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PROJECT TITLE: Cooperative Extension Rice Variety Adaptation and Cultural Practice Research

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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 and the Sacramento-San Joaquin Delta. Several experimental cultivars were evaluated at each location within these groups to compare their performance in different environments of the rice-growing region.

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 Del Rio Partners Ranch (San Joaquin Delta, San Joaquin 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 16 entries (nine commercial varieties and seven advanced breeding lines) in four replications. The Preliminary tests included 36 entries, 32 preliminary breeding lines and four commercial varieties as checks, 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 Charlie Matthews Jr. Ranch (District 10, Yuba County). Two additional trials, Advanced and Preliminary, were conducted at the RES. The Advanced test at each site included 18 entries (eight commercial varieties and ten advanced breeding lines) in four replications. The Preliminary tests included 36 entries (seven commercial varieties and 29 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 Tucker Ranch (Sutter Basin, Sutter County). Two additional tests were conducted at the RES. The Advanced test at each site included 10 entries (seven commercial varieties and three advanced breeding lines) in four replications. The Preliminary tests included 28 entries (six commercial varieties and 22 preliminary breeding lines) in two replications.

Objective II

Cultural Practices: A cool temperature rice variety test was conducted on Twitchell Island in the western Delta as part of a larger project to evaluate rice under flooded culture as a method of preventing organic soil subsidence. A small plot test similar to the statewide variety trials was drill seeded with the seven commercial varieties and eleven advanced cold tolerant lines. The purpose of the small plot test was to provide the RES breeders with additional information under very cold conditions.

Objective III

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 39 trials including the 18 variety tests. Equipment from the UCCE-based pool for planting and harvesting field experiments was used at 16 sites at different times during the season. The most heavily used equipment was the ALMACO combine followed by a Kincaid seed drill planter. The rice combines were maintained according to the established maintenance schedules.

The ALMACO rice combine was used to harvest all of the statewide trials and county tests.

Objective IV

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, an offering of the Rice Production Workshop with an update of the manual and other printed material. We hosted the annual Rice Breeders Field Tour. The UCCE rice website is back online and new materials are being added as they become available.

SUMMARY OF 2013 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 later this 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 seven advanced breeding lines were compared in four very early advanced tests. The preliminary tests included four commercial varieties and 32 preliminary lines evaluated in separate tests at each location. Commercial varieties at each location included S-102, CA-201, CH-201, CH-202, CM-101, M-104, M-105, M-202, M-205, M-206, M-208, M-402 and L-206.

Grain yields in the advanced tests averaged 9,160 overall, 9,500 lbs/ac at Biggs-RES, 9,740 lbs/ac at Sutter, 9,340 lbs/ac at Yolo and 8,050 lbs/ac at San Joaquin (Tables 1-5). The three highest yielding entries, on average, were advanced medium grain line 08Y3269, advanced long grain line 11Y1005, and advanced short grain line 09Y2036 (9,790, 9,730, and 9,710 lbs/ac respectively). Top yielding commercial varieties M-105, L-206, M-104 and M-206 ranked seventh through tenth, respectively. Averaged across four locations, cultivar yields in the preliminary tests ranged from 7,300 to 10,290 lbs/ac (Table 1). Average grain moisture at harvest, number of days to 50% heading and lodging increased (2.8%, 3days, 14% respectively) in 2013 as compared to 2012. Seedling vigor and plant height were essentially the same as in 2012. Field preparation was completed earlier than normal due to a relatively dry spring. Planting was also completed earlier than normal, however several areas experienced delayed water deliveries this year resulting in large areas being planted in a short period of time. Relatively dry weather resulted in a timely harvest and reasonably good grain quality.

Comparing the commercial standard entries over a 5-year period and across locations, M-206, L-206 and M-104 were the three highest yielding varieties (Table 6).

Early Maturity Tests (90-97 days to 50% heading at Biggs): Eight commercial varieties and ten advanced lines were compared in four early advanced tests. The preliminary tests included seven commercial varieties and 29 preliminary lines evaluated in separate tests at each location. Commercial varieties at each location were CA-201, CH-201, CH-202, CM-101, S-102, M-105, M-202, M-205, M-206, M-208, M-402, A-201, A-301, CT-202 and L-206.

Yields in the advanced line tests averaged 9020 lbs/ac overall, 8810 lbs/ac at the RES; 8950 lbs/ac at Butte, 9050 lbs/ac at Colusa and 9270 lbs/ac at Yuba (Tables 7-11). Advanced long grain 11Y1008 was the highest yielding entry (10,100 lbs/ac) when averaged over four locations in 2013 (Table 7). Advanced long grain 09Y1122, medium grain 10Y3703, and medium grain 11Y2183 yielded second, third, and fourth respectively. The yield of commercial varieties L-206, M-205, M-206, S-102, and M-202 ranked sixth, tenth, eleventh, fourteenth and fifteenth over all locations (Table 7). Average days to 50% heading ranged from 85 days at Biggs to 90 days at the slightly cooler Yuba County site. The commercial standard M-206 headed at 82 days at Biggs and 87 days at Yuba. The average yield of M-105 decreased 1% compared to 2012. Eleven experimental lines averaged higher yields than M-105 in the Preliminary tests.

L-206 was the highest yielding commercial variety (9,621 lbs/ac) followed by M-205 (9,557 lbs/ac) and M-206 (9,418 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) - Seven commercial varieties and three advanced lines were compared in three intermediate-late tests. The preliminary tests included six commercial varieties and 22 preliminary lines that were evaluated in separate tests at each location. Commercial varieties at each location included CH-201, CH-202, Koshihikari, M-105, M-202, M-203, M-205, M-206, M-401, M-402, L-206, A-201, and CT-202.

Average yields in the advanced tests were 8870 lbs/ac overall, 9560 lbs/ac at the RES, 8,620 lbs/ac at Glenn and 8,420 lbs/ac at Sutter (Tables 13-16). The 2013 advanced over location average yield decreased 410 lbs/ac (11%) compared to the 2012 average. The average yields at the Biggs and Sutter decreased about 800 lbs/ac, while increasing 530 lbs/ac at Glenn compared to the 2012 season. In the advanced tests, M-206 was the highest yielding commercial variety (9,260 lbs/ac), ranking second overall. L-206 and M-205 were the next highest yielding commercial varieties across locations, ranking fourth and sixth respectively (Table 13). The medium premium quality grain entry 11Y2183 was the highest yielding advanced entry across all locations at 9,470 lbs/ac. Average days to 50% heading increased four days compared to 2012. M-401 and M-402 were the latest varieties (110 days) to reach 50% heading among the commercial varieties at all locations.

Averaged over the last 5 years and across locations, M-205 is the highest yielding (9,459 lbs/ac) commercial variety closely followed by L-206 at 9,445 lbs/ac. M-205 and L-206 produced 106% and 105% of the yield of M-202 on average over the last 5 years and across all locations (Table 17).

Objective II - Cultural Practices

The average yield of the Twitchell Island cold tolerance variety trial increased 1190 lbs/ac (16%) compared to 2012. The increase was due in part to improved cultivar selections and site location. Yields may have not reached their full potential in part due to the fields being drained 3-4 weeks early. Timing of the final field drainage is very important in this area due to new field development and the peat soil structure. Sink holes and boggy areas can prevent large areas of the fields from being harvested if water is left on too long in a normal year. Average yields ranged from 6360 to 8090 lbs/ac. There were no significant yield differences between the varieties. Individual plot grain yields varied widely in a random pattern resulting in a test CV more than two times higher than normal for other test locations. The highest yielding entry was the short grain CM-101. Advanced medium grain M-206-Pi-ta2, M-206 and medium grain 12Y113 ranked second, third, and fourth in yield thus indicating the continued potential for short grain types and medium grain Calrose types in cold environments. At Twitchell Island, the average time to 50% heading for these very early varieties was 103 days after planting, 19 days later than the average days to heading for very early maturing varieties in the Sacramento Valley tests. The increased delay in maturity resulting from drill planting and the cool environment demonstrate two of the challenges of growing rice in this region.

Improved field uniformity could greatly improve the chances of obtaining reliable and statistically significant results. Each year field uniformity and cultural practices are improving as we learn to maximize growing conditions for rice in the coldest growing area of the Sacramento - San Joaquin Valley region.

Objective III - Assistance to Other Projects

Both the UC SWECO and ALMACO plot combines were serviced and maintained during the harvest season. The ALMACO was used to harvest all test plots this year. Muddy field conditions were not a factor this year and the SWECO was not needed.

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 provided technical assistance for numerous field experiments in 2013. Equipment from the UCCE-based pool for planting and harvesting field experiments was used at 16 sites at different times during the season. The ALMACO was used to harvest 18 variety tests, six county fungicide trials, four county insect control trials, one organic treatment trial, two county rice herbicide trials, one fertility trial and one cold temperature variety test at Twitchell Island. Over 1,700 experimental plots were harvested in 2013. 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 Rice Production Workshop meeting, the RES Rice Field Day, the annual rice breeders' 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. 315 “California Rice Varieties: Description and Performance Summary of the 2012 Multiyear Statewide Rice Variety Tests In California”.
2. The UCCE website is online and is continually being updated.

Publications and Reports:

1. Espino, L., A. Fischer, L. Godfrey, C. Greer, J. Hill, R. Marsh, and R. Mutters. 2013. Integrated Pest Management for Rice, Third Edition. University of California Agriculture and Natural Resources, Publ. 3280, 98 pages.
2. Hill, JE, Espino LA, Greer CA, Leinfelder-Miles MM., Mutters, RG, and Wennig, RL 2012. University of California Cooperative Extension (UCCE) rice variety adaptation and cultural practices research. *In* Annual Report Comprehensive Rice Research 2012. University of California and USDA. 24pp. (available in e-version only).
3. Simmonds, MB, RE Plant, JM Pena-Barragan, C van Kessel, J Hill and BA Linquist. Underlying causes of yield spatial variability and potential for precision management in rice systems. Precision Agriculture 14:512-540..
4. Pittelkow, C.M., M.A. Adviento-Borbe, J.E. Hill, J. Six, C. van Kessel, B.A. Linquist. 2013. Yield-scaled global warming potential of annual nitrous oxide and methane emissions from continuously flooded rice in response to nitrogen input. Agriculture, Ecosystems and Environment 177:10-20.
5. Lundy ,M. E., J.E. Hill, C. van Kessel, D. A. Owen, R. M. Pedroso, L. G. Boddy, A. J. Fischer, and B. A. Linquist. *In Press*. Site-specific, real-time temperatures improve the accuracy of weed emergence predictions in a direct-seeded rice system. Agricultural Systems
6. Adviento-Borbe, M.A., C.M. Pittelkow, M. Anders, C. van Kessel, J.E. Hill, A.M. McClung, J. Six, and B.A. Linquist. *In Press*. Optimal fertilizer N rates and yield-scaled global warming potential in drill seeded rice. Journal of Environmental Quality.
7. Pittelkow, C., M.A. Adviento-Borbe, C. van Kessel, J. Hill, B. Linquist. *In Press*. Optimizing rice yields while minimizing yield-scaled global warming potential. Global Change Biology.

CONCISE GENERAL SUMMARY OF CURRENT YEAR’S RESULTS:

Seventeen 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 9,160 lbs/acre in the very early trials to 9,020 lbs/acre in the early tests. In the intermediate/late tests the advanced lines average yield was 8,870 lbs/acre. Field preparation was completed earlier than normal due to a relatively dry spring. Planting was also completed earlier than normal, however several areas experienced delayed water deliveries this year resulting in large areas being planted in a short period of time. Several advanced lines in 2013 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.

The overall purpose of evaluating rice production in the western San Joaquin Delta is to find a flood tolerant crop to prevent subsidence of the organic soils from oxidation due to cultivation of upland crops. The special variety test on Twitchell Island was conducted to determine the feasibility of commercial rice production in an extremely cold environment for rice. The results showed that varieties with good cold tolerance such as CM-101, M-206, M-202, and M-104 will produce reasonable yields. Clearly blanking and delayed plant development due to cold temperatures was a negative factor in achieving high yields.

Project RM-2 was involved in the planting, sampling and harvesting of more than 16 trial sites throughout the rice growing areas. This project was also involved in several educational activities including the winter rice grower meetings, the Rice Production Workshop, update of UCCE rice website, rice field days, and promoting work through fact sheets and publications.

Table 1. 2013 Very Early Rice Variety Tests - Four Location Summary

Advanced Lines and Varieties

Variety	Grain Type	**Over All Ave Grain Yield at 14% Moisture lbs/acre**	Single Location Yields Biggs	Sutter	Yolo	San Joaquin	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
08Y3269	M	**9790 (1)**	10860 (2)	10320 (2)	9390 (10)	8580 (1)	18.6 (1)	5.0 (5)	95 (16)	6 (11)	36 (8)
11Y1005	L	**9730 (2)**	10980 (1)	10560 (1)	9620 (6)	7740 (14)	15.7 (11)	4.9 (15)	90 (12)	1 (1)	38 (15)
09Y2036	S	**9710 (3)**	10440 (3)	10250 (3)	10150 (1)	7990 (10)	16.2 (10)	5.0 (1)	88 (10)	17 (14)	39 (16)
08Y3126	M	**9480 (4)**	9490 (9)	10100 (4)	10060 (2)	8280 (5)	18.4 (2)	4.9 (12)	88 (9)	5 (9)	37 (14)
11Y2022	MPQ	**9410 (5)**	9630 (7)	9830 (7)	9880 (3)	8290 (4)	17.6 (5)	5.0 (5)	89 (11)	4 (7)	37 (13)
10Y3286	M	**9300 (6)**	9580 (8)	9770 (8)	9400 (9)	8470 (2)	17.3 (7)	4.9 (11)	85 (4)	3 (6)	36 (6)
M105	M	**9240 (7)**	9150 (10)	9940 (6)	9670 (5)	8220 (6)	17.6 (6)	4.9 (9)	84 (2)	2 (3)	37 (12)
L206	L	**9210 (8)**	9970 (4)	9700 (11)	9000 (13)	8180 (7)	14.7 (13)	4.9 (14)	87 (8)	2 (4)	32 (1)
M104	M	**9200 (9)**	9710 (6)	9510 (12)	9420 (8)	8140 (8)	17.1 (8)	5.0 (4)	83 (1)	6 (10)	36 (5)
M206	M	**9130 (10)**	8610 (14)	9710 (10)	9790 (4)	8410 (3)	18.2 (3)	5.0 (5)	87 (6)	7 (13)	37 (11)
10Y1008	Lsr	**8980 (11)**	9960 (5)	9740 (9)	9280 (11)	6950 (16)	16.7 (9)	4.9 (15)	91 (13)	1 (2)	36 (9)
M202	M	**8940 (12)**	8380 (16)	9990 (5)	9260 (12)	8140 (9)	18.1 (4)	5.0 (1)	93 (15)	4 (7)	37 (10)
CH202	SPQ	**8880 (13)**	8880 (12)	9240 (15)	9440 (7)	7950 (12)	15.2 (12)	4.9 (12)	87 (7)	33 (15)	34 (2)
CH201	SPQ	**8710 (14)**	8700 (13)	9480 (13)	8870 (14)	7790 (13)	14.4 (14)	5.0 (3)	92 (14)	37 (16)	35 (3)
S102	S	**8690 (15)**	9120 (11)	9300 (14)	8380 (15)	7960 (11)	13.3 (15)	5.0 (8)	85 (3)	2 (5)	36 (7)
CM101	SWX	**8110 (16)**	8580 (15)	8340 (16)	7830 (16)	7680 (15)	13.2 (16)	4.9 (9)	86 (5)	7 (12)	35 (4)
MEAN		**9160**	9500	9740	9340	8050	16.4	4.9	88	9	36
CV		**4.1**	5.8	3	2.8	4.2	4.1	1.1	1.1	124.5	3.7
LSD (.05)		**260**	780	420	380	480	0.5	0	1	7	1

Preliminary Lines and Varieties

10Y2043	S	**10290 (1)**	10610 (2)	11030 (1)	11350 (1)	8150 (21)	14.8 (31)	4.9 (19)	87 (6)	5 (21)	35 (7)
09Y2141	SWX	**9930 (2)**	9560 (6)	10550 (4)	10630 (2)	8950 (2)	16.2 (22)	5.0 (2)	88 (11)	9 (26)	38 (33)
09Y2122	S	**9820 (3)**	10400 (3)	10430 (5)	9920 (12)	8550 (4)	15.7 (26)	5.0 (5)	90 (21)	18 (32)	39 (36)
12Y20	L	**9790 (4)**	9880 (4)	10350 (6)	10490 (3)	8450 (8)	15.1 (30)	5.0 (12)	91 (29)	1 (1)	38 (27)
11Y2223	S	**9730 (5)**	10610 (1)	9940 (13)	9980 (7)	8380 (9)	15.6 (27)	4.8 (36)	87 (6)	4 (20)	35 (4)
12Y113	M	**9600 (6)**	9850 (5)	10250 (8)	9950 (9)	8350 (12)	17.3 (11)	4.9 (25)	90 (21)	23 (34)	38 (29)
11Y1008	L	**9490 (7)**	9310 (9)	10830 (2)	9860 (13)	7950 (27)	14.3 (34)	4.9 (19)	90 (27)	1 (1)	36 (12)
11Y2160	SWX	**9380 (8)**	9550 (7)	9510 (30)	9950 (10)	8520 (5)	15.6 (28)	4.9 (31)	90 (23)	14 (29)	37 (22)
M206+Pi-kh	M-blst	**9320 (9)**	9090 (13)	10080 (10)	10290 (4)	7830 (29)	17.4 (10)	5.0 (7)	89 (14)	3 (16)	38 (31)
11Y3573	M	**9310 (10)**	8900 (18)	9820 (21)	10210 (5)	8310 (13)	16.3 (21)	4.9 (34)	86 (5)	1 (1)	35 (3)
M206+Pi33	M-blst	**9270 (11)**	8650 (22)	9920 (14)	9940 (11)	8560 (3)	17.7 (7)	4.9 (19)	90 (23)	2 (8)	37 (17)
10Y3477	M	**9220 (12)**	8610 (24)	10170 (9)	9970 (8)	8140 (22)	16.6 (17)	5.0 (7)	88 (13)	14 (28)	37 (25)
11Y3209	M	**9220 (13)**	9150 (12)	10010 (11)	9250 (29)	8470 (6)	16.4 (20)	4.9 (25)	88 (12)	2 (8)	36 (11)
12Y2010	SPQ	**9220 (14)**	9340 (8)	9530 (29)	10050 (6)	7960 (26)	14.3 (33)	5.0 (2)	87 (8)	3 (17)	34 (2)
12Y2107	SWX	**9210 (15)**	9250 (10)	9970 (12)	9460 (22)	8170 (19)	16.6 (16)	5.0 (7)	91 (31)	2 (8)	37 (23)
M208	M	**9180 (16)**	8810 (19)	10300 (7)	9350 (24)	8250 (15)	16.9 (13)	5.0 (5)	91 (29)	2 (15)	37 (19)
12Y3097	MB	**9170 (17)**	8910 (17)	9900 (16)	9640 (15)	8230 (16)	17.2 (12)	4.9 (33)	87 (9)	2 (14)	37 (18)
12Y2093	MPQ	**9150 (18)**	7790 (34)	10570 (3)	8970 (33)	9270 (1)	17.7 (8)	5.0 (12)	91 (31)	10 (27)	37 (16)
M205	M	**9050 (19)**	9030 (16)	9850 (18)	9580 (18)	7740 (30)	18.4 (3)	5.0 (7)	96 (35)	6 (24)	35 (6)
11Y3376	M	**9030 (20)**	8600 (25)	9690 (24)	9470 (21)	8360 (11)	18.2 (4)	5.0 (7)	91 (33)	1 (1)	35 (5)
10Y2037	S	**9020 (21)**	9070 (14)	9640 (25)	9630 (17)	7740 (31)	15.3 (29)	4.9 (31)	89 (17)	5 (22)	38 (32)
M206+Pi9	M-blst	**9000 (22)**	9160 (11)	9690 (23)	9570 (19)	7590 (32)	18.6 (2)	5.0 (12)	89 (15)	20 (33)	34 (1)
11Y3532	M	**8950 (23)**	9050 (15)	9450 (31)	9120 (30)	8180 (18)	16.6 (18)	5.0 (12)	83 (1)	2 (8)	35 (8)
M206+Pi-ta2	M-blst	**8950 (24)**	8020 (31)	9830 (19)	9570 (20)	8380 (10)	17.5 (9)	4.9 (19)	89 (17)	15 (30)	37 (20)
11Y3241	M	**8920 (25)**	8370 (28)	9570 (27)	9280 (26)	8450 (7)	16.7 (15)	4.9 (25)	86 (4)	5 (22)	36 (15)
13Y39	L	**8880 (26)**	7700 (35)	9900 (15)	9640 (16)	8260 (14)	16.0 (23)	4.9 (19)	93 (34)	1 (1)	39 (35)
M206+Pi-40	M-blst	**8870 (27)**	7900 (32)	9820 (20)	9820 (14)	7940 (28)	18.0 (5)	5.0 (12)	89 (15)	8 (25)	38 (28)
11Y3638	M	**8850 (28)**	8080 (29)	9720 (22)	9450 (23)	8160 (20)	17.9 (6)	4.9 (25)	90 (27)	3 (18)	37 (24)
12Y2087	SPQ	**8850 (29)**	8690 (21)	9260 (34)	9340 (25)	8100 (23)	13.3 (35)	5.0 (2)	87 (10)	4 (19)	37 (21)
11Y3411	M	**8810 (30)**	8700 (20)	9270 (33)	9090 (31)	8200 (17)	16.8 (14)	5.0 (12)	89 (17)	1 (1)	36 (14)
11Y3305	M	**8810 (31)**	8520 (27)	9640 (26)	9060 (32)	8030 (24)	16.0 (24)	4.9 (34)	83 (2)	2 (8)	38 (34)
11Y2229	SLA	**8780 (32)**	8550 (26)	9330 (32)	9270 (27)	7980 (25)	14.6 (32)	4.9 (25)	90 (26)	35 (36)	36 (13)
11Y3693	M	**8680 (33)**	8620 (23)	9550 (28)	9260 (28)	7280 (35)	16.5 (19)	4.9 (19)	90 (23)	2 (8)	35 (9)
11Y3406	M	**8530 (34)**	7860 (33)	9870 (17)	8940 (34)	7450 (33)	15.9 (25)	5.0 (12)	86 (3)	1 (1)	38 (26)
M402	MPQ	**8290 (35)**	8070 (30)	8740 (35)	8920 (35)	7450 (34)	19.2 (1)	5.0 (1)	108 (36)	16 (31)	38 (30)
CA201	SLA	**7300 (36)**	6970 (36)	8230 (36)	7680 (36)	6300 (36)	13.2 (36)	4.9 (25)	89 (17)	31 (35)	35 (10)
MEAN		**9110**	8870	9840	9610	8110	16.4	4.9	89	8	37
CV		**4.7**	7.8	2.7	3.4	3.7	4.9	1.5	1.6	177.8	6.1
LSD (.05)		**430**	1410	550	660	610	0.8	0.1	1	13	2

S = short; M = medium; L = long; PQ = premium quality; WX = waxy; blst = blast resistance; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 2. 2013 Biggs Very Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y1005	L	10980 (1)	12.8 (10)	4.7 (14)	85 (14)	1 (1)	41 (16)
08Y3269	M	10860 (2)	15.4 (1)	4.9 (6)	91 (16)	2 (2)	40 (13)
09Y2036	S	10440 (3)	11.4 (12)	5.0 (1)	82 (8)	25 (14)	41 (15)
L206	L	9970 (4)	12.8 (9)	4.8 (10)	81 (4)	6 (5)	36 (1)
10Y1008	Lsr	9960 (5)	12.8 (11)	4.7 (14)	83 (11)	2 (2)	38 (5)
M104	M	9710 (6)	14.8 (6)	4.9 (4)	78 (1)	22 (12)	39 (7)
11Y2022	MPQ	9630 (7)	14.5 (8)	4.9 (6)	83 (10)	9 (8)	40 (12)
10Y3286	M	9580 (8)	14.6 (7)	4.8 (13)	83 (9)	11 (9)	38 (6)
08Y3126	M	9490 (9)	15.0 (5)	4.7 (16)	84 (12)	14 (10)	40 (13)
M105	M	9150 (10)	15.2 (3)	4.8 (11)	80 (3)	4 (4)	40 (10)
S102	S	9120 (11)	8.0 (15)	4.9 (5)	79 (2)	7 (6)	39 (9)
CH202	SPQ	8880 (12)	10.3 (13)	4.8 (9)	81 (4)	55 (16)	37 (4)
CH201	SPQ	8700 (13)	9.0 (14)	5.0 (3)	84 (13)	40 (15)	37 (3)
M206	M	8610 (14)	15.2 (2)	4.9 (6)	82 (7)	20 (11)	40 (10)
CM101	SWX	8580 (15)	7.5 (16)	4.8 (11)	81 (6)	24 (13)	37 (2)
M202	M	8380 (16)	15.1 (4)	5.0 (1)	89 (15)	7 (7)	39 (7)
MEAN		9500	12.8	4.8	83	15	39
CV		5.8	7.4	1.4	1.8	90.4	3.7
LSD (.05)		780	1.3	0.1	2	20	2

Preliminary Lines and Varieties

11Y2223	S	10610 (1)	9.9 (27)	4.8 (24)	80 (3)	3 (13)	37 (5)
10Y2043	S	10610 (2)	9.3 (31)	4.9 (6)	80 (3)	1 (1)	40 (21)
09Y2122	S	10400 (3)	9.7 (30)	4.9 (6)	85 (29)	6 (26)	41 (29)
12Y20	L	9880 (4)	12.6 (23)	4.8 (15)	85 (29)	1 (1)	41 (29)
12Y113	M	9850 (5)	14.9 (4)	4.7 (30)	83 (14)	15 (33)	41 (33)
09Y2141	SWX	9560 (6)	9.8 (29)	5.0 (2)	82 (10)	8 (29)	42 (34)
11Y2160	SWX	9550 (7)	8.7 (32)	4.8 (15)	83 (14)	6 (26)	40 (25)
12Y2010	SPQ	9340 (8)	8.1 (35)	5.0 (2)	80 (3)	1 (1)	35 (2)
11Y1008	L	9310 (9)	12.5 (25)	4.8 (24)	83 (18)	1 (1)	37 (5)
12Y2107	SWX	9250 (10)	9.8 (28)	4.9 (10)	84 (21)	3 (13)	38 (8)
M206+Pi9	M-blst	9160 (11)	14.9 (6)	4.8 (15)	83 (14)	25 (36)	22 (1)
11Y3209	M	9150 (12)	14.2 (18)	4.7 (30)	81 (6)	3 (13)	37 (5)
M206+Pi-kh	M-blst	9090 (13)	14.5 (13)	4.9 (10)	84 (21)	5 (24)	40 (21)
10Y2037	S	9070 (14)	10.5 (26)	4.8 (15)	83 (14)	3 (13)	41 (29)
11Y3532	M	9050 (15)	13.9 (22)	4.8 (15)	79 (1)	3 (13)	38 (10)
M205	M	9030 (16)	14.6 (10)	4.9 (10)	92 (35)	1 (1)	39 (18)
12Y3097	MB	8910 (17)	14.9 (6)	4.8 (24)	82 (10)	5 (24)	39 (18)
11Y3573	M	8900 (18)	14.3 (15)	4.7 (30)	81 (6)	1 (1)	36 (3)
M208	M	8810 (19)	14.3 (15)	4.9 (6)	84 (26)	6 (26)	38 (10)
11Y3411	M	8700 (20)	14.6 (11)	4.8 (15)	84 (26)	1 (1)	39 (18)
12Y2087	SPQ	8690 (21)	8.3 (33)	5.0 (2)	81 (6)	3 (13)	39 (13)
M206+Pi33	M-blst	8650 (22)	14.8 (8)	4.8 (24)	84 (26)	3 (13)	39 (13)
11Y3693	M	8620 (23)	14.5 (14)	4.8 (24)	84 (21)	3 (13)	38 (8)
10Y3477	M	8610 (24)	14.7 (9)	4.9 (10)	82 (10)	8 (29)	41 (29)
11Y3376	M	8600 (25)	15.0 (2)	4.9 (10)	86 (32)	1 (1)	38 (10)
11Y2229	SLA	8550 (26)	8.2 (34)	4.7 (30)	85 (31)	16 (34)	36 (4)
11Y3305	M	8520 (27)	14.0 (20)	4.7 (30)	80 (2)	3 (13)	42 (34)
11Y3241	M	8370 (28)	14.0 (20)	4.7 (30)	82 (10)	3 (13)	39 (13)
11Y3638	M	8080 (29)	14.3 (17)	4.7 (30)	84 (21)	1 (1)	40 (25)
M402	MPQ	8070 (30)	18.4 (1)	5.0 (1)	112 (36)	1 (1)	44 (36)
M206+Pi-ta2	M-blst	8020 (31)	15.0 (2)	4.8 (24)	83 (18)	10 (32)	39 (13)
M206+Pi-40	M-blst	7900 (32)	14.9 (4)	4.8 (15)	83 (18)	20 (35)	40 (21)
11Y3406	M	7860 (33)	14.1 (19)	4.8 (15)	81 (6)	1 (1)	40 (21)
12Y2093	MPQ	7790 (34)	14.6 (11)	4.8 (15)	86 (32)	3 (13)	40 (25)
13Y39	L	7700 (35)	12.6 (24)	4.9 (6)	86 (32)	1 (1)	40 (25)
CA201	SLA	6970 (36)	7.3 (36)	5.0 (2)	84 (21)	8 (29)	39 (13)
MEAN		8870	12.8	4.8	84	5	38
CV		7.8	1.7	1.5	0.7	113.6	10.5
LSD (.05)		1410	0.4	0.1	1	11	

S = short; M = medium; L = long; PQ = premium quality; WX = waxy; blst = blast resistance; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 3. 2013 Sutter Very Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y1005	L	10560 (1)	16.9 (11)	5.0 (1)	85 (10)	1 (1)	37 (16)
08Y3269	M	10320 (2)	19.5 (2)	5.0 (1)	92 (14)	21 (15)	35 (6)
09Y2036	S	10250 (3)	18.2 (8)	5.0 (1)	84 (9)	42 (16)	37 (15)
08Y3126	M	10100 (4)	19.4 (3)	5.0 (1)	84 (8)	3 (9)	36 (11)
M202	M	9990 (5)	20.5 (1)	5.0 (1)	92 (14)	3 (9)	35 (9)
M105	M	9940 (6)	18.4 (6)	5.0 (1)	82 (2)	1 (1)	36 (12)
11Y2022	MPQ	9830 (7)	18.9 (5)	5.0 (1)	88 (13)	3 (9)	36 (13)
10Y3286	M	9770 (8)	18.3 (7)	5.0 (1)	83 (6)	1 (1)	35 (9)
10Y1008	Lsr	9740 (9)	17.1 (10)	5.0 (1)	87 (12)	1 (1)	36 (14)
M206	M	9710 (10)	19.0 (4)	5.0 (1)	85 (11)	3 (9)	35 (8)
L206	L	9700 (11)	15.5 (15)	5.0 (1)	82 (4)	1 (1)	29 (1)
M104	M	9510 (12)	18.1 (9)	5.0 (1)	81 (1)	1 (1)	33 (4)
CH201	SPQ	9480 (13)	16.6 (13)	5.0 (1)	92 (16)	8 (14)	34 (5)
S102	S	9300 (14)	15.6 (14)	5.0 (1)	82 (2)	1 (1)	35 (6)
CH202	SPQ	9240 (15)	16.7 (12)	5.0 (1)	84 (7)	6 (13)	32 (2)
CM101	SWX	8340 (16)	15.3 (16)	5.0 (1)	82 (4)	1 (1)	33 (3)
MEAN		9740	17.8	5.0	85	6	35
CV		3	2.9		0.5	221.7	3.6
LSD (.05)		420	0.7		1	19	2

Preliminary Lines and Varieties

10Y2043	S	11030 (1)	16.5 (30)	5.0 (1)	81 (3)	11 (21)	33 (3)
11Y1008	L	10830 (2)	15.2 (34)	5.0 (1)	84 (7)	1 (1)	34 (10)
12Y2093	MPQ	10570 (3)	18.4 (10)	5.0 (1)	88 (28)	36 (30)	35 (19)
09Y2141	SWX	10550 (4)	18.5 (9)	5.0 (1)	85 (11)	16 (25)	36 (27)
09Y2122	S	10430 (5)	17.2 (24)	5.0 (1)	86 (18)	65 (36)	37 (32)
12Y20	L	10350 (6)	15.6 (33)	5.0 (1)	87 (20)	1 (1)	37 (30)
M208	M	10300 (7)	17.5 (19)	5.0 (1)	89 (31)	1 (1)	35 (21)
12Y113	M	10250 (8)	18.0 (11)	5.0 (1)	89 (31)	35 (27)	36 (29)
10Y3477	M	10170 (9)	16.4 (31)	5.0 (1)	85 (11)	46 (32)	36 (26)
M206+Pi-kh	M-blst	10080 (10)	18.9 (4)	5.0 (1)	86 (16)	6 (17)	36 (27)
11Y3209	M	10010 (11)	17.1 (27)	5.0 (1)	85 (11)	1 (1)	34 (8)
12Y2107	SWX	9970 (12)	19.3 (2)	5.0 (1)	87 (20)	1 (1)	34 (10)
11Y2223	S	9940 (13)	17.1 (26)	5.0 (1)	81 (3)	11 (21)	33 (2)
M206+Pi33	M-blst	9920 (14)	18.7 (5)	5.0 (1)	89 (31)	1 (1)	36 (24)
13Y39	L	9900 (15)	17.4 (21)	5.0 (1)	89 (30)	1 (1)	38 (35)
12Y3097	MB	9900 (16)	17.5 (20)	5.0 (1)	84 (7)	1 (1)	35 (21)
11Y3406	M	9870 (17)	17.0 (28)	5.0 (1)	84 (6)	1 (1)	36 (24)
M205	M	9850 (18)	18.7 (5)	5.0 (1)	92 (35)	21 (26)	34 (7)
M206+Pi-ta2	M-blst	9830 (19)	17.7 (15)	5.0 (1)	87 (23)	35 (27)	36 (23)
M206+Pi-40	M-blst	9820 (20)	19.0 (3)	5.0 (1)	88 (27)	11 (21)	37 (32)
11Y3573	M	9820 (21)	17.3 (22)	4.9 (36)	84 (7)	1 (1)	33 (4)
11Y3638	M	9720 (22)	19.4 (1)	5.0 (1)	86 (18)	1 (1)	35 (17)
M206+Pi9	M-blst	9690 (23)	18.5 (8)	5.0 (1)	87 (23)	55 (34)	38 (36)
11Y3376	M	9690 (24)	18.6 (7)	5.0 (1)	89 (31)	1 (1)	34 (5)
10Y2037	S	9640 (25)	17.2 (23)	5.0 (1)	87 (20)	15 (24)	37 (32)
11Y3305	M	9640 (26)	16.6 (29)	5.0 (1)	80 (1)	1 (1)	37 (30)
11Y3241	M	9570 (27)	17.8 (13)	5.0 (1)	86 (16)	6 (17)	34 (10)
11Y3693	M	9550 (28)	17.6 (18)	5.0 (1)	85 (11)	1 (1)	34 (5)
12Y2010	SPQ	9530 (29)	16.2 (32)	5.0 (1)	84 (7)	6 (17)	32 (1)
11Y2160	SWX	9510 (30)	17.2 (25)	5.0 (1)	87 (23)	48 (33)	35 (19)
11Y3532	M	9450 (31)	17.8 (14)	5.0 (1)	80 (1)	1 (1)	34 (8)
11Y2229	SLA	9330 (32)	17.7 (16)	5.0 (1)	88 (28)	58 (35)	35 (14)
11Y3411	M	9270 (33)	17.9 (12)	5.0 (1)	85 (11)	1 (1)	34 (10)
12Y2087	SPQ	9260 (34)	15.0 (35)	5.0 (1)	83 (5)	6 (17)	35 (17)
M402	MPQ	8740 (35)	17.6 (17)	5.0 (1)	100 (36)	35 (27)	35 (14)
CA201	SLA	8230 (36)	14.7 (36)	5.0 (1)	87 (23)	45 (31)	35 (14)
MEAN		9840	17.5	5.0	86	16	35
CV		2.7	3.2	0.7	0.7	145	2.8
LSD (.05)		550	1.1		1		2

S = short; M = medium; L = long; PQ = premium quality; WX = waxy; blst = blast resistance; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 4. 2013 Yolo Very Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
09Y2036	S	10150 (1)	18.9 (8)	5.0 (1)	84 (9)	1 (1)	41 (16)
08Y3126	M	10060 (2)	19.9 (4)	5.0 (1)	83 (7)	1 (1)	40 (15)
11Y2022	MPQ	9880 (3)	19.6 (5)	5.0 (1)	83 (8)	1 (1)	39 (8)
M206	M	9790 (4)	20.6 (1)	5.0 (1)	80 (5)	3 (13)	40 (12)
M105	M	9670 (5)	20.1 (3)	5.0 (1)	77 (2)	1 (1)	39 (11)
11Y1005	L	9620 (6)	18.0 (10)	4.9 (12)	90 (16)	1 (1)	40 (14)
CH202	SPQ	9440 (7)	17.7 (12)	4.9 (15)	84 (9)	69 (15)	37 (2)
M104	M	9420 (8)	17.9 (11)	5.0 (1)	75 (1)	1 (1)	39 (8)
10Y3286	M	9400 (9)	18.6 (9)	5.0 (1)	78 (3)	1 (1)	38 (4)
08Y3269	M	9390 (10)	20.5 (2)	5.0 (1)	85 (12)	1 (1)	39 (7)
10Y1008	Lsr	9280 (11)	19.0 (6)	4.9 (12)	89 (15)	1 (1)	39 (8)
M202	M	9260 (12)	18.9 (7)	5.0 (1)	84 (11)	3 (13)	40 (12)
L206	L	9000 (13)	16.9 (14)	4.9 (15)	85 (12)	1 (1)	34 (1)
CH201	SPQ	8870 (14)	17.1 (13)	5.0 (1)	87 (14)	97 (16)	37 (3)
S102	S	8380 (15)	16.0 (15)	4.9 (12)	82 (6)	1 (1)	38 (6)
CM101	SWX	7830 (16)	15.3 (16)	5.0 (1)	80 (4)	1 (1)	38 (4)
MEAN		9340	18.4	5.0	83	12	39
CV		2.8	2.7	1.8	1	73.5	3
LSD (.05)		380	0.7		1	12	2

Preliminary Lines and Varieties

10Y2043	S	11350 (1)	17.7 (22)	5.0 (1)	82 (8)	6 (28)	36 (1)
09Y2141	SWX	10630 (2)	18.8 (13)	5.0 (1)	83 (9)	1 (1)	40 (19)
12Y20	L	10490 (3)	16.7 (31)	5.0 (1)	87 (33)	1 (1)	41 (27)
M206+Pi-kh	M-blst	10290 (4)	19.2 (8)	5.0 (1)	83 (13)	1 (1)	42 (35)
11Y3573	M	10210 (5)	17.8 (21)	5.0 (1)	83 (13)	1 (1)	37 (3)
12Y2010	SPQ	10050 (6)	17.3 (29)	5.0 (1)	83 (13)	6 (28)	39 (14)
11Y2223	S	9980 (7)	18.1 (18)	4.9 (34)	84 (23)	1 (1)	38 (5)
10Y3477	M	9970 (8)	18.4 (16)	5.0 (1)	83 (13)	1 (1)	39 (16)
12Y113	M	9950 (9)	19.9 (4)	5.0 (1)	83 (13)	6 (28)	41 (29)
11Y2160	SWX	9950 (10)	18.9 (11)	5.0 (1)	86 (31)	1 (1)	40 (24)
M206+Pi33	M-blst	9940 (11)	19.9 (4)	5.0 (1)	83 (13)	1 (1)	39 (13)
09Y2122	S	9920 (12)	18.5 (14)	5.0 (1)	85 (29)	1 (1)	42 (34)
11Y1008	L	9860 (13)	16.3 (34)	5.0 (1)	89 (34)	1 (1)	38 (10)
M206+Pi-40	M-blst	9820 (14)	19.4 (7)	5.0 (1)	82 (6)	1 (1)	40 (19)
12Y3097	MB	9640 (15)	19.0 (9)	5.0 (1)	83 (9)	1 (1)	40 (17)
13Y39	L	9640 (16)	18.4 (15)	4.9 (34)	91 (35)	1 (1)	44 (36)
10Y2037	S	9630 (17)	17.4 (25)	5.0 (1)	80 (4)	1 (1)	41 (28)
M205	M	9580 (18)	18.8 (12)	5.0 (1)	87 (32)	1 (1)	37 (4)
M206+Pi9	M-blst	9570 (19)	21.1 (1)	5.0 (1)	84 (23)	1 (1)	40 (23)
M206+Pi-ta2	M-blst	9570 (20)	19.6 (6)	5.0 (1)	84 (23)	15 (33)	40 (19)
11Y3376	M	9470 (21)	19.0 (9)	5.0 (1)	84 (23)	1 (1)	37 (2)
12Y2107	SWX	9460 (22)	17.9 (20)	5.0 (1)	84 (28)	1 (1)	42 (32)
11Y3638	M	9450 (23)	20.0 (3)	5.0 (1)	83 (9)	1 (1)	41 (30)
M208	M	9350 (24)	17.3 (27)	5.0 (1)	83 (13)	1 (1)	40 (24)
12Y2087	SPQ	9340 (25)	15.7 (35)	5.0 (1)	82 (6)	6 (28)	40 (24)
11Y3241	M	9280 (26)	17.5 (23)	5.0 (1)	79 (3)	11 (32)	39 (15)
11Y2229	SLA	9270 (27)	16.3 (33)	5.0 (1)	83 (13)	68 (35)	39 (11)
11Y3693	M	9260 (28)	16.7 (32)	5.0 (1)	83 (13)	1 (1)	40 (19)
11Y3209	M	9250 (29)	17.5 (24)	5.0 (1)	83 (9)	1 (1)	38 (5)
11Y3532	M	9120 (30)	17.4 (26)	5.0 (1)	78 (2)	1 (1)	38 (7)
11Y3411	M	9090 (31)	18.0 (19)	5.0 (1)	83 (13)	1 (1)	38 (7)
11Y3305	M	9060 (32)	17.0 (30)	4.9 (34)	77 (1)	1 (1)	41 (30)
12Y2093	MPQ	8970 (33)	18.2 (17)	5.0 (1)	85 (30)	1 (1)	39 (11)
11Y3406	M	8940 (34)	17.3 (27)	5.0 (1)	81 (5)	1 (1)	40 (17)
M402	MPQ	8920 (35)	20.4 (2)	5.0 (1)	101 (36)	25 (34)	42 (32)
CA201	SLA	7680 (36)	15.0 (36)	5.0 (1)	84 (23)	70 (36)	38 (7)
MEAN		9610	18.1	5.0	84	7	40
CV		3.4	3.8	1.2	1.1	126.9	3.3
LSD (.05)		660	1.4		2	17	3

S = short; M = medium; L = long; PQ = premium quality; WX = waxy; blst = blast resistance; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 5. 2013 San Joaquin Very Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
08Y3269	M	8580 (1)	19.0 (2)	5.0 (1)	113 (16)	1 (1)	31 (4)
10Y3286	M	8470 (2)	17.6 (7)	5.0 (1)	98 (3)	1 (1)	32 (5)
M206	M	8410 (3)	17.8 (4)	5.0 (1)	100 (5)	1 (1)	32 (8)
11Y2022	MPQ	8290 (4)	17.5 (8)	5.0 (1)	102 (9)	1 (1)	34 (15)
08Y3126	M	8280 (5)	19.1 (1)	5.0 (1)	101 (7)	1 (1)	34 (14)
M105	M	8220 (6)	16.7 (9)	5.0 (1)	97 (2)	1 (1)	33 (11)
L206	L	8180 (7)	13.5 (16)	5.0 (1)	101 (8)	1 (1)	29 (1)
M104	M	8140 (8)	17.6 (6)	5.0 (1)	96 (1)	1 (1)	32 (6)
M202	M	8140 (9)	17.9 (3)	5.0 (1)	109 (15)	1 (1)	33 (12)
09Y2036	S	7990 (10)	16.3 (10)	5.0 (1)	103 (11)	1 (1)	36 (16)
S102	S	7960 (11)	13.7 (15)	5.0 (1)	98 (4)	1 (1)	33 (9)
CH202	SPQ	7950 (12)	16.1 (11)	5.0 (1)	100 (5)	1 (1)	31 (2)
CH201	SPQ	7790 (13)	14.9 (14)	5.0 (1)	104 (13)	1 (1)	31 (2)
11Y1005	L	7740 (14)	15.0 (12)	5.0 (1)	103 (12)	1 (1)	33 (13)
CM101	SWX	7680 (15)	14.9 (13)	5.0 (1)	102 (10)	1 (1)	32 (7)
10Y1008	Lsr	6950 (16)	17.8 (5)	5.0 (1)	104 (14)	1 (1)	33 (9)
MEAN		8050	16.6	5.0	102	1	32
CV		4.2	4.1		0.8		4.5
LSD (.05)		480	1		1		2

Preliminary Lines and Varieties

12Y2093	MPQ	9270 (1)	19.6 (5)	5.0 (1)	105 (27)	1 (1)	33 (11)
09Y2141	SWX	8950 (2)	17.8 (10)	5.0 (1)	101 (8)	11 (34)	36 (36)
M206+Pi33	M-blst	8560 (3)	17.5 (14)	5.0 (1)	103 (13)	1 (1)	33 (18)
09Y2122	S	8550 (4)	17.3 (18)	5.0 (1)	103 (17)	1 (1)	36 (35)
11Y2160	SWX	8520 (5)	17.7 (11)	4.9 (31)	103 (17)	1 (1)	33 (18)
11Y3209	M	8470 (6)	17.0 (20)	5.0 (1)	103 (17)	1 (1)	34 (22)
11Y3241	M	8450 (7)	17.5 (14)	5.0 (1)	97 (3)	1 (1)	33 (11)
12Y20	L	8450 (8)	15.4 (33)	5.0 (1)	104 (24)	1 (1)	33 (15)
11Y2223	S	8380 (9)	17.5 (16)	4.8 (35)	102 (10)	1 (1)	32 (7)
M206+Pi-ta2	M-blst	8380 (10)	17.6 (12)	5.0 (1)	103 (13)	1 (1)	34 (25)
11Y3376	M	8360 (11)	20.3 (2)	5.0 (1)	107 (30)	1 (1)	32 (9)
12Y113	M	8350 (12)	16.4 (24)	5.0 (1)	104 (21)	36 (36)	33 (16)
11Y3573	M	8310 (13)	16.0 (28)	5.0 (1)	97 (3)	1 (1)	32 (8)
13Y39	L	8260 (14)	15.5 (32)	5.0 (1)	105 (28)	1 (1)	34 (22)
M208	M	8250 (15)	18.4 (8)	5.0 (1)	106 (29)	1 (1)	34 (27)
12Y3097	MB	8230 (16)	17.6 (12)	4.9 (31)	100 (6)	1 (1)	33 (18)
11Y3411	M	8200 (17)	16.6 (23)	5.0 (1)	104 (24)	1 (1)	33 (11)
11Y3532	M	8180 (18)	17.4 (17)	5.0 (1)	96 (1)	1 (1)	31 (5)
12Y2107	SWX	8170 (19)	19.5 (6)	5.0 (1)	110 (34)	1 (1)	35 (33)
11Y3638	M	8160 (20)	18.1 (9)	5.0 (1)	108 (33)	11 (34)	33 (16)
10Y2043	S	8150 (21)	15.6 (30)	4.9 (31)	104 (21)	1 (1)	33 (10)
10Y3477	M	8140 (22)	17.0 (20)	5.0 (1)	103 (13)	1 (1)	33 (18)
12Y2087	SPQ	8100 (23)	14.5 (35)	5.0 (1)	104 (21)	1 (1)	35 (32)
11Y3305	M	8030 (24)	16.3 (25)	5.0 (1)	96 (1)	1 (1)	35 (31)
11Y2229	SLA	7980 (25)	16.2 (26)	5.0 (1)	103 (17)	1 (1)	34 (29)
12Y2010	SPQ	7960 (26)	15.6 (30)	5.0 (1)	101 (7)	1 (1)	30 (1)
11Y1008	L	7950 (27)	13.2 (36)	5.0 (1)	104 (24)	1 (1)	33 (11)
M206+Pi-40	M-blst	7940 (28)	18.6 (7)	5.0 (1)	103 (13)	1 (1)	34 (28)
M206+Pi-kh	M-blst	7830 (29)	17.0 (20)	5.0 (1)	102 (10)	1 (1)	34 (22)
M205	M	7740 (30)	21.7 (1)	5.0 (1)	114 (35)	1 (1)	31 (4)
10Y2037	S	7740 (31)	16.0 (27)	4.9 (31)	107 (30)	1 (1)	34 (25)
M206+Pi9	M-blst	7590 (32)	19.8 (4)	5.0 (1)	102 (9)	1 (1)	34 (29)
11Y3406	M	7450 (33)	15.3 (34)	5.0 (1)	98 (5)	1 (1)	35 (33)
M402	MPQ	7450 (34)	20.3 (2)	5.0 (1)	117 (36)	1 (1)	31 (5)
11Y3693	M	7280 (35)	17.2 (19)	5.0 (1)	107 (30)	1 (1)	31 (2)
CA201	SLA	6300 (36)	15.7 (29)	4.8 (35)	102 (10)	1 (1)	31 (2)
MEAN		8110	17.2	5.0	103	2	33
CV		3.7	7.7	2.2	2.5	345.5	3.3
LSD (.05)		610	2.7		5		2

S = short; M = medium; L = long; PQ = premium quality; WX = waxy; blst = blast resistance; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 6. Grain Yield (lb/acre @14% moisture) Summary of Very Early Rice Varieties by Location and Year (2009-2013)

Location	Year	**M-104**	M-202	M-206	Calmochi 101	S-102	L-206
	2009	**7180**	8080	8940	7640	8230	9710
Biggs (RES)	2010	**-**	10470	11290	9470	9380	10200
	2011*	**-**	-	-	-	-	-
	2012	**10260**	10050	10420	8500	9370	10020
	2013	**9710**	8380	8610	8580	9120	9970
Location Mean		**9050**	9245	9815	8548	9025	9975
	2009	**10040**	9070	9390	7870	8480	10160
Sutter	2010	**8270**	6520	7890	9500	9360	8050
	2011*	**-**	-	-	-	-	-
	2012	**8990**	8810	9320	7500	8470	9570
	2013	**9510**	9990	9710	8340	9300	9700
Location Mean		**9203**	8598	9078	8303	8903	9370
	2009	**11770**	11400	12570	10760	11930	10880
Yolo	2010	**8050**	7890	8210	7190	7520	8230
	2011	**10020**	9590	10230	9320	9050	9490
	2012	**9610**	8930	9900	7450	8400	9060
	2013	**9420**	9260	9790	7830	8380	9000
Location Mean		**9774**	9414	10140	8510	9056	9332
	2009	**8530**	8720	8440	7650	7480	8120
San Joaquin	2010	**8360**	7760	7560	8070	7950	8170
	2011	**8800**	9090	9330	7850	7760	8340
	2012	**8460**	7490	8990	7880	8180	7570
	2013	**8140**	8140	8410	7680	7960	8180
Location Mean		**8458**	8240	8546	7826	7866	8076
Loc/Years Mean		**9125**	8869	9389	8282	8684	9134
Yield % M-104		**100.0**	**97.2**	**102.9**	**90.8**	**95.2**	**100.1**
Number of Tests		**17**	18	18	18	18	18

* Test locations not included in 2011 due to very high yield cvs.

Table 7. 2013 Early Rice Variety Tests - Four Location Summary

Advanced Lines and Varieties

Variety	Grain Type	**Ave Grain Yield at 14% Moisture lbs/acre**	Single Location Yields Biggs	Butte	Colusa	Yuba	Ave Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y1008	L	**10100 (1)**	9180 (6)	10570 (1)	10570 (2)	10060 (1)	14.1 (14)	4.9 (9)	84 (4)	2 (4)	38 (6)
09Y1122	L	**9920 (2)**	9400 (4)	9770 (2)	10620 (1)	9870 (3)	14.3 (13)	4.9 (3)	86 (9)	1 (1)	36 (2)
10Y3703	M	**9480 (3)**	9890 (2)	9450 (4)	9010 (12)	9570 (9)	18.9 (2)	4.9 (12)	88 (10)	16 (10)	40 (15)
11Y2183	MPQ	**9460 (4)**	9470 (3)	9250 (7)	9330 (9)	9780 (4)	19.9 (1)	4.9 (13)	93 (17)	12 (9)	39 (12)
09Y2179	S	**9430 (5)**	9960 (1)	9070 (8)	10020 (4)	8680 (15)	17.2 (10)	4.9 (3)	92 (15)	1 (1)	41 (18)
L206	L	**9410 (6)**	8420 (14)	9390 (5)	10250 (3)	9590 (8)	13.3 (16)	4.9 (10)	83 (3)	11 (8)	35 (1)
12Y83	L	**9370 (7)**	8990 (8)	9710 (3)	9860 (5)	8930 (13)	13.9 (15)	4.9 (16)	84 (7)	1 (1)	40 (16)
08Y3126	M	**9280 (8)**	8610 (11)	9330 (6)	9200 (10)	9970 (2)	17.6 (8)	4.9 (17)	85 (8)	29 (12)	40 (17)
08Y3269	M	**9260 (9)**	9070 (7)	8570 (14)	9730 (6)	9690 (6)	18.3 (4)	4.9 (6)	89 (12)	7 (6)	39 (10)
M205	M	**9190 (10)**	9230 (5)	8960 (10)	8930 (13)	9650 (7)	18.8 (3)	4.9 (8)	92 (16)	8 (7)	38 (7)
M206	M	**9150 (11)**	8160 (16)	9020 (9)	9660 (8)	9750 (5)	17.9 (7)	4.9 (3)	84 (6)	22 (11)	39 (11)
10Y3690	M	**8860 (12)**	8360 (15)	8210 (15)	9710 (7)	9150 (11)	18.1 (5)	4.9 (13)	90 (13)	4 (5)	37 (5)
09Y2159	SLA	**8530 (13)**	8660 (9)	8930 (11)	7890 (14)	8610 (16)	17.4 (9)	4.8 (18)	93 (18)	35 (13)	39 (13)
S102	S	**8450 (14)**	8640 (10)	8650 (13)	7220 (16)	9280 (10)	12.4 (18)	4.9 (6)	80 (1)	44 (15)	39 (9)
M202	M	**8400 (15)**	7640 (18)	7870 (16)	9140 (11)	8950 (12)	18.0 (6)	5.0 (2)	89 (11)	41 (14)	39 (14)
CH202	SPQ	**8330 (16)**	8480 (13)	8870 (12)	7060 (17)	8920 (14)	14.8 (11)	4.9 (13)	84 (5)	94 (18)	37 (3)
CH201	SPQ	**8050 (17)**	8490 (12)	7840 (17)	7840 (15)	8040 (18)	14.4 (12)	5.0 (1)	91 (14)	61 (17)	37 (4)
CM101	SWX	**7660 (18)**	7950 (17)	7540 (18)	6850 (18)	8290 (17)	13.0 (17)	4.9 (10)	82 (2)	55 (16)	38 (8)
MEAN		**9020**	8810	8950	9050	9270	16.2	4.9	87	25	38
CV		**5.4**	7.0	3.2	6.9	3.4	4.5	1.5	1.4	61	3.2
LSD (.05)		**340**	870	400	890	450	0.5	0.1	1	10	1

Preliminary Lines and Varieties

12Y2175	MPQ	**9990 (1)**	9890 (2)	9800 (4)	10580 (3)	9700 (3)	17.9 (7)	4.9 (22)	91 (30)	3 (15)	40 (32)
09Y2141	SWX	**9900 (2)**	9170 (4)	10360 (1)	9930 (13)	10170 (1)	15.5 (22)	4.9 (17)	82 (3)	45 (32)	41 (35)
12Y82	L	**9540 (3)**	8660 (7)	9520 (10)	10470 (4)	9510 (6)	14.7 (25)	4.9 (12)	90 (28)	1 (1)	37 (7)
10Y1008	Lsr	**9490 (4)**	8570 (10)	9710 (7)	10270 (6)	9390 (8)	14.6 (28)	4.9 (22)	85 (14)	2 (10)	38 (14)
12Y113	M	**9390 (5)**	8500 (11)	9530 (9)	9890 (15)	9640 (4)	18.2 (6)	4.9 (17)	86 (16)	34 (29)	39 (23)
12Y84	L	**9390 (6)**	7280 (30)	10010 (3)	10690 (1)	9580 (5)	13.8 (33)	4.8 (34)	85 (9)	4 (18)	39 (27)
10Y3394	M	**9330 (7)**	8590 (9)	9710 (6)	9240 (22)	9770 (2)	18.4 (5)	4.9 (22)	83 (4)	68 (36)	38 (15)
12Y1010	L	**9300 (8)**	8290 (15)	9800 (5)	10100 (9)	9030 (16)	14.6 (29)	5.0 (10)	83 (5)	2 (10)	38 (9)
10Y3737	M	**9300 (9)**	8440 (12)	9250 (13)	10380 (5)	9130 (15)	17.8 (8)	4.9 (26)	89 (27)	2 (13)	38 (10)
11Y2230	SPQ	**9260 (10)**	9710 (3)	10020 (2)	7940 (28)	9370 (9)	18.8 (3)	5.0 (5)	90 (29)	54 (33)	39 (20)
11Y3441	M	**9210 (11)**	8620 (8)	9440 (11)	10020 (11)	8770 (19)	16.2 (19)	4.9 (12)	88 (22)	12 (21)	39 (18)
M105	M	**9130 (12)**	7820 (23)	9640 (8)	9750 (16)	9330 (10)	17.1 (11)	4.9 (14)	81 (2)	15 (23)	39 (21)
12Y81	L	**9090 (13)**	8050 (19)	9110 (18)	9910 (14)	9290 (12)	14.7 (26)	4.9 (14)	85 (12)	1 (1)	40 (34)
11Y3636	M	**9090 (14)**	8310 (14)	8650 (23)	10690 (2)	8710 (21)	15.9 (21)	4.9 (17)	85 (10)	5 (19)	36 (5)
11Y1049	LA	**9060 (15)**	8150 (18)	9140 (15)	10160 (7)	8780 (18)	15.4 (23)	4.9 (22)	88 (24)	4 (17)	39 (17)
12Y3097	MB	**9040 (16)**	8850 (5)	9180 (14)	8710 (25)	9410 (7)	16.8 (14)	4.9 (26)	84 (7)	23 (27)	38 (12)
12Y2167	SPQ	**9020 (17)**	10170 (1)	8610 (24)	9030 (23)	8250 (27)	19.2 (2)	5.0 (5)	88 (24)	16 (24)	39 (19)
M208	M	**8880 (18)**	8270 (16)	9300 (12)	9290 (21)	8650 (22)	16.2 (17)	5.0 (3)	87 (19)	24 (28)	39 (22)
11Y3344	M	**8870 (19)**	7970 (21)	9130 (16)	9350 (20)	9020 (17)	16.2 (18)	4.9 (26)	85 (11)	39 (31)	40 (31)
12Y2085	MPQ	**8860 (20)**	7740 (25)	8830 (20)	9750 (17)	9130 (14)	16.5 (16)	4.9 (14)	86 (18)	20 (26)	40 (30)
10Y3332	M	**8860 (21)**	7980 (20)	8120 (27)	10160 (8)	9180 (13)	17.6 (9)	4.9 (30)	89 (26)	1 (1)	38 (13)
12Y1022	LA	**8810 (22)**	7730 (26)	9130 (17)	10010 (12)	8370 (26)	14.6 (30)	5.0 (10)	86 (15)	1 (1)	39 (26)
10Y3512	M	**8760 (23)**	7550 (27)	8170 (26)	10020 (10)	9310 (11)	17.3 (10)	4.9 (32)	87 (21)	1 (1)	39 (24)
11Y3334	M	**8720 (24)**	7850 (22)	8990 (19)	9480 (19)	8550 (23)	17.0 (12)	4.9 (30)	84 (6)	13 (22)	38 (11)
11Y1096	LA	**8630 (25)**	7480 (28)	8680 (22)	9590 (18)	8770 (20)	14.6 (27)	4.9 (17)	86 (17)	1 (1)	40 (33)
11Y2111	SBG	**8080 (26)**	6950 (32)	7870 (29)	9010 (24)	8490 (24)	16.9 (13)	4.9 (26)	87 (19)	19 (25)	40 (29)
89Y235	SBG	**7930 (27)**	7750 (24)	7960 (28)	7630 (29)	8390 (25)	16.1 (20)	4.8 (33)	84 (8)	59 (34)	39 (28)
12Y87	LJ	**7810 (28)**	8160 (17)	7710 (30)	8650 (26)	6720 (31)	14.3 (32)	5.0 (5)	94 (34)	1 (1)	36 (6)
11Y106	LJ	**7630 (29)**	8410 (13)	8710 (21)	6170 (32)	7240 (29)	18.5 (4)	4.7 (35)	92 (33)	39 (30)	42 (36)
A201	LA	**7600 (30)**	7020 (31)	7510 (31)	8610 (27)	7270 (28)	15.3 (24)	5.0 (1)	91 (32)	3 (15)	37 (8)
M402	MPQ	**7460 (31)**	8680 (6)	7060 (32)	7320 (30)	6780 (30)	24.5 (1)	5.0 (1)	104 (36)	1 (1)	39 (25)
A301	LA	**7310 (32)**	7290 (29)	8210 (25)	7100 (31)	6630 (32)	16.7 (15)	4.6 (36)	96 (35)	1 (1)	35 (3)
CA201	SLA	**6380 (33)**	6590 (33)	6450 (33)	6130 (34)	6340 (33)	12.9 (35)	5.0 (5)	85 (12)	64 (35)	38 (16)
CT202	LB	**5970 (34)**	5700 (34)	6450 (34)	5970 (35)	5750 (34)	12.7 (36)	5.0 (3)	88 (23)	7 (20)	34 (2)
12Y1054	LB	**5810 (35)**	5440 (35)	5920 (35)	6160 (33)	5710 (35)	13.1 (34)	5.0 (5)	78 (1)	2 (10)	35 (4)
11Y158	LB	**4600 (36)**	3790 (36)	4680 (36)	5580 (36)	4330 (36)	14.3 (31)	4.9 (17)	91 (31)	2 (13)	32 (1)
MEAN		**8490**	7930	8620	8990	8400	16.2	4.9	87	16	38
CV		**4.8**	4.7	4.5	5.9	3.9	3.8	1.3	1.1	93.6	3
LSD (.05)		**410**	760	780	1080	660	0.6	0.1	1	15	1

S = short; M = medium; L = long; PQ = premium quality; A=aromatic; BG=bold grain; J=Jasmine; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 8. 2013 Biggs Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
09Y2179	S	9960 (1)	9.2 (13)	4.8 (3)	87 (13)	1 (1)	40 (16)
10Y3703	M	9890 (2)	14.4 (5)	4.6 (13)	86 (12)	13 (10)	38 (13)
11Y2183	MPQ	9470 (3)	14.4 (5)	4.6 (14)	90 (17)	1 (1)	37 (8)
09Y1122	L	9400 (4)	12.4 (9)	4.8 (3)	83 (6)	1 (1)	36 (3)
M205	M	9230 (5)	14.3 (7)	4.7 (8)	88 (15)	1 (1)	36 (2)
11Y1008	L	9180 (6)	12.3 (11)	4.7 (10)	82 (5)	1 (1)	38 (11)
08Y3269	M	9070 (7)	14.6 (2)	4.8 (6)	87 (13)	1 (1)	37 (8)
12Y83	L	8990 (8)	12.2 (12)	4.5 (16)	83 (6)	1 (1)	40 (16)
09Y2159	SLA	8660 (9)	8.1 (16)	4.4 (18)	93 (18)	1 (1)	37 (4)
S102	S	8640 (10)	7.4 (17)	4.8 (6)	80 (1)	45 (12)	38 (12)
08Y3126	M	8610 (11)	15.0 (1)	4.5 (17)	83 (6)	68 (14)	40 (18)
CH201	SPQ	8490 (12)	8.9 (14)	5.0 (1)	86 (11)	86 (18)	37 (7)
CH202	SPQ	8480 (13)	8.4 (15)	4.7 (10)	84 (9)	83 (17)	37 (4)
L206	L	8420 (14)	12.3 (10)	4.6 (12)	81 (3)	39 (11)	34 (1)
10Y3690	M	8360 (15)	14.5 (3)	4.6 (14)	88 (15)	1 (1)	37 (4)
M206	M	8160 (16)	14.5 (4)	4.8 (3)	82 (4)	53 (13)	39 (15)
CM101	SWX	7950 (17)	6.8 (18)	4.7 (9)	80 (2)	69 (15)	37 (8)
M202	M	7640 (18)	14.2 (8)	4.9 (2)	85 (10)	79 (16)	39 (14)
MEAN		8810	11.9	4.7	85	30	37
CV		7	4	2.8	1	42.3	2.6
LSD (.05)		870	0.7	0.2	1	18	1

Preliminary Lines and Varieties

12Y2167	SPQ	10170 (1)	10.7 (33)	4.9 (5)	84 (17)	31 (24)	38 (15)
12Y2175	MPQ	9890 (2)	14.2 (8)	4.6 (23)	89 (29)	1 (1)	38 (19)
11Y2230	SPQ	9710 (3)	10.3 (34)	4.9 (5)	85 (24)	85 (35)	38 (15)
09Y2141	SWX	9170 (4)	9.1 (35)	4.7 (18)	81 (3)	75 (34)	41 (36)
12Y3097	MB	8850 (5)	14.6 (2)	4.6 (27)	83 (9)	36 (25)	39 (29)
M402	MPQ	8680 (6)	16.1 (1)	5.0 (1)	109 (36)	1 (1)	40 (33)
12Y82	L	8660 (7)	12.5 (20)	4.8 (12)	89 (29)	1 (1)	36 (7)
11Y3441	M	8620 (8)	14.2 (8)	4.8 (12)	84 (17)	26 (23)	38 (19)
10Y3394	M	8590 (9)	14.5 (3)	4.6 (23)	82 (7)	65 (30)	39 (23)
10Y1008	Lsr	8570 (10)	12.5 (20)	4.6 (23)	83 (9)	3 (16)	37 (10)
12Y113	M	8500 (11)	14.4 (4)	4.7 (18)	82 (4)	88 (36)	39 (23)
10Y3737	M	8440 (12)	14.1 (12)	4.6 (27)	88 (28)	1 (1)	37 (10)
11Y106	LJ	8410 (13)	14.2 (7)	3.8 (35)	94 (34)	68 (32)	41 (34)
11Y3636	M	8310 (14)	13.9 (16)	4.7 (18)	82 (7)	16 (22)	36 (5)
12Y1010	L	8290 (15)	12.3 (25)	4.8 (10)	83 (11)	3 (16)	37 (8)
M208	M	8270 (16)	14.0 (14)	4.9 (3)	84 (15)	36 (25)	38 (15)
12Y87	LJ	8160 (17)	12.4 (23)	4.9 (5)	93 (32)	1 (1)	36 (5)
11Y1049	LA	8150 (18)	12.5 (19)	4.6 (23)	85 (22)	13 (21)	38 (19)
12Y81	L	8050 (19)	12.3 (27)	4.7 (14)	84 (15)	1 (1)	41 (34)
10Y3332	M	7980 (20)	14.4 (4)	4.5 (30)	86 (27)	1 (1)	39 (23)
11Y3344	M	7970 (21)	14.2 (8)	4.6 (27)	82 (4)	65 (30)	39 (23)
11Y3334	M	7850 (22)	14.3 (6)	4.5 (30)	82 (4)	45 (28)	37 (10)
M105	M	7820 (23)	14.2 (8)	4.7 (14)	79 (2)	8 (20)	38 (19)
89Y235	SBG	7750 (24)	13.7 (18)	4.4 (33)	83 (11)	70 (33)	39 (23)
12Y2085	MPQ	7740 (25)	14.1 (12)	4.7 (14)	83 (11)	38 (27)	39 (29)
12Y1022	LA	7730 (26)	12.1 (29)	4.8 (10)	84 (17)	1 (1)	38 (15)
10Y3512	M	7550 (27)	14.0 (15)	4.4 (32)	85 (24)	1 (1)	37 (10)
11Y1096	LA	7480 (28)	12.0 (30)	4.7 (18)	85 (24)	1 (1)	39 (29)
A301	LA	7290 (29)	12.5 (20)	3.7 (36)	94 (35)	1 (1)	32 (2)
12Y84	L	7280 (30)	12.3 (25)	4.3 (34)	85 (22)	1 (1)	40 (32)
A201	LA	7020 (31)	12.4 (23)	5.0 (1)	89 (31)	1 (1)	35 (4)
11Y2111	SBG	6950 (32)	13.7 (17)	4.7 (14)	84 (17)	1 (1)	39 (23)
CA201	SLA	6590 (33)	6.6 (36)	4.9 (5)	83 (11)	45 (28)	37 (10)
CT202	LB	5700 (34)	12.2 (28)	4.9 (3)	84 (17)	1 (1)	37 (8)
12Y1054	LB	5440 (35)	11.9 (32)	4.9 (5)	77 (1)	3 (16)	35 (3)
11Y158	LB	3790 (36)	12.0 (31)	4.7 (18)	93 (33)	6 (19)	30 (1)
MEAN		7930	12.9	4.6	85	23	37
CV		4.7	1.5	2.6	1.1	75.8	2.6
LSD (.05)		760	0.4	0.2	2	36	2

S = short; M = medium; L = long; PQ = premium quality; A=aromatic; BG=bold grain; J=Jasmine; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 9. 2013 Butte Early Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y1008	L	10570 (1)	13.7 (17)	5.0 (1)	81 (3)	1 (1)	38 (8)
09Y1122	L	9770 (2)	14.0 (13)	5.0 (1)	85 (9)	1 (1)	36 (2)
12Y83	L	9710 (3)	13.8 (15)	5.0 (1)	82 (4)	1 (1)	42 (18)
10Y3703	M	9450 (4)	20.0 (3)	5.0 (1)	88 (10)	1 (1)	40 (15)
L206	L	9390 (5)	13.5 (18)	5.0 (1)	81 (2)	3 (10)	35 (1)
08Y3126	M	9330 (6)	19.3 (7)	5.0 (1)	83 (8)	3 (10)	41 (17)
11Y2183	MPQ	9250 (7)	20.9 (1)	5.0 (1)	91 (16)	3 (10)	37 (5)
09Y2179	S	9070 (8)	19.1 (8)	5.0 (1)	92 (17)	1 (1)	39 (13)
M206	M	9020 (9)	20.5 (2)	5.0 (1)	83 (5)	13 (13)	37 (6)
M205	M	8960 (10)	19.9 (5)	5.0 (1)	91 (15)	1 (1)	38 (8)
09Y2159	SLA	8930 (11)	19.3 (6)	5.0 (1)	100 (18)	43 (15)	39 (12)
CH202	SPQ	8870 (12)	16.2 (11)	5.0 (1)	83 (6)	97 (18)	37 (4)
S102	S	8650 (13)	13.7 (16)	5.0 (1)	81 (1)	13 (14)	39 (11)
08Y3269	M	8570 (14)	20.0 (4)	5.0 (1)	88 (10)	1 (1)	38 (10)
10Y3690	M	8210 (15)	18.7 (9)	5.0 (1)	89 (13)	1 (1)	37 (6)
M202	M	7870 (16)	18.7 (10)	5.0 (1)	89 (13)	1 (1)	40 (14)
CH201	SPQ	7840 (17)	14.9 (12)	5.0 (1)	88 (10)	65 (17)	36 (3)
CM101	SWX	7540 (18)	14.0 (14)	5.0 (1)	83 (6)	53 (16)	40 (16)
MEAN		8950	17.2	5.0	86	17	38
CV		3.2	4.5		1.6	66.3	3.3
LSD (.05)		400	1.1		2	16	2

Preliminary Lines and Varieties

09Y2141	SWX	10360 (1)	16.7 (20)	5.0 (1)	81 (3)	31 (31)	41 (32)
11Y2230	SPQ	10020 (2)	19.2 (8)	5.0 (1)	88 (24)	30 (30)	39 (17)
12Y84	L	10010 (3)	13.7 (32)	5.0 (1)	85 (12)	6 (20)	43 (35)
12Y2175	MPQ	9800 (4)	19.8 (6)	5.0 (1)	91 (32)	6 (20)	41 (30)
12Y1010	L	9800 (5)	14.6 (29)	5.0 (1)	81 (3)	1 (1)	39 (20)
10Y3394	M	9710 (6)	20.3 (4)	5.0 (1)	82 (5)	90 (35)	38 (10)
10Y1008	Lsr	9710 (7)	14.8 (27)	5.0 (1)	84 (8)	1 (1)	41 (34)
M105	M	9640 (8)	18.1 (12)	5.0 (1)	80 (2)	6 (20)	38 (12)
12Y113	M	9530 (9)	19.9 (5)	5.0 (1)	87 (19)	41 (32)	39 (21)
12Y82	L	9520 (10)	14.9 (26)	5.0 (1)	87 (19)	1 (1)	37 (8)
11Y3441	M	9440 (11)	16.9 (18)	5.0 (1)	86 (15)	1 (1)	39 (17)
M208	M	9300 (12)	16.9 (18)	5.0 (1)	86 (17)	21 (28)	40 (26)
10Y3737	M	9250 (13)	18.9 (9)	5.0 (1)	89 (29)	6 (20)	37 (7)
12Y3097	MB	9180 (14)	18.8 (10)	5.0 (1)	83 (7)	6 (20)	38 (12)
11Y1049	LA	9140 (15)	15.0 (25)	5.0 (1)	88 (24)	1 (1)	39 (21)
11Y3344	M	9130 (16)	17.1 (16)	5.0 (1)	85 (10)	26 (29)	41 (31)
12Y1022	LA	9130 (17)	15.3 (23)	5.0 (1)	87 (19)	1 (1)	40 (26)
12Y81	L	9110 (18)	15.3 (23)	5.0 (1)	85 (12)	1 (1)	41 (29)
11Y3334	M	8990 (19)	19.2 (7)	5.0 (1)	83 (6)	1 (1)	38 (16)
12Y2085	MPQ	8830 (20)	17.3 (15)	5.0 (1)	85 (10)	11 (26)	41 (32)
11Y106	LJ	8710 (21)	20.5 (3)	5.0 (1)	92 (33)	15 (27)	45 (36)
11Y1096	LA	8680 (22)	14.7 (28)	5.0 (1)	86 (15)	1 (1)	40 (24)
11Y3636	M	8650 (23)	16.4 (21)	5.0 (1)	84 (8)	1 (1)	36 (6)
12Y2167	SPQ	8610 (24)	21.7 (2)	5.0 (1)	88 (24)	1 (1)	38 (12)
A301	LA	8210 (25)	16.9 (17)	5.0 (1)	97 (35)	1 (1)	34 (2)
10Y3512	M	8170 (26)	17.6 (14)	5.0 (1)	87 (19)	1 (1)	37 (8)
10Y3332	M	8120 (27)	18.6 (11)	5.0 (1)	88 (24)	1 (1)	38 (10)
89Y235	SBG	7960 (28)	15.9 (22)	5.0 (1)	86 (17)	48 (33)	40 (24)
11Y2111	SBG	7870 (29)	17.8 (13)	5.0 (1)	88 (24)	58 (34)	39 (17)
12Y87	LJ	7710 (30)	13.6 (33)	5.0 (1)	94 (34)	1 (1)	35 (4)
A201	LA	7510 (31)	14.4 (30)	5.0 (1)	91 (31)	6 (20)	38 (12)
M402	MPQ	7060 (32)	29.8 (1)	5.0 (1)	108 (36)	1 (1)	40 (26)
CA201	SLA	6450 (33)	14.0 (31)	5.0 (1)	85 (12)	97 (36)	39 (21)
CT202	LB	6450 (34)	12.3 (35)	5.0 (1)	87 (23)	1 (1)	34 (2)
12Y1054	LB	5920 (35)	11.8 (36)	5.0 (1)	79 (1)	1 (1)	35 (4)
11Y158	LB	4680 (36)	12.7 (34)	5.0 (1)	89 (29)	1 (1)	32 (1)
MEAN		8620	17.0	5.0	87	14	39
CV		4.5	3.8		1.5	128.6	3.4
LSD (.05)		780	1.3		3	38	3

S = short; M = medium; L = long; PQ = premium quality; A=aromatic; BG=bold grain; J=Jasmine; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 10. 2013 Colusa Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
09Y1122	L	10620 (1)	15.3 (14)	5.0 (1)	86 (10)	1 (1)	36 (2)
11Y1008	L	10570 (2)	14.6 (16)	5.0 (1)	82 (4)	3 (5)	37 (4)
L206	L	10250 (3)	13.8 (18)	5.0 (1)	84 (6)	1 (1)	35 (1)
09Y2179	S	10020 (4)	19.0 (6)	5.0 (1)	90 (13)	1 (1)	42 (18)
12Y83	L	9860 (5)	13.9 (17)	5.0 (1)	82 (3)	1 (1)	38 (5)
08Y3269	M	9730 (6)	18.4 (9)	5.0 (1)	90 (13)	26 (8)	40 (16)
10Y3690	M	9710 (7)	18.8 (7)	5.0 (1)	91 (15)	13 (6)	38 (5)
M206	M	9660 (8)	17.9 (10)	5.0 (1)	86 (7)	20 (7)	40 (13)
11Y2183	MPQ	9330 (9)	20.5 (1)	5.0 (1)	92 (16)	43 (10)	40 (14)
08Y3126	M	9200 (10)	17.5 (11)	5.0 (1)	86 (7)	45 (11)	40 (14)
M202	M	9140 (11)	19.9 (3)	5.0 (1)	90 (12)	84 (13)	39 (9)
10Y3703	M	9010 (12)	20.2 (2)	5.0 (1)	89 (11)	50 (12)	41 (17)
M205	M	8930 (13)	19.1 (5)	5.0 (1)	93 (17)	29 (9)	39 (10)
09Y2159	SLA	7890 (14)	19.8 (4)	4.8 (18)	86 (9)	91 (15)	39 (11)
CH201	SPQ	7840 (15)	17.4 (12)	5.0 (1)	94 (18)	87 (14)	38 (7)
S102	S	7220 (16)	15.2 (15)	5.0 (1)	76 (1)	96 (17)	40 (12)
CH202	SPQ	7060 (17)	18.6 (8)	4.9 (16)	82 (4)	99 (18)	37 (3)
CM101	SWX	6850 (18)	16.0 (13)	4.9 (16)	78 (2)	95 (16)	38 (8)
MEAN		9050	17.6	5.0	86	44	39
CV		6.9	4.8	1.2	1.7	53	3.1
LSD (.05)		890	1.2	0.1	2	33	2

Preliminary Lines and Varieties

12Y84	L	10690 (1)	14.1 (35)	5.0 (1)	81 (5)	10 (21)	38 (10)
11Y3636	M	10690 (2)	16.7 (23)	5.0 (1)	85 (11)	1 (1)	38 (10)
12Y2175	MPQ	10580 (3)	18.0 (11)	5.0 (1)	92 (31)	6 (17)	41 (33)
12Y82	L	10470 (4)	15.5 (27)	5.0 (1)	93 (32)	1 (1)	38 (8)
10Y3737	M	10380 (5)	19.2 (4)	5.0 (1)	89 (22)	1 (1)	39 (14)
10Y1008	Lsr	10270 (6)	14.8 (34)	5.0 (1)	86 (16)	1 (1)	38 (7)
11Y1049	LA	10160 (7)	17.0 (20)	5.0 (1)	91 (28)	1 (1)	42 (34)
10Y3332	M	10160 (8)	18.2 (9)	5.0 (1)	89 (22)	1 (1)	38 (12)
12Y1010	L	10100 (9)	15.3 (28)	5.0 (1)	81 (5)	1 (1)	37 (6)
10Y3512	M	10020 (10)	19.0 (5)	5.0 (1)	87 (17)	1 (1)	41 (30)
11Y3441	M	10020 (11)	17.1 (18)	5.0 (1)	90 (26)	20 (23)	40 (24)
12Y1022	LA	10010 (12)	15.1 (30)	5.0 (1)	84 (8)	1 (1)	39 (15)
09Y2141	SWX	9930 (13)	17.9 (13)	5.0 (1)	80 (3)	75 (32)	41 (30)
12Y81	L	9910 (14)	14.8 (32)	5.0 (1)	85 (14)	1 (1)	40 (26)
12Y113	M	9890 (15)	18.5 (8)	5.0 (1)	87 (17)	6 (17)	40 (22)
M105	M	9750 (16)	18.1 (10)	5.0 (1)	80 (3)	45 (28)	40 (27)
12Y2085	MPQ	9750 (17)	17.8 (14)	5.0 (1)	87 (20)	30 (25)	41 (32)
11Y1096	LA	9590 (18)	15.0 (31)	5.0 (1)	85 (11)	1 (1)	41 (29)
11Y3334	M	9480 (19)	17.2 (17)	5.0 (1)	84 (8)	6 (17)	39 (18)
11Y3344	M	9350 (20)	16.9 (21)	5.0 (1)	87 (17)	65 (30)	42 (35)
M208	M	9290 (21)	17.3 (16)	5.0 (1)	88 (21)	40 (27)	40 (27)
10Y3394	M	9240 (22)	18.7 (6)	5.0 (1)	85 (11)	75 (32)	39 (16)
12Y2167	SPQ	9030 (23)	22.8 (3)	5.0 (1)	91 (28)	31 (26)	39 (18)
11Y2111	SBG	9010 (24)	16.8 (22)	4.9 (35)	85 (14)	15 (22)	43 (36)
12Y3097	MB	8710 (25)	16.6 (24)	5.0 (1)	84 (10)	50 (29)	38 (12)
12Y87	LJ	8650 (26)	14.8 (33)	5.0 (1)	91 (28)	1 (1)	37 (5)
A201	LA	8610 (27)	17.1 (19)	5.0 (1)	93 (32)	6 (17)	38 (9)
11Y2230	SPQ	7940 (28)	23.2 (2)	5.0 (1)	93 (34)	95 (36)	40 (23)
89Y235	SBG	7630 (29)	17.9 (12)	5.0 (1)	79 (2)	95 (34)	39 (16)
M402	MPQ	7320 (30)	24.6 (1)	5.0 (1)	102 (36)	1 (1)	39 (18)
A301	LA	7100 (31)	17.7 (15)	4.9 (35)	96 (35)	1 (1)	36 (4)
11Y106	LJ	6170 (32)	18.5 (7)	5.0 (1)	89 (22)	70 (31)	39 (18)
12Y1054	LB	6160 (33)	15.2 (29)	5.0 (1)	74 (1)	1 (1)	33 (3)
CA201	SLA	6130 (34)	15.9 (26)	5.0 (1)	83 (7)	95 (34)	40 (24)
CT202	LB	5970 (35)	14.0 (36)	5.0 (1)	90 (25)	26 (24)	33 (1)
11Y158	LB	5580 (36)	16.4 (25)	5.0 (1)	90 (26)	1 (1)	33 (1)
MEAN		8990	17.3	5.0	87	24	39
CV		5.9	4.1	1	0.8	65.5	2.9
LSD (.05)		1080	1.4		1	32	2

S = short; M = medium; L = long; PQ = premium quality; A=aromatic; BG=bold grain; J=Jasmine; LA = Low Amalose; 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.

Numbers in parentheses indicate relative rank in column.

Table 11. 2013 Yuba Early Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y1008	L	10060 (1)	15.7 (14)	5.0 (1)	89 (7)	1 (1)	38 (6)
08Y3126	M	9970 (2)	18.6 (10)	5.0 (1)	86 (3)	1 (1)	39 (11)
09Y1122	L	9870 (3)	15.4 (15)	5.0 (1)	89 (8)	1 (1)	34 (1)
11Y2183	MPQ	9780 (4)	23.9 (1)	5.0 (1)	97 (17)	1 (1)	41 (17)
M206	M	9750 (5)	18.8 (9)	5.0 (1)	87 (5)	1 (1)	39 (10)
08Y3269	M	9690 (6)	20.1 (7)	5.0 (1)	91 (11)	1 (1)	39 (12)
M205	M	9650 (7)	21.8 (3)	5.0 (1)	96 (16)	1 (1)	38 (7)
L206	L	9590 (8)	13.5 (17)	5.0 (1)	87 (4)	1 (1)	36 (2)
10Y3703	M	9570 (9)	20.9 (5)	5.0 (1)	90 (9)	1 (1)	40 (13)
S102	S	9280 (10)	13.4 (18)	5.0 (1)	84 (1)	23 (17)	39 (9)
10Y3690	M	9150 (11)	20.4 (6)	5.0 (1)	92 (12)	1 (1)	37 (5)
M202	M	8950 (12)	19.4 (8)	5.0 (1)	92 (12)	1 (1)	40 (14)
12Y83	L	8930 (13)	15.9 (13)	5.0 (1)	91 (10)	1 (1)	41 (15)
CH202	SPQ	8920 (14)	16.2 (12)	5.0 (1)	88 (6)	97 (18)	36 (3)
09Y2179	S	8680 (15)	21.6 (4)	5.0 (1)	97 (17)	1 (1)	42 (18)
09Y2159	SLA	8610 (16)	22.7 (2)	5.0 (1)	93 (14)	6 (14)	41 (16)
CM101	SWX	8290 (17)	15.2 (16)	5.0 (1)	85 (2)	6 (14)	39 (8)
CH201	SPQ	8040 (18)	16.3 (11)	5.0 (1)	95 (15)	6 (14)	37 (4)
MEAN		9270	18.3	5.0	90	8	39
CV		3.4	4.2		0.9	112.2	3.6
LSD (.05)		450	1.1		1	13	2

Preliminary Lines and Varieties

09Y2141	SWX	10170 (1)	18.3 (13)	5.0 (1)	85 (4)	1 (1)	41 (34)
10Y3394	M	9770 (2)	20.0 (5)	5.0 (1)	84 (2)	40 (36)	38 (22)
12Y2175	MPQ	9700 (3)	19.8 (7)	5.0 (1)	92 (26)	1 (1)	40 (31)
12Y113	M	9640 (4)	20.0 (6)	5.0 (1)	89 (11)	1 (1)	38 (22)
12Y84	L	9580 (5)	15.0 (34)	5.0 (1)	89 (11)	1 (1)	37 (6)
12Y82	L	9510 (6)	16.1 (31)	5.0 (1)	92 (28)	1 (1)	35 (3)
12Y3097	MB	9410 (7)	17.4 (15)	5.0 (1)	86 (5)	1 (1)	37 (10)
10Y1008	Lsr	9390 (8)	16.4 (28)	5.0 (1)	90 (16)	1 (1)	37 (6)
11Y2230	SPQ	9370 (9)	22.5 (2)	5.0 (1)	95 (33)	6 (33)	38 (22)
M105	M	9330 (10)	18.0 (14)	5.0 (1)	84 (2)	1 (1)	39 (27)
10Y3512	M	9310 (11)	18.7 (12)	5.0 (1)	90 (18)	1 (1)	41 (33)
12Y81	L	9290 (12)	16.4 (27)	5.0 (1)	87 (6)	1 (1)	40 (28)
10Y3332	M	9180 (13)	19.1 (10)	5.0 (1)	92 (26)	1 (1)	38 (26)
12Y2085	MPQ	9130 (14)	16.9 (20)	5.0 (1)	91 (21)	1 (1)	38 (18)
10Y3737	M	9130 (15)	19.0 (11)	5.0 (1)	90 (16)	1 (1)	38 (18)
12Y1010	L	9030 (16)	16.1 (30)	5.0 (1)	89 (11)	1 (1)	37 (6)
11Y3344	M	9020 (17)	16.6 (23)	5.0 (1)	88 (8)	1 (1)	38 (22)
11Y1049	LA	8780 (18)	17.0 (18)	5.0 (1)	91 (21)	1 (1)	35 (3)
11Y3441	M	8770 (19)	16.4 (26)	5.0 (1)	91 (21)	1 (1)	37 (15)
11Y1096	LA	8770 (20)	16.8 (21)	5.0 (1)	89 (14)	1 (1)	41 (34)
11Y3636	M	8710 (21)	16.7 (22)	5.0 (1)	89 (14)	1 (1)	35 (5)
M208	M	8650 (22)	16.5 (24)	5.0 (1)	90 (18)	1 (1)	37 (15)
11Y3334	M	8550 (23)	17.3 (17)	5.0 (1)	87 (6)	1 (1)	37 (15)
11Y2111	SBG	8490 (24)	19.2 (9)	5.0 (1)	91 (21)	1 (1)	38 (18)
89Y235	SBG	8390 (25)	17.0 (19)	5.0 (1)	88 (9)	25 (35)	40 (31)
12Y1022	LA	8370 (26)	15.8 (32)	5.0 (1)	88 (9)	1 (1)	40 (30)
12Y2167	SPQ	8250 (27)	21.9 (3)	5.0 (1)	91 (25)	1 (1)	40 (28)
A201	LA	7270 (28)	17.4 (16)	5.0 (1)	93 (32)	1 (1)	37 (10)
11Y106	LJ	7240 (29)	20.7 (4)	5.0 (1)	92 (28)	1 (1)	44 (36)
M402	MPQ	6780 (30)	27.3 (1)	5.0 (1)	95 (33)	1 (1)	37 (10)
12Y87	LJ	6720 (31)	16.5 (25)	5.0 (1)	100 (36)	1 (1)	38 (18)
A301	LA	6630 (32)	19.5 (8)	5.0 (1)	97 (35)	1 (1)	37 (10)
CA201	SLA	6340 (33)	15.1 (33)	5.0 (1)	90 (18)	20 (34)	37 (10)
CT202	LB	5750 (34)	12.4 (36)	5.0 (1)	92 (28)	1 (1)	33 (1)
12Y1054	LB	5710 (35)	13.6 (35)	5.0 (1)	81 (1)	1 (1)	37 (6)
11Y158	LB	4330 (36)	16.2 (29)	5.0 (1)	93 (31)	1 (1)	33 (2)
MEAN		8400	17.8	5.0	90	3	38
CV		3.9	4.1		1	157.4	3.1
LSD (.05)		660	1.5		2	11	2

S = short; M = medium; L = long; PQ = premium quality; A=aromatic; BG=bold grain; J=Jasmine; LA = Low Amalose.

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.

Numbers in parentheses indicate relative rank in column.

Table 12. Grain Yield (lb/acre @14% moisture) Summary of Early Rice Varieties by Location and Year (2009-2013)

		Calhikari						Calmati	
Location	Year	201	S-102	**M-202**	M-105	M-205	M-206	202	L-206
Biggs (RES)	2009	9090	9700	**8940**	8690	9430	9080	7650	10840
	2010	9390	9400	**10210**	11530	10790	10990	8730	11090
	2011	9210	10230	**9660**	9490	10610	10050	5410	10020
	2012	8680	9500	**9770**	10250	10530	9980	7990	10510
	2013	8490	8640	**7640**	7820	9230	8160	5700	8420
Location Mean		8972	9494	**9244**	9556	10118	9652	7096	10176
Butte	2009	8690	7800	**9690**	8530	9830	8170	7780	9610
	2010	7900	7330	**8190**	8530	7950	8440	6770	8400
	2011	8060	8280	**8180**	9270	8860	8520	8020	9330
	2012	8080	8220	**8650**	9490	9600	9240	7910	9380
	2013	7840	8650	**7870**	9640	8960	9020	6450	9390
Location Mean		8114	8056	**8516**	9092	9040	8678	7386	9222
Colusa	2009	7350	8130	**8560**	8880	9680	8800	5510	8600
	2010	9510	10190	**10910**	10930	11190	10560	4690	10440
	2011	6040	7420	**9350**	7580	9760	9960	5210	9660
	2012	7430	7460	**8630**	8620	9130	9680	5340	9400
	2013	7840	7220	**9140**	9750	8930	9660	5970	10250
Location Mean		7634	8084	**9318**	9152	9738	9732	5344	9670
Yuba	2009	6880	7950	**7940**	8160	8790	8530	5960	9150
	2010	8350	10010	**10220**	10040	9370	10330	5470	9070
	2011	7800	8740	**9300**	9800	10000	10190	6030	10160
	2012	6080	7970	**9220**	8510	8840	9240	5570	9100
	2013	8040	9280	**8950**	9330	9650	9750	5750	9590
Location Mean		7430	8790	**9126**	9168	9330	9608	5756	9414
Loc/Years Mean		8038	8606	**9051**	9242	9557	9418	6396	9621
Yield % M-202		**88.8**	**95.1**	**100**	**102.1**	**105.6**	**104.0**	**70.7**	**106.3**
Number of Tests		20	20	**20**	16	20	20	20	20

Table 13. 2013 Intermediate/Late Rice Variety Tests - Three Location Summary

Advanced Lines and Varieties

Variety	Grain Type	**Ave Grain Yield at 14% Moisture lbs/acre**	Single Location Yields Biggs	Glenn	Sutter	Ave Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y2183	MPQ	**9470 (1)**	9970 (2)	8800 (4)	9620 (1)	17.9 (2)	4.9 (8)	95 (9)	13 (6)	39 (7)
M206	M	**9260 (2)**	9570 (7)	9390 (1)	8820 (3)	17.3 (5)	4.9 (5)	84 (3)	24 (8)	39 (5)
12Y1176	L	**9050 (3)**	9600 (6)	8070 (10)	9490 (2)	15.4 (7)	4.9 (10)	90 (5)	12 (5)	41 (10)
L206	L	**9020 (4)**	9460 (8)	8870 (3)	8720 (4)	14.6 (8)	4.9 (6)	84 (2)	5 (3)	34 (1)
08Y3269	M	**8910 (5)**	10100 (1)	8490 (6)	8150 (7)	17.3 (4)	4.9 (3)	91 (7)	1 (1)	39 (6)
M205	M	**8890 (6)**	9730 (4)	8400 (7)	8540 (5)	17.5 (3)	4.9 (8)	93 (8)	1 (1)	38 (4)
CH202	SPQ	**8700 (7)**	9700 (5)	8590 (5)	7810 (9)	14.3 (9)	4.9 (7)	84 (1)	55 (9)	36 (2)
M402	MPQ	**8560 (8)**	9830 (3)	8970 (2)	6900 (10)	21.3 (1)	5.0 (2)	110 (10)	17 (7)	40 (9)
CH201	SPQ	**8520 (9)**	8950 (9)	8330 (8)	8270 (6)	14.1 (10)	5.0 (1)	90 (4)	58 (10)	37 (3)
M202	M	**8290 (10)**	8700 (10)	8270 (9)	7890 (8)	16.8 (6)	4.9 (4)	90 (6)	11 (4)	40 (8)
MEAN		**8870**	9560	8620	8420	16.6	4.9	91	20	38
CV		**5.2**	4.5	3.7	7.0	4.6	0.5	1.6	113.7	4.2
LSD (.05)		**370**	620	470	850	0.6	0	1	18	1

Preliminary Lines and Varieties

12Y1155	LA	**10010 (1)**	10890 (1)	9590 (1)	9550 (2)	14.3 (24)	5.0 (8)	88 (7)	4 (15)	39 (12)
12Y1168	L	**9620 (2)**	9850 (4)	9230 (4)	9780 (1)	14.4 (23)	4.9 (16)	85 (2)	8 (17)	39 (15)
11Y3448	M	**9340 (3)**	9900 (2)	8590 (9)	9530 (3)	16.2 (15)	4.9 (16)	89 (9)	12 (19)	40 (18)
M401ES2a	M401 MUT	**9090 (4)**	9040 (14)	9370 (2)	8870 (7)	17.4 (8)	4.9 (16)	91 (13)	62 (23)	41 (23)
11Y2182	MPQ	**9090 (5)**	9890 (3)	8530 (10)	8850 (9)	17.5 (7)	4.9 (27)	95 (23)	11 (18)	39 (14)
12Y2178	SPQ	**9070 (6)**	9840 (5)	9140 (5)	8220 (16)	14.3 (24)	5.0 (8)	99 (25)	16 (20)	37 (10)
M401ES2b	M401 MUT	**9050 (7)**	9010 (15)	9050 (7)	9100 (5)	17.5 (6)	4.9 (16)	90 (10)	81 (27)	41 (24)
12Y1128	LA	**8950 (8)**	9420 (8)	9050 (6)	8370 (15)	14.5 (21)	4.9 (23)	87 (5)	1 (1)	37 (5)
09Y2173	MPQ	**8910 (9)**	9130 (13)	8370 (12)	9240 (4)	17.2 (9)	5.0 (3)	94 (20)	24 (21)	40 (20)
M401ES1	M401 MUT	**8760 (10)**	8240 (20)	8970 (8)	9060 (6)	17.6 (5)	4.9 (16)	91 (15)	67 (25)	40 (22)
11Y3433	M	**8750 (11)**	9380 (9)	8140 (17)	8730 (10)	17.7 (4)	4.9 (16)	94 (19)	3 (12)	40 (19)
M105	M	**8730 (12)**	9820 (6)	8370 (11)	7990 (20)	17.0 (10)	4.9 (23)	86 (4)	1 (1)	39 (16)
10Y3433	M	**8700 (13)**	9330 (10)	8200 (15)	8570 (12)	16.7 (13)	5.0 (8)	91 (16)	1 (1)	39 (13)
M401	MPQ	**8670 (14)**	9780 (7)	9280 (3)	6950 (23)	23.2 (1)	5.0 (8)	110 (28)	32 (22)	44 (26)
M203	M	**8590 (15)**	9200 (11)	7730 (21)	8860 (8)	16.8 (12)	5.0 (1)	86 (3)	76 (26)	44 (27)
12Y135	LJ	**8530 (16)**	8650 (19)	8280 (14)	8660 (11)	15.2 (18)	5.0 (8)	95 (24)	1 (1)	37 (8)
09Y2176	MPQ	**8530 (17)**	8850 (17)	8280 (13)	8450 (14)	17.8 (3)	5.0 (3)	92 (17)	6 (16)	40 (17)
12Y1037	LA	**8470 (18)**	8900 (16)	7980 (19)	8540 (13)	14.9 (20)	5.0 (8)	87 (6)	1 (1)	36 (3)
11Y3667	M	**8330 (19)**	8730 (18)	8160 (16)	8110 (17)	16.8 (11)	4.9 (23)	90 (10)	1 (1)	40 (21)
11Y106	LJ	**8290 (20)**	9170 (12)	7890 (20)	7790 (21)	16.3 (14)	4.9 (27)	94 (21)	64 (24)	42 (25)
12Y133	LJ	**8100 (21)**	8160 (21)	8130 (18)	8020 (19)	15.3 (17)	5.0 (8)	99 (26)	1 (1)	37 (6)
A201	LA	**7750 (22)**	7680 (22)	7490 (23)	8080 (18)	15.7 (16)	5.0 (8)	94 (18)	1 (1)	37 (7)
12Y1178	LJ	**7210 (23)**	6970 (23)	7560 (22)	7100 (22)	15.0 (19)	4.9 (16)	91 (14)	1 (1)	38 (11)
13Y135	LB	**6270 (24)**	6960 (24)	5860 (26)	5990 (25)	13.2 (28)	5.0 (3)	95 (22)	1 (1)	37 (4)
CT202	LB	**6160 (25)**	6080 (25)	6040 (25)	6340 (24)	14.2 (26)	5.0 (1)	88 (8)	3 (12)	35 (2)
KOSH	SPQ	**5700 (26)**	5650 (26)	6410 (24)	5030 (27)	18.2 (2)	4.9 (23)	106 (27)	96 (28)	48 (28)
12Y1052	LB	**5150 (27)**	5020 (28)	5080 (27)	5360 (26)	13.4 (27)	5.0 (3)	80 (1)	1 (1)	37 (9)
11Y158	LB	**5000 (28)**	5500 (27)	4670 (28)	4820 (28)	14.4 (22)	5.0 (3)	90 (10)	3 (12)	34 (1)
MEAN		**8170**	8540	7980	8000	16.2	4.9	92	21	39
CV		**5.5**	6.1	5.1	5.0	3.6	0.6	4	79.8	3.7
LSD (.05)		**510**	1070	830	820	0.7	0	4	19	2

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

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.

Numbers in parentheses indicate relative rank in column.

Table 14. 2013 Biggs Intermediate/Late Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
08Y3269	M	10100 (1)	14.4 (4)	4.8 (3)	86 (7)	1 (1)	40 (8)
11Y2183	MPQ	9970 (2)	14.4 (4)	4.7 (8)	90 (9)	1 (1)	40 (5)
M402	MPQ	9830 (3)	15.9 (1)	4.9 (2)	109 (10)	1 (1)	38 (4)
M205	M	9730 (4)	14.5 (3)	4.7 (8)	88 (8)	1 (1)	40 (5)
CH202	SPQ	9700 (5)	9.6 (9)	4.7 (7)	80 (1)	55 (9)	34 (1)
12Y1176	L	9600 (6)	12.7 (8)	4.6 (10)	85 (5)	1 (1)	41 (10)
M206	M	9570 (7)	14.7 (2)	4.8 (5)	81 (3)	41 (8)	40 (7)
L206	L	9460 (8)	12.8 (7)	4.7 (6)	80 (2)	13 (7)	35 (2)
CH201	SPQ	8950 (9)	8.6 (10)	4.9 (1)	84 (4)	60 (10)	36 (3)
M202	M	8700 (10)	14.2 (6)	4.8 (4)	85 (6)	1 (1)	40 (8)
MEAN		9560	13.2	4.7	87	18	38
CV		4.5	4.6	0.9	1.8	150.7	5.3
LSD (.05)		620	0.9	0.1	2	38	3

Preliminary Lines and Varieties

12Y1155	LA	10890 (1)	12.4 (22)	4.9 (8)	81 (6)	1 (1)	39 (14)
11Y3448	M	9900 (2)	14.0 (13)	4.8 (16)	82 (8)	26 (22)	39 (14)
11Y2182	MPQ	9890 (3)	14.4 (3)	4.7 (27)	88 (22)	1 (1)	38 (9)
12Y1168	L	9850 (4)	12.5 (20)	4.8 (16)	80 (4)	1 (1)	40 (17)
12Y2178	SPQ	9840 (5)	8.4 (28)	4.9 (8)	92 (25)	1 (1)	38 (9)
M105	M	9820 (6)	14.3 (5)	4.8 (23)	76 (2)	1 (1)	40 (17)
M401	MPQ	9780 (7)	17.4 (1)	4.9 (8)	115 (28)	1 (1)	45 (27)
12Y1128	LA	9420 (8)	12.7 (17)	4.8 (23)	79 (3)	1 (1)	37 (8)
11Y3433	M	9380 (9)	14.5 (2)	4.8 (16)	86 (14)	1 (1)	38 (9)
10Y3433	M	9330 (10)	14.2 (8)	4.9 (8)	86 (18)	1 (1)	41 (21)
M203	M	9200 (11)	14.2 (8)	5.0 (1)	82 (7)	93 (26)	43 (25)
11Y106	LJ	9170 (12)	13.0 (14)	4.7 (27)	94 (26)	1 (1)	40 (19)
09Y2173	MPQ	9130 (13)	14.4 (3)	4.9 (3)	89 (23)	26 (22)	40 (19)
M401ES2a	M401 MUT	9040 (14)	14.2 (10)	4.8 (16)	87 (20)	73 (25)	44 (26)
M401ES2b	M401 MUT	9010 (15)	14.3 (7)	4.8 (16)	86 (14)	93 (26)	42 (24)
12Y1037	LA	8900 (16)	12.8 (15)	4.9 (8)	80 (5)	1 (1)	38 (9)
09Y2176	MPQ	8850 (17)	14.3 (5)	4.9 (3)	86 (14)	1 (1)	39 (14)
11Y3667	M	8730 (18)	14.2 (10)	4.8 (23)	86 (18)	1 (1)	41 (21)
12Y135	LJ	8650 (19)	12.5 (20)	4.9 (8)	87 (20)	1 (1)	37 (6)
M401ES1	M401 MUT	8240 (20)	14.0 (12)	4.8 (16)	86 (14)	65 (24)	41 (21)
12Y133	LJ	8160 (21)	12.6 (18)	4.9 (8)	91 (24)	1 (1)	36 (4)
A201	LA	7680 (22)	12.7 (16)	4.9 (8)	85 (12)	1 (1)	36 (4)
12Y1178	LJ	6970 (23)	12.6 (19)	4.8 (16)	85 (11)	1 (1)	39 (13)
13Y135	LB	6960 (24)	11.1 (27)	4.9 (3)	84 (10)	1 (1)	35 (2)
CT202	LB	6080 (25)	12.4 (23)	5.0 (1)	82 (8)	1 (1)	37 (6)
KOSH	SPQ	5650 (26)	11.6 (24)	4.8 (23)	103 (27)	93 (26)	48 (28)
11Y158	LB	5500 (27)	11.3 (25)	4.9 (3)	85 (12)	1 (1)	33 (1)
12Y1052	LB	5020 (28)	11.3 (26)	4.9 (3)	75 (1)	1 (1)	36 (3)
MEAN		8540	13.1	4.8	86	17	39
CV		6.1	3.7	1.1	1.2	75.8	3.5
LSD (.05)		1070	1	0.1	2	27	3

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

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.

Numbers in parentheses indicate relative rank in column.

Table 15. 2013 Glenn Intermediate/Late Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
M206	M	9390 (1)	14.3 (6)	5.0 (1)	86 (3)	13 (6)	39 (7)
M402	MPQ	8970 (2)	14.7 (5)	5.0 (1)	111 (10)	50 (8)	41 (9)
L206	L	8870 (3)	12.3 (10)	5.0 (1)	83 (1)	1 (1)	35 (1)
11Y2183	MPQ	8800 (4)	15.5 (1)	5.0 (1)	101 (9)	1 (1)	39 (6)
CH202	SPQ	8590 (5)	13.2 (8)	5.0 (1)	85 (2)	77 (10)	37 (2)
08Y3269	M	8490 (6)	15.1 (3)	5.0 (1)	97 (6)	1 (1)	39 (4)
M205	M	8400 (7)	15.2 (2)	5.0 (1)	99 (8)	1 (1)	39 (5)
CH201	SPQ	8330 (8)	13.6 (7)	5.0 (1)	93 (5)	58 (9)	37 (3)
M202	M	8270 (9)	15.0 (4)	5.0 (1)	97 (6)	25 (7)	40 (8)
12Y1176	L	8070 (10)	12.4 (9)	5.0 (1)	92 (4)	11 (5)	42 (10)
MEAN		8620	14.1	5.0	94	24	39
CV		3.7	3.3		1.7	75.1	3.6
LSD (.05)		470	0.7		2	26	2

Preliminary Lines and Varieties

12Y1155	LA	9590 (1)	11.4 (24)	5.0 (1)	90 (6)	11 (19)	41 (19)
M401ES2a	M401 MUT	9370 (2)	15.0 (7)	5.0 (1)	97 (16)	65 (22)	41 (21)
M401	MPQ	9280 (3)	14.7 (11)	5.0 (1)	104 (27)	90 (24)	43 (26)
12Y1168	L	9230 (4)	11.6 (23)	5.0 (1)	86 (3)	1 (1)	40 (12)
12Y2178	SPQ	9140 (5)	12.5 (17)	5.0 (1)	103 (25)	46 (21)	38 (10)
12Y1128	LA	9050 (6)	11.2 (25)	5.0 (1)	89 (4)	1 (1)	35 (1)
M401ES2b	M401 MUT	9050 (7)	14.9 (9)	5.0 (1)	99 (20)	70 (23)	41 (21)
M401ES1	M401 MUT	8970 (8)	15.5 (3)	5.0 (1)	97 (14)	95 (25)	41 (21)
11Y3448	M	8590 (9)	14.3 (13)	5.0 (1)	95 (10)	10 (17)	40 (15)
11Y2182	MPQ	8530 (10)	15.1 (5)	5.0 (1)	102 (23)	1 (1)	40 (12)
M105	M	8370 (11)	14.2 (14)	5.0 (1)	83 (2)	1 (1)	40 (14)
09Y2173	MPQ	8370 (12)	14.8 (10)	5.0 (1)	100 (21)	10 (17)	40 (17)
09Y2176	MPQ	8280 (13)	15.0 (7)	5.0 (1)	100 (22)	11 (19)	41 (19)
12Y135	LJ	8280 (14)	12.0 (20)	5.0 (1)	97 (16)	1 (1)	38 (6)
10Y3433	M	8200 (15)	14.4 (12)	5.0 (1)	96 (12)	1 (1)	38 (9)
11Y3667	M	8160 (16)	15.1 (5)	5.0 (1)	98 (19)	1 (1)	40 (18)
11Y3433	M	8140 (17)	15.3 (4)	5.0 (1)	103 (25)	6 (14)	42 (24)
12Y133	LJ	8130 (18)	11.8 (22)	5.0 (1)	102 (24)	1 (1)	36 (3)
12Y1037	LA	7980 (19)	12.0 (21)	5.0 (1)	89 (4)	1 (1)	38 (6)
11Y106	LJ	7890 (20)	13.4 (15)	5.0 (1)	97 (14)	99 (26)	42 (25)
M203	M	7730 (21)	15.7 (2)	5.0 (1)	91 (7)	99 (26)	46 (27)
12Y1178	LJ	7560 (22)	11.1 (26)	5.0 (1)	91 (7)	1 (1)	40 (15)
A201	LA	7490 (23)	12.4 (18)	5.0 (1)	96 (12)	1 (1)	38 (8)
KOSH	SPQ	6410 (24)	16.1 (1)	5.0 (1)	106 (28)	99 (26)	47 (28)
CT202	LB	6040 (25)	12.2 (19)	5.0 (1)	91 (7)	6 (14)	36 (4)
13Y135	LB	5860 (26)	10.2 (28)	5.0 (1)	97 (16)	1 (1)	38 (11)
12Y1052	LB	5080 (27)	10.7 (27)	5.0 (1)	81 (1)	1 (1)	37 (5)
11Y158	LB	4670 (28)	12.6 (16)	5.0 (1)	95 (11)	6 (14)	35 (2)
MEAN		7980	13.4	5.0	95	26	40
CV		5.1	2.6		4.4	58.2	4.5
LSD (.05)		830	0.7		9	31	4

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

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.

Numbers in parentheses indicate relative rank in column.

Table 16. 2013 Sutter Intermediate/Late Rice Variety Tests

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
11Y2183	MPQ	9620 (1)	23.8 (2)	5.0 (1)	94 (8)	37 (9)	39 (8)
12Y1176	L	9490 (2)	21.1 (7)	5.0 (1)	94 (9)	23 (7)	39 (8)
M206	M	8820 (3)	23.0 (3)	5.0 (1)	86 (1)	18 (6)	38 (5)
L206	L	8720 (4)	18.6 (10)	5.0 (1)	89 (3)	1 (1)	32 (1)
M205	M	8540 (5)	22.9 (4)	5.0 (1)	93 (7)	1 (1)	37 (3)
CH201	SPQ	8270 (6)	20.0 (9)	5.0 (1)	92 (6)	56 (10)	37 (4)
08Y3269	M	8150 (7)	22.5 (5)	5.0 (1)	91 (5)	1 (1)	38 (6)
M202	M	7890 (8)	21.2 (6)	5.0 (1)	89 (4)	6 (5)	39 (7)
CH202	SPQ	7810 (9)	20.1 (8)	5.0 (1)	86 (2)	33 (8)	36 (2)
M402	MPQ	6900 (10)	33.3 (1)	5.0 (1)	111 (10)	1 (1)	40 (10)
MEAN		8420	22.6	5.0	92	18	38
CV		7	4.8		1	124	3.5
LSD (.05)		850	1.6		1	32	2

Preliminary Lines and Varieties

12Y1168	L	9780 (1)	19.1 (25)	5.0 (1)	91 (6)	21 (20)	38 (12)
12Y1155	LA	9550 (2)	19.2 (24)	5.0 (1)	93 (13)	1 (1)	36 (4)
11Y3448	M	9530 (3)	20.4 (20)	5.0 (1)	91 (6)	1 (1)	40 (22)
09Y2173	MPQ	9240 (4)	22.5 (10)	5.0 (1)	94 (18)	36 (23)	40 (21)
M401ES2b	M401 MUT	9100 (5)	23.3 (5)	5.0 (1)	87 (3)	80 (26)	41 (24)
M401ES1	M401 MUT	9060 (6)	23.4 (4)	5.0 (1)	91 (6)	41 (24)	39 (19)
M401ES2a	M401 MUT	8870 (7)	23.0 (7)	5.0 (1)	88 (5)	48 (25)	39 (16)
M203	M	8860 (8)	20.5 (19)	5.0 (1)	84 (2)	35 (22)	44 (26)
11Y2182	MPQ	8850 (9)	22.9 (8)	5.0 (1)	96 (19)	31 (21)	39 (14)
11Y3433	M	8730 (10)	23.2 (6)	5.0 (1)	93 (16)	1 (1)	39 (16)
12Y135	LJ	8660 (11)	21.1 (18)	5.0 (1)	103 (24)	1 (1)	37 (7)
10Y3433	M	8570 (12)	21.5 (14)	5.0 (1)	91 (9)	1 (1)	37 (7)
12Y1037	LA	8540 (13)	20.1 (21)	5.0 (1)	93 (13)	1 (1)	32 (1)
09Y2176	MPQ	8450 (14)	24.2 (3)	5.0 (1)	92 (11)	6 (18)	39 (16)
12Y1128	LA	8370 (15)	19.6 (22)	5.0 (1)	93 (13)	1 (1)	38 (11)
12Y2178	SPQ	8220 (16)	22.0 (12)	5.0 (1)	102 (23)	1 (1)	36 (5)
11Y3667	M	8110 (17)	21.1 (17)	5.0 (1)	87 (3)	1 (1)	40 (22)
A201	LA	8080 (18)	21.9 (13)	5.0 (1)	100 (22)	1 (1)	37 (9)
12Y133	LJ	8020 (19)	21.5 (15)	5.0 (1)	106 (26)	1 (1)	38 (12)
M105	M	7990 (20)	22.5 (9)	5.0 (1)	99 (21)	1 (1)	39 (14)
11Y106	LJ	7790 (21)	22.4 (11)	5.0 (1)	93 (16)	93 (27)	43 (25)
12Y1178	LJ	7100 (22)	21.2 (16)	5.0 (1)	97 (20)	1 (1)	37 (9)
M401	MPQ	6950 (23)	37.7 (1)	5.0 (1)	113 (28)	6 (18)	44 (27)
CT202	LB	6340 (24)	18.1 (28)	5.0 (1)	92 (12)	1 (1)	33 (2)
13Y135	LB	5990 (25)	18.4 (26)	5.0 (1)	103 (24)	1 (1)	36 (5)
12Y1052	LB	5360 (26)	18.3 (27)	5.0 (1)	84 (1)	1 (1)	39 (19)
KOSH	SPQ	5030 (27)	27.0 (2)	5.0 (1)	108 (27)	97 (28)	49 (28)
11Y158	LB	4820 (28)	19.4 (23)	5.0 (1)	91 (9)	1 (1)	34 (3)
MEAN		8000	22	5.0	95	18	39
CV		5	3.7		4.9	110.4	2.8
LSD (.05)		820	1.7		10	41	2

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

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.

Numbers in parentheses indicate relative rank in column.

Table 17. Grain Yield (lb/acre @14% moisture) Summary of Intermediate/ Late Rice Varieties by Location and Year (2009-2013)

Location	Year	M-205	M-402	**M-202**	L-206
Biggs (RES)	2009	9290	9110	**8300**	9950
	2010	11030	8240	**10430**	11610
	2011	10270	9200	**9160**	9990
	2012	11210	10260	**11090**	11180
	2013	9730	9830	**8700**	9460
Location Mean		10306	9328	**9536**	10438
Glenn	2009	10120	10610	**9230**	10440
	2010	9210	9360	**7970**	8340
	2011	9550	9820	**9030**	8900
	2012	8220	8260	**7660**	7680
	2013	8400	8970	**8270**	8870
Location Mean		9100	9404	**8432**	8846
Sutter	2009	8180	8010	**7080**	7470
	2010	9190	9300	**10500**	9390
	2011	9310	8000	**9010**	9780
	2012	9630	9040	**9690**	9890
	2013	8540	6900	**7890**	8720
Location Mean		8970	8250	**8834**	9050
Loc/Years Mean		9459	8994	**8934**	9445
Yield % M-202		**105.9**	**100.7**	**100**	**105.0**
Number of Tests		15	15	**15**	15

Table 18. 2013 Twitchell Island Cold Tolerance Rice Variety Test

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
CM101	SWX	8090 (1)	17.1 (17)	5.0 (1)	98 (4)	1 (1)	28 (3)
M206-Pi-ta2	MB	7940 (2)	22.2 (7)	5.0 (1)	104 (13)	1 (1)	30 (8)
M206	M	7930 (3)	22.2 (8)	5.0 (1)	101 (7)	1 (1)	30 (9)
12Y113	MB	7910 (4)	22.6 (6)	5.0 (1)	103 (11)	13 (18)	31 (13)
10Y3286	M	7870 (5)	20.9 (11)	5.0 (1)	101 (6)	1 (1)	31 (10)
M202	M	7840 (6)	24.7 (3)	5.0 (1)	107 (15)	1 (1)	30 (6)
M104	M	7750 (7)	19.5 (14)	5.0 (1)	95 (1)	1 (1)	28 (2)
09Y2141	SWX	7660 (8)	20.9 (12)	5.0 (1)	99 (5)	1 (1)	33 (18)
M105	M	7630 (9)	21.8 (9)	5.0 (1)	96 (3)	1 (1)	31 (14)
L206	L	7500 (10)	18.1 (16)	5.0 (1)	101 (7)	1 (1)	24 (1)
09Y2036	S	7440 (11)	19.3 (15)	5.0 (1)	102 (9)	1 (1)	33 (17)
08Y3126	M	7340 (12)	23.3 (5)	5.0 (1)	104 (14)	3 (17)	32 (16)
12Y3097	MB	7060 (13)	21.3 (10)	5.0 (1)	102 (10)	1 (1)	32 (15)
S102	S	6850 (14)	16.9 (18)	5.0 (1)	96 (2)	1 (1)	29 (5)
10Y3703	M	6830 (15)	24.3 (4)	5.0 (1)	109 (16)	1 (1)	31 (11)
11Y2183	MPQ	6770 (16)	27.7 (2)	5.0 (1)	115 (18)	1 (1)	29 (4)
09Y2179	S	6440 (17)	19.6 (13)	5.0 (1)	104 (12)	1 (1)	31 (12)
10Y3690	M	6360 (18)	29.1 (1)	5.0 (1)	111 (17)	1 (1)	30 (7)
MEAN		7400	21.8	5.0	103	2	30
CV		11.7	6.8		1.8	326.3	4.8
LSD (.05)			2.1		3		2

S = short; M = medium; L = long; PQ = premium quality; 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.

Numbers in parentheses indicate relative rank in column.