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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 cultivars and existing varieties under grower conditions, for the purpose of new variety development and release, the tests of three maturity groups were conducted. Several promising cultivars were included in the trials at all locations to evaluate their performance in the different climes of the rice-growing region.

Very Early Maturity Group - Two uniform trials were conducted at each of the following on-farm sites: the Brumley Ranch (San Joaquin County), the Lauppe Ranch (Sutter County), and the Geer and Sons Ranch (Yolo County). Two additional tests were conducted at the Rice Experiment Station (RES) in Butte County. The Advanced test at each site included eighteen entries (eight commercial varieties and ten advanced breeding lines) in four replications. The Preliminary test included thirty-two entries, all preliminary breeding lines in two replications.

Early Maturity Group - Two uniform tests were conducted at each of the following on-farm sites: the Harris Ranch (Glenn County), the Dennis Ranch (Colusa County), and the Quad 4 Ranch (District 10, Yuba County). Two additional trials, Advanced and Preliminary, were conducted at the RES. The Advanced test at each site included twenty-one entries (ten commercial varieties and eleven advanced breeding lines) in four replications. The Preliminary test included thirty 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 Akin Ranch (Sutter County). Two additional tests were conducted at the RES. The first test at each site included fourteen

entries (six commercial varieties and eight advanced breeding lines) in four replications; and the second test consisted of twenty preliminary breeding lines in two replications.

Objective II

To conduct research on improved cultural practices:

Variety by nitrogen study: Based on controlled experiments, field observations, and grower practices, changes in cultural practices (e.g. straw incorporation) and the nutritional needs of the new varieties indicate the need to re-evaluate nitrogen management. This research was conducted to provide growers with initial guidelines for nitrogen management of these new varieties. Studies were conducted in Sutter and Buttes Counties.

Six varieties were grown at 5 different nitrogen rates (0, 50, 100, 150, and 200 lb N/acre) in a split-plot design with three replications of the main plot treatment. Nitrogen treatment and variety were the main and subplot treatments, respectively. Varieties tested included S-102, M-104, M-202, M205, M402, and Y-242 (advanced medium grain line). An M-205 seeding rate study was also conducted. M-205 was seeded at 100, 150, and 200 lb/a rates and grown 5 different N levels.

Objective III

To provide professional technical assistance to other UC research project leaders and to maintain an Extension-based equipment pool for planting, fertilizing, treating, and harvesting field experiments throughout the rice growing region. Perform necessary maintenance and repair of the UC plot combine.

Objective IV

To develop and disseminate research based information to California rice producers, dryer operators, millers and the general public through meetings, personal communication, and the publication and distribution of fact sheets and other printed material the publication and distribution of fact sheets and other material.

SUMMARY OF 2002 RESEARCH OBJECTIVES

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.

The following analyses provide single-location yield summaries for the advanced line tests and over-location agronomic performance summaries for each entry in each maturity category. For

quick reference, grain yields of commercially available varieties tested in very early, early and late tests across year and location 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) - Ten advanced breeding lines and eight commercial varieties were compared in four very early advanced tests. Commercial varieties at each location included L-205, M-205, M-104, L-204, S-102, M-202, CM-101, and M-103. Thirty-two cultivar lines were tested in the preliminary trails at each location.

Grain yields in the advanced tests averaged 10,040 lb/acre at the Biggs-RES, 8510 lb/acre at San Joaquin, 9170 lb/acre at Sutter, and 8540 lb/acre at Yolo (Tables 1, 2, 3, & 4, respectively). Over the four locations, the highest yielding entry on average was M-104 (9690 lb/acre) followed by the advanced medium line 98Y242 (9660 lb/acre), S-102 (9650 lb/acre), and 00Y228, a medium grain (9600 lb/acre). Other top yielding commercial varieties M-202, M-103, and L-205 ranked ten, eleventh and twelfth over location, respectively. M-205 ranked eighteenth overall; its yields hampered at the cooler locations. Averaged across location yields in the preliminary tests ranged from 7600 to 9550 lb/acres (Table 5). Days to 50% heading for most varieties in 2002 were comparable to 2001 (Table 1). For example, S-102 reached 50% heading in 80 days in both years. One exception is M-205, which headed in 91 days in 2002 and 97 days in 2001. Overall average days to 50% heading was 85 DAS in 2002 and 2001. Only L-204 exhibited no lodging at all locations. Over a 5-year period and across location, S-102 was the highest yielding variety followed by M-104 (Table 6).

Early Maturity Tests (90-97 days to 50% heading at Biggs) - Eleven advanced lines and ten commercial varieties were compared in four early tests. Thirty preliminary lines were also evaluated in separate tests at each location. Commercial varieties at each location were CH-201, CT-201, CM-101, M-104, M-202, M-204, M-205, L-204, L-205, and S-102.

Yields in the advanced line tests averaged 9790 lb/acre at the RES; 8450 lb/acre at Butte; 8410 lb/acre at Colusa, and 8310 lb/acre at Yuba (Tables 7, 8, 9, & 10). The medium grain M-205 was the highest yielding entry (9550 lb/acre) when averaged over the four locations in 2002 (Table 11). Other fairly consistently high yielding entries were 98Y-242, 98Y-529, and S-102, although only 98 Y-242 ranked in the top ten at all locations. The other commercial varieties M-202, L-204, L-205, CM-101, CH-201, and CT-201 ranked fifth, eighth, ninth, eighteen, seventeenth, and nineteenth over all locations (Table 11). Preliminary line 01Y-327 (SPQ) yielded better across location than the commercial standard M-202. Time to 50% heading ranged from 82 DAS at Butte to 97 at the Colusa site. The commercial standard M-202 headed 85 DAS at Butte and in 94 days at Colusa.

M-205 was the highest yielding commercial variety (8882 lb/a) followed by M-204 (8726 lb/a) when averaged over the last five years and across location (Table 12).

Intermediate-Late Maturity Tests (> 97 days to 50% heading at Biggs) - Eight advanced lines and six commercial varieties were compared in three intermediate-late tests. Twenty preliminary lines were also evaluated in separate tests at each location. Commercial varieties at each location included L-205, CT-201, CH-201, M-202, M-205, and M-402.

Average yields in the advanced line tests were 10830 lb/a at the RES, 8180 lb/acre at Glenn, and 8840 lb/acre at Sutter (Tables 13, 14, & 15) up on average from 2001. The M-205 was the highest yielding entry overall (11600 lb/acre) at any location, followed by L-205 and M-402 among the commercial varieties (Table 16). Advanced line 94Y-663 (long grain) was the highest yielding advanced germplasm at 12870 lb/acre. Time to 50% heading ranged from 87 DAS at the RES to 96 at Glenn. M-402 took longest to head among the commercial varieties, 108 DAS at Glenn (Table 14).

Averaged over the last five years across location, M-205 was the highest yielding (9521 lb/a) commercial variety (Table 17). M-402 produced 8769 lb/acre on average over the last 5 years, representing a 1.5 % yield increase over M-202 under the same conditions (Table 17).

Multi-Location Strip Trial

Three rice variety strip trials were conducted to evaluate the potential new medium grain cultivar 98Y-242 across different environments. Such trials provide larger scale evaluation than the usual small plots. Each trial had three replicates. Harvest length varied but always exceeded 100 ft at each location. The UC plot combine was used to harvest each trial. 98Y-242 performance was compared to location appropriate standard varieties. Comparison medium grain varieties were M-202, M-103 or M-104. Agronomic data is given in Tables 18, 19 and 20.

In Colusa, 98Y-242 yield better than M-104 (8930 vesus 8170 lb/a), but produced significantly less rice that M-202 (9510 lb/a). Days to 50 % heading for 98Y-242 and M-104 were comparable and less that M-202 (96 days). All three varieties exhibited a fairly high degree of lodging.

At the cool location in San Joaquin, 98Y-242 yielded better than M-103, but less than M-104 (Table 19), demonstrating its potential as a viable and productive alternative variety for this region. However, the days to 50 % days were considerably longer for 98Y-242 (100 days) than either M-103 (82 days) or M-104 (82 days). Lodging scores were comparable for all varieties.

Statistically there was no difference in yield among the tested varieties (98Y-242, M-202, and M-104) at the Sutter location (Table 20). No differences between varieties in the other performance indices (seedling vigor, lodging, plant height, and milling yields) were observed.

Milling samples were taken by hand at different moisture contents in two locations and milled at the Rice Experiment Station. Average milling results across moisture contents are also given in the tables. Results varied by location and will be combined with data from other years and locations to evaluate 98-Y-242 for release.

Objective II - Cultural Practices

Variety by nitrogen study: Two trials were established in a commercial rice fields in Sutter and Butte Counties comparing six varieties at five preplant nitrogen rates in small plots using a split plot design with four replications. The fertilizer source was ammonium sulfate applied in a band 2-4" deep. The trial was rolled and flooded, then hand seeded on May 7 and 21 at Sutter and Butte, respectively. Water management was continuous flood. Weed control included Ordram, Londax, and propanil. Crop growth was good but yields may have been compromised at the

Sutter site due to a high infestation of California arrowhead. There was slight herbicide injury at both locations. Results are shown in Tables 21 and 22.

Yields ranged from a low of 3723 lb/a (S-102) at 0 N at Sutter to 10644 lb/a (M-202) at 150 lb N/a at Butte (Tables 21 and 22). The 150 lb N/a treatment produced the highest mean and individual variety yields at both locations. The highest yielding variety at Sutter was M-205 (8743 lb/a) followed by advanced line 98Y-242 (8528 lb/a). At Butte, 98Y-242 produced the highest yield (10788 lb/a) followed by M-202 (10644 lb/a).

Regression analysis (data not shown) revealed that optimal yields for all varieties at both locations would be expected at N rates between 140 and 155 lb N/a. Noteworthy, incremental increases in N between 150 and 200 lb/a were not evaluated in this study. Based on grower observation optimal performance under some conditions may occur in this range. Also, all treatments were applied preplant. There are indications that some growers are realizing a yield increase using split applications to justify the added production cost. The potential benefit of split applications of N in the context of new straw management practices and new varieties requires further study.

M-205 Seeding Rate Trial

Empirical observations in 2001 indicated that dense plant populations especially under high N levels might substantially compromise the yields of M-205. A seeding rate by N level study was conducted to test this observation under controlled conditions. Plots with seeding rates of 100, 150, and 200 lb/a were treated with N rates of 0, 50, 100, 150, and 200 lb/a. No consistent trends in yield response to seeding rates in relation to N rates were observed (Table 23). However, at the optimal N rate of 150 lb/a there was a downward trend in yield as seeding rate increased.

Combine Moisture Meter Calibration

Accurate grain moisture measurement is a vital component of germplasm evaluation. The range of maturity among the varieties in a trial results in a broad range of harvest moistures. The demands of harvest season frequently make it difficult to harvest the trials at comparable moisture contents at all locations. Thus, reliable measurements of moisture content over a range of values are essential for comparing performance across locations. The UC plot combine was equipment with a new moisture meter in 2001. The limited calibration data for rice available from the manufacturer was for southern varieties. To ensure that the moisture meter calibration accurately reflected California rice varieties, a rigorous effort was undertaken to establish calibration curves relating meter output (in millivolts) to oven dry weights for short, medium, and long grain varieties.

Regression analysis was used to create a polynomial function describing grain moisture as a function of meter output for the three grain types (Figures 1, 2, & 3). The moisture meter accurately predicts short grain moisture content between 10 and 29% moisture (Figure 1). Moisture content measurements above 30% are not reliable. A similar range of accuracy was observed for medium grain varieties (Figure 2). In contrast, the range of accuracy for long grain varieties maximized at about 27% moisture content. However, this is functionally acceptable because long grains are harvested at lower moisture contents. Breeders at the RES pointed out

that the remaining task in this regard is establishing an accurate calibration curve for pubescent varieties, which can be somewhat problematic for moisture content measurements.

Objective III - Assistance to Other Projects

Significant effort was directed toward the maintenance of the UC plot combine. Following a major overhaul in 2001, an annual maintenance was established to ensure combine durability and performance. The first year maintenance was performed as outlined in the 2002 RM-2 proposal.

The rice equipment pool, including a precision fertilizer applicator, SWECO 324 plot combine, moisture meters, backpack CO_2 sprayers, and other equipment were used with labor and technical assistance for numerous field experiments in 2002. The precision fertilizer applicator was used to establish nitrogen trials. The SWECO 324 plot combine was used to harvest nineteen variety trials, two fertility experiments, three water temperature experiments, two calcium fertility experiments, two Bakanae trials, an herbicide experiment, and a micro-nutrient study. All told, over 2500 experimental plots were harvested in 2002. UC equipment and personnel assisted with establishment of levee infrastructure for weed control plots at Biggs, RES. The backpack sprayers were used to apply herbicides in county-based weed control trials. Backpack sprayers were also used to provide levee weed control at experimental sites during the growing season. In addition to equipment assistance to other projects, labor from this project was used to plant, collect samples, and monitor growth in several field and greenhouse experiments. Project personnel, also, collected leaf samples for the calibration of the LCC from all rice producing counties.

Objective IV - Publication and Distribution of Rice Research Information

The following reports were designed, formatted and printed with support from this project:

1. Annual Report Comprehensive Rice Research 2001. University of California and USDA, 148 pp.
2. Rice Field Day Program, 2002
   California Cooperative Rice Research Foundation, RES, 41 pp.

Publications and Reports

1. The UC Rice Project website was updated, http://agronomy.ucdavis.edu/uccerice/index.htm.
2. Sundstrom F. J., Jack Williams, Allen VanDeynze, and Kent J. Bradford. "Identity Preservation of Agricultural Commodities," Agricultural Biotechnology in California Series, Pub. 8077, UC-DANR, Seed Biotechnology Center, UC Davis, http://anrcatalog.ucdavis.edu/pdf/8077.pdf, Dec. 2002. 15 pgs.
3. Byous, E. JF Williams, G Jones, W Horwath, and C vanKessel. 2002. Yield response to K fertilization.: Impact of straw removal and incorporation. Proceedings 29th Rice Technical Working Group, February 2002.

4. Mutters, RG, J Eckert, A Roel, and R Plant. 2002. Measuring the effect of low water temperature on blanking and grain yield on California rice production. Proceedings 29th Rice Technical Working Group, February 2002.
5. Van Groenigen, JW, RG Mutters, WR Horwath, and C vanKessel. 2002. NIR and Drift-MIR spectrometry of soils for predicting soil and crop parameters in a flooded field. In press. Plant Soil Journal.
6. Mutters, RG and JW Eckert. 2002. Development of a leaf color chart for rice varieties in California. Proceedings 29th Rice Technical Working Group, February 2002.
7. Roel, A. JF Williams, and R Plant. 2002. Interpreting yield patterns for California rice precision farm management. Proceedings 29th Rice Technical Working Group, February 2002.
8. Williams, JF, P Buttner, RK Webster, and RG Mutters. 2002. Rice disease certification program in California. Proceedings 29th Rice Technical Working Group, February 2002.

CONCISE GENERAL SUMMARY OF CURRENT YEAR'S RESULTS:

Sixteen on-farm rice variety evaluation trials were conducted throughout the rice growing region of California, exposing standard, advanced and preliminary varieties to 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 ranged from about 7960 lb/acre in the very early trials to about 10830 lb/acre in the intermediate tests. Combination of a dry, warm planting season and midseason temperatures produced a favorable climate for rice in most areas. Very little blanking was observed in the statewide trials. Two trials became heavily infested with weeds and required a hand rouging to ensure the integrity of the experiments. As in previous years, the commercial standards ranked high in yield against the advanced and preliminary entries, demonstrating that yield advances are difficult to attain. However, a few advanced lines in 2002 (e.g. 99Y-529) produced very high yields and exhibited good plant architectural characteristics. 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. Three rice variety strip trials were conducted to evaluate the potential new medium grain cultivar 98-Y-242 across different environments. 98Y-242 yields were comparable to the standard varieties at all locations.

A study was conducted to determine optimal preplant nitrogen levels for three new varieties, one advanced line and two standards (M205, M402, M104, 98Y-242, S-102, and M202). Optimum N rates ranged from 140 to 155 lbs N/acre depending on variety, but location effects was minimal. An M-205 seeding rate by N level study was conducted to test whether yields were sensitive to planting densities under controlled conditions. No consistent trends in yield response to seeding rates in relation to N rates were observed. Regression analysis was used to develop grain moisture calibration curves for short, medium, and long grain varieties for the new moisture meter on the UC plot combine. R2 values were 0.91, 0.92, and 0.94 for short, medium, and long, respectively, indicating a high of accuracy for all grain types. Accurate moisture content measurement is a vital part of yield analysis in the statewide variety trials.

Table 1. 2002 Very Early Rice Variety Test - Butte County (Biggs,RES)

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 (cm)
L-205	REX	10910 (1)	17.4 (15)	4.8 (8)	89 (16)	19 (5)	99 (6)
00Y481	L	10800 (2)	17.9 (12)	4.5 (11)	88 (15)	1 (1)	96 (5)
01Y439	REX	10800 (3)	17.7 (13)	4.4 (13)	83 (6)	14 (4)	99 (7)
99Y469	L	10670 (4)	16.9 (16)	4.8 (4)	83 (6)	22 (6)	91 (1)
98Y242	M	10670 (5)	23.9 (2)	4.3 (14)	85 (10)	48 (11)	105 (18)
M205	M	10470 (6)	26.7 (1)	4.7 (10)	91 (18)	11 (3)	101 (9)
00Y805	M	10320 (7)	21.2 (5)	3.2 (18)	88 (14)	34 (8)	104 (14)
M104	M	10170 (8)	19.3 (10)	4.1 (17)	81 (3)	76 (14)	100 (8)
01Y177	SPQ	10130 (9)	18.6 (11)	4.4 (12)	82 (4)	45 (9)	95 (4)
L-204	L	10120 (10)	17.7 (14)	4.9 (1)	85 (13)	1 (1)	91 (2)
S102	S	9910 (11)	15.1 (18)	4.8 (4)	80 (1)	64 (13)	103 (12)
00Y228	M	9890 (12)	19.5 (9)	4.2 (16)	84 (8)	63 (12)	105 (16)
00Y151	SPQ	9870 (13)	20.9 (6)	4.7 (9)	84 (8)	23 (7)	92 (3)
M202	M	9710 (14)	22.8 (3)	4.8 (4)	89 (17)	46 (10)	105 (16)
00Y175	W	9410 (15)	20.1 (7)	4.9 (2)	85 (11)	96 (18)	104 (15)
98Y174	MPQ	9160 (16)	21.9 (4)	4.8 (4)	85 (11)	93 (17)	103 (13)
CM101	WX	8890 (17)	16.5 (17)	4.9 (3)	81 (2)	86 (15)	102 (11)
M103	M	8740 (18)	19.8 (8)	4.3 (14)	82 (5)	92 (16)	101 (9)
MEAN		10040	19.7	4.5	85	46	100
CV		6.9	8.9	13	3.3	45.4	3.2
LSD (.05)		990	2.5	0.8	4	30	5

Preliminary Lines and Varieties

01Y536	REX	11030 (1)	16.4 (32)	4.9 (4)	88 (23)	1 (5)	95 (4)
01Y466	L	10740 (2)	19.4 (17)	4.7 (8)	88 (23)	1 (1)	100 (12)
01Y179	SPQ	10670 (3)	21.1 (7)	4.4 (16)	90 (31)	3 (8)	101 (15)
01Y185	SPQ	10600 (4)	19.6 (15)	4.7 (8)	83 (8)	67 (30)	103 (24)
01Y455	REX	10550 (5)	17.6 (24)	4.5 (14)	87 (20)	1 (1)	99 (10)
01Y266	M	10520 (6)	20.1 (12)	4.2 (20)	86 (17)	33 (23)	102 (20)
01Y441	L	10490 (7)	19.4 (17)	4.7 (11)	88 (25)	1 (1)	100 (12)
00Y478	L	10480 (8)	16.6 (29)	4.7 (8)	87 (20)	1 (5)	96 (5)
01Y413	M	10460 (9)	21.8 (3)	3.4 (30)	89 (30)	18 (17)	103 (24)
01Y288	M	10430 (10)	21.4 (5)	3.7 (25)	91 (32)	4 (10)	96 (5)
01Y218	W	10300 (11)	20.1 (13)	3.7 (25)	86 (16)	58 (28)	103 (24)
00Y170	S	10290 (12)	19.6 (15)	5.0 (1)	80 (1)	97 (32)	94 (3)
01P2448	SR	10270 (13)	16.6 (30)	5.0 (1)	82 (3)	1 (1)	105 (29)
01Y383	M	10250 (14)	22.6 (1)	3.5 (27)	89 (28)	3 (8)	96 (5)
01P2646	L	10230 (15)	17.9 (23)	5.0 (1)	83 (8)	10 (13)	101 (18)
01Y237	M	10210 (16)	21.8 (3)	3.1 (32)	89 (28)	61 (29)	104 (28)
97Y469	TQ	10070 (17)	17.6 (25)	4.8 (6)	87 (19)	5 (11)	103 (27)
01Y747	M	9740 (18)	17.2 (26)	4.4 (16)	83 (7)	10 (14)	99 (10)
01Y230	M	9690 (19)	20.0 (14)	4.1 (22)	83 (8)	57 (27)	101 (15)
01Y728	M	9660 (20)	18.5 (21)	4.2 (21)	86 (17)	25 (21)	102 (19)
01Y220	W	9630 (21)	20.9 (9)	4.4 (18)	85 (12)	67 (30)	102 (20)
01Y451	REX	9610 (22)	16.8 (27)	4.9 (5)	80 (1)	23 (20)	102 (20)
01Y482	B	9550 (23)	18.3 (22)	4.7 (11)	85 (14)	11 (15)	106 (30)
01Y295	MPQ	9550 (24)	21.3 (6)	4.6 (13)	85 (14)	55 (26)	108 (31)
01Y231	M	9510 (25)	19.1 (20)	4.1 (22)	82 (4)	54 (25)	108 (32)
99Y324	SPQ	9380 (26)	16.5 (31)	4.8 (6)	84 (11)	14 (16)	83 (1)
01Y780	M	9320 (27)	21.9 (2)	3.5 (27)	85 (12)	19 (18)	100 (12)
01Y192	MPQ	9290 (28)	20.9 (8)	4.3 (19)	87 (20)	35 (24)	101 (15)
01Y267	M	9250 (29)	20.8 (10)	3.3 (31)	88 (25)	21 (19)	99 (9)
01Y797	M	9200 (30)	20.3 (11)	4.5 (14)	82 (4)	27 (22)	102 (20)
01Y176	SPQ	9170 (31)	19.1 (19)	4.0 (24)	82 (4)	9 (12)	91 (2)
01Y478	B	8610 (32)	16.8 (28)	3.5 (27)	88 (25)	2 (7)	98 (8)
MEAN		9960	19.3	4.3	85	25	100
CV		4.6	6.4	17	2.3	80.6	3.3
LSD (.05)		930	2.5		4	40	7

S = short; M = medium; L = long; W, WX = waxy; PQ = premium quality; SR = stem rot resistant;
B = Basmati; REX = Newrex; TQ = Te Qing .
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 parenthesis indicate relative rank in column.

Table 2. 2002 Very Early Rice Variety Test - San Joaquin County

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	Plant Height (cm)
M104	M	9400 (1)	19.8 (6)	4.7 (7)	96 (13)	79 (9)
00Y175	W	9320 (2)	18.9 (8)	4.6 (9)	92 (7)	82 (14)
98Y174	MPQ	9130 (3)	17.9 (11)	4.7 (7)	90 (5)	78 (7)
00Y805	M	8990 (4)	20.7 (5)	4.4 (16)	100 (16)	86 (16)
S102	S	8910 (5)	15.3 (17)	4.7 (5)	87 (1)	86 (16)
98Y242	M	8900 (6)	21.3 (3)	4.8 (3)	100 (16)	87 (18)
00Y228	M	8880 (7)	18.6 (9)	4.6 (10)	95 (11)	81 (12)
M202	M	8750 (8)	21.1 (4)	4.7 (4)	97 (14)	84 (15)
M103	M	8630 (9)	18.3 (10)	4.5 (13)	90 (4)	81 (13)
M205	M	8580 (10)	24.4 (1)	4.9 (1)	103 (18)	77 (5)
CM101	WX	8550 (11)	15.7 (16)	4.7 (6)	89 (3)	79 (9)
99Y469	L	8400 (12)	16.8 (12)	4.6 (10)	98 (15)	67 (1)
00Y481	L	8370 (13)	14.7 (18)	4.9 (2)	94 (10)	77 (5)
01Y177	SPQ	7950 (14)	19.7 (7)	4.2 (18)	91 (6)	73 (2)
00Y151	SPQ	7930 (15)	21.4 (2)	4.5 (13)	93 (8)	73 (2)
L-204	L	7800 (16)	15.8 (15)	4.6 (10)	93 (8)	74 (4)
01Y439	REX	7380 (17)	15.9 (14)	4.3 (17)	89 (2)	79 (11)
L-205	REX	7280 (18)	16.0 (13)	4.5 (13)	95 (11)	78 (7)
MEAN		8510	18.5	4.6	94	79
CV		4.5	3.6	4	1.2	4.4
LSD (.05)		550	0.9	0.3	2	5

Preliminary Lines and Varieties

01Y383	M	8880 (1)	21.3 (3)	4.2 (26)	100 (30)	76 (10)
01Y218	W	8830 (2)	18.9 (12)	4.5 (9)	90 (7)	85 (32)
01Y220	W	8820 (3)	18.8 (14)	5.0 (3)	93 (13)	80 (23)
01Y797	M	8790 (4)	18.9 (13)	4.7 (6)	89 (3)	77 (16)
01Y267	M	8740 (5)	19.4 (9)	4.4 (14)	99 (28)	80 (23)
01Y231	M	8680 (6)	16.8 (22)	4.2 (26)	90 (5)	80 (23)
01Y266	M	8640 (7)	19.8 (7)	4.3 (21)	99 (28)	80 (23)
00Y170	S	8530 (8)	17.1 (21)	4.9 (5)	86 (1)	71 (3)
01Y413	M	8430 (9)	21.0 (4)	4.2 (26)	99 (27)	80 (23)
01P2646	L	8250 (10)	17.2 (20)	5.0 (1)	95 (20)	80 (23)
00Y478	L	8230 (11)	14.6 (28)	5.0 (3)	95 (20)	76 (10)
01Y192	MPQ	8190 (12)	22.0 (2)	4.2 (26)	103 (31)	81 (30)
01Y185	SPQ	8120 (13)	18.0 (16)	4.4 (14)	94 (15)	79 (20)
01Y451	REX	8060 (14)	14.5 (30)	4.5 (9)	88 (2)	75 (8)
01Y295	MPQ	8060 (15)	18.5 (15)	4.3 (21)	92 (9)	77 (16)
01Y780	M	8030 (16)	19.3 (10)	4.4 (14)	96 (24)	76 (10)
01Y237	M	7980 (17)	18.9 (11)	4.3 (24)	96 (22)	76 (10)
01Y176	SPQ	7930 (18)	20.1 (6)	4.3 (21)	93 (11)	71 (3)
01Y466	L	7890 (19)	16.0 (24)	4.2 (26)	92 (9)	81 (30)
01Y747	M	7850 (20)	18.0 (17)	4.7 (6)	95 (18)	80 (23)
97Y469	TQ	7760 (21)	15.0 (25)	4.7 (6)	91 (8)	79 (20)
01Y288	M	7690 (22)	23.0 (1)	4.5 (9)	105 (32)	72 (5)
01Y230	M	7670 (23)	19.7 (8)	4.5 (9)	98 (25)	76 (10)
01Y179	SPQ	7590 (24)	20.3 (5)	4.4 (14)	93 (13)	77 (16)
01Y441	L	7480 (25)	16.4 (23)	4.4 (14)	94 (16)	75 (8)
01Y455	REX	7380 (26)	14.6 (29)	4.3 (24)	94 (16)	74 (7)
99Y324	SPQ	7340 (27)	17.3 (19)	4.0 (32)	95 (18)	56 (1)
01Y728	M	7170 (28)	17.6 (18)	4.5 (9)	98 (26)	77 (16)
01P2448	SR	7120 (29)	14.4 (31)	5.0 (1)	93 (11)	76 (10)
01Y478	B	7030 (30)	14.0 (32)	4.2 (26)	89 (3)	72 (5)
01Y536	REX	6840 (31)	14.8 (26)	4.4 (14)	96 (22)	66 (2)
01Y482	B	6650 (32)	14.7 (27)	4.4 (14)	90 (5)	79 (20)
MEAN		7960	17.8	4.5	94	76
CV		5.7	5.1	3.5	1.1	4.1
LSD (.05)		930	1.8	0.3	2	6

S = short; M = medium; L = long; W, WX = waxy; PQ = premium quality; SR = stem rot resistar
B = Basmati; REX = Newrex; TQ = Te Qing .
Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.
Numbers in parenthesis indicate relative rank in column.

Table 3. 2002 Very Early Rice Variety Test - Sutter County

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 (cm)
S102	S	9950 (1)	12.9 (11)	4.5 (10)	78 (1)	6 (5)	86 (14)
00Y228	M	9870 (2)	14.2 (2)	4.2 (17)	85 (9)	20 (13)	85 (12)
98Y242	M	9870 (3)	13.8 (6)	4.6 (9)	87 (13)	74 (17)	87 (17)
M104	M	9620 (4)	14.2 (3)	4.7 (6)	81 (6)	58 (15)	84 (9)
M103	M	9320 (5)	14.3 (1)	4.5 (11)	79 (2)	13 (9)	84 (10)
00Y175	W	9290 (6)	13.9 (5)	4.8 (2)	80 (5)	9 (7)	85 (11)
99Y469	L	9100 (7)	11.5 (18)	4.3 (15)	85 (11)	16 (11)	78 (2)
00Y481	L	9090 (8)	11.6 (17)	4.7 (6)	87 (14)	1 (1)	85 (13)
01Y439	REX	9070 (9)	12.7 (12)	4.3 (16)	80 (4)	1 (1)	86 (15)
L-205	REX	9050 (10)	11.9 (16)	4.5 (11)	88 (15)	1 (1)	82 (5)
CM101	WX	9010 (11)	12.5 (14)	4.9 (1)	79 (2)	13 (8)	83 (8)
98Y174	MPQ	8990 (12)	13.4 (9)	4.6 (8)	85 (9)	86 (18)	82 (6)
M202	M	8940 (13)	13.6 (7)	4.7 (3)	90 (17)	31 (14)	89 (18)
00Y805	M	8940 (14)	12.7 (13)	4.7 (3)	90 (16)	64 (16)	87 (16)
L-204	L	8860 (15)	12.1 (15)	4.5 (11)	86 (12)	1 (1)	74 (1)
01Y177	SPQ	8760 (16)	13.6 (8)	4.2 (18)	83 (7)	7 (6)	83 (7)
00Y151	SPQ	8760 (17)	14.0 (4)	4.4 (14)	84 (8)	13 (9)	79 (3)
M205	M	8620 (18)	13.0 (10)	4.7 (3)	94 (18)	18 (12)	81 (4)
MEAN		9170	13.1	4.5	84	24	83
CV		3.9	2.5	4.1	0.6	46.6	3.6
LSD (.05)		510	0.5	0.3	1	16	4

Preliminary Lines and Varieties

01Y220	W	10140 (1)	13.2 (6)	4.6 (11)	83 (6)	8 (16)	91 (27)
00Y170	S	9850 (2)	13.6 (2)	4.7 (8)	79 (1)	55 (27)	79 (2)
01Y451	REX	9330 (3)	10.7 (30)	4.8 (5)	80 (2)	15 (18)	86 (13)
01P2646	L	9190 (4)	11.3 (26)	4.9 (3)	86 (13)	3 (4)	86 (15)
01Y218	W	9140 (5)	13.4 (5)	4.4 (25)	85 (9)	3 (4)	90 (26)
01Y179	SPQ	9030 (6)	12.6 (16)	4.8 (5)	85 (9)	43 (23)	84 (9)
01Y267	M	8920 (7)	12.8 (12)	4.3 (26)	90 (27)	65 (29)	85 (12)
01Y231	M	8870 (8)	13.6 (3)	4.5 (14)	80 (2)	43 (23)	94 (30)
01Y176	SPQ	8720 (9)	13.0 (7)	4.0 (32)	87 (16)	6 (15)	82 (5)
01Y237	M	8640 (10)	12.6 (18)	4.2 (29)	89 (25)	80 (32)	86 (13)
01Y295	MPQ	8620 (11)	13.5 (4)	4.4 (19)	86 (13)	60 (28)	95 (31)
01Y266	M	8600 (12)	12.6 (17)	4.3 (26)	88 (23)	78 (31)	86 (15)
01Y413	M	8590 (13)	12.7 (15)	4.4 (19)	90 (27)	50 (26)	89 (22)
01Y455	REX	8500 (14)	11.5 (24)	4.3 (26)	88 (21)	1 (1)	83 (6)
00Y478	L	8490 (15)	10.7 (29)	5.0 (1)	88 (21)	5 (10)	83 (6)
97Y469	TQ	8470 (16)	10.9 (28)	4.5 (14)	87 (16)	3 (4)	95 (31)
01Y230	M	8460 (17)	13.9 (1)	4.5 (14)	86 (13)	6 (11)	89 (22)
01Y185	SPQ	8420 (18)	12.3 (20)	4.4 (19)	87 (19)	70 (30)	89 (22)
01Y288	M	8340 (19)	13.0 (8)	4.8 (5)	91 (30)	1 (1)	84 (9)
01Y797	M	8220 (20)	12.9 (10)	4.7 (8)	83 (4)	45 (25)	87 (17)
01Y466	L	8190 (21)	11.7 (23)	4.1 (31)	89 (24)	3 (4)	93 (29)
01Y536	REX	8150 (22)	10.0 (32)	4.6 (11)	91 (30)	3 (4)	79 (2)
01Y780	M	8100 (23)	12.8 (13)	4.9 (3)	87 (19)	23 (19)	87 (19)
99Y324	SPQ	8070 (24)	12.0 (21)	4.5 (14)	86 (12)	6 (11)	74 (1)
01Y747	M	8010 (25)	12.9 (9)	4.5 (14)	85 (11)	6 (11)	89 (22)
01P2448	SR	7850 (26)	11.4 (25)	5.0 (1)	83 (4)	1 (1)	87 (17)
01Y478	B	7810 (27)	10.6 (31)	4.7 (10)	84 (7)	6 (11)	84 (8)
01Y728	M	7810 (28)	12.7 (14)	4.4 (19)	87 (16)	25 (20)	87 (19)
01Y383	M	7740 (29)	12.5 (19)	4.4 (19)	91 (30)	25 (20)	82 (4)
01Y441	L	7600 (30)	11.1 (27)	4.6 (11)	89 (25)	3 (4)	89 (21)
01Y192	MPQ	7490 (31)	12.8 (11)	4.2 (29)	90 (27)	35 (22)	84 (9)
01Y482	B	7170 (32)	11.8 (22)	4.4 (19)	84 (7)	8 (17)	91 (27)
MEAN		8450	12.3	4.5	86	24	86
CV		5.1	3.4	5.3	0.7	52.4	3.2
LSD (.05)		870	0.9	0.5	1	26	6

S = short; M = medium; L = long; W, WX = waxy; PQ = premium quality; SR = stem rot resistant;
B = Basmati; REX = Newrex; TQ = Te Qing .
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 parenthesis indicate relative rank in column.

Table 4. 2002 Very Early Rice Variety Test - Yolo County

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 (cm)
S102	S	9830 (1)	20.3 (18)	4.6 (7)	85 (1)	2 (12)	105 (12)
00Y228	M	9740 (2)	23.5 (12)	4.4 (12)	91 (9)	2 (12)	105 (12)
M104	M	9580 (3)	22.7 (15)	4.6 (6)	86 (4)	2 (11)	105 (11)
00Y175	W	9240 (4)	27.7 (5)	4.3 (14)	89 (8)	1 (1)	104 (9)
98Y174	MPQ	9190 (5)	25.2 (9)	4.7 (4)	91 (10)	11 (17)	99 (3)
98Y242	M	9180 (6)	29.7 (2)	4.7 (1)	93 (11)	1 (1)	108 (16)
00Y481	L	9090 (7)	23.6 (11)	4.7 (2)	96 (14)	1 (1)	101 (7)
00Y805	M	8950 (8)	28.5 (3)	4.4 (13)	95 (13)	24 (18)	108 (16)
CM101	WX	8890 (9)	25.7 (8)	4.7 (4)	86 (3)	4 (16)	104 (9)
M103	M	8770 (10)	22.8 (13)	4.4 (10)	86 (2)	1 (1)	106 (15)
M202	M	8680 (11)	28.3 (4)	4.7 (2)	96 (15)	1 (1)	110 (18)
L-205	REX	8180 (12)	22.4 (17)	4.4 (10)	96 (15)	1 (1)	102 (8)
99Y469	L	8030 (13)	22.8 (14)	4 (17)	93 (12)	1 (1)	91 (1)
01Y439	REX	7970 (14)	22.5 (16)	4.1 (16)	88 (5)	3 (15)	105 (12)
L-204	L	7570 (15)	26.8 (7)	4.6 (7)	96 (17)	1 (1)	100 (5)
00Y151	SPQ	7450 (16)	26.9 (6)	4.1 (15)	89 (7)	1 (1)	99 (3)
01Y177	SPQ	7420 (17)	25.2 (10)	3.9 (18)	88 (5)	2 (12)	99 (2)
M205	M	5950 (18)	34.7 (1)	4.6 (7)	103 (18)	1 (1)	100 (6)
MEAN		8540	25.5	4.4	91	3	103
CV		5.1	4.6	5	1.1	316.4	3.2
LSD (.05)		620	1.6	0.3	1		5

Preliminary Lines and Varieties

01Y451	REX	9740 (1)	17.2 (31)	4.8 (4)	82 (1)	1 (1)	94 (8)
00Y170	S	9510 (2)	21.8 (23)	4.3 (19)	84 (3)	1 (1)	96 (10)
01Y266	M	9510 (3)	30.3 (2)	4.0 (29)	95 (24)	41 (30)	108 (30)
01Y231	M	9500 (4)	20.5 (25)	4.3 (17)	87 (4)	1 (1)	106 (24)
01P2646	L	9350 (5)	20.1 (26)	5.0 (1)	88 (9)	1 (1)	101 (17)
01Y237	M	9220 (6)	25.0 (11)	4.2 (22)	91 (19)	1 (1)	102 (19)
97Y469	TQ	9130 (7)	22.2 (21)	4.5 (7)	91 (18)	3 (25)	107 (28)
00Y478	L	9060 (8)	21.0 (24)	4.5 (12)	96 (27)	1 (1)	97 (11)
01Y295	MPQ	9010 (9)	26.2 (7)	4.2 (22)	90 (15)	46 (31)	110 (31)
01Y185	SPQ	8990 (10)	27.3 (5)	4.5 (7)	89 (12)	16 (29)	106 (24)
01Y220	W	8880 (11)	26.9 (6)	4.1 (27)	89 (12)	3 (25)	105 (23)
01Y797	M	8850 (12)	22.2 (20)	4.5 (7)	84 (2)	1 (1)	102 (19)
01Y218	W	8770 (13)	22.3 (19)	4.5 (7)	87 (4)	1 (1)	103 (21)
01Y413	M	8720 (14)	24.1 (14)	4.2 (22)	95 (26)	6 (27)	93 (5)
01Y267	M	8670 (15)	23.2 (16)	4.0 (29)	93 (21)	1 (1)	97 (11)
01Y383	M	8620 (16)	28.4 (3)	4.4 (14)	97 (32)	1 (1)	94 (8)
01Y728	M	8500 (17)	24.9 (12)	4.4 (14)	92 (20)	8 (28)	107 (27)
01Y747	M	8460 (18)	19.5 (28)	4.5 (7)	89 (14)	1 (1)	102 (18)
01Y780	M	8440 (19)	25.9 (8)	4.8 (4)	90 (15)	1 (1)	97 (13)
01Y230	M	8390 (20)	19.3 (29)	4.5 (12)	88 (10)	1 (1)	92 (4)
01P2448	SR	8330 (21)	19.7 (27)	5.0 (2)	87 (8)	1 (1)	104 (22)
01Y288	M	8330 (22)	24.1 (13)	4.3 (17)	96 (29)	1 (1)	91 (3)
01Y536	REX	8280 (23)	18.2 (30)	4.4 (14)	96 (27)	1 (1)	89 (2)
01Y455	REX	8220 (24)	21.9 (22)	4.3 (19)	93 (22)	1 (1)	100 (15)
01Y441	L	7910 (25)	23.3 (15)	4.2 (22)	95 (24)	1 (1)	98 (14)
01Y176	SPQ	7850 (26)	22.8 (17)	4.0 (29)	87 (4)	1 (1)	93 (7)
01Y179	SPQ	7770 (27)	25.3 (10)	4.3 (19)	88 (10)	1 (1)	100 (15)
01Y478	B	7580 (28)	16.6 (32)	4.2 (22)	87 (4)	1 (1)	93 (5)
01Y466	L	7540 (29)	27.7 (4)	4.6 (6)	96 (29)	1 (1)	106 (24)
99Y324	SPQ	7360 (30)	25.5 (9)	4.9 (3)	94 (23)	1 (1)	83 (1)
01Y192	MPQ	7150 (31)	31.4 (1)	4.1 (27)	96 (29)	50 (32)	107 (28)
01Y482	B	7010 (32)	22.4 (18)	4.0 (32)	90 (15)	1 (1)	110 (31)
MEAN		8520	23.3	4.4	90	6	99
CV		5.9	15	5.3	2	279.2	5
LSD (.05)		1020	7.1	0.5	4		10

S = short; M = medium; L = long; W, WX = waxy; PQ = premium quality; SR = stem rot resistant;
B = Basmati; REX = Newrex; TQ = Te Qing .
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 parenthesis indicate relative rank in column.

Table 5. 2002 Very Early Rice Variety Tests Four Location Yield (lb/acre @ 14% moisture) Su

Advanced Lines and Varieties

Variety	Grain Type	Average	Biggs Biggs (RES)	Yolo Geer Ranch	Sutter Lauppe Ranch	San Joaquin Brumley
M104	M	9690 (1)	10170 (8)	9580 (3)	9620 (4)	9400 (1)
98Y242	M	9660 (2)	10670 (5)	9180 (6)	9870 (3)	8900 (6)
S102	S	9650 (3)	9910 (11)	9830 (1)	9950 (1)	8910 (5)
00Y228	M	9600 (4)	9890 (12)	9740 (2)	9870 (2)	8880 (7)
00Y481	L	9340 (5)	10800 (2)	9090 (7)	9090 (8)	8370 (13)
00Y175	W	9320 (6)	9410 (15)	9240 (4)	9290 (6)	9320 (2)
00Y805	M	9300 (7)	10320 (7)	8950 (8)	8940 (14)	8990 (4)
98Y174	MPQ	9120 (8)	9160 (16)	9190 (5)	8990 (12)	9130 (3)
99Y469	L	9050 (9)	10670 (4)	8030 (13)	9100 (7)	8400 (12)
M202	M	9020 (10)	9710 (14)	8680 (11)	8940 (13)	8750 (8)
M103	M	8860 (11)	8740 (18)	8770 (10)	9320 (5)	8630 (9)
L-205	REX	8860 (12)	10910 (1)	8180 (12)	9050 (10)	7280 (18)
CM101	WX	8830 (13)	8890 (17)	8890 (9)	9010 (11)	8550 (11)
01Y439	REX	8810 (14)	10800 (3)	7970 (14)	9070 (9)	7380 (17)
L-204	L	8590 (15)	10120 (10)	7570 (15)	8860 (15)	7800 (16)
01Y177	SPQ	8570 (16)	10130 (9)	7420 (17)	8760 (16)	7950 (14)
00Y151	SPQ	8500 (17)	9870 (13)	7450 (16)	8760 (17)	7930 (15)
M205	M	8400 (18)	10470 (6)	5950 (18)	8620 (18)	8580 (10)
MEAN		9060	10040	8540	9170	8510
CV		5.4	6.9	5.1	3.9	4.5
LSD (.05)		340	990	620	510	550

Preliminary Lines and Varieties

00Y170	S	9550 (1)	10290 (12)	9510 (2)	9850 (2)	8530 (8)
01Y220	W	9370 (2)	9630 (21)	8880 (11)	10140 (1)	8820 (3)
01Y266	M	9320 (3)	10520 (6)	9510 (3)	8600 (12)	8640 (7)
01Y218	W	9260 (4)	10300 (11)	8770 (13)	9140 (5)	8830 (2)
01P2646	L	9260 (5)	10230 (15)	9350 (5)	9190 (4)	8250 (10)
01Y451	REX	9190 (6)	9610 (22)	9740 (1)	9330 (3)	8060 (14)
01Y231	M	9140 (7)	9510 (25)	9500 (4)	8870 (8)	8680 (6)
00Y478	L	9060 (8)	10480 (8)	9060 (8)	8490 (15)	8230 (11)
01Y413	M	9050 (9)	10460 (9)	8720 (14)	8590 (13)	8430 (9)
01Y185	SPQ	9030 (10)	10600 (4)	8990 (10)	8420 (18)	8120 (13)
01Y237	M	9010 (11)	10210 (16)	9220 (6)	8640 (10)	7980 (17)
01Y267	M	8900 (12)	9250 (29)	8670 (15)	8920 (7)	8740 (5)
01Y383	M	8870 (13)	10250 (14)	8620 (16)	7740 (29)	8880 (1)
97Y469	TQ	8860 (14)	10070 (17)	9130 (7)	8470 (16)	7760 (21)
01Y295	MPQ	8810 (15)	9550 (24)	9010 (9)	8620 (11)	8060 (15)
01Y797	M	8770 (16)	9200 (30)	8850 (12)	8220 (20)	8790 (4)
01Y179	SPQ	8760 (17)	10670 (3)	7770 (27)	9030 (6)	7590 (24)
01Y288	M	8700 (18)	10430 (10)	8330 (22)	8340 (19)	7690 (22)
01Y455	REX	8660 (19)	10550 (5)	8220 (24)	8500 (14)	7380 (26)
01Y466	L	8590 (20)	10740 (2)	7540 (29)	8190 (21)	7890 (19)
01Y536	REX	8570 (21)	11030 (1)	8280 (23)	8150 (22)	6840 (31)
01Y230	M	8550 (22)	9690 (19)	8390 (20)	8460 (17)	7670 (23)
01Y747	M	8520 (23)	9740 (18)	8460 (18)	8010 (25)	7850 (20)
01Y780	M	8470 (24)	9320 (27)	8440 (19)	8100 (23)	8030 (16)
01Y176	SPQ	8420 (25)	9170 (31)	7850 (26)	8720 (9)	7930 (18)
01P2448	SR	8400 (26)	10270 (13)	8330 (21)	7850 (26)	7120 (29)
01Y441	L	8370 (27)	10490 (7)	7910 (25)	7600 (30)	7480 (25)
01Y728	M	8290 (28)	9660 (20)	8500 (17)	7810 (28)	7170 (28)
99Y324	SPQ	8040 (29)	9380 (26)	7360 (30)	8070 (24)	7340 (27)
01Y192	MPQ	8030 (30)	9290 (28)	7150 (31)	7490 (31)	8190 (12)
01Y478	B	7760 (31)	8610 (32)	7580 (28)	7810 (27)	7030 (30)
01Y482	B	7600 (32)	9550 (23)	7010 (32)	7170 (32)	6650 (32)
MEAN		8720	9960	8520	8450	7960
CV		5.3	4.6	5.9	5.1	5.7
LSD (.05)		460	930	1020	870	930

S = short; M = medium; L = long; W, WX = waxy; PQ = premium quality; SR = stem rot resistar
B = Basmati; REX = Newrex; TQ = Te Qing .
Numbers in parenthesis indicate relative rank in column.

Table 6. Grain Yield (lb/acre @14% moisture) Summary of Very Early Rice Varieties by Location and Year (1998-2002)

Location	Year	**M-103**	M-104	M-202	Calmochi 101	S-102	L-204	L-205
Biggs (RES)	1998	**8480**	9610	8810	8320	9030	10180	10160
	1999	**10330**	10550	10480	10200	11140	10310	10610
	2000	**9160**	9720	9380	8590	9390	9330	10500
	2001	**9040**	9760	9950	8930	10260	10300	10220
	2002	**8740**	10170	9710	8890	9910	10120	10910
Location Mean		**9150**	9962	9666	8986	9946	10048	10480
San Joaquin	1998	**8120**	8340	7110	8270	9070	7350	7650
	1999	**7980**	5620	-	8860	8260	2460	2490
	2000	**7710**	8260	6670	6750	8180	7370	6720
	2001	**8080**	8400	7010	9070	9680	7750	7300
	2002	**8630**	9400	8750	8550	8910	7800	7280
Location Mean		**8104**	8004	7385	8300	8820	6546	6288
Sutter	1998	**6430**	7240	7090	6520	7240	7520	7700
	1999	**9670**	9260	9990	9670	10150	9410	9170
	2000	**9230**	9220	9940	9300	9750	8980	9370
	2001	**8310**	8780	8590	8530	9260	8530	8250
	2002	**9320**	9620	8940	9010	9950	8860	9050
Location Mean		**8592**	8824	8910	8606	9270	8660	8708
Yolo	1998	**7780**	8820	9510	8540	9350	8870	8180
	1999	**9960**	9020	7420	9960	10290	9250	7750
	2000	**9290**	9340	9820	9800	9870	9170	8970
	2001	**8710**	9300	8880	9550	9880	8230	7680
	2002	**8770**	9580	8680	8890	9830	7570	8180
Location Mean		**8902**	9212	8862	9348	9844	8618	8152
Loc/Years Mean		**8687**	9001	8775	8810	9470	8468	8407
Yield % M-103		**100.0**	**103.6**	**101.0**	**101.4**	**109.0**	**97.5**	**96.8**
Number of Tests		**20**	20	19	20	20	20	20

Table 7. 2002 Early Rice Variety Test - Butte County (Biggs,RES)

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 (cm)
M205	M	11230 (1)	18.2 (6)	4.4 (19)	92 (21)	19 (7)	99 (8)
99Y529	L	11180 (2)	15.9 (13)	4.6 (17)	88 (13)	1 (1)	99 (8)
L-205	L	10890 (3)	15.7 (15)	4.8 (8)	88 (13)	11 (5)	102 (15)
98Y511	L	10700 (4)	17.5 (8)	4.6 (16)	91 (20)	21 (8)	96 (5)
L-204	L	10690 (5)	14.8 (19)	4.9 (4)	85 (6)	9 (4)	92 (1)
M202	M	10620 (6)	19.5 (2)	4.8 (11)	88 (13)	54 (15)	108 (20)
99Y041	L	10550 (7)	16.5 (11)	4.9 (5)	87 (12)	48 (14)	108 (19)
00Y711	M	10500 (8)	16.5 (11)	4.8 (10)	87 (10)	16 (6)	99 (10)
S102	S	10470 (9)	14.3 (20)	4.8 (11)	81 (3)	60 (16)	107 (18)
98Y242	M	10210 (10)	19.0 (3)	4.9 (3)	82 (4)	43 (13)	103 (16)
M204	M	10180 (11)	18.9 (4)	4.3 (20)	89 (17)	26 (9)	101 (12)
00Y247	M	9870 (12)	18.7 (5)	4.7 (14)	86 (7)	60 (16)	99 (10)
99Y278	MPQ	9520 (13)	17.8 (7)	4.4 (18)	90 (19)	38 (12)	101 (12)
01Y326	SPQ	9430 (14)	17.1 (10)	3.9 (21)	89 (16)	9 (3)	99 (6)
00Y570	MPQ	9330 (15)	19.6 (1)	4.9 (7)	87 (10)	84 (21)	110 (21)
M104	M	9280 (16)	17.5 (9)	4.7 (14)	79 (1)	65 (19)	101 (12)
CT-201	B	9040 (17)	15.5 (16)	5.0 (2)	90 (18)	1 (1)	104 (17)
CH201	SPQ	8910 (18)	14.8 (18)	5.0 (1)	84 (5)	64 (18)	94 (2)
CM101	W	7810 (19)	14.0 (21)	4.9 (5)	81 (2)	66 (20)	99 (7)
02Y064	SPQ	7760 (20)	15.9 (14)	4.8 (8)	86 (7)	38 (11)	96 (4)
02Y065	SPQ	7440 (21)	15.3 (17)	4.7 (13)	86 (9)	33 (10)	96 (3)
MEAN		9790	16.8	4.7	86	36	101
CV		9.8	8.0	8.5	3.1	46.6	3.1
LSD (.05)		1350	1.9	0.6	4	24	4

Preliminary Lines and Varieties

01Y502	SR	11310 (1)	18.8 (10)	4.8 (10)	89 (22)	1 (1)	102 (10)
01Y401	M	11200 (2)	16.2 (28)	4.4 (24)	87 (10)	4 (10)	104 (14)
01Y378	M	10970 (3)	21.1 (2)	4.6 (16)	90 (24)	4 (10)	109 (28)
01Y110	REX	10850 (4)	17.2 (22)	4.9 (2)	84 (2)	7 (16)	100 (6)
01Y327	SPQ	10780 (5)	17.6 (18)	4.4 (24)	86 (9)	8 (17)	102 (11)
01Y414	M	10710 (6)	18.6 (12)	4.4 (26)	90 (24)	26 (24)	100 (5)
00Y558	L	10710 (7)	16.6 (26)	4.7 (13)	87 (10)	5 (12)	100 (6)
00Y562	L	10700 (8)	16.9 (24)	4.6 (16)	90 (24)	5 (12)	101 (8)
01Y314	MPQ	10690 (9)	18.9 (9)	4.8 (10)	84 (3)	23 (22)	105 (16)
01Y636	M	10680 (10)	19.3 (7)	4.5 (23)	90 (28)	41 (26)	106 (23)
01Y612	M	10630 (11)	17.5 (19)	4.7 (15)	89 (17)	23 (23)	104 (12)
01Y520	L	10580 (12)	17.4 (21)	4.9 (2)	87 (10)	1 (1)	97 (3)
01Y655	REX	10540 (13)	17.4 (20)	4.9 (5)	89 (17)	19 (20)	104 (12)
01P2517	SR	10510 (14)	18.0 (16)	4.8 (8)	89 (17)	1 (1)	95 (1)
01Y400	M	10400 (15)	21.0 (3)	4.2 (29)	89 (17)	2 (9)	105 (16)
01Y706	M	10270 (16)	18.6 (12)	4.7 (13)	83 (1)	6 (15)	108 (26)
00Y506	BL	10270 (17)	15.3 (30)	4.5 (20)	91 (29)	1 (1)	96 (2)
01Y376	M	10240 (18)	20.9 (4)	4.3 (27)	89 (22)	20 (21)	104 (14)
00Y344	BG	10160 (19)	16.6 (25)	4.8 (10)	86 (6)	2 (8)	99 (4)
00Y280	MPQ	10080 (20)	18.2 (14)	4.5 (20)	89 (17)	27 (25)	105 (16)
01Y720	M	10030 (21)	19.7 (6)	4.6 (16)	91 (30)	5 (12)	106 (23)
01Y749	M	9850 (22)	18.2 (15)	4.3 (28)	85 (5)	18 (19)	105 (22)
01Y272	M	9450 (23)	19.3 (8)	4.5 (20)	88 (14)	17 (18)	105 (16)
01Y080	MPQ	9230 (24)	18.8 (11)	4.6 (19)	86 (6)	72 (30)	105 (16)
00Y342	BG	9120 (25)	17.7 (17)	4.8 (8)	86 (6)	51 (28)	107 (25)
01Y770	M	9090 (26)	22.8 (1)	4.1 (30)	88 (14)	56 (29)	111 (30)
01Y303	MPQ	8740 (27)	20.6 (5)	4.9 (5)	88 (14)	42 (27)	105 (16)
01Y489	B	8550 (28)	16.3 (27)	4.9 (2)	84 (3)	1 (1)	110 (29)
9844473	B	8330 (29)	16.2 (28)	5.0 (1)	90 (24)	1 (1)	101 (9)
9843561	B	8090 (30)	17.1 (23)	4.9 (5)	87 (10)	1 (1)	108 (26)
MEAN		10090	18.3	4.6	87	16	103
CV		6	6.6	6.3	3.2	106.3	2.7
LSD (.05)		1240	2.5			35	6

S = short; M = Medium; L = long; PQ = Premium Quality: BL = blast resistant; BG = bold grain; B = Basmati;
SR = stem rot resisant; REX = Newrex; W = 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 parenthesis indicate relative rank in column.

Table 8. 2002 Early Rice Variety Test - Butte County

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 (cm)
99Y529	L	9260 (1)	15.2 (14)	3.7 (21)	83 (13)	7 (2)	98 (17)
00Y247	M	9170 (2)	18.3 (8)	4.6 (16)	82 (9)	99 (17)	91 (1)
L-205	L	9160 (3)	15.9 (13)	4.4 (20)	86 (16)	73 (7)	93 (9)
00Y711	M	9070 (4)	17.2 (10)	4.8 (9)	84 (14)	45 (5)	94 (13)
M205	M	9060 (5)	19.0 (6)	4.9 (2)	88 (21)	38 (4)	92 (4)
98Y242	M	9010 (6)	19.5 (3)	4.9 (5)	79 (4)	98 (15)	96 (15)
98Y511	L	8980 (7)	16.4 (12)	4.7 (14)	86 (18)	95 (11)	92 (4)
M204	M	8850 (8)	19.0 (5)	4.7 (14)	86 (16)	89 (8)	93 (6)
M104	M	8660 (9)	17.3 (9)	4.8 (8)	73 (1)	99 (17)	94 (13)
99Y278	MPQ	8590 (10)	19.2 (4)	4.5 (19)	87 (20)	92 (10)	96 (15)
99Y041	L	8590 (11)	15.0 (15)	4.7 (11)	82 (10)	97 (12)	103 (21)
M202	M	8530 (12)	20.0 (2)	4.9 (2)	85 (15)	98 (15)	98 (18)
S102	S	8460 (13)	14.9 (17)	4.5 (18)	74 (2)	97 (13)	93 (6)
L-204	L	8400 (14)	14.2 (20)	4.9 (5)	81 (7)	16 (3)	91 (1)
01Y326	SPQ	8400 (15)	18.4 (7)	4.7 (11)	82 (11)	67 (6)	93 (6)
00Y570	MPQ	8380 (16)	20.0 (1)	4.9 (2)	83 (12)	99 (17)	100 (20)
CH201	SPQ	7930 (17)	14.5 (19)	5.0 (1)	80 (5)	99 (17)	93 (9)
CM101	W	7400 (18)	16.5 (11)	4.9 (5)	76 (3)	99 (17)	93 (9)
CT-201	B	7390 (19)	14.2 (21)	4.6 (17)	86 (18)	1 (1)	98 (18)
02Y064	SPQ	7270 (20)	14.6 (18)	4.8 (9)	80 (6)	97 (13)	91 (1)
02Y065	SPQ	6870 (21)	15.0 (16)	4.7 (13)	81 (7)	90 (9)	93 (9)
MEAN		8450	16.9	4.7	82	76	95
CV		5.2	6	3.7	1	19.5	2.7
LSD (.05)		620	1.4	0.2	1	21	4

Preliminary Lines and Varieties

01Y502	SR	9350 (1)	15.3 (19)	4.0 (25)	84 (13)	3 (6)	91 (6)
00Y558	L	9320 (2)	14.0 (25)	4.4 (13)	84 (15)	43 (14)	100 (25)
01Y770	M	9230 (3)	18.9 (4)	4.9 (3)	80 (3)	99 (27)	97 (19)
01Y376	M	9210 (4)	16.6 (18)	4.4 (13)	88 (27)	60 (18)	91 (6)
01Y327	SPQ	9180 (5)	16.8 (16)	4.7 (4)	86 (21)	35 (12)	93 (13)
01Y401	M	9150 (6)	17.7 (8)	4.5 (11)	87 (24)	50 (16)	97 (19)
01Y314	MPQ	9010 (7)	19.1 (2)	4.7 (4)	84 (13)	25 (10)	91 (6)
01Y612	M	8980 (8)	17.7 (11)	3.7 (30)	88 (29)	90 (23)	90 (5)
01Y636	M	8950 (9)	17.3 (13)	3.8 (28)	86 (19)	97 (24)	97 (19)
01Y655	REX	8940 (10)	13.9 (27)	4.7 (8)	84 (15)	73 (21)	98 (22)
01Y378	M	8890 (11)	18.9 (5)	3.9 (27)	87 (24)	23 (9)	93 (13)
01Y080	MPQ	8830 (12)	19.1 (3)	4.6 (9)	80 (6)	99 (27)	94 (17)
00Y562	L	8710 (13)	14.1 (23)	4.0 (25)	86 (19)	88 (22)	100 (25)
01Y414	M	8700 (14)	17.3 (12)	4.7 (4)	83 (12)	97 (24)	89 (2)
00Y344	BG	8700 (15)	16.8 (17)	4.3 (19)	83 (11)	18 (8)	88 (1)
01Y749	M	8690 (16)	17.7 (10)	4.3 (19)	82 (8)	60 (18)	98 (22)
00Y506	BL	8540 (17)	13.5 (30)	4.2 (21)	88 (27)	1 (1)	93 (13)
01Y520	L	8510 (18)	14.0 (24)	4.7 (4)	84 (15)	1 (1)	89 (2)
01Y303	MPQ	8390 (19)	17.7 (9)	4.5 (11)	86 (21)	40 (13)	91 (6)
01Y720	M	8380 (20)	17.3 (14)	4.6 (9)	90 (30)	3 (6)	91 (6)
01Y272	M	8340 (21)	17.1 (15)	4.3 (17)	82 (8)	99 (27)	98 (22)
01Y400	M	8280 (22)	18.7 (6)	4.1 (23)	87 (23)	30 (11)	93 (13)
01P2517	SR	8240 (23)	15.3 (20)	3.8 (28)	87 (24)	1 (1)	91 (6)
00Y280	MPQ	8150 (24)	19.8 (1)	4.3 (17)	85 (18)	99 (27)	91 (6)
00Y342	BG	8130 (25)	15.2 (21)	5.0 (1)	80 (3)	97 (24)	105 (29)
01Y706	M	8120 (26)	17.8 (7)	4.1 (23)	79 (1)	53 (17)	100 (25)
01Y110	REX	7990 (27)	13.8 (28)	4.4 (13)	80 (3)	63 (20)	89 (2)
9843561	B	7210 (28)	13.6 (29)	4.2 (21)	80 (6)	1 (1)	100 (25)
9844473	B	7080 (29)	13.9 (26)	5.0 (1)	82 (8)	1 (1)	94 (17)
01Y489	B	6600 (30)	15.0 (22)	4.4 (13)	79 (2)	45 (15)	105 (29)
MEAN		8530	16.5	4.4	84	50	95
CV		4.8	4.2	6.2	1.3	29.8	3.8
LSD (.05)		830	1.4	0.6	2	30	7

S = short; M = Medium; L = long; PQ = Premium Quality: BL = blast resistant; BG = bold grain; B = Basmati; SR = stem rot resisant; REX = Newrex; W = 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 parenthesis indicate relative rank in column.

Table 9. 2002 Early Rice Variety Test - Colusa County

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 (cm)
M205	M	9690 (1)	17.0 (7)	4.7 (4)	100 (17)	54 (5)	94 (4)
00Y247	M	9520 (2)	18.7 (1)	4.1 (15)	97 (9)	97 (12)	93 (1)
L-204	L	9270 (3)	12.8 (21)	4.6 (8)	98 (10)	45 (2)	93 (1)
99Y529	L	9270 (4)	12.8 (20)	4.4 (10)	98 (10)	46 (3)	98 (16)
98Y242	M	9170 (5)	17.9 (2)	4.8 (3)	94 (4)	83 (10)	100 (18)
M204	M	8950 (6)	16.9 (8)	4.7 (5)	100 (17)	81 (9)	94 (4)
M202	M	8840 (7)	17.6 (3)	4.6 (7)	94 (5)	97 (12)	100 (18)
L-205	L	8750 (8)	13.6 (18)	4.4 (11)	99 (16)	50 (4)	97 (15)
00Y570	MPQ	8540 (9)	17.3 (5)	4.0 (16)	95 (7)	99 (16)	104 (21)
S102	S	8380 (10)	15.2 (15)	4.3 (13)	89 (1)	99 (16)	97 (11)
99Y041	L	8350 (11)	15.3 (14)	3.9 (17)	103 (19)	74 (7)	100 (20)
00Y711	M	8330 (12)	15.9 (13)	4.3 (13)	99 (14)	99 (16)	95 (7)
98Y511	L	8290 (13)	13.3 (19)	4.3 (12)	103 (19)	61 (6)	95 (7)
CH201	SPQ	8080 (14)	14.8 (17)	5.0 (1)	98 (12)	99 (16)	95 (7)
M104	M	8040 (15)	16.5 (10)	4.6 (8)	90 (2)	99 (16)	94 (4)
01Y326	SPQ	8010 (16)	16.2 (12)	4.8 (2)	94 (5)	97 (12)	97 (11)
CM101	W	7790 (17)	16.2 (11)	3.6 (18)	93 (3)	98 (15)	97 (11)
CT-201	B	7710 (18)	15.2 (16)	4.7 (6)	105 (21)	3 (1)	98 (16)
99Y278	MPQ	7540 (19)	17.5 (4)	3.6 (18)	99 (14)	99 (16)	96 (10)
02Y065	SPQ	7490 (20)	16.5 (9)	3.4 (20)	99 (13)	93 (11)	97 (11)
02Y064	SPQ	6560 (21)	17.2 (6)	2.5 (21)	97 (8)	74 (7)	93 (1)
MEAN		8410	15.9	4.2	97	78	96
CV		9.6	6.7	9.9	1.3	27.1	3.1
LSD (.05)		1150	1.5	0.6	2	30	4

Preliminary Lines and Varieties

01Y376	M	9440 (1)	16.4 (12)	3.9 (28)	99 (18)	88 (23)	99 (13)
01Y612	M	9290 (2)	16.3 (14)	4.2 (25)	101 (27)	23 (4)	99 (13)
00Y344	BG	8940 (3)	16.6 (9)	4.6 (3)	99 (15)	80 (20)	94 (2)
01Y400	M	8810 (4)	16.8 (5)	3.8 (29)	99 (15)	25 (6)	99 (13)
01Y720	M	8790 (5)	16.8 (6)	4.5 (6)	102 (29)	23 (4)	102 (27)
01Y327	SPQ	8780 (6)	15.2 (19)	4.4 (10)	94 (1)	95 (27)	95 (4)
01Y706	M	8760 (7)	16.4 (13)	4.4 (10)	95 (2)	60 (14)	100 (23)
01Y401	M	8740 (8)	16 (15)	4.3 (18)	97 (7)	75 (17)	100 (23)
01Y110	REX	8550 (9)	12.4 (30)	4.6 (3)	97 (11)	73 (16)	98 (9)
01Y502	SR	8490 (10)	13.1 (25)	4.3 (18)	98 (13)	26 (7)	94 (2)
00Y342	SBG	8270 (11)	16.7 (8)	4.8 (1)	96 (5)	88 (23)	103 (29)
01Y636	M	8220 (12)	15.4 (16)	4.3 (18)	98 (13)	60 (14)	98 (9)
01Y655	REX	8210 (13)	12.8 (26)	4.5 (6)	100 (22)	90 (25)	100 (23)
01Y749	M	8160 (14)	15 (20)	4.7 (2)	95 (2)	78 (18)	100 (23)
00Y506	BL	8100 (15)	12.5 (29)	4.3 (18)	102 (30)	16 (2)	99 (13)
01Y272	M	8020 (16)	15.4 (17)	4.4 (10)	97 (7)	78 (18)	99 (13)
01Y303	MPQ	7940 (17)	16.7 (7)	4.3 (14)	100 (22)	95 (27)	99 (13)
01Y520	L	7930 (18)	13.3 (24)	4.5 (6)	99 (18)	31 (8)	97 (7)
01P2517	SR	7930 (19)	14.5 (21)	4 (26)	98 (12)	48 (11)	95 (4)
01Y414	M	7790 (20)	16.5 (10)	4.3 (14)	99 (18)	85 (22)	97 (7)
00Y280	MPQ	7740 (21)	16.5 (11)	3.8 (29)	100 (22)	85 (21)	99 (13)
00Y562	L	7650 (22)	12.6 (28)	4.3 (18)	101 (28)	55 (13)	99 (13)
01Y378	M	7640 (23)	17.4 (4)	4.3 (14)	99 (15)	40 (9)	98 (9)
01Y314	MPQ	7600 (24)	18.1 (2)	4.3 (14)	96 (6)	90 (26)	99 (13)
01Y080	MPQ	7590 (25)	17.9 (3)	4.4 (10)	95 (2)	99 (30)	95 (4)
01Y770	M	7490 (26)	18.4 (1)	4.3 (18)	97 (7)	95 (29)	99 (13)
00Y558	L	7450 (27)	12.8 (27)	4.5 (9)	100 (22)	53 (12)	98 (9)
9844473	B	6920 (28)	14.1 (23)	4.6 (3)	99 (18)	41 (10)	93 (1)
9843561	B	6610 (29)	15.2 (18)	4 (26)	100 (22)	18 (3)	102 (27)
01Y489	B	6040 (30)	14.2 (22)	4.3 (18)	97 (7)	16 (1)	104 (30)
MEAN		8060	15.4	4.3	98	61	98
CV		9.7	5.6	8.6	0.7	38.7	3.1
LSD (.05)		1610	1.8	0.8	1	48	6

S = short; M = Medium; L = long; PQ = Premium Quality: BL = blast resistant; BG = bold grain; B = Basmati; SR = stem rot resisant; REX = Newrex; W = 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 parenthesis indicate relative rank in column.

Table 10. 2002 Early Rice Variety Test - Yuba County

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 (cm)
98Y242	M	9510 (1)	22.0 (6)	4.9 (8)	84 (4)	1 (1)	93 (15)
S102	S	9470 (2)	17.6 (20)	4.6 (18)	80 (1)	1 (1)	96 (18)
M104	M	9310 (3)	19.4 (14)	5.0 (1)	80 (2)	2 (17)	92 (10)
CM101	W	9200 (4)	19.1 (15)	4.9 (7)	81 (3)	6 (21)	93 (14)
M202	M	9040 (5)	22.5 (5)	5.0 (5)	90 (16)	1 (1)	96 (19)
00Y247	M	9010 (6)	22.8 (4)	4.8 (11)	86 (8)	1 (1)	92 (11)
98Y511	L	8890 (7)	20.1 (12)	4.7 (15)	90 (17)	1 (1)	90 (7)
00Y570	MPQ	8750 (8)	23.8 (2)	4.7 (15)	89 (15)	5 (20)	99 (21)
99Y041	L	8550 (9)	17.9 (18)	4.8 (11)	87 (9)	1 (1)	91 (9)
00Y711	M	8310 (10)	21.8 (8)	4.9 (8)	91 (18)	1 (1)	89 (6)
CH201	SPQ	8230 (11)	19.5 (13)	5.0 (1)	89 (12)	2 (17)	91 (8)
M205	M	8220 (12)	23.6 (3)	5.0 (5)	93 (21)	1 (1)	89 (5)
01Y326	SPQ	8190 (13)	21.4 (10)	4.8 (11)	87 (11)	1 (1)	97 (20)
L-204	L	8060 (14)	18.3 (17)	4.8 (10)	85 (5)	1 (1)	81 (1)
99Y278	MPQ	7930 (15)	24.3 (1)	4.7 (15)	91 (18)	1 (1)	92 (11)
99Y529	L	7910 (16)	17.6 (19)	4.6 (19)	87 (10)	1 (1)	87 (3)
L-205	L	7550 (17)	16.8 (21)	4.8 (14)	85 (6)	1 (1)	86 (2)
M204	M	7520 (18)	21.8 (7)	5.0 (1)	89 (12)	1 (1)	88 (4)
02Y065	SPQ	7040 (19)	20.7 (11)	4.6 (19)	89 (12)	1 (1)	92 (11)
02Y064	SPQ	6990 (20)	21.6 (9)	4.6 (19)	86 (7)	2 (17)	94 (16)
CT-201	B	6790 (21)	18.5 (16)	5.0 (1)	91 (20)	1 (1)	95 (17)
MEAN		8310	20.5	4.8	87	2	92
CV		3.7	4.8	2.4	1.2	117.9	3.3
LSD (.05)		440	1.4	0.2	1	3	4

Preliminary Lines and Varieties

00Y562	L	9230 (1)	19.3 (23)	4.5 (25)	88 (10)	1 (1)	89 (11)
01Y770	M	9210 (2)	23.4 (10)	4.6 (19)	85 (4)	3 (29)	104 (30)
01Y327	SPQ	8850 (3)	22.9 (12)	4.8 (9)	89 (18)	1 (1)	94 (17)
01Y706	M	8760 (4)	20.6 (19)	4.7 (13)	84 (1)	1 (1)	99 (28)
00Y344	BG	8730 (5)	22.4 (16)	4.9 (5)	89 (13)	1 (1)	96 (24)
01Y655	REX	8710 (6)	18.1 (28)	4.6 (19)	89 (13)	1 (1)	96 (24)
01Y080	MPQ	8680 (7)	22.6 (14)	4.8 (9)	87 (6)	3 (29)	89 (9)
00Y558	L	8600 (8)	16.5 (30)	4.8 (9)	87 (6)	1 (1)	89 (9)
01Y272	M	8560 (9)	25.2 (1)	4.6 (19)	90 (21)	1 (1)	93 (15)
01Y414	M	8550 (10)	23.5 (9)	4.7 (13)	90 (26)	1 (1)	86 (4)
01Y314	MPQ	8530 (11)	22.5 (15)	4.9 (5)	85 (4)	1 (1)	94 (17)
01Y401	M	8470 (12)	22.8 (13)	4.7 (17)	90 (21)	1 (1)	95 (22)
00Y506	BL	8300 (13)	17.2 (29)	5.0 (1)	90 (21)	1 (1)	83 (1)
00Y342	BG	8290 (14)	21.8 (18)	5.0 (1)	84 (1)	1 (1)	94 (17)
01Y376	M	8250 (15)	24.4 (2)	4.4 (30)	90 (21)	1 (1)	96 (24)
01Y303	MPQ	8230 (16)	23.8 (4)	4.5 (25)	89 (18)	1 (1)	95 (22)
01Y612	M	8180 (17)	24.1 (3)	4.9 (5)	92 (28)	1 (1)	92 (14)
01Y636	M	8150 (18)	23.7 (6)	4.5 (25)	92 (29)	1 (1)	95 (20)
01P2517	SR	8100 (19)	18.4 (26)	4.6 (19)	88 (10)	1 (1)	87 (6)
01Y502	SR	8040 (20)	19.0 (25)	4.5 (25)	90 (21)	1 (1)	84 (2)
01Y378	M	7870 (21)	23.1 (11)	4.7 (13)	89 (18)	1 (1)	90 (12)
01Y110	REX	7730 (22)	19.1 (24)	4.8 (9)	87 (6)	1 (1)	86 (5)
01Y520	L	7670 (23)	18.3 (27)	4.9 (5)	89 (13)	1 (1)	84 (3)
00Y280	MPQ	7610 (24)	23.6 (8)	4.5 (25)	90 (26)	1 (1)	95 (20)
01Y400	M	7580 (25)	23.6 (7)	4.6 (19)	88 (9)	1 (1)	88 (8)
01Y749	M	7270 (26)	22.3 (17)	5.0 (1)	88 (10)	1 (1)	94 (16)
9844473	B	6370 (27)	20.0 (22)	4.7 (13)	89 (13)	1 (1)	87 (6)
01Y720	M	6210 (28)	23.7 (5)	5.0 (1)	93 (30)	1 (1)	91 (13)
9843561	B	5860 (29)	20.4 (21)	4.7 (17)	89 (13)	1 (1)	96 (27)
01Y489	B	5720 (30)	20.5 (20)	4.6 (19)	85 (3)	1 (1)	99 (29)
MEAN		8010	21.6	4.7	88	1	92
CV		3.6	2.8	3.8	1.4	65.5	3.2
LSD (.05)		590	1.2		2		6

S = short; M = Medium; L = long; PQ = Premium Quality: BL = blast resistant; BG = bold grain; B = Basmati; SR = stem rot resisant; REX = Newrex; W = 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 parenthesis indicate relative rank in column.

Table 11. 2002 Four Location Early Rice Variety Tests Yield (lb/acre @ 14% moisture) Summa

Advanced Lines and Varieties

Variety	Grain Type	Average	Biggs Biggs (RES)	Butte Harris	Colusa Canal Ranch	Yuba Quad 4 Ranch
M205	M	9550 (1)	11230 (1)	9060 (5)	9690 (1)	8220 (12)
98Y242	M	9480 (2)	10210 (10)	9010 (6)	9170 (5)	9510 (1)
99Y529	L	9410 (3)	11180 (2)	9260 (1)	9270 (4)	7910 (16)
00Y247	M	9390 (4)	9870 (12)	9170 (2)	9520 (2)	9010 (6)
M202	M	9260 (5)	10620 (6)	8530 (12)	8840 (7)	9040 (5)
98Y511	L	9210 (6)	10700 (4)	8980 (7)	8290 (13)	8890 (7)
S102	S	9200 (7)	10470 (9)	8460 (13)	8380 (10)	9470 (2)
L-204	L	9110 (8)	10690 (5)	8400 (14)	9270 (3)	8060 (14)
L-205	L	9090 (9)	10890 (3)	9160 (3)	8750 (8)	7550 (17)
00Y711	M	9050 (10)	10500 (8)	9070 (4)	8330 (12)	8310 (10)
99Y041	L	9010 (11)	10550 (7)	8590 (11)	8350 (11)	8550 (9)
M204	M	8880 (12)	10180 (11)	8850 (8)	8950 (6)	7520 (18)
M104	M	8820 (13)	9280 (16)	8660 (9)	8040 (15)	9310 (3)
00Y570	MPQ	8750 (14)	9330 (15)	8380 (16)	8540 (9)	8750 (8)
01Y326	SPQ	8500 (15)	9430 (14)	8400 (15)	8010 (16)	8190 (13)
99Y278	MPQ	8400 (16)	9520 (13)	8590 (10)	7540 (19)	7930 (15)
CH201	SPQ	8290 (17)	8910 (18)	7930 (17)	8080 (14)	8230 (11)
CM101	W	8050 (18)	7810 (19)	7400 (18)	7790 (17)	9200 (4)
CT-201	B	7730 (19)	9040 (17)	7390 (19)	7710 (18)	6790 (21)
02Y065	SPQ	7210 (20)	7440 (21)	6870 (21)	7490 (20)	7040 (19)
02Y064	SPQ	7150 (21)	7760 (20)	7270 (20)	6560 (21)	6990 (20)
MEAN		8740	9790	8450	8410	8310
CV		7.8	9.8	5.2	9.6	3.7
LSD (.05)		480	1350	620	1150	440

Preliminary Lines and Varieties

01Y327	SPQ	9400 (1)	10780 (5)	9180 (5)	8780 (6)	8850 (3)
01Y401	M	9390 (2)	11200 (2)	9150 (6)	8740 (8)	8470 (12)
01Y502	SR	9300 (3)	11310 (1)	9350 (1)	8490 (10)	8040 (20)
01Y376	M	9280 (4)	10240 (18)	9210 (4)	9440 (1)	8250 (15)
01Y612	M	9270 (5)	10630 (11)	8980 (8)	9290 (2)	8180 (17)
00Y344	BG	9130 (6)	10160 (19)	8700 (15)	8940 (3)	8730 (5)
01Y655	REX	9100 (7)	10540 (13)	8940 (10)	8210 (13)	8710 (6)
00Y562	L	9070 (8)	10700 (8)	8710 (13)	7650 (22)	9230 (1)
00Y558	L	9020 (9)	10710 (7)	9320 (2)	7450 (27)	8600 (8)
01Y636	M	9000 (10)	10680 (10)	8950 (9)	8220 (12)	8150 (18)
01Y706	M	8980 (11)	10270 (16)	8120 (26)	8760 (7)	8760 (4)
01Y314	MPQ	8960 (12)	10690 (9)	9010 (7)	7600 (24)	8530 (11)
01Y414	M	8940 (13)	10710 (6)	8700 (14)	7790 (20)	8550 (10)
01Y378	M	8840 (14)	10970 (3)	8890 (11)	7640 (23)	7870 (21)
00Y506	BL	8800 (15)	10270 (17)	8540 (17)	8100 (15)	8300 (13)
01Y110	REX	8780 (16)	10850 (4)	7990 (27)	8550 (9)	7730 (22)
01Y400	M	8770 (17)	10400 (15)	8280 (22)	8810 (4)	7580 (25)
01Y770	M	8750 (18)	9090 (26)	9230 (3)	7490 (26)	9210 (2)
01P2517	SR	8690 (19)	10510 (14)	8240 (23)	7930 (19)	8100 (19)
01Y520	L	8670 (20)	10580 (12)	8510 (18)	7930 (18)	7670 (23)
01Y272	M	8590 (21)	9450 (23)	8340 (21)	8020 (16)	8560 (9)
01Y080	MPQ	8580 (22)	9230 (24)	8830 (12)	7590 (25)	8680 (7)
01Y749	M	8490 (23)	9850 (22)	8690 (16)	8160 (14)	7270 (26)
00Y342	BG	8450 (24)	9120 (25)	8130 (25)	8270 (11)	8290 (14)
00Y280	MPQ	8390 (25)	10080 (20)	8150 (24)	7740 (21)	7610 (24)
01Y720	M	8350 (26)	10030 (21)	8380 (20)	8790 (5)	6210 (28)
01Y303	MPQ	8320 (27)	8740 (27)	8390 (19)	7940 (17)	8230 (16)
9844473	B	7180 (28)	8330 (29)	7080 (29)	6920 (28)	6370 (27)
9843561	B	6940 (29)	8090 (30)	7210 (28)	6610 (29)	5860 (29)
01Y489	B	6730 (30)	8550 (28)	6600 (30)	6040 (30)	5720 (30)
MEAN		8670	10090	8530	8060	8010
CV		6.4	6	4.8	9.7	3.6
LSD (.05)		550	1240	830	1610	590

S = short; M = Medium; L = long; PQ = Premium Quality: BL = blast resistant; BG = bold grain; B = Basmati; SR = stem rot resisant; REX = Newrex; W = waxy.
Numbers in parenthesis indicate relative rank in column.

Table 12. Grain Yield (lb/acre @14% moisture) Summary of Early Rice Varieties by Location and Year (1998-2002)

Location	Year	Calhikari 201	**M-202**	M-204	M-205	Calmati 201
Biggs (RES)	1998	7670	**8260**	8910	9940	8360
	1999	9460	**10540**	11130	11200	6620
	2000	9020	**10140**	11200	10870	8490
	2001	9290	**9300**	9880	10180	8280
	2002	8910	**10620**	10180	11230	9040
Location Mean		8870	**9772**	10260	10684	8158
Butte	1998	5930	**7320**	7950	7720	5870
	1999	3930	**6780**	6070	4740	-
	2000	7540	**7710**	8250	9270	6650
	2001	7760	**8170**	8150	8410	6800
	2002	7930	**8530**	8850	9060	7390
Location Mean		6618	**7702**	7854	7840	6678
Colusa	1998	7150	**7590**	7060	7350	5670
	1999	8220	**10550**	9780	8260	2680
	2000	7540	**9350**	10170	10570	6840
	2001	8670	**9370**	9810	9960	6740
	2002	8080	**8840**	8950	9690	7710
Location Mean		7932	**9140**	9154	9166	5928
Yuba	1998	5320	**6070**	6190	6550	5980
	1999	6310	**7920**	7100	7130	2420
	2000	8390	**9210**	9400	9520	6840
	2001	7330	**7810**	7960	7770	5630
	2002	8230	**9040**	7520	8220	6790
Location Mean		7116	**8010**	7634	7838	5532
Loc/Years Mean		7634	**8656**	8726	8882	6568
Yield % M-202		**88.2**	**100**	**100.8**	**102.6**	**75.9**
Number of Tests		20	**20**	20	20	19

Table 13. 2002 Intermediate/Late Rice Variety Test - Butte County (Biggs - RES)

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 (cm)
94Y663	L	12870 (1)	17.5 (11)	4.8 (9)	89 (11)	7 (3)	97 (2)
01Y501	SR	12330 (2)	17.8 (10)	4.6 (14)	83 (1)	1 (1)	101 (7)
01Y567	SPQ	11940 (3)	18.5 (7)	4.7 (12)	94 (14)	44 (9)	97 (3)
98Y511	L	11700 (4)	17.9 (9)	4.9 (6)	86 (6)	23 (6)	96 (1)
M205	M	11600 (5)	20.2 (4)	4.9 (5)	91 (13)	39 (8)	102 (9)
00-073	S	11420 (6)	18.0 (8)	4.7 (12)	88 (8)	16 (4)	106 (13)
L-205	REX	11330 (7)	16.1 (12)	4.8 (10)	85 (4)	34 (7)	98 (4)
M-402	MPQ	10800 (8)	21.8 (1)	4.9 (4)	91 (12)	22 (5)	103 (10)
00Y410	M	10490 (9)	19.4 (6)	4.8 (8)	86 (5)	88 (10)	101 (6)
M202	M	9970 (10)	21.8 (2)	5.0 (2)	89 (10)	94 (13)	105 (12)
CT-201	B	9910 (11)	16.0 (13)	4.9 (3)	87 (7)	3 (2)	105 (11)
01Y320	MPQ	9570 (12)	20.0 (5)	4.7 (11)	84 (3)	92 (11)	101 (8)
CH-201	SPQ	9130 (13)	15.7 (14)	5.0 (1)	83 (1)	94 (12)	98 (4)
01Y321	MPQ	8520 (14)	21.7 (3)	4.8 (7)	88 (9)	97 (14)	109 (14)
MEAN		10830	18.7	4.8	87	47	101
CV		8.1	9.8	2.3	6.8	42.4	3.6
LSD (.05)		1250	2.6	0.2		28	5

Preliminary Lines and Varieties

99Y529	L	12620 (1)	16.5 (16)	4.8 (8)	85 (6)	12 (5)	103 (10)
99Y494	W	12290 (2)	16.7 (15)	5.0 (1)	88 (10)	22 (10)	100 (7)
99Y158	SR	11900 (3)	18.9 (12)	4.8 (13)	84 (3)	38 (14)	100 (5)
01Y616	M	11870 (4)	22.1 (4)	4.8 (8)	92 (17)	26 (11)	104 (14)
01Y340	SR	11730 (5)	20.5 (7)	5.0 (2)	91 (16)	16 (6)	105 (15)
01Y617	M	11680 (6)	20.5 (7)	4.7 (18)	88 (10)	21 (9)	102 (8)
01Y608	M	11580 (7)	21.3 (5)	4.9 (4)	90 (15)	41 (15)	111 (19)
01Y271	M	11410 (8)	19.6 (11)	4.8 (13)	86 (8)	18 (7)	97 (2)
01P2842	L	11370 (9)	17.3 (14)	4.8 (11)	89 (12)	5 (3)	97 (2)
01Y733	M	11250 (10)	19.8 (10)	4.8 (11)	86 (7)	32 (12)	103 (10)
00Y578	SR	11210 (11)	23.2 (2)	4.7 (18)	96 (20)	1 (1)	93 (1)
01Y742	M	11080 (12)	20.2 (9)	4.8 (8)	87 (9)	65 (16)	103 (13)
01P2722	L	11030 (13)	16.4 (17)	4.8 (16)	84 (3)	1 (2)	97 (2)
01Y387	M	10540 (14)	20.8 (6)	4.9 (7)	89 (14)	72 (18)	107 (16)
01Y716	M	9680 (15)	17.5 (13)	4.6 (20)	84 (3)	38 (13)	100 (5)
01Y634	M	9680 (16)	24.9 (1)	4.9 (5)	92 (18)	70 (17)	107 (16)
01Y771	M	9200 (17)	22.9 (3)	4.9 (5)	89 (12)	96 (20)	108 (18)
01-262	SPQ	9170 (18)	16.2 (18)	5.0 (2)	84 (2)	89 (19)	103 (10)
9843475	B	8890 (19)	16.2 (19)	4.8 (13)	82 (1)	18 (7)	112 (20)
01Y153	B	7600 (20)	15.6 (20)	4.8 (16)	92 (18)	5 (3)	102 (8)
MEAN		10790	19.3	4.8	88	34	102
CV		5.6	9.2	1.5	2.1	41.7	2.9
LSD (.05)		1260	3.7	0.1	4	30	6

S = short; M = medium; L = long; B = Basmati; PQ = premium quality; REX = Newrex; 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 parenthesis indicate relative rank in column.

Table 14. 2002 Intermediate/Late Rice Variety Test - Glenn County

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 (cm)
00Y410	M	9270 (1)	16.2 (5)	4.5 (8)	96 (8)	7 (13)	94 (6)
98Y511	L	8950 (2)	12.8 (13)	4.9 (3)	96 (9)	6 (12)	93 (5)
M-402	MPQ	8850 (3)	17.1 (2)	4.8 (4)	108 (14)	5 (11)	98 (10)
01Y567	SPQ	8850 (4)	14.7 (8)	4.5 (7)	97 (11)	1 (1)	91 (1)
M205	M	8840 (5)	16.5 (3)	4.7 (5)	100 (13)	1 (1)	94 (6)
01Y501	SR	8550 (6)	13.3 (10)	4.3 (10)	93 (3)	1 (1)	96 (9)
94Y663	L	8040 (7)	12.6 (14)	4.2 (12)	97 (10)	1 (1)	91 (1)
M202	M	8000 (8)	16.4 (4)	4.6 (6)	92 (2)	2 (9)	105 (14)
01Y321	MPQ	7940 (9)	16.2 (6)	4.2 (12)	95 (7)	1 (8)	100 (12)
CH-201	SPQ	7830 (10)	14.0 (9)	5.0 (2)	94 (5)	8 (14)	91 (1)
01Y320	MPQ	7690 (11)	17.4 (1)	4.2 (11)	93 (4)	2 (9)	94 (6)
00-073	S	7500 (12)	15.0 (7)	4.0 (14)	90 (1)	1 (1)	100 (12)
L-205	REX	7440 (13)	13.1 (11)	4.5 (8)	94 (5)	1 (1)	91 (1)
CT-201	B	6790 (14)	13.0 (12)	5.0 (1)	99 (12)	1 (1)	98 (11)
MEAN		8180	14.9	4.5	96	3	96
CV		4.2	2.1	5.6	0.8	180.1	2.9
LSD (.05)		500	0.5	0.4	1		4

Preliminary Lines and Varieties

01Y617	M	9000 (1)	16.6 (5)	3.5 (20)	98 (16)	1 (1)	99 (11)
01Y616	M	8860 (2)	16.5 (6)	4.3 (13)	97 (14)	1 (1)	97 (9)
01Y742	M	8760 (3)	15.4 (9)	4.4 (7)	97 (15)	3 (13)	100 (15)
01Y733	M	8740 (4)	15.2 (10)	4.6 (4)	95 (8)	3 (13)	97 (9)
01Y608	M	8700 (5)	16.2 (7)	4.6 (4)	98 (16)	1 (1)	104 (18)
99Y158	SR	8510 (6)	15.5 (8)	4.4 (7)	91 (1)	1 (1)	94 (6)
01Y771	M	8470 (7)	17.3 (2)	4.0 (17)	96 (12)	21 (20)	105 (19)
01Y634	M	8260 (8)	16.9 (3)	4.2 (15)	100 (19)	1 (1)	103 (17)
99Y494	W	8170 (9)	12.6 (19)	4.9 (1)	96 (12)	1 (1)	93 (5)
00Y578	SR	8120 (10)	17.7 (1)	4.8 (2)	100 (18)	1 (1)	88 (1)
01P2722	L	8080 (11)	12.7 (18)	3.8 (19)	93 (4)	3 (13)	94 (6)
01Y340	SR	8060 (12)	15.1 (11)	4.8 (2)	95 (5)	1 (1)	99 (11)
01Y387	M	7990 (13)	16.6 (4)	4.2 (14)	96 (10)	8 (18)	102 (16)
01Y271	M	7980 (14)	15.0 (12)	4.0 (18)	96 (10)	6 (17)	89 (2)
01Y716	M	7810 (15)	15.0 (13)	4.1 (16)	95 (5)	1 (1)	99 (11)
99Y529	L	7770 (16)	12.4 (20)	4.3 (11)	95 (5)	1 (1)	99 (11)
01-262	SPQ	7600 (17)	14.2 (14)	4.3 (11)	92 (2)	8 (18)	91 (3)
01P2842	L	7570 (18)	13.4 (15)	4.4 (10)	95 (8)	1 (1)	95 (8)
9843475	B	7080 (19)	13.0 (17)	4.6 (4)	92 (3)	3 (13)	105 (19)
01Y153	B	6790 (20)	13.3 (16)	4.4 (7)	103 (20)	1 (1)	91 (3)
MEAN		8120	15	4.3	96	3	97
CV		7.7	4.7	6.7	0.9	204.4	3.8
LSD (.05)		1320	1.5	0.6	2	13.9	8

S = short; M = medium; L = long; B = Basmati; PQ = premium quality; REX = Newrex; 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 parenthesis indicate relative rank in column.

Table 15. 2002 Intermediate/Late Rice Variety Test - Sutter County

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 (cm)
M202	M	10270 (1)	18.0 (8)	4.8 (5)	88 (2)	1 (1)	97 (13)
00Y410	M	9730 (2)	19.4 (5)	4.8 (6)	93 (7)	2 (11)	93 (9)
M205	M	9670 (3)	20.2 (2)	4.7 (7)	96 (11)	1 (1)	92 (7)
01Y320	MPQ	9380 (4)	18.5 (7)	4.7 (8)	88 (3)	2 (11)	95 (12)
98Y511	L	9200 (5)	18.0 (9)	5.0 (2)	95 (9)	1 (1)	87 (3)
01Y501	SR	9200 (6)	17.3 (12)	4.3 (14)	92 (6)	1 (1)	87 (2)
01Y321	MPQ	9200 (7)	19.9 (3)	4.4 (12)	89 (4)	2 (11)	93 (10)
CH-201	SPQ	9090 (8)	17.5 (11)	5.0 (1)	93 (8)	2 (11)	95 (11)
01Y567	SPQ	8660 (9)	19.5 (4)	4.6 (10)	95 (10)	1 (1)	91 (6)
L-205	REX	8540 (10)	15.4 (14)	4.7 (9)	92 (5)	1 (1)	89 (4)
00-073	S	8320 (11)	18.6 (6)	4.4 (13)	86 (1)	1 (1)	99 (14)
M-402	MPQ	8310 (12)	22.3 (1)	4.9 (4)	105 (14)	1 (1)	92 (7)
94Y663	L	7700 (13)	17.9 (10)	4.5 (11)	96 (12)	1 (1)	84 (1)
CT-201	B	6450 (14)	16.4 (13)	5.0 (2)	97 (13)	1 (1)	90 (5)
MEAN		8840	18.5	4.7	93	1	92
CV		8.7	3.1	3.3	0.8	84.2	3.8
LSD (.05)		1100	0.8	0.2	1		5

Preliminary Lines and Varieties

99Y158	SR	10360 (1)	19.2 (12)	4.2 (19)	91 (4)	None	88 (7)
01Y617	M	10070 (2)	20.4 (5)	4.6 (6)	94 (12)		89 (9)
01Y387	M	9710 (3)	19.5 (11)	4.3 (16)	91 (4)		91 (11)
01Y616	M	9550 (4)	20.2 (8)	4.3 (16)	93 (8)		87 (3)
99Y494	W	9510 (5)	15.8 (20)	5.0 (1)	95 (15)		88 (4)
01Y340	SR	9490 (6)	18.1 (14)	4.9 (2)	89 (2)		93 (13)
01Y742	M	9390 (7)	21.1 (3)	4.6 (6)	95 (15)		86 (2)
01Y634	M	9280 (8)	21.9 (1)	4.6 (6)	95 (18)		96 (18)
01Y608	M	9190 (9)	21.0 (4)	4.5 (14)	93 (8)		98 (19)
01Y733	M	9080 (10)	20.0 (9)	4.7 (5)	95 (18)		94 (16)
01-262	SPQ	8930 (11)	17.0 (16)	4.8 (3)	88 (1)		92 (12)
01Y271	M	8760 (12)	20.3 (7)	4.3 (16)	93 (8)		93 (15)
99Y529	L	8710 (13)	16.1 (18)	4.6 (6)	94 (12)		88 (4)
01P2722	L	8660 (14)	16.0 (19)	4.6 (6)	90 (3)		90 (10)
01Y771	M	8380 (15)	20.4 (5)	4.6 (6)	95 (15)		94 (17)
01P2842	L	8250 (16)	16.7 (17)	4.2 (19)	92 (7)		89 (8)
00Y578	SR	7860 (17)	21.6 (2)	4.8 (3)	93 (11)		88 (4)
01Y716	M	6760 (18)	19.8 (10)	4.4 (15)	94 (14)		93 (13)
9843475	B	5990 (19)	17.3 (15)	4.6 (6)	91 (4)		98 (20)
01Y153	B	4580 (20)	18.6 (13)	4.6 (6)	98 (20)		83 (1)
MEAN		8630	19	4.5	93		91
CV		8.7	4.7	4.7	0.9		4.2
LSD (.05)		1570	1.9	0.4	2		8

S = short; M = medium; L = long; B = Basmati; PQ = premium quality; REX = Newrex; SR = stem rot resistant.
SR = stem rot resistant; B = Basmati.
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 parenthesis indicate relative rank in column.

Table 16. 2002 Three Location Intermediate/Late Rice Variety Tests
Yield (lb/acre @ 14% moisture) Summary

Advanced Lines and Varieties

Variety	Grain Type	Average	Biggs Biggs (RES)	Glenn Wylie	Sutter Akin Ranch
M205	M	10040 (1)	11600 (5)	8840 (5)	9670 (3)
01Y501	SR	10030 (2)	12330 (2)	8550 (6)	9200 (6)
98Y511	L	9950 (3)	11700 (4)	8950 (2)	9200 (5)
00Y410	M	9830 (4)	10490 (9)	9270 (1)	9730 (2)
01Y567	SPQ	9820 (5)	11940 (3)	8850 (4)	8660 (9)
94Y663	L	9530 (6)	12870 (1)	8040 (7)	7700 (13)
M202	M	9410 (7)	9970 (10)	8000 (8)	10270 (1)
M-402	MPQ	9320 (8)	10800 (8)	8850 (3)	8310 (12)
L-205	REX	9100 (9)	11330 (7)	7440 (13)	8540 (10)
00-073	S	9080 (10)	11420 (6)	7500 (12)	8320 (11)
01Y320	MPQ	8880 (11)	9570 (12)	7690 (11)	9380 (4)
CH-201	SPQ	8680 (12)	9130 (13)	7830 (10)	9090 (8)
01Y321	MPQ	8550 (13)	8520 (14)	7940 (9)	9200 (7)
CT-201	B	7720 (14)	9910 (11)	6790 (14)	6450 (14)
MEAN		9280	10830	8180	8840
CV		7.6	8.1	4.2	8.7
LSD (.05)		570	1250	500	1100

Preliminary Lines and Varieties

99Y158	SR	10250 (1)	11900 (3)	8510 (6)	10360 (1)
01Y617	M	10250 (2)	11680 (6)	9000 (1)	10070 (2)
01Y616	M	10090 (3)	11870 (4)	8860 (2)	9550 (4)
99Y494	W	9990 (4)	12290 (2)	8170 (9)	9510 (5)
01Y608	M	9820 (5)	11580 (7)	8700 (5)	9190 (9)
01Y340	SR	9760 (6)	11730 (5)	8060 (12)	9490 (6)
01Y742	M	9750 (7)	11080 (12)	8760 (3)	9390 (7)
99Y529	L	9700 (8)	12620 (1)	7770 (16)	8710 (13)
01Y733	M	9690 (9)	11250 (10)	8740 (4)	9080 (10)
01Y387	M	9410 (10)	10540 (14)	7990 (13)	9710 (3)
01Y271	M	9380 (11)	11410 (8)	7980 (14)	8760 (12)
01P2722	L	9260 (12)	11030 (13)	8080 (11)	8660 (14)
01Y634	M	9070 (13)	9680 (16)	8260 (8)	9280 (8)
01P2842	L	9070 (14)	11370 (9)	7570 (18)	8250 (16)
00Y578	SR	9060 (15)	11210 (11)	8120 (10)	7860 (17)
01Y771	M	8690 (16)	9200 (17)	8470 (7)	8380 (15)
01-262	SPQ	8570 (17)	9170 (18)	7600 (17)	8930 (11)
01Y716	M	8080 (18)	9680 (15)	7810 (15)	6760 (18)
9843475	B	7320 (19)	8890 (19)	7080 (19)	5990 (19)
01Y153	B	6320 (20)	7600 (20)	6790 (20)	4580 (20)
MEAN		9180	10790	8120	8630
CV		7.2	5.6	7.7	8.7
LSD (.05)		770	1260	1320	1570

S = short; M = medium; L = long; B = Basmati; PQ = premium quality; REX = N
SR = stem rot resistant.
Numbers in parenthesis indicate relative rank in column.

Table 17. Grain Yield (lb/acre @14% moisture) Summary of Intermediate/Late Rice Varieties by Location and Year (1998-2002)

Location	Year	M-205	M-402	**M-202**
Biggs (RES)	1998*	7890	9620	**8270**
	1999*	7830	9270	**9170**
	2000	11110	9810	**10480**
	2001	9430	8710	**8580**
	2002	11600	10800	**9970**
Location Mean		9572	9642	**9294**
Glenn	1998	-	7920	**6230**
	1999	-	8230	**7420**
	2000	9630	7800	**8490**
	2001	9020	8100	**7690**
	2002	8840	8850	**8000**
Location Mean		9163	8180	**7566**
Yuba	1998	-	7280	**6260**
Yuba	1999	-	7820	**8720**
Sutter	2000	9840	9620	**9840**
Sutter	2001	9870	9390	**10240**
Sutter	2002	9670	8310	**10270**
Location Mean		9793	8484	**9066**
Loc/Years Mean		9521	8769	**8642**
Yield % M-202		**110.2**	**101.5**	**100**
Number of Tests		11	15	**15**

* 1998 and 1999 M205 yields are an average of the Biggs Early

Table 18. 2002 Colusa strip trial.

Variety	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (cm)
M104	8170	17.9	4.5	92	82	96
M202	9510	19.2	4.6	96	77	100
98Y242	8930	18.8	5.0	93	75	100
MEAN	8870	18.7	4.7	94	78	99
CV	2.91	1.8	1.7	0.6	4.3	2.5
LSD (.05)	580	0.8	0.2	1.3	7.6	

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergenc
Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 19. 2002 San Joaquin strip trial.

Variety	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Days to 50% Heading	Plant Height (cm)	Milling %
M103	7770	17.4	4.7	89	82	71.6/58.8
M104	8770	19.0	4.4	93	82	71.3/59.8
98Y242	8480	20.8	4.6	100	88	71.1/68.2
MEAN	8340	19.1	4.6	94	84	
CV	4.1	2.0	4.7	0.7	3.2	
LSD (.05)	770	0.9	ns	2	6	

Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergenc
Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

Table 20. 2002 Sutter strip trial.

Variety	Grain Yield at 14% Moisture lbs/acre	Grain Moisture at Harvest (%)	Seedling Vigor (1-5)	Lodging %	Plant Height (cm)	Milling %
98-Y-242	9123	17.3	4.0	20	88.7	71.3/60.6
M202	8907	17.8	5.0	14.2	87.0	72/68.7
M104	8767	17.2	5.0	20.8	84.8	72.6/68.8
MEAN	8932	17.4	4.7	18.3	86.7	
CV	3.03	1.2	0	26.11	1.68	
LSD (.05)	ns	0.5	0	ns	ns	

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 21. 2002 – Sutter variety X nitrogen trial.

N Rate	S-102	M-104	M-202	M-205	Y-242	M-402	Mean
0	3723	3878	3745	4350	3789	4074	3927
50	5902	5707	5932	5886	6182	6775	6064
100	7306	6978	6794	8181	7755	7690	7451
150	8527	7972	7791	8743	8528	8523	8347
200	7317	7709	7114	8613	8175	7820	7791
Mean	6555	6449	6275	7155	6886	6977	6716

Probability level: Nitrogen = 0.0; Variety = 0.0; N X V = 0.02

Table 22. 2002 - Butte variety X nitrogen trial.

N rate	S-102	M-104	M-202	M-205	Y-242	M-402	Mean
0	4137	3880	4479	4254	4754	4241	4291
50	6776	6428	7358	6993	7461	6863	6980
100	9568	9269	9770	9641	9936	9190	9562
150	9766	9753	10644	10181	10788	10292	10238
200	8515	8175	8538	8748	8894	8552	8570
Mean	7752	7501	8158	7963	8367	7828	7928

Probability level: Nitrogen = 0.0; Variety = 0.0; N X V = 0.04

Table 23. 2002 – M-205 seeding rate trial.

N / Seed	100	150	200	Mean
0	4140	4355	4191	4228
50	6386	6103	6411	6300
100	7881	8190	7983	8018
150	8982	8752	8580	8771
200	8668	8622	8650	8647
Mean	7212	7204	7163	7193

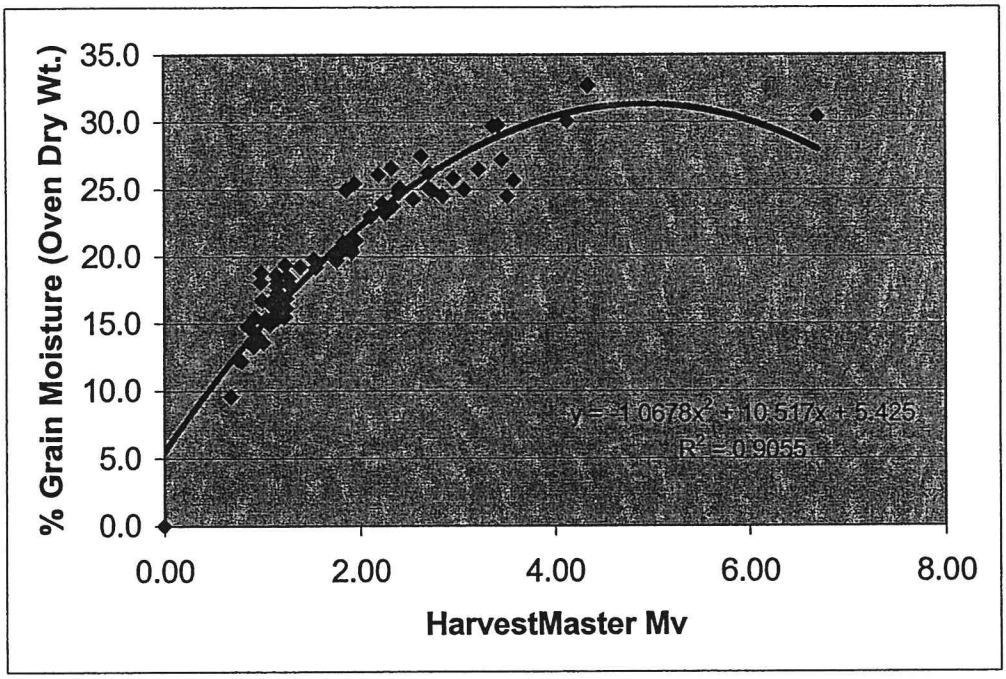

Figure 1. Combine moisture meter calibration curve – short grain varieties. 2001 and 2002 data.

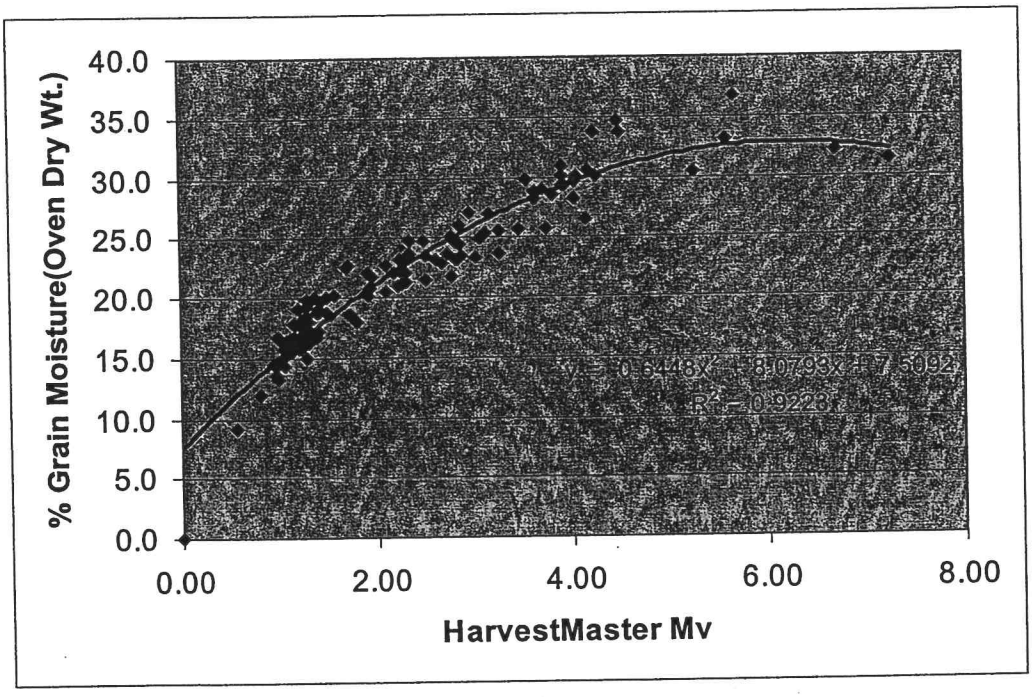

Figure 2. Combine moisture meter calibration curve – medium grain varieties. 2001 and 2002 data.

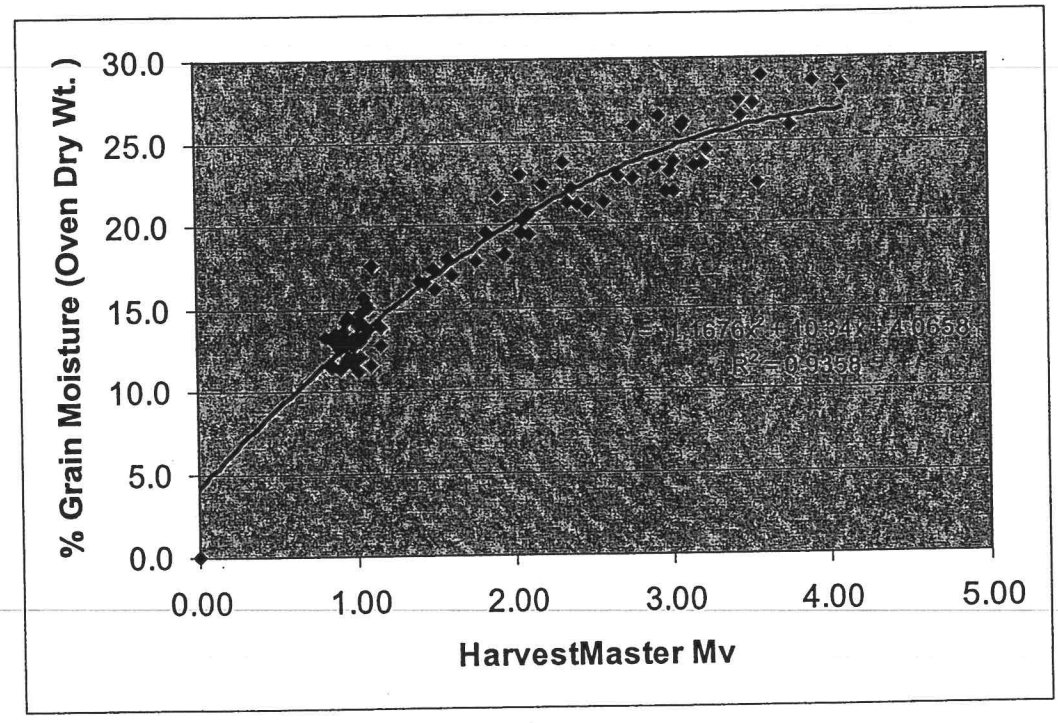

Figure 3. Combine moisture meter calibration curve – long grain varieties. 2001 and 2002 data.