70	0	31.9
16Y3016	M	8640	21		18.3	4.9	66	15	37.6
16Y3045	MB	8490	22		18.9	5.0	71	0	36.4
16Y3048	M	8420	23		16.2	4.9	68	15	38.8
16Y1020	L	8300	24		15.3	5.0	70	20	40.2
16Y2127	SPQ	8280	25		16.8	4.9	77	5	33.9
13Y3030	M	8250	26		16.4	4.9	67	10	37.8
14Y3032	M	8240	27		16.6	4.9	66	10	36.6
CM101	SWX	8140	28		14.4	4.9	72	35	37.6
89Y235	BG	8090	29		16.5	4.7	76	55	40.2
16Y3020	M	8050	30		16.5	5.0	66	10	39.4
16Y3011	M	8050	31		17.3	4.9	66	30	40.0
A202	A	7890	32		15.6	4.9	72	5	39.2
15Y1027	L	7800	33		14.3	4.9	68	0	40.9
CA201	SLA	5990	34		14.9	4.9	73	20	36.8
MEAN		8840			16.9	4.9	72	16	38.2
CV		9.7			7.1	0.7	2.0	63.7	4.2
LSD (.05)		1743			2.4	0.1	3.0	20.4	8.3

S = short; M = medium; L = long; BG = bold grain; PQ = premium quality; WX = waxy; LA = long grain aromatic;

LBL = long grain blast resistant; MB = medium blast resistant; SR stem rot resistant; SLA = short grain low amalose.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 3. 2017 Sutter Very Early Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
L207	L	10200	1	17.4	4.7	81	4	38.1
12Y2175	MPQ	10120	2	16.4	4.7	81	25	36.1
CM203	SWX	10120	3	18.5	4.8	80	51	36.1
14Y1006	L	10060	4	18.4	4.8	78	46	35.5
10Y2043	S	10000	5	18.2	4.7	80	63	34.4
15Y2031	SWX	9900	6	18.7	4.8	81	23	37.8
12Y3097	MB	9750	7	16.6	4.9	79	49	37.0
M105	M	9380	8	17.3	4.9	75	78	35.5
17Y13	MH	9320	9	16.6	4.8	79	20	35.2
M206	M	9240	10	16.0	4.9	79	31	35.8
M208	MB	9130	11	17.5	4.7	84	33	37.2
15Y2024	SPQ	8840	12	18.7	4.8	83	38	33.5
M209	M	8790	13	16.7	4.8	82	3	33.3
S102	S	8770	14	17.2	4.8	78	76	36.4
15Y84	A	8620	15	16.7	4.7	85	6	32.7
L206	L	8580	16	18.0	4.7	81	3	33.7
CH202	SPQ	7640	17	18.4	4.8	82	90	33.4
MEAN		9320		17.5	4.8	80	38	35.4
CV		3.4		3.4	0.1	1.2	50.1	4.2
LSD (.05)		451		0.9	0.1	1.4	26.7	5.4

Preliminary Lines and Varieties

16Y2028	SLA	11100	1	16.8	4.8	81	78	40.6
16Y1007	SR	10150	2	17.7	4.8	83	5	39.0
16Y1015	L	10070	3	18.2	4.7	78	45	39.4
16Y3048	M	10040	4	16.9	4.8	80	21	39.4
14Y3032	M	10030	5	15.9	4.8	77	55	35.6
15Y1027	L	9920	6	18.8	4.7	78	8	38.8
16Y2052	SWX	9910	7	17.0	4.9	80	78	34.8
16Y3019	M	9890	8	16.5	4.8	79	33	38.6
13Y3030	M	9840	9	17.1	4.8	78	53	38.4
14Y3035	M	9780	10	16.6	5.0	81	33	35.6
16Y1020	L	9750	11	18.1	4.7	83	38	37.6
14Y3099	MB	9690	12	17.4	4.8	80	23	36.6
16Y3020	M	9560	13	15.9	4.8	79	48	36.2
16Y3045	MB	9480	14	16.1	4.8	81	3	34.3
16Y3016	M	9360	15	15.9	4.9	76	55	35.6
16Y3011	M	9280	16	16.6	4.9	75	33	36.4
14Y3143	MSR	9260	17	16.8	4.8	80	3	37.4
16Y2091	S	9220	18	18.9	4.8	79	10	36.8
M104	M	9030	19	16.9	4.9	75	68	35.8
16Y2009	S	8990	20	17.0	4.9	78	95	37.2
13Y3152	M	8970	21	15.6	4.9	82	1	34.8
16Y1192	L	8890	22	19.0	4.8	80	11	39.0
15Y2100	SLA	8850	23	17.6	4.7	84	45	36.8
A202	A	8820	24	17.8	4.8	83	1	37.0
16Y2085	S	8820	25	18.4	4.8	82	1	33.9
16Y2127	SPQ	8730	26	17.9	4.8	81	38	34.4
15Y3036	M	8600	27	16.2	4.8	81	45	35.2
16Y1013	L	8590	28	18.8	4.8	80	1	34.1
16Y2058	BG	8430	29	17.8	4.7	83	13	38.0
89Y235	BG	8340	30	16.5	4.6	80	80	36.4
16Y3010	M	8230	31	17.1	4.8	80	6	32.9
M205	M	8100	32	17.2	4.7	84	1	34.6
CM101	SWX	7250	33	17.9	4.8	78	58	33.7
CA201	SLA	6650	34	18.4	4.8	82	78	32.5
MEAN		9160		17.3	4.8	80	34	36.4
CV		6.4		4.0	0.0	1.8	65.1	4.0
LSD (.05)		1188		1.4	0.1	2.9	45.0	7.5

S = short; M = medium; L = long; BG = bold grain; PQ = premium quality; WX = waxy; LA = long grain aromatic; LBL = long grain blast resistant; MB = medium blast resistant; SR stem rot resistant; SLA = short grain low amalose. Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence. Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 4. 2017 Yolo Very Early Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac			Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank	Rank					
L207	L	10500	1		15.3	4.8	83	1	41.8
CM203	SWX	9610	2		16.7	4.8	80	1	39.2
15Y84	A	9560	3		14.7	4.9	86	1	35.7
L206	L	9250	4		14.3	4.7	80	6	36.3
CH202	SPQ	9210	5		13.5	4.8	80	5	35.0
M209	M	9130	6		17.8	4.7	85	1	38.9
M206	M	8890	7		17.6	4.8	82	1	38.4
14Y1006	L	8890	8		16.2	4.6	81	1	39.0
15Y2031	SWX	8850	9		17.2	4.7	81	1	38.0
10Y2043	S	8760	10		14.7	4.8	79	3	35.0
15Y2024	SPQ	8710	11		14.6	4.8	81	1	36.1
M105	M	8550	12		15.0	4.7	79	1	37.4
12Y3097	MB	8530	13		17.0	4.7	82	1	38.0
12Y2175	MPQ	8390	14		16.4	4.6	83	1	38.2
M208	MB	8380	15		16.0	4.7	83	1	40.3
S102	S	8360	16		13.4	4.8	78	1	35.8
17Y13	MH	8320	17		17.0	4.8	82	1	37.4
MEAN		8930			15.7	4.7	81	2	37.7
CV		6.3			4.6	2.3	1.2	148.7	4.2
LSD (.05)		802			1.0	0.2	1.4	3.4	5.7

Preliminary Lines and Varieties

16Y1020	L	10190	1		15.0	4.9	83	93	44.7
15Y1027	L	10180	2		15.2	4.7	83	3	42.5
16Y1007	SR	10060	3		14.7	4.8	82	1	39.2
16Y1013	L	10020	4		15.3	4.8	82	1	38.6
16Y2085	S	9910	5		14.4	4.7	81	1	36.2
M104	M	9670	6		12.8	4.8	76	1	37.4
16Y3019	M	9610	7		17.0	4.8	81	1	38.8
16Y2009	S	9440	8		16.0	4.9	82	50	42.3
A202	A	9410	9		15.2	4.8	84	1	40.7
14Y3032	M	9380	10		14.3	4.7	80	1	38.6
16Y3048	M	9330	11		16.5	4.7	82	3	40.2
16Y3020	M	9320	12		14.5	4.8	81	1	39.0
15Y2100	SLA	9300	13		14.4	4.8	82	1	38.6
16Y3010	M	9270	14		18.1	4.7	82	1	38.0
16Y2091	S	9170	15		10.4	4.8	84	1	37.4
16Y3011	M	9060	16		14.3	4.8	79	1	39.8
16Y3045	MB	9010	17		15.7	4.8	81	1	37.4
16Y1015	L	8910	18		16.2	4.8	83	13	41.7
13Y3152	M	8830	19		17.1	4.8	83	1	37.8
16Y2127	SPQ	8780	20		15.7	4.7	80	1	37.8
14Y3035	M	8690	21		19.1	4.8	84	15	42.3
16Y1192	L	8690	22		15.6	4.7	85	1	39.8
16Y3016	M	8660	23		15.1	4.7	78	1	37.4
16Y2052	SWX	8560	24		15.5	4.8	79	3	37.2
M205	M	8390	25		16.7	4.7	86	1	39.0
13Y3030	M	8330	26		15.2	4.7	79	1	37.4
15Y3036	M	8320	27		14.6	4.8	83	1	37.6
14Y3143	MSR	8270	28		15.7	4.8	81	1	40.2
16Y2058	BG	8060	29		14.0	4.6	82	1	37.6
14Y3099	MB	8050	30		14.1	4.8	82	6	38.0
CM101	SWX	7790	31		12.9	4.8	78	1	36.0
16Y2028	SLA	7560	32		14.9	4.8	81	1	38.2
CA201	SLA	7350	33		12.6	4.9	82	1	35.6
89Y235	BG	6990	34		12.9	4.6	81	1	36.2
MEAN		8900			15.1	4.7	81	6	38.8
CV		5.7			9.7	0.4	0.9	114.2	3.2
LSD (.05)		1034			3.0	0.1	1.5	14.4	6.5

S = short; M = medium; L = long; BG = bold grain; PQ = premium quality; WX = waxy; LA = long grain aromatic;

LBL = long grain blast resistant; MB = medium blast resistant; SR stem rot resistant; SLA = short grain low amalose.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 5. 2017 South Yolo Very Early Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
10Y2043	S	9080	1	14.8	4.8	90	7	31.0
14Y1006	L	8740	2	13.5	4.9	84	1	32.1
S102	S	8610	3	13.2	4.8	84	7	33.7
M105	M	8590	4	13.3	4.8	87	1	35.3
L207	L	8340	5	13.5	4.8	88	3	33.3
CH202	SPQ	8050	6	14.8	4.8	93	17	32.9
CM203	SWX	7890	7	15.7	4.8	93	19	35.3
15Y2024	SPQ	7670	8	17.2	4.8	93	1	32.4
M206	M	7530	9	14.0	4.8	92	7	33.6
M209	M	7280	10	16.2	4.8	98	7	34.0
15Y2031	SWX	7110	11	17.3	4.8	93	8	34.4
15Y84	A	7050	12	14.2	4.8	97	1	30.2
M208	MB	6940	13	16.4	4.8	98	7	35.4
12Y3097	MB	6920	14	14.8	4.8	92	6	34.4
L206	L	6860	15	15.1	4.8	93	1	30.5
12Y2175	MPQ	6740	16	15.1	4.7	96	7	34.4
17Y13	MH	6660	17	14.3	4.8	93	1	33.4
MEAN		7650		14.9	4.8	92	6	33.3
CV		5.9		5.6	0.0	1.6	152.5	4.6
LSD (.05)		642		1.2	0.1	2.1	12.9	5.5

Preliminary Lines and Varieties

CM101	SWX	8570	1	13.1	4.7	88	3	33.3
16Y3020	M	8420	2	13.7	4.8	92	13	36.4
M104	M	8240	3	12.7	4.8	91	1	35.2
16Y3016	M	8210	4	13.9	4.9	87	1	35.6
16Y1015	L	8180	5	11.8	4.8	92	28	35.8
15Y2100	SLA	8170	6	13.3	4.8	93	1	32.9
16Y2009	S	7960	7	12.9	4.8	91	13	34.8
16Y2052	SWX	7870	8	13.5	4.7	93	3	30.3
15Y1027	L	7870	9	13.0	4.8	89	3	34.1
16Y1007	SR	7850	10	12.5	4.7	97	26	35.2
16Y2028	SLA	7840	11	14.3	4.6	91	13	35.2
16Y2085	S	7820	12	14.3	4.8	94	8	30.7
16Y3048	M	7800	13	13.4	4.8	94	26	37.6
16Y3010	M	7560	14	16.2	4.7	99	3	31.7
16Y2058	BG	7550	15	15.1	4.7	92	13	33.7
14Y3032	M	7520	16	15.0	4.8	93	26	33.9
16Y2091	S	7510	17	14.3	4.7	95	38	32.5
16Y1020	L	7470	18	12.1	4.8	93	50	36.2
16Y3011	M	7430	19	15.6	4.8	91	1	34.8
16Y2127	SPQ	7420	20	16.0	4.7	93	26	36.6
15Y3036	M	7390	21	12.0	4.7	99	26	33.7
13Y3152	M	7370	22	13.3	4.7	94	26	35.6
M205	M	7280	23	15.4	4.8	100	1	30.7
16Y3019	M	7250	24	14.3	4.8	91	1	36.2
13Y3030	M	7230	25	12.5	4.7	93	1	34.6
14Y3143	MSR	7170	26	15.5	4.8	92	3	37.2
89Y235	BG	7170	27	12.3	4.6	89	3	32.5
16Y1192	L	7130	28	11.5	4.7	97	1	34.6
CA201	SLA	6870	29	15.3	4.7	93	3	34.3
14Y3099	MB	6650	30	15.1	4.8	94	3	32.3
14Y3035	M	6350	31	15.5	4.9	96	3	34.6
A202	A	6260	32	18.7	4.8	100	1	33.5
16Y3045	MB	6130	33	13.9	4.7	96	3	34.3
16Y1013	L	5410	34	13.8	4.8	93	1	31.1
MEAN		7440		14.0	4.7	93	11	34.2
CV		9.1		8.9	0.8	2.3	166.5	4.7
LSD (.05)		1380		2.5	0.1	4.3	36.7	8.3

S = short; M = medium; L = long; BG = bold grain; PQ = premium quality; WX = waxy; LA = long grain aromatic; LBL = long grain blast resistant; MB = medium blast resistant; SR stem rot resistant; SLA = short grain low amalose.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 6. Grain Yield (lb/acre @14% moisture) Summary of Very Early Rice Varieties by Location and Year (2013-2017)

Location	Year	M104	M105	M206	Calmochi		
					101	S102	L206
Biggs (RES)	2013	9710	9150	8610	8580	9120	9970
	2014	8150	7680	9200	6540	7640	8580
	2015	8580	8150	9350	7940	9520	8910
	2016		10380	10250	7490	8960	10100
	2017	8790	9270	9680	8140	9260	9850
Location Mean		8813	8926	9418	7738	8900	9482
Sutter	2013	9510	9940	9710	8340	9300	9700
	2014	9510	10380	9710	7780	8770	9440
	2015	9520	10350	9900	7990	9190	9820
	2016		11630	11110	9420	10720	9260
	2017	9030	9380	9240	7250	8770	8580
Location Mean		9513	10336	9934	8156	9350	9360
Yolo	2013	9420	9670	9790	7830	8380	9000
	2014	9610	10150	9770	7580	8980	8760
	2015	8150	7210	7490	5560	6940	7740
	2016		10420	10980	9290	9530	10090
	2017	9670	8550	8890	7790	8360	9250
Location Mean		9060	9200	9384	7610	8438	8968
South Yolo	2017	8240	8590	7530	8570	8610	6860
Location Mean		8240	8590	7530	8570	8610	6860
Loc/Years Mean		8907	9263	9067	8019	8825	8668

Table 7. 2017 Four Location Early Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Over All Ave Grain Yield at 14% Moisture lbs/ac		Single Location Yields												
				Biggs		Butte		Colusa		Yuba		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
				Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank					
14Y1006	L	10330	1	11460	3	10140	1	9670	1	10050	1	14.7	4.7	75	59	38.8
10Y2043	S	10000	2	11630	1	10040	3	9280	3	9060	4	15.3	4.7	80	76	38.9
L207	L	9950	3	11070	5	9750	4	9410	2	9600	2	14.4	4.8	79	47	40.7
12Y2175	MPQ	9860	4	11560	2	10110	2	8680	6	9100	3	18.2	4.6	84	55	40.8
15Y2112	SPQ	9350	5	10850	6	9540	5	8910	4	8100	14	19.2	4.8	82	82	39.5
M209	M	9190	6	10490	9	9350	6	7840	10	9060	5	19.6	4.8	84	53	39.8
15Y84	A	9170	7	11450	4	9140	11	8500	7	7590	17	14.0	4.9	83	53	36.5
12Y3097	MB	9110	8	10470	10	9230	9	7910	9	8830	6	17.9	4.7	78	65	38.4
L206	L	9060	9	10470	11	9290	8	8810	5	7670	16	13.3	4.7	77	54	36.4
15Y2151	MPQ	9030	10	10750	8	9140	10	7810	11	8400	10	19.2	4.8	84	70	40.2
15Y2153	MPQ	8930	11	10780	7	8820	14	7510	15	8610	8	20.4	4.8	86	62	39.7
M206	M	8850	12	9770	16	9330	7	7530	14	8770	7	17.7	4.8	77	68	38.4
17Y73	MH	8810	13	10190	14	9040	12	7610	13	8400	11	18.0	4.8	78	63	37.9
M105	M	8740	14	10290	13	8910	13	7390	16	8370	12	17.1	4.8	75	64	37.9
CH202	SPQ	8720	15	9560	17	8420	16	8460	8	8420	9	14.0	4.8	78	89	36.2
M208	MB	8500	16	10010	15	8620	15	7630	12	7730	15	17.0	4.7	79	68	38.8
S102	S	8430	17	10460	12	8180	17	6920	17	8170	13	13.4	4.7	76	68	37.5
MEAN		9180		10660		9240		8230		8580		16.7	4.8	80	64	38.6
CV		4.9		3.7		4.7		6.7		4.8		7.2	2.3	1.6	20.5	2.8
LSD (.05)		620		561		616		779		587		2.1	0.1	2.2	19.6	2.1

Preliminary Lines and Varieties

16Y1154	B	9700	1	10870	6	9100	21	9410	4	9440	1	14.0	4.7	79	52	40.3
15Y1027	L	9680	2	10590	12	9600	10	9380	6	9140	2	13.2	4.7	78	45	40.0
CM203	SWX	9660	3	10740	8	9700	5	9100	10	9090	3	17.4	4.7	79	71	39.1
16Y2117	SPQ	9630	4	10910	5	9990	1	9220	7	8410	11	14.7	4.9	79	64	37.8
16Y1063	L	9590	5	10390	19	9620	9	9750	2	8590	7	13.2	4.7	81	25	38.5
15Y2135	SWX	9530	6	11200	2	9670	8	9140	8	8100	18	18.4	4.7	83	58	37.5
15Y3171	M	9470	7	11270	1	9820	4	8700	14	8110	17	18.3	4.8	87	51	37.7
15Y3086	M	9350	8	10810	7	9840	3	8350	23	8400	12	15.9	4.8	79	58	37.3
16Y3054	M	9280	9	10660	9	9880	2	8090	26	8480	8	18.2	4.7	80	66	38.6
15Y3177	M	9230	10	10580	13	9540	12	8370	22	8430	9	18.8	4.8	84	51	36.9
16Y1029	L	9200	11	11100	4	8620	27	8290	24	8800	4	12.6	4.8	78	27	37.5
15Y1018	L	9190	12	11120	3	8200	30	9490	3	7950	20	14.2	4.6	84	53	39.3
13Y3176	M	9180	13	10530	16	8880	24	9050	11	8250	14	17.5	4.8	82	48	37.9
16Y3115	M	9170	14	10520	17	9420	17	7980	29	8750	5	18.8	4.7	83	51	39.5
14Y3121	M	9130	15	10540	14	8910	23	8480	19	8590	6	19.4	4.7	85	35	38.1
16Y2053	SWX	9110	16	10410	18	9600	11	8650	15	7800	25	18.2	4.7	84	62	38.4
16Y2169	SPQ	9100	17	9800	27	9680	6	8740	13	8180	16	15.3	4.8	79	64	37.9
12Y1022	A	9090	18	10240	21	8720	26	9910	1	7490	28	13.8	4.7	82	26	39.3
M205	M	9090	19	10640	10	9670	7	8040	28	8020	19	18.2	4.7	84	42	39.1
A202	A	9020	20	9890	26	9440	14	8430	21	8300	13	14.7	4.8	80	57	38.2
15Y3172	M	8960	21	10250	20	9430	15	8470	20	7690	26	18.1	4.8	85	50	38.3
15Y3150	M	8950	22	9740	29	9430	16	8780	12	7850	22	16.1	4.6	81	59	39.2
16Y2055	SWX	8930	23	10610	11	9270	18	8560	16	7290	29	18.7	4.5	85	82	37.5
16Y3066	M	8860	24	9910	25	9190	20	8510	17	7840	23	15.6	4.6	79	61	37.3
13Y3080	M	8740	25	9780	28	9520	13	7400	33	8240	15	17.3	4.8	77	67	37.3
16Y1051	J	8700	26	10180	22	8200	29	9140	9	7280	30	12.0	4.8	77	50	38.5
16Y3116	MB	8580	27	10530	15	9210	19	8490	18	6100	37	20.6	4.7	87	31	38.1
16Y3165	M	8560	28	9970	23	8820	25	7840	30	7590	27	17.7	4.6	82	51	34.6
16Y3067	MB	8430	29	9360	33	8610	28	7300	34	8430	10	16.3	4.6	78	59	36.7
16Y2121	SPQ	8390	30	9960	24	7720	33	8070	27	7810	24	12.9	4.7	75	82	34.9
15Y1169	J	8330	31	9480	30	7980	31	9400	5	6460	34	13.8	4.7	85	35	38.6
M104	M	8240	32	9450	31	8910	22	6750	36	7880	21	14.2	4.7	73	59	36.8
CH201	SPQ	7750	33	9210	34	7810	32	7610	32	6380	35	13.8	4.9	82	72	36.3
16Y1149	J	7670	34	9420	32	5930	38	8190	25	7150	31	14.1	4.3	84	71	39.8
CM101	SWX	7590	35	9090	35	7590	34	6600	38	7090	32	12.8	4.8	78	76	35.7
16Y1064	B	7170	36	7840	37	6320	37	7700	31	6830	33	13.7	4.8	82	22	36.8
14Y1142	B	6720	37	7370	38	6580	36	6690	37	6250	36	13.4	4.8	85	6	35.0
15Y1195	B	6570	38	7840	36	6650	35	6820	35	4960	38	13.5	4.8	86	24	33.5
MEAN		8780		10040		8820		8390		7830		15.8	4.7	81	52	37.7
CV		7.8		6.3		5.6		7.7		11.3		9.4	2.1	1.2	21.3	6.7
LSD (.05)		831		1293		994		1311		1794		3.0	0.2	1.7	21.5	4.3

S=short; M=medium; L=long; PQ=premium quality; A=aromatic; LB=long Basmati; J=Jasmine;

MB = medium blast resistant; LA = low amylose; SR = Stem Rot resistant; WX = waxy.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 8. 2017 Biggs Early Rice Variety Trials

<i>Advanced Lines and Varieties</i>								
Grain Yield at 14% Moisture lbs/ac								
Variety	Grain Type	Yield	Rank	Grain		Days to 50% Heading	Lodging (1-99)	Plant Height (in)
				Moisture at Harvest (%)	Seedling Vigor (1-5)			
10Y2043	S	11630	1	15.5	4.8	76	65	37.5
12Y2175	MPQ	11560	2	19.1	4.6	82	48	42.2
14Y1006	L	11460	3	14.4	4.7	71	38	40.1
15Y84	A	11450	4	14.2	4.9	77	28	38.1
L207	L	11070	5	14.2	4.9	75	18	43.3
15Y2112	SPQ	10850	6	20.1	4.9	78	88	40.1
15Y2153	MPQ	10780	7	20.5	4.8	87	40	41.7
15Y2151	MPQ	10750	8	19.7	4.8	81	68	42.5
M209	M	10490	9	20.1	4.7	80	20	40.6
12Y3097	MB	10470	10	18.6	4.7	72	75	39.7
L206	L	10470	11	14.0	4.7	72	28	37.0
S102	S	10460	12	11.9	4.8	72	53	40.4
M105	M	10290	13	17.6	4.8	69	70	39.8
17Y73	MH	10190	14	18.9	4.9	72	73	39.5
M208	MB	10010	15	16.8	4.7	72	80	41.8
M206	M	9770	16	18.6	4.8	71	83	40.0
CH202	SPQ	9560	17	14.7	5.0	73	90	36.8
MEAN		10660		17.0	4.8	75	56	40.1
CV		3.7		4.5	1.4	1.4	25	2.9
LSD (.05)		561		1.1	0.1	1.5	19.8	4.2
<i>Preliminary Lines and Varieties</i>								
15Y3171	M	11270	1	19.8	4.8	76	20	39.6
15Y2135	SWX	11200	2	18.9	4.5	78	50	38.6
15Y1018	L	11120	3	15.4	4.7	79	20	42.3
16Y1029	L	11100	4	13.5	4.9	72	1	39.6
16Y2117	SPQ	10910	5	14.1	4.9	73	55	37.2
16Y1154	B	10870	6	14.4	4.7	75	35	43.3
15Y3086	M	10810	7	16.0	4.8	72	65	37.8
CM203	SWX	10740	8	15.8	4.7	73	65	39.6
16Y3054	M	10660	9	18.6	4.7	74	65	40.4
M205	M	10640	10	19.3	4.7	80	20	41.3
16Y2055	SWX	10610	11	19.4	4.4	81	60	37.0
15Y1027	L	10590	12	14.2	4.7	72	15	42.3
15Y3177	M	10580	13	19.7	4.7	79	20	39.6
14Y3121	M	10540	14	19.7	4.7	80	10	40.0
16Y3116	MB	10530	15	17.7	4.7	83	1	39.4
13Y3176	M	10530	16	17.4	4.9	78	30	40.2
16Y3115	M	10520	17	18.5	4.6	78	15	41.5
16Y2053	SWX	10410	18	18.8	4.7	80	25	39.2
16Y1063	L	10390	19	13.6	4.7	76	1	38.6
15Y3172	M	10250	20	20.3	4.7	82	25	40.7
12Y1022	A	10240	21	15.2	4.7	76	0	42.5
16Y1051	J	10180	22	13.5	4.9	72	15	41.1
16Y3165	M	9970	23	16.9	4.7	77	25	40.2
16Y2121	SPQ	9960	24	12.3	4.8	69	60	36.0
16Y3066	M	9910	25	16.6	4.6	72	55	39.6
A202	A	9890	26	14.7	4.8	73	30	40.6
16Y2169	SPQ	9800	27	16.3	4.8	71	40	37.2
13Y3080	M	9780	28	17.9	4.9	69	75	38.4
15Y3150	M	9740	29	16.5	4.4	76	35	41.1
15Y1169	J	9480	30	14.2	4.6	78	5	41.9
M104	M	9450	31	15.3	4.7	66	40	40.0
16Y1149	J	9420	32	16.7	4.2	81	80	46.7
16Y3067	MB	9360	33	17.1	4.6	72	55	39.0
CH201	SPQ	9210	34	13.3	5.0	75	80	38.8
CM101	SWX	9090	35	11.3	4.8	73	70	37.0
15Y1195	B	7840	36	13.4	4.8	80	1	37.8
16Y1064	B	7840	37	14.0	4.8	77	10	41.1
14Y1142	B	7370	38	14.3	4.8	80	1	37.8
MEAN		10040		16.2	4.7	76	33	39.9
CV		6.3		6.1	2.1	2.1	47.8	2.9
LSD (.05)		1293		2.0	0.2	3.2	32.4	5.9

S=short; M=medium; L=long; PQ=premium quality; A=aromatic; LB=long Basmati; J=Jasmine;
 MB = medium blast resistant; LA = low amylose; SR = Stem Rot resistant; WX = waxy.
 Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.
 Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 9. 2017 Butte Early Rice Variety Trial

<i>Advanced Lines and Varieties</i>								
Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
14Y1006	L	10140	1	15.5	4.7	76	88	38.9
12Y2175	MPQ	10110	2	18.8	4.7	84	76	42.3
10Y2043	S	10040	3	18.0	4.7	81	94	39.2
L207	L	9750	4	16.3	4.7	80	83	44.4
15Y2112	SPQ	9540	5	20.9	4.7	83	99	38.4
M209	M	9350	6	21.9	4.8	84	85	40.8
M206	M	9330	7	17.8	4.8	78	86	40.3
L206	L	9290	8	15.0	4.5	77	89	40.2
12Y3097	MB	9230	9	17.9	4.7	81	85	39.2
15Y2151	MPQ	9140	10	19.2	4.7	83	98	39.9
15Y84	A	9140	11	15.4	4.9	82	81	37.1
17Y73	MH	9040	12	17.8	4.7	78	76	40.2
M105	M	8910	13	17.1	4.8	76	75	39.3
15Y2153	MPQ	8820	14	22.4	4.8	86	88	40.5
M208	MB	8620	15	16.7	4.8	80	91	42.7
CH202	SPQ	8420	16	15.9	4.7	78	99	37.4
S102	S	8180	17	15.8	4.7	78	97	40.6
MEAN		9240		17.8	4.7	80	88	40.1
CV		4.7		6.8	1.7	1.8	8.2	4.2
LSD (.05)		616		1.7	0.1	2.0	10.2	6.0
<i>Preliminary Lines and Varieties</i>								
16Y2117	SPQ	9989	1	16.8	4.8	81	97	39.6
16Y3054	M	9884	2	18.2	4.7	81	95	39.0
15Y3086	M	9843	3	15.9	4.7	79	83	38.2
15Y3171	M	9816	4	17.9	4.7	84	83	38.2
CM203	SWX	9698	5	17.0	4.8	79	97	40.9
16Y2169	SPQ	9676	6	15.9	4.8	80	99	38.0
M205	M	9667	7	18.0	4.7	84	75	40.6
15Y2135	SWX	9667	8	19.6	4.8	83	83	39.6
16Y1063	L	9619	9	14.8	4.8	83	30	42.1
15Y1027	L	9602	10	14.2	4.8	79	80	44.1
16Y2053	SWX	9599	11	19.4	4.7	83	95	40.9
15Y3177	M	9544	12	18.6	4.8	84	85	36.2
13Y3080	M	9515	13	17.1	4.8	77	95	40.2
A202	A	9438	14	16.6	4.8	81	99	41.7
15Y3172	M	9431	15	18.0	4.8	84	83	39.8
15Y3150	M	9425	16	16.8	4.7	83	99	42.5
16Y3115	M	9424	17	19.6	4.7	83	92	42.3
16Y2055	SWX	9270	18	20.2	4.4	85	95	41.1
16Y3116	MB	9207	19	17.7	4.7	88	58	39.6
16Y3066	M	9192	20	14.6	4.7	80	90	39.8
16Y1154	B	9101	21	14.4	4.7	81	90	44.5
M104	M	8910	22	13.5	4.8	75	97	38.0
14Y3121	M	8909	23	20.2	4.7	84	48	40.6
13Y3176	M	8878	24	17.7	4.8	82	68	38.6
16Y3165	M	8816	25	17.5	4.6	83	78	43.7
12Y1022	A	8722	26	14.1	4.7	82	43	44.5
16Y1029	L	8616	27	13.5	4.7	79	50	41.1
16Y3067	MB	8609	28	16.1	4.6	79	73	39.4
16Y1051	J	8199	29	12.7	4.8	78	88	38.4
15Y1018	L	8198	30	15.4	4.3	84	75	42.7
15Y1169	J	7980	31	15.7	4.8	87	68	43.9
CH201	SPQ	7810	32	15.2	4.9	84	95	39.4
16Y2121	SPQ	7722	33	14.3	4.7	75	99	36.2
CM101	SWX	7594	34	14.5	4.9	80	99	39.6
15Y1195	B	6648	35	13.0	4.7	87	1	41.7
14Y1142	B	6578	36	14.7	4.7	85	10	42.7
16Y1064	B	6318	37	14.2	4.8	81	38	46.3
16Y1149	J	5926	38	14.4	4.7	83	95	46.9
MEAN		8817		16.3	4.7	82	77	40.9
CV		5.6		6.5	2.5	0.8	10.8	3.9
LSD (.05)		994		2.2	0.2	1.4	16.9	8.1

S=short; M=medium; L=long; PQ=premium quality; A=aromatic; LB=long Basmati; J=Jasmine; MB = medium blast resistant; LA = low amylose; SR = Stem Rot resistant; WX = waxy. Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence. Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 10. 2017 Colusa Early Rice Variety Trials

<i>Advanced Lines and Varieties</i>									
Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac			Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank	Rank					
14Y1006	L	9670	1	16.6	4.8	80	21	40.2	
L207	L	9410	2	15.1	4.9	82	1	42.8	
10Y2043	S	9280	3	16.6	4.8	85	48	37.7	
15Y2112	SPQ	8910	4	23.8	5.0	85	43	40.8	
L206	L	8810	5	12.3	4.7	82	2	37.9	
12Y2175	MPQ	8680	6	21.1	4.4	89	2	42.2	
15Y84	A	8500	7	14.3	5.0	88	16	38.5	
CH202	SPQ	8460	8	14.8	4.9	81	69	38.1	
12Y3097	MB	7910	9	21.4	4.7	83	2	39.6	
M209	M	7840	10	22.5	4.7	89	11	41.0	
15Y2151	MPQ	7810	11	24.3	4.8	89	14	42.7	
M208	MB	7630	12	20.8	4.6	83	1	40.8	
17Y73	MH	7610	13	21.4	4.8	82	3	39.8	
M206	M	7530	14	20.4	4.9	83	12	40.5	
15Y2153	MPQ	7510	15	24.7	4.8	91	22	41.9	
M105	M	7390	16	20.2	4.8	79	11	40.3	
S102	S	6920	17	15.2	4.6	79	24	37.9	
MEAN		8230		19.1	4.8	84	18	40.2	
CV		6.7		9.8	3.8	1.3	118.6	2.9	
LSD (.05)		779		2.7	0.3	1.6	29.7	4.2	

<i>Preliminary Lines and Varieties</i>								
Variety	Grain Type	Yield	Rank	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
12Y1022	A	9910	1	13.8	4.8	87	3	43.9
16Y1063	L	9750	2	12.2	4.7	85	1	41.3
15Y1018	L	9490	3	13.9	4.8	87	25	44.5
16Y1154	B	9410	4	15.6	4.8	83	1	44.1
15Y1169	J	9400	5	13.1	4.7	89	1	44.3
15Y1027	L	9380	6	12.2	4.7	82	3	43.3
16Y2117	SPQ	9220	7	16.5	5.0	85	13	40.2
15Y2135	SWX	9140	8	24.1	4.7	86	3	38.4
16Y1051	J	9140	9	10.2	4.7	83	1	41.5
CM203	SWX	9100	10	25.4	4.9	83	25	42.1
13Y3176	M	9050	11	21.1	4.8	88	1	39.6
15Y3150	M	8780	12	17.2	4.8	86	1	41.9
16Y2169	SPQ	8740	13	18.0	4.9	83	18	40.6
15Y3171	M	8700	14	22.1	4.8	92	3	38.2
16Y2053	SWX	8650	15	23.6	4.8	88	33	38.8
16Y2055	SWX	8560	16	24.8	4.7	90	73	40.2
16Y3066	M	8510	17	17.7	4.5	84	1	38.6
16Y3116	MB	8490	18	24.9	4.5	92	1	39.6
14Y3121	M	8480	19	23.9	4.8	91	1	40.4
15Y3172	M	8470	20	20.6	4.8	89	1	40.2
A202	A	8430	21	15.4	4.9	85	1	38.6
15Y3177	M	8370	22	22.7	4.8	89	18	37.6
15Y3086	M	8350	23	18.3	4.9	84	1	38.0
16Y1029	L	8290	24	11.2	5.0	81	1	41.7
16Y1149	J	8190	25	13.5	3.5	90	20	47.2
16Y3054	M	8090	26	22.5	4.8	84	8	38.6
16Y2121	SPQ	8070	27	14.2	4.7	80	73	37.2
M205	M	8040	28	21.8	4.7	89	1	39.8
16Y3115	M	7980	29	23.6	4.8	88	1	41.1
16Y3165	M	7840	30	23.1	4.7	88	1	42.9
16Y1064	B	7700	31	14.4	4.9	88	1	41.1
CH201	SPQ	7610	32	15.9	5.0	87	15	38.4
13Y3080	M	7400	33	21.0	4.9	83	3	40.6
16Y3067	MB	7300	34	18.7	4.6	83	13	37.6
15Y1195	B	6820	35	10.6	4.9	91	1	36.2
M104	M	6750	36	14.6	4.8	79	3	39.4
14Y1142	B	6690	37	12.4	4.9	91	1	40.7
CM101	SWX	6600	38	15.3	4.8	81	38	38.4
MEAN		8390		17.9	4.7	86	11	40.4
CV		7.7		7.8	2.3	0.8	90.1	3.2
LSD (.05)		1311		2.8	0.2	1.4	19.5	6.8

S=short; M=medium; L=long; PQ=premium quality; A=aromatic; LB=long Basmati; J=Jasmine;
 MB = medium blast resistant; LA = low amylose; SR = Stem Rot resistant; WX = waxy.
 Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.
 Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 11. 2017 Yuba Early Rice Variety Trials

<i>Advanced Lines and Varieties</i>								
Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
14Y1006	L	10050	1	12.1	4.8	76	91	39.4
L207	L	9600	2	12.1	4.8	81	88	42.0
12Y2175	MPQ	9100	3	13.9	4.7	82	95	41.6
10Y2043	S	9060	4	11.1	4.7	80	98	43.9
M209	M	9060	5	14.0	4.8	84	98	41.6
12Y3097	MB	8830	6	13.8	4.8	78	97	40.7
M206	M	8770	7	14.1	4.8	77	92	39.2
15Y2153	MPQ	8610	8	13.9	4.8	83	99	41.3
CH202	SPQ	8420	9	10.5	4.7	78	98	40.1
15Y2151	MPQ	8400	10	13.8	4.8	82	99	41.8
17Y73	MH	8400	11	13.8	4.7	78	99	39.7
M105	M	8370	12	13.6	4.8	76	99	39.6
S102	S	8170	13	10.8	4.7	77	99	43.0
15Y2112	SPQ	8100	14	11.8	4.8	80	99	41.0
M208	MB	7730	15	13.7	4.9	81	98	41.6
L206	L	7670	16	11.9	4.7	78	99	38.1
15Y84	A	7590	17	12.0	4.9	85	88	37.2
MEAN		8580		12.8	4.8	80	96	40.7
CV		4.8		3.0	0.0	1.7	4.5	1.1
LSD (.05)		587		0.5	0.1	1.9	6.2	1.7
<i>Preliminary Lines and Varieties</i>								
16Y1154	B	9440	1	11.8	4.8	80	83	41.9
15Y1027	L	9140	2	12.0	4.7	79	83	41.1
CM203	SWX	9090	3	11.2	4.7	82	97	39.8
16Y1029	L	8800	4	12.1	4.7	80	58	39.0
16Y3115	M	8750	5	13.6	4.7	84	97	40.4
14Y3121	M	8590	6	13.8	4.8	85	80	39.0
16Y1063	L	8590	7	12.2	4.8	83	70	40.4
16Y3054	M	8480	8	13.6	4.7	81	95	39.4
15Y3177	M	8430	9	14.0	4.8	85	83	35.4
16Y3067	MB	8430	10	13.5	4.7	80	95	39.6
16Y2117	SPQ	8410	11	11.3	4.8	80	92	38.0
15Y3086	M	8400	12	13.6	4.8	80	85	38.4
A202	A	8300	13	12.3	4.8	81	97	39.8
13Y3176	M	8250	14	13.7	4.8	82	93	39.6
13Y3080	M	8240	15	13.3	4.9	78	95	36.2
16Y2169	SPQ	8180	16	11.2	4.7	81	99	39.6
15Y3171	M	8110	17	13.4	4.8	85	97	37.6
15Y2135	SWX	8100	18	11.0	4.8	84	97	37.2
M205	M	8020	19	13.9	4.8	85	70	40.2
15Y1018	L	7950	20	11.9	4.7	86	93	41.5
M104	M	7880	21	13.5	4.8	74	97	37.0
15Y3150	M	7850	22	13.7	4.7	82	99	39.8
16Y3066	M	7840	23	13.5	4.7	80	99	39.0
16Y2121	SPQ	7810	24	10.9	4.8	77	97	39.4
16Y2053	SWX	7800	25	10.9	4.8	84	95	40.2
15Y3172	M	7690	26	13.3	4.8	85	92	37.8
16Y3165	M	7590	27	13.4	4.7	82	99	43.1
12Y1022	A	7490	28	12.2	4.8	83	58	40.6
16Y2055	SWX	7290	29	10.5	4.7	86	99	38.0
16Y1051	J	7280	30	11.5	4.7	77	95	43.3
16Y1149	J	7150	31	11.8	4.8	84	88	44.5
CM101	SWX	7090	32	10.3	4.8	78	99	40.7
16Y1064	B	6830	33	12.2	4.8	81	38	42.9
15Y1169	J	6460	34	12.2	4.8	86	65	39.8
CH201	SPQ	6380	35	10.8	4.8	84	97	40.7
14Y1142	B	6250	36	12.3	4.9	85	13	38.6
16Y3116	MB	6100	37	22.1	4.7	85	65	40.2
15Y1195	B	4960	38	17.1	4.8	85	95	37.2
MEAN		7830		12.8	4.7	82	85	39.6
CV		11.3		17.0	0.2	1.0	9.3	1.5
LSD (.05)		1794		4.4	0.1	1.6	16.1	3.1

S=short; M=medium; L=long; PQ=premium quality; A=aromatic; LB=long Basmati; J=Jasmine; MB = medium blast resistant; LA = low amylose; SR = Stem Rot resistant; WX = waxy. Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence. Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 12. Grain Yield (lb/acre @14% moisture) Summary of Early Rice Varieties by Location and Year (2013-2017)

Location	Year	Calhikari							
		201	S102	M105	M205	M206	M209	L206	L207
Biggs (RES)	2013	8490	8640	7820	9230	8160	9070	8420	
	2014	6220	7320	8570	9140	9240	9670	8640	
	2015	8580	10050	8610	8720	9620	9490	9360	10550
	2016	7310	9020	10380	10690	10780	10950	11060	11220
	2017	9210	10460	10300	10640	9770	10490	10470	11070
Location Mean		7962	9098	9136	9684	9514	9934	9590	10947
Butte	2013	7840	8650	9640	8960	9020	8570	9390	
	2014	8310	8570	9070	9140	9610	9140	9730	
	2015	7180	8810	9350	7780	9370	8580	9810	9130
	2016	8080	9480	10060	9640	10400	10220	10050	10960
	2017	7810	8180	8910	9670	9330	9350	9290	9750
Location Mean		7844	8738	9406	9038	9546	9172	9654	9947
Colusa	2013	7840	7220	9750	8930	9660	9730	10250	
	2014	7740	8080	9100	9370	9280	9600	9380	
	2015	8940	9200	10500	10050	9850	10490	9940	11160
	2016	8590	9050	10390	9730	9960	9600	8670	10600
	2017	7610	6920	7390	8040	7530	7850	8810	9410
Location Mean		8144	8094	9426	9224	9256	9454	9410	10390
Yuba	2013	8040	9280	9330	9650	9750	9690	9590	
	2014	7290	7420	8590	9120	8950	8800	9260	
	2015	8490	8740	9970	9650	9940	10240	9840	10480
	2016	7310	8300	9110	8430	9090	8760	8670	8470
	2017	6380	8170	8370	8020	8770	9060	7670	9600
Location Mean		7502	8382	9074	8974	9300	9310	9006	9517
Loc/Years Mean		7863	8578	9261	9230	9404	9468	9415	10200

Table 13. 2017 Three Location Intermediate/Late Rice Variety Trials

Advanced Lines and Varieties

		Single Location Yields												
		Over All Ave Grain Yield at 14% Moisture lbs/ac		Biggs		Butte		Glenn		Grain		Plant		
Variety	Grain Type	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank	Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Height (in)
14Y1006	L	10050	1	11600	1	10200	1	8340	3	14.0	4.8	76	64	38.8
15Y84	A	9710	2	11320	3	9410	5	8400	2	13.4	4.8	83	54	37.8
10Y2043	S	9600	3	11320	4	9910	2	7590	5	14.1	4.4	84	76	38.5
L207	L	9260	4	10560	5	8270	12	8950	1	13.6	4.8	80	56	43.0
12Y2175	MPQ	9220	5	11570	2	9130	6	6950	11	14.7	4.6	85	59	42.5
L206	L	9020	6	10520	6	8980	7	7560	6	13.5	4.7	78	64	38.3
M209	M	9010	7	10350	8	8480	10	8200	4	15.1	4.7	85	59	40.4
M105	M	8790	8	9940	10	8930	8	7520	7	15.1	4.6	76	63	39.4
M206	M	8760	9	9470	12	9650	3	7140	10	15.3	4.7	78	78	40.0
12Y3097	MB	8680	10	9860	11	9650	4	6530	12	15.2	4.6	78	69	39.7
M208	MB	8630	11	10040	9	8480	11	7370	8	14.9	4.6	81	76	40.8
S102	S	8530	12	10450	7	8840	9	6310	13	13.1	4.5	80	71	39.9
M402	MPQ	7480	13	8880	13	6280	13	7280	9	16.8	4.6	108	57	41.9
MEAN		8980		10450		8940		7550		14.5	4.6	83	65	40.1
CV		7.3		4.7		6.1		11.5		7.6	4.7	1.0	18.4	3.5
LSD (.05)		1201		707		784		1240		3.9	0.3	4.5	27.4	1.6

Preliminary Lines and Varieties

15Y2153	MPQ	10330	1	10840	5	12010	1	8130	6	16.2	4.5	88	64	42.1
16Y127	L	9400	2	11220	2	8450	7	8540	3	14.7	4.8	83	67	41.4
16Y3121	M	9390	3	10690	7	9010	3	8460	5	16.1	4.6	87	48	40.2
16Y3112	M	9250	4	10700	6	8160	9	8900	1	15.0	4.7	86	62	42.6
M205	M	9210	5	10590	10	8550	5	8500	4	15.1	4.6	87	63	39.8
14Y3145	MSR	9210	6	11250	1	7630	13	8740	2	15.8	4.6	88	60	41.5
16Y3111	M	9020	7	10900	4	8440	8	7730	8	16.2	4.6	86	55	42.3
16Y3108	M	8950	8	10660	8	8070	10	8100	7	15.7	4.6	87	44	40.3
15Y2151	MPQ	8820	9	10940	3	7870	11	7650	10	16.0	4.7	86	75	42.8
15Y1178	J	8580	10	10640	9	7790	12	7300	12	14.5	4.8	88	59	43.0
A202	A	8570	11	10540	11	8920	4	6260	16	14.3	4.8	81	59	41.6
16Y2075	MPQ	8520	12	9390	18	8450	6	7720	9	15.6	4.6	86	59	42.7
16Y1176	J	8250	13	10070	13	7260	15	7430	11	14.5	4.9	89	57	43.4
16Y2150	MPQ	8220	14	9880	15	7500	14	7290	13	15.2	4.7	85	65	42.5
M104	M	7990	15	9440	17	9220	2	5300	18	13.6	4.7	74	63	39.1
16Y2071	MPQ	7690	16	10110	12	5980	18	6980	14	16.7	4.6	109	48	43.4
16Y1185	J	7240	17	10010	14	6250	17	5460	17	14.2	4.8	86	67	46.2
M401	MPQ	7230	18	9600	16	5630	19	6470	15	17.3	4.8	111	64	46.7
15Y1051	J	6850	19	8810	19	6650	16	5090	20	14.0	4.8	82	58	46.3
16Y1118	B	5680	20	6270	21	5570	20	5220	19	14.4	4.8	87	68	49.4
14Y156	B	5640	21	6310	20	5540	21	5060	21	14.8	4.8	82	87	48.4
14Y149	B	5550	22	5410	22	0	22	0	22	24.4	4.8	99	84	47.3
MEAN		8270		9740		7760		7160		15.3	4.7	88	62	43.3
CV		11.0		2.7		16.6		12.6		5.0	3.8	1.3	16.4	3.7
LSD (.05)		1595		558		2549		1879		4.5	0.3	5.5	25.2	2.2

S=short; M=medium; L=long; PQ=premium quality; WX=waxy; A= aromatic; LB=long Basmati; J=Jasmine; MB=medium blast resistant; SR stem rot resistant.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 14. 2017 Biggs Intermediate-Late Rice Variety Trials

<i>Advanced Lines and Varieties</i>								
Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
14Y1006	L	11600	1	14.9	4.9	68	40	38.7
12Y2175	MPQ	11570	2	18.6	4.9	81	28	41.8
15Y84	A	11320	3	14.0	4.9	78	3	36.6
10Y2043	S	11320	4	14.2	4.9	75	45	37.2
L207	L	10560	5	13.7	5.0	73	10	42.2
L206	L	10520	6	13.8	4.9	72	15	38.7
S102	S	10450	7	10.2	4.9	74	45	39.4
M209	M	10350	8	19.8	4.9	80	18	39.8
M208	MB	10040	9	16.9	4.9	74	73	40.6
M105	M	9940	10	17.9	4.9	68	33	38.9
12Y3097	MB	9860	11	18.3	4.9	71	63	39.2
M206	M	9470	12	18.2	4.9	70	60	38.1
M402	MPQ	8880	13	23.0	5.0	74	1	40.6
MEAN		10450		16.4	4.9	74	33	39.4
CV		4.7		6.0	0.2	1.4	36.2	3.9
LSD (.05)		707		1.4	0.0	1.4	17.2	5.7
<i>Preliminary Lines and Varieties</i>								
14Y3145	MSR	11250	1	20.7	4.9	84	1	40.4
16Y127	L	11220	2	17.1	5.0	76	20	40.0
15Y2151	MPQ	10940	3	20.2	4.9	81	45	42.9
16Y3111	M	10900	4	21.7	4.9	81	15	42.7
15Y2153	MPQ	10840	5	21.4	4.9	84	10	42.7
16Y3112	M	10700	6	20.4	4.9	81	15	41.3
16Y3121	M	10690	7	20.9	4.9	83	1	39.4
16Y3108	M	10660	8	21.0	4.9	83	1	40.2
15Y1178	J	10640	9	16.2	4.9	84	1	41.5
M205	M	10590	10	19.6	4.9	84	1	40.9
A202	A	10540	11	14.8	4.9	74	10	40.9
16Y2071	MPQ	10110	12	24.9	5.0	80	1	43.5
16Y1176	J	10070	13	14.8	5.0	83	1	42.3
16Y1185	J	10010	14	17.2	4.8	84	10	44.3
16Y2150	MPQ	9880	15	19.6	4.9	84	20	42.3
M401	MPQ	9600	16	28.8	5.0	80	5	45.1
M104	M	9440	17	15.5	4.9	67	55	39.6
16Y2075	MPQ	9390	18	19.8	4.9	82	10	43.5
15Y1051	J	8810	19	15.7	4.9	74	20	48.6
14Y156	B	6310	20	15.5	4.9	72	85	49.0
16Y1118	B	6270	21	16.7	4.9	82	35	50.2
14Y149	B	5410	22	24.4	4.9	84	17	45.5
MEAN		9740		19.4	4.9	80	17	43.0
CV		2.7		4.2	0.3	1.0	46.0	4.3
LSD (.05)		558		1.7	0.1	1.8	16.3	9.8

S=short; M=medium; L=long; PQ=premium quality; WX=waxy; A= aromatic; LB=long Basmati; J=Jasmine; MB=medium blast resistant; SR stem rot resistant.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 15. 2017 Butte Intermediate-Late Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
14Y1006	L	10200	1	12.9	4.8	79	91	37.0
10Y2043	S	9910	2	12.3	4.7	85	91	37.8
M206	M	9650	3	14.5	4.9	80	86	37.9
12Y3097	MB	9650	4	14.4	4.8	81	84	38.9
15Y84	A	9410	5	12.2	4.8	86	71	36.8
12Y2175	MPQ	9130	6	12.9	4.6	87	74	42.2
L206	L	8980	7	12.5	4.7	83	90	36.8
M105	M	8930	8	13.9	4.7	78	78	37.5
S102	S	8840	9	13.3	4.7	81	89	37.6
M209	M	8480	10	11.3	4.7	86	75	38.8
M208	MB	8480	11	14.8	4.7	85	65	40.6
L207	L	8270	12	13.0	4.8	82	89	41.0
M402	MPQ	6280	13	11.5	4.9	105	86	41.9
MEAN		8940		13.0	4.7	84	82	38.8
CV		6.1		10.8	0.1	0.7	11.1	3.5
LSD (.05)		784		2.0	0.1	0.9	13.0	4.9

Preliminary Lines and Varieties

15Y2153	MPQ	12010	1	13.5	4.8	89	90	41.1
M104	M	9220	2	12.8	4.8	76	85	35.4
16Y3121	M	9010	3	13.7	4.8	89	83	39.2
A202	A	8920	4	13.7	4.7	85	90	42.3
M205	M	8550	5	12.5	4.8	89	95	37.6
16Y2075	MPQ	8450	6	13.5	4.7	87	92	41.9
16Y127	L	8450	7	12.9	4.8	87	88	40.6
16Y3111	M	8440	8	13.8	4.7	87	80	40.7
16Y3112	M	8160	9	11.7	4.8	86	90	42.5
16Y3108	M	8070	10	12.5	4.6	89	80	39.0
15Y2151	MPQ	7870	11	12.4	4.8	87	85	42.5
15Y1178	J	7790	12	12.6	4.8	88	93	42.9
14Y3145	MSR	7630	13	11.7	4.8	89	92	41.9
16Y2150	MPQ	7500	14	13.5	4.7	84	93	42.3
16Y1176	J	7260	15	13.5	4.9	89	83	43.7
15Y1051	J	6650	16	12.9	4.7	85	75	45.1
16Y1185	J	6250	17	11.6	4.8	88	95	45.3
16Y2071	MPQ	5980	18	10.3	4.8	104	83	43.1
M401	MPQ	5630	19	9.1	4.8	108	93	47.8
16Y1118	B	5570	20	13.5	4.8	88	83	48.0
14Y156	B	5540	21	13.3	4.8	86	85	46.7
14Y149	B	0	22	0.0	4.7	105	73	46.1
MEAN		7760		12.6	4.7	89	86	42.5
CV		16.6		5.0	0.1	2.0	9.9	2.9
LSD (.05)		2549		1.2	0.1	3.7	17.8	6.5

S=short; M=medium; L=long; PQ=premium quality; WX=waxy; A= aromatic; LB=long Basmati; J=Jasmine; MB=medium blast resistant; SR stem rot resistant.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 16. 2017 Glenn Intermediate-Late Rice Variety Trials

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/ac		Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
		Yield	Rank					
L207	L	8950	1	14.2	4.8	85	70	45.7
15Y84	A	8400	2	14.1	4.7	86	88	40.0
14Y1006	L	8340	3	14.3	4.7	80	63	40.6
M209	M	8200	4	14.2	4.4	89	85	42.5
10Y2043	S	7590	5	15.8	3.7	93	92	40.4
L206	L	7560	6	14.2	4.4	80	88	39.4
M105	M	7520	7	13.5	4.3	82	80	41.9
M208	MB	7370	8	13.0	4.2	85	91	41.3
M402	MPQ	7280	9	15.9	3.9	109	84	43.1
M206	M	7140	10	13.0	4.4	83	88	43.9
12Y2175	MPQ	6950	11	12.8	4.3	89	75	43.4
12Y3097	MB	6530	12	13.0	4.1	83	61	40.9
S102	S	6310	13	15.8	3.9	85	80	42.6
MEAN		7550		14.1	4.3	87	80	42.0
CV		11.5		6.0	8.7	0.9	17.9	3.2
LSD (.05)		1240		1.2	0.5	1.1	20.6	4.9

Preliminary Lines and Varieties

16Y3112	M	8900	1	12.9	4.3	90	80	43.9
14Y3145	MSR	8740	2	15.0	4.0	90	88	42.1
16Y127	L	8540	3	14.2	4.8	87	93	43.7
M205	M	8500	4	13.0	4.0	89	93	40.9
16Y3121	M	8460	5	13.7	4.1	89	63	41.9
15Y2153	MPQ	8130	6	13.8	3.9	90	93	42.5
16Y3108	M	8100	7	13.7	4.2	90	53	41.7
16Y3111	M	7730	8	13.2	4.2	90	70	43.5
16Y2075	MPQ	7720	9	13.5	4.3	88	75	42.7
15Y2151	MPQ	7650	10	15.5	4.4	89	95	42.9
16Y1176	J	7430	11	15.3	4.8	94	88	44.3
15Y1178	J	7300	12	14.7	4.7	94	85	44.7
16Y2150	MPQ	7290	13	12.5	4.4	88	83	42.9
16Y2071	MPQ	6980	14	14.9	4.0	111	60	43.7
M401	MPQ	6470	15	14.0	4.6	112	95	47.0
A202	A	6260	16	14.4	4.9	84	78	41.5
16Y1185	J	5460	17	13.8	4.8	88	95	49.0
M104	M	5300	18	12.5	4.4	80	50	42.3
16Y1118	B	5220	19	13.2	4.9	90	88	50.0
15Y1051	J	5090	20	13.6	4.8	88	80	45.3
14Y156	B	5060	21	15.6	4.8	87	90	49.4
14Y149	B	0	22	0.0	4.8	108	95	50.4
MEAN		7160		13.9	4.4	91	81	44.4
CV		12.6		6.1	6.8	0.7	16.6	3.9
LSD (.05)		1879		1.8	0.6	1.4	28.0	3.6

S=short; M=medium; L=long; PQ=premium quality; WX=waxy; A= aromatic; LB=long Basmati; J=Jasmine; MB=medium blast resistant; SR stem rot resistant.

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 17. Grain Yield (lb/acre @14% moisture) Summary of Intermediate/Late Rice Varieties by Location and Year (2013-2017)

Location	Year	M205	M402	M209	L206
Biggs (RES)	2013	9730	9830	10100	9460
	2014	10550	10040	11270	10340
	2015	9880	8450	9880	9520
	2016	9460	9370	9900	10490
	2017	10590	8880	10350	10520
Location Mean		10042	9314	10300	10066
Glenn	2013	8400	8970	8490	8870
	2014	8910	8910	8610	8870
	2015	9420	8710	9700	9910
	2016	8490	9850	8520	9290
	2017	8500	7280	8200	7560
Location Mean		8744	8744	8704	8900
Butte	2016	9110	6900	9010	9530
	2017	8550	6280	8480	8980
Location Mean		8830	6590	8745	9255
Loc/Years Mean		9205	8216	9250	9407