ANNUAL REPORT
COMPREHENSIVE RESEARCH ON RICE
January 1, 2003 - December 31, 2003

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

PROJECT LEADERS:
James E. Hill, Specialist in UCCE, UC Davis

PRINCIPAL UC INVESTIGATORS:
C.M. Canevari, UCCE Farm Advisor, San Joaquin County
R.G. Mutters, UCCE Farm Advisor, Butte County
J.F. Williams, UCCE Farm Advisor, Sutter/Yuba Counties
R.L. Wennig, Staff Research Associate, UCCE/UCD

LEVEL OF 2003 FUNDING: $104,890

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, three maturity groups were conducted at different locations in the Sacramento and San Joaquin Valleys. Several experimental cultivars were compared at each location within these groups to evaluate their performance in the different environments of the rice-growing region.

Very Early Maturity Group - Trials were conducted at each of the following on-farm sites: the Brumley Ranch (San Joaquin County), the Lauppe Ranch (Sutter County), and the Erdman Ranch (Yolo County). Two additional tests were conducted at the Rice Experiment Station (RES) in Butte County. An advanced-line test at each site included seventeen entries (eight commercial varieties and nine advanced breeding lines) in four replications. The preliminary test included thirty-four preliminary breeding lines in two replications.

Early Maturity Group - Trials were conducted at each of the following on-farm sites: the Thompson Ranch (Butte County), the Dennis Ranch (Colusa County), and the Quad 4 Ranch (District 10, Yuba County). Two additional trials tests were conducted at the RES. An advanced-line test at each site included nineteen entries (ten commercial varieties and nine advanced breeding lines) in four replications. The preliminary test included thirty-four preliminary breeding lines in two replications.

Intermediate and Late Maturity Group - Trials 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:

Nitrogen and Stand Establishment: Rice growers are practicing a wide variety of stand establishment practices including broadcast and drill dry seeding as well as prolonged drying of water-seeded rice during which herbicides are applied. Nitrogen practices and hence nitrogen use efficiency changes under continuously flooded or wet conditions compared to dry soil conditions. This work examined several combinations of nitrogen application including preplant, topdress before permanent flood and topdress at PI. The work was conducted at the Baggett ranch in District 10.

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 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 advanced breeding lines were in their second or more years of testing. The RES provided the seed for public varieties and experimental cultivars.

The following sections 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) - Nine advanced breeding lines and eight commercial varieties were compared in four very early advanced tests. Commercial varieties at each location included S-102, CM-101, M-103, M-104, M-202, M-206, L-204, and L-205. Thirty-four cultivar lines were tested in the preliminary trials at each location.

Grain yields in the advanced tests averaged 8660 lb/ac at the Biggs-RES, 8500 lb/ac at San Joaquin, 8300 lb/ac at Sutter, and 9000 lb/ac at Yolo (Tables 1-5, respectively). Over the four locations (Table 1), the highest yielding entry on average was the advanced long grain 02Y045 (9240 lb/ac) followed by the short grain S-102 (9190 lb/ac), short grain 00Y170 (8970 lb/ac), and 01Y185, an advanced premium quality short grain (8940 lb/ac). Other top yielding commercial varieties L-205, M-206, L-204, and M-202, ranked sixth, seventh, ninth and thirteenth over location, respectively. M-103 ranked seventeenth overall; its yields hampered at the cooler locations. Averaged across location yields in the preliminary tests ranged from 7620 to 9350 lb/ac (Table 1). Days to 50% heading for most varieties in 2003 were 10-12 days less than in 2002. The decrease in days to heading was caused by a prolonged period of air temperatures exceeding 100^0F. Average lodging scores across all four locations was seven percent greater than in 2002, possibly due to the long period of high temperatures previously noted. 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) - Nine advanced lines and ten commercial varieties were compared in four early tests. Thirty-four preliminary lines were also evaluated in separate tests at each location. Commercial varieties at each location were CH-201, CM-101, S-102, M-202, M-204, M-205, M-206, CT-201, L-204, and L-205.

Yields in the advanced line tests averaged 9080 lb/ac at the RES; 7560 lb/ac at Butte; 8270 lb/ac at Colusa, and 8020 lb/ac at Yuba (Tables 7-11). The advanced medium grain 01Y617 was the highest yielding entry (9240 lb/ac) when averaged over the four locations in 2003 (Table 7). Other fairly consistently high yielding entries were M-205, 01Y327, 01Y655, and 99Y041, all ranking within the top ten at all locations. The yield of other commercial varieties M-204, S-102, L-204, M-202, L-205, M-206, CH-201, CM-101, and CT-201 ranked seventh, tenth, eleventh, twelfth, thirteenth, fourteenth, and sixteenth through eighteenth over all locations (Table 7). Preliminary line 02Y565 (stem rot resistant) yielded better across locations than the commercial standard M-202. Days to 50% heading ranged from 77 days at Biggs and Yuba to 84 days at Colusa. The commercial standard M-202 headed 79 days at Butte and in 84 days at Colusa. As in the very early tests, days to 50% heading were 10-12 days less in 2003 than in 2002.
M-205 was the highest yielding commercial variety (9130 lb/ac) followed by M-204 (8931 lb/ac) when averaged over the last five years and across locations (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 9420 lb/a at the RES, 7580 lb/ac at Glenn, and 9560 lb/ac at Sutter (Tables 13-16) down on average from 2002, probably because of the weather related shorter growing season. M-205 was the highest yielding entry at Sutter and not significantly different than the top yielding entry at the other locations or when averaged over all locations. L-205 and M-202 were the next highest yielding commercial varieties across locations (Table 13). Advanced line 02Y382 (medium grain) was the highest yielding advanced entry, at 10060 lb/ac. Days to 50% heading ranged from 84 days at the RES to 87 days at Sutter. Days to heading averaged 3-9 days less than in 2002. The effect of the extended period of high summer temperatures had less of an effect on shortening days to heading than in the other maturity group tests. The intermediate-late tests are usually planted earlier than the other tests, thus the plants were at a more advanced stage of maturity when they were exposed to the unseasonably high summer temperatures. M-402 took the longest to head among the commercial varieties, 98 days at Glenn (Table 15).

Averaged over the last five years and across locations, M-202 was the highest yielding (8932 lb/ac) commercial variety (Table 17). M-205 and M-104 produced 99% and 98%, respectively, of the yield of M-202 on average over the last 5 years (Table 17).

San Joaquin County Strip Trial: One strip trial was conducted in San Joaquin County, a cool production location, to evaluate the performance of M-206 compared to the standard varieties M-103 and M-104. The test consisted of three replications and a harvested plot length of 50 feet. The trial was harvested with the UC plot combine.

Statistically there were no significant differences in yield, seedling vigor, lodging, and plant height between the tested varieties (Table 18). However, days to 50% heading for M-206 were 10 and 4 days longer than M-103 and M-104, respectively. Multiple hand harvests of each variety were taken to evaluate grain quality at various harvest moistures. Quality results will follow at a later date.

Objective II - Cultural Practices

Nitrogen fertilization in a dry seeded delayed permanent flood-water management system.

In California's conventional water seeded continuous flood system, nitrogen use efficiency (NUE) is maximized by applying 100% of anticipated N needs preflood into the soil which is then permanently flooded. Supplemental topdressing may be applied based on plant analysis. However, dry seeded methods (either drilled or broadcast and covered) require different approaches to maximize NUE. Dry seeding requires extensive aerobic periods during which oxidation of ammonium N occurs. During subsequent flooding and reduction of the soil solution, this nitrate nitrogen will covert to non-fertilizer N_2O and N_2 gases which escape the soil and are lost to the crop. In the southern United States drill seeded system an application of dry fertilizer (ammonium sulfate or urea) immediately prior to the permanent flood forms the basis of the

nitrogen fertilizer program. The objective of this trial was to determine the most efficient rates and timing of nitrogen fertilizer applications for a dry seeded, delayed flood system in California.

The trial was conducted in a field in continuous rice production which was included in the alternative farming systems project funded by EPA. The field was in District 10, Yuba Co. on a San Joaquin series loam soil. After a long delay by rainy weather, seedbed preparation was finished on 5/15/03. Thirty plots, 10 ft x 50 ft, were arranged to accommodate10 treatments in a RCB experimental design with 3 replications. Each treatment received a total of 100 lb N/ac, but different proportions of the total at three possible times, preplant, pre-permanent flood and panicle initiation.

Treatment List (lb N/ac) at (preplant – perm flood – PI)

1.	100-0-0	6.	33-67-0
2.	0-100-0	7.	67-33-0
3.	0-50-50	8.	67-0-33
4.	50-50-0	9.	0-67-33
5.	50-0-50	10.	33-33-33

The first preplant applications of ammonium sulfate were made to the plots with a 10 ft wide Clampco applicator on 5/15/03. On 5/16 triple superphosphate was applied by hand to all plots at a rate of 65 lb P_2O_5/ac. The entire field, including the plots was then rolled with a grooved rice roller. On 5/22 unsoaked M205 seed, treated with gibberelic acid, was flown onto the dry field at a rate of 150 lb/ac, and covered lightly with a harrow. The field was flooded 5/23-24 and drained 5/26-27. May 25 was considered to be the seed date – the approximate beginning of seed germination.

Nine days after seeding (DAS), when rice was partially emerged, the trial received an application of Clincher (15 oz/ac) tank mixed with Prowl (2.4 pt/ac) applied using a Honda ATV spray rig on rather dry soil. A second flush of water was started immediately following the herbicide application. A second herbicide application of a tank mix of Super Wham (4 qt/ac) and Clincher (10 oz/ac) was made19 DAS. The second nitrogen fertilizer application of urea was broadcast onto the plots by hand 21 DAS and the permanent flood began 22 DAS.

Observations of rice height, percent cover, and leaf color were recorded for each plot on 38 and 47 DAS. The final nitrogen fertilizer application of ammonium sulfate was broadcast into the water by hand at the panicle initiation stage 50 DAS. Further data on rice height, cover, and color were collected at 62 DAS, just prior to heading at 91 DAS, and at 94 DAS percent heading in each plot was estimated. A delay in time of heading was noted in the north ends relative to the south ends of the same plot as well as in the eastern plots relative to the western ones. This was attributed to the effect of cold water entering the field from an inlet located about 250 feet north east of the trial.

The plots were harvested on 10/15 (143 DAS) with the UC SWECO plot harvester. Because there were obvious differences in the north and south ends of the same plots, rice grain weight

and grain moisture were taken from the north and south halves of each plot separately. Final mature plant heights were measured in each plot. There was no lodging in any plot.

Each of the three sets of yield data (from the south half, the north half, and the whole plot) were examined and compared in order to determine how best to evaluate treatment effects. The trial was purposely located far away from the water inlet in order to avoid cold water. Despite this precaution, yields from the north half of the plots were significantly less than the south half, and the effect was much more pronounced on the east end of the trial than on the west.

Preliminary analyses of variance showed very highly significant effects of replication and treatment (for both, $p < 0.0001$). The 3 replications helped greatly to block against the very strong east-west gradient due to cold water. Variance was highest in the yield data from the north half, intermediate in the data from the south half and lowest in the yield data from the harvest of the whole plots.

Although the data set from the whole plots had lower random error, the east-west gradient was not completely accounted for by the blocks. The east-west position of a plot within a rep was seen to be a significant determinant of yield in addition to replications and treatments. In other words, a treatment that by chance happened to be located toward the eastern end of each rep had relatively lower yields than the same treatments that were located towards the west end of each rep. Plot position within a rep was therefore entered as an extra factor, or covariant, to the statistical model in order to explicitly account for this effect independently of treatment.

All considered, it was concluded that the whole plot yield data, with treatment means adjusted for plot position, best represented the true effect of treatment on yield (Tables 19 and 20). Final mature rice height was also significantly affected by treatment ($p = 0.003$) and by plot position ($p = 0.01$, Tables 19 and 20). Treatments also had significant effects upon harvest moisture ($p = 0.003$) and heading date ($p = <0.0001$), but the effect was very small in both cases - 1 to 2 % and 1 or 2 days at the most (Table 20).

Rice height, percent cover and leaf color at the panicle initiation stage were also fairly good predictors of yield. These variables were examined by plotting their means and fitting curves for individual treatments or groups of treatments during the midseason growth period of 38 to 91 days after seeding (figures not shown) (Table 20).

Treatments that had a portion of the nitrogen fertilizer applied at panicle initiation stage (PI) compared to treatments that had all fertilizer applied preplant and/or at permanent flood, were generally shorter, had less cover, and lighter color.

Of the five treatments that had no nitrogen application at PI, treatment 100-0-0 produced shorter plants (except at PI stage), lower canopy cover, and lighter leaf color throughout the midseason period. It appeared that there was not enough available nitrogen beyond the PI stage. There were no apparent differences between the 0-100-0 and 67-33-0 treatments in height, cover, or leaf color by the PI stage. When the means of these variables are adjusted for plot position, however, the treatment 0-100-0 has somewhat higher values than 67-33-0 (Table 20). The leaf color

variable showed a faster response time (~1- 2 weeks) to applied nitrogen fertilizer than the rice height and canopy cover variables.

Treatments that included an application at permanent flood grew taller, had greater canopy cover, and had a darker leaf color throughout the season than those treatments without an application at permanent flood.

There were no apparent differences in height and canopy cover at any stage, nor in leaf color after the PI stage, between the group of treatments that included a preplant application and those that did not.

This trial was designed to emphasize NUE; thus, a suboptimal rate of N was chosen to avoid obscuring timing and rate effects with excess N. For example, excess preplant N may not have revealed nitrification-denitrification losses, hence giving different, and misleading results. Results, then, are biased toward strict nitrogen use efficiency. We wanted to learn what we could do with very low N rates. Commercially 'efficient' N programs also take into consideration the cost of multiple applications so that an excess preplant rate may be cheaper than an additional application. However, as fertilizer costs rise, this attention to NUE will become more important to farmers.

The result that the four highest yielding treatments did not include an application at the PI stage, indicated that top dressing at the PI stage was too late at this low rate to overcome the effect of previous N deficiency, hence had low NUE. The significantly lower yields of the 100-0-0 and 50-0-50 treatments compared to the 0-100-0 and 0-50-50 treatments, respectively, suggested that, as predicted, there were considerable losses associated with the preplant applications relative to the applications made at permanent flood. The significantly lowest yielding treatment of all, 50-0-50, apparently combined the losses of the preplant application with the inefficiency of the PI application, and with none applied at the most efficient permanent flood timing. The observations of plant height, cover, and color support these conclusions.

These results may partly be associated with the low total rate, 100 lbs N/ac, which was designed to more clearly bring out the effect of timing. A higher total rate will probably give different results, obscuring the effect of partial loss of preplant N and the effect of not applying the balance until the PI stage. Higher total rates may help overcome losses and timing effects in the dry seeded system, but would increase cost. The degree of loss is likely to vary based on soil characteristics, number of times the field is flushed, and the duration of the aerobic period(s). A shorter aerobic period would lessen the loss and allow greater preplant rates. For maximizing the efficiency of the permanent flood application it is recommended in the southern states to apply the dry fertilizer to dry soil immediately before the permanent flood. Increased rates are recommended the wetter the soil and the longer the time interval between fertilizer application and flood.

The very large effect and extent of the field water inlet was unexpected. The grower reported that cold water appeared to cause delayed ripening and lower yields in significant areas of this and other fields, extending even into the second check. Some of these areas were not even

harvested. It should be kept in mind that these results were obtained with the M205 variety, under conditions of cold water, record hot temperatures during the month of July, 2003, on a loam terrace soil in Yuba County.

Nitrogen fertilization efficiency in the dry-seeded, delayed-flood system may be greatly increased by using split applications appropriate to the system. The preplant application can be limited to a very low "starter" rate in order to limit losses, and most nitrogen should be applied to dry soil just prior to permanent flood. Further work is recommended to define the efficiency of applications at the panicle initiation stage, including doing this same trial but including multiple total N rates.

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. All items listed in the second year maintenance schedule were inspected and replaced as needed. Additional mid season repairs were required due to the failure of a beater bearing. Significant maintenance repairs were required to replace worn parts and make the rice equipment trailer safe.

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 2003. The Clampco precision fertilizer applicator was used to establish four nitrogen trials in Yuba, Glenn and Butte counties. The Clampco was also used to apply the fertilizer treatments for the stand establishment test at the RES at Biggs. The SWECO 324 plot combine was used to harvest sixteen variety trials, four fertility experiments, two calcium fertility experiments, seven Bakanae trials, two fungicide experiments, a strip trial, and a harvester efficiency comparison study. Over 2550 experimental plots were harvested in 2003. 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 nitrogen analysis at two sites for a grower GPS – yield study.

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 2003. University of California and USDA, 197 pp.
2. Rice Field Day Program, 2003
   California Cooperative Rice Research Foundation, RES, 41 pp.

Publications and Reports

1. Hill JE, JF Williams, AJ Fischer, RG Mutters and CA Greer. Alternative rice production systems to manage weed resistance, lower costs and reduce herbicide use. Presented at the Rice Field Day, 27 August, California Cooperative Rice Research Foundation, Inc. USDA-University of California, P.O. Box 306, Biggs, CA 95917-0306. p. 39-40.

2. UC Rice Research Quarterly (a statewide newsletter for rice). 3 issues

3. Hill JE, JF Williams, RG Mutters, CA Greer, LD Godfrey, D Whisson and AJ Fischer. Rice Production Workshop Manual. 132 pp.

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 in the advanced line tests ranged from 8610 lb/acre in the very early trials to about 9080 lb/acre in the early tests. Unlike the dry warm planting season of 2002, the 2003 season was exceptionally wet—not in total rainfall, but in the number and spacing of rainy days that delayed planting. Thus, the intermediate/late varieties yielded less than the early varieties in 2003. 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. This was particularly true with M-205 in both the early and intermediate/late tests and S-102 in the very early tests. However, several advanced lines in 2003 produced very high yields and represent important breeding goals aside from yield gains (blast tolerance, 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. A replicated rice variety strip trial was again conducted to compare M-206 to M-103 and M-104 in the cool area of San Joaquin/Stanislaus counties.

A test was conducted to evaluate nitrogen management in dry-seeded rice. This test clearly showed that nitrogen fertilizer should be managed differently in dry-seeded than in water-seeded rice. Preplant nitrogen can be easily oxidized during periods when the soil is allowed to dry and lost as N_20 and N_2 gas when the soil is reflooded. Thus, nitrogen efficiency can be increased by a combination of split applications, part preplant and part topdressed immediately prior to permanent flood. In this test, nitrogen applied at panicle initiation was too late to affect yield.

Table 1. 2003 Very Early Rice Variety Tests - Four Location Yield (lb/ac @ 14% moisture) Summary

Advanced Lines and Varieties

Variety	Grain Type	Average	Biggs (RES)	Yolo Erdman	Sutter Lauppe	San Joaquin Brumley
02Y045	L	9240 (1)	10210 (1)	9720 (1)	8350 (9)	8700 (6)
S-102	S	9190 (2)	10150 (2)	9050 (8)	8460 (6)	9070 (1)
00Y170	S	8970 (3)	9120 (8)	9270 (6)	8680 (2)	8830 (4)
01Y185	SPQ	8940 (4)	9760 (3)	8930 (11)	8680 (3)	8400 (10)
01Y266	M	8840 (5)	9180 (7)	9050 (9)	8780 (1)	8340 (12)
L-205	L	8730 (6)	9370 (5)	9030 (10)	8610 (4)	7890 (17)
M-206	M	8680 (7)	7950 (13)	9300 (3)	8580 (5)	8890 (3)
99Y469	L	8660 (8)	9340 (6)	8670 (13)	8240 (13)	8390 (11)
L-204	L	8660 (9)	9480 (4)	8590 (14)	8370 (8)	8190 (15)
02Y520	REX	8530 (10)	8590 (10)	9300 (4)	7810 (16)	8420 (9)
00Y805	M	8460 (11)	8180 (11)	9100 (7)	8300 (10)	8270 (14)
01Y220	WX	8450 (12)	7270 (16)	9290 (5)	8260 (11)	8990 (2)
M-202	M	8340 (13)	7760 (14)	9350 (2)	8250 (12)	7980 (16)
00Y175	WX	8340 (14)	8080 (12)	8580 (15)	7960 (14)	8720 (5)
M-104	M	8310 (15)	7470 (15)	8880 (12)	8420 (7)	8470 (8)
CM101	WX	8270 (16)	8630 (9)	8480 (16)	7350 (17)	8630 (7)
M-103	M	7850 (17)	6720 (17)	8420 (17)	7940 (15)	8330 (13)
MEAN		8610	8660	9000	8300	8500
CV		6.4	10.1	3.9	5.3	4.0
LSD (.05)		380	1250	500	630	480

Preliminary Lines and Varieties

02Y516	L	9350 (1)	9850 (2)	10040 (3)	8740 (8)	8770 (8)
02Y187	S	9160 (2)	9290 (5)	9010 (15)	9010 (4)	9330 (2)
02Y210	WX	9090 (3)	8820 (11)	8990 (16)	9220 (2)	9330 (1)
02Y816	M	9020 (4)	8590 (14)	10120 (2)	8820 (6)	8540 (10)
02Y198	S	9020 (5)	9580 (4)	9220 (13)	8470 (13)	8790 (7)
02Y221	WX	8990 (6)	8490 (16)	9660 (5)	8650 (11)	9170 (4)
02Y519	REX	8940 (7)	10080 (1)	9700 (4)	8130 (19)	7830 (25)
02Y238	M	8930 (8)	7980 (22)	9250 (12)	9330 (1)	9150 (5)
01Y451	REX	8910 (9)	8990 (9)	10130 (1)	8090 (21)	8430 (12)
02Y237	M	8790 (10)	7760 (27)	9470 (7)	8740 (9)	9190 (3)
02Y502	L	8760 (11)	9590 (3)	9320 (10)	8150 (17)	8000 (21)
02Y244	M	8720 (12)	8570 (15)	8830 (21)	8820 (7)	8680 (9)
02Y505	REX	8660 (13)	8450 (18)	9390 (8)	9020 (3)	7770 (27)
02Y234	M	8620 (14)	8670 (13)	8720 (23)	8850 (5)	8260 (15)
02Y474	REX	8570 (15)	9250 (7)	9280 (11)	7420 (31)	8350 (13)
02Y887	M	8550 (16)	7940 (23)	9340 (9)	8470 (14)	8430 (11)
02Y833	M	8530 (17)	7420 (30)	9640 (6)	8740 (10)	8320 (14)
02P2878	REX	8440 (18)	9250 (6)	8440 (26)	8050 (22)	8010 (19)
02Y496	L	8440 (19)	8940 (10)	9100 (14)	7690 (29)	8020 (18)
02Y834	M	8320 (20)	8700 (12)	8730 (22)	8030 (24)	7820 (26)
02Y864	M	8300 (21)	7770 (26)	8850 (20)	8430 (15)	8160 (16)
02Y889	M	8280 (22)	8450 (17)	8210 (30)	8590 (12)	7850 (24)
02Y844	M	8190 (23)	7710 (28)	8910 (19)	8150 (18)	8010 (20)
02Y172	SPQ	8180 (24)	8160 (20)	8990 (17)	7860 (26)	7710 (28)
02Y480	SR	8110 (25)	9090 (8)	8370 (28)	7760 (28)	7210 (31)
02Y872	M	8010 (26)	7360 (31)	7770 (34)	8120 (20)	8800 (6)
02Y243	M	7970 (27)	8030 (21)	7970 (33)	8260 (16)	7630 (29)
99Y324	SPQ	7880 (28)	7460 (29)	8940 (18)	8030 (23)	7100 (32)
02Y847	M	7850 (29)	7930 (24)	8190 (31)	7820 (27)	7460 (30)
01Y295	MPQ	7750 (30)	6970 (33)	8180 (32)	7920 (25)	7940 (22)
02Y171	SPQ	7700 (31)	6850 (34)	8510 (24)	7370 (32)	8050 (17)
01Y195	MPQ	7690 (32)	7310 (32)	8400 (27)	7140 (34)	7910 (23)
01Y477	BAS	7640 (33)	8290 (19)	8440 (25)	7160 (33)	6670 (34)
01Y478	BAS	7620 (34)	7810 (25)	8300 (29)	7630 (30)	6760 (33)
MEAN		8440	8390	8950	8250	8160
CV		5.5	8	3.2	4.7	5.2
LSD (.05)		460	1370	590	790	870

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant.
Numbers in parentheses indicate relative rank in column.

Table 2. 2003 Very Early Rice Variety Test - Biggs (RES)

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
02Y045	L	10210 (1)	5.0 (1)	72 (9)	43 (8)	36 (9)
S-102	S	10150 (2)	4.9 (7)	71 (5)	60 (11)	37 (16)
01Y185	SPQ	9760 (3)	4.7 (15)	72 (9)	36 (5)	37 (14)
L-204	L	9480 (4)	4.9 (3)	77 (17)	1 (1)	33 (2)
L-205	REX	9370 (5)	4.8 (11)	77 (15)	36 (5)	35 (4)
99Y469	L	9340 (6)	4.7 (16)	73 (13)	28 (3)	33 (1)
01Y266	M	9180 (7)	4.7 (17)	72 (12)	39 (7)	35 (6)
00Y170	S	9120 (8)	4.8 (11)	66 (2)	69 (12)	34 (3)
CM101	WX	8630 (9)	4.9 (3)	71 (8)	73 (14)	37 (13)
02Y520	REX	8590 (10)	4.9 (9)	66 (3)	24 (2)	37 (12)
00Y805	M	8180 (11)	5.0 (1)	71 (5)	56 (10)	37 (14)
00Y175	WX	8080 (12)	4.9 (3)	74 (14)	79 (17)	35 (5)
M-206	M	7950 (13)	4.9 (7)	70 (4)	30 (4)	35 (6)
M-202	M	7760 (14)	4.9 (6)	77 (15)	78 (16)	37 (16)
M-104	M	7470 (15)	4.8 (10)	65 (1)	50 (9)	36 (9)
01Y220	WX	7270 (16)	4.8 (11)	71 (5)	71 (13)	36 (11)
M-103	M	6720 (17)	4.8 (11)	72 (9)	75 (15)	35 (6)
MEAN		8660	4.8	71	50	36
CV		10.1	1.5	2.7	48.4	5.3
LSD (.05)		1250	0.1	3	34	3

Preliminary Lines and Varieties

02Y519	REX	10080 (1)	4.9 (7)	72 (18)	2 (7)	45 (9)
02Y516	L	9850 (2)	4.8 (21)	73 (23)	21 (12)	48 (28)
02Y502	L	9590 (3)	4.9 (6)	71 (10)	2 (6)	45 (9)
02Y198	S	9580 (4)	4.8 (21)	73 (21)	26 (13)	47 (21)
02Y187	S	9290 (5)	4.8 (25)	75 (28)	46 (16)	47 (26)
02P2878	REX	9250 (6)	4.8 (25)	71 (10)	14 (10)	43 (4)
02Y474	REX	9250 (7)	4.8 (18)	71 (10)	1 (1)	41 (2)
02Y480	SR	9090 (8)	4.9 (9)	74 (24)	1 (1)	44 (5)
01Y451	REX	8990 (9)	4.8 (25)	69 (2)	50 (17)	46 (14)
02Y496	L	8940 (10)	4.7 (33)	73 (21)	1 (4)	44 (8)
02Y210	WX	8820 (11)	4.8 (18)	74 (24)	83 (30)	47 (26)
02Y834	M	8700 (12)	4.8 (18)	73 (19)	4 (8)	46 (14)
02Y234	M	8670 (13)	4.8 (32)	71 (10)	18 (11)	47 (21)
02Y816	M	8590 (14)	5.0 (4)	75 (31)	55 (19)	46 (14)
02Y244	M	8570 (15)	4.9 (12)	74 (26)	31 (15)	46 (19)
02Y221	WX	8490 (16)	4.8 (21)	71 (10)	94 (34)	47 (21)
02Y889	M	8450 (17)	4.8 (21)	71 (8)	53 (18)	48 (29)
02Y505	REX	8450 (18)	4.9 (12)	77 (34)	1 (1)	44 (5)
01Y477	BAS	8290 (19)	4.9 (12)	71 (10)	13 (9)	46 (14)
02Y172	SPQ	8160 (20)	4.9 (7)	75 (28)	88 (33)	49 (31)
02Y243	M	8030 (21)	4.9 (12)	71 (10)	61 (22)	45 (11)
02Y238	M	7980 (22)	4.9 (12)	72 (17)	68 (23)	46 (19)
02Y887	M	7940 (23)	4.8 (25)	76 (33)	77 (27)	48 (29)
02Y847	M	7930 (24)	4.9 (9)	70 (4)	59 (21)	43 (3)
01Y478	BAS	7810 (25)	4.9 (9)	71 (9)	1 (4)	44 (5)
02Y864	M	7770 (26)	4.8 (25)	75 (28)	88 (32)	47 (21)
02Y237	M	7760 (27)	4.8 (25)	70 (7)	68 (23)	49 (34)
02Y844	M	7710 (28)	5.0 (2)	70 (6)	76 (25)	45 (11)
99Y324	SPQ	7460 (29)	4.9 (12)	74 (27)	30 (14)	39 (1)
02Y833	M	7420 (30)	5.0 (2)	67 (1)	55 (19)	46 (14)
02Y872	M	7360 (31)	4.7 (34)	73 (20)	83 (31)	47 (21)
01Y195	MPQ	7310 (32)	5.0 (4)	70 (4)	76 (25)	49 (31)
01Y295	MPQ	6970 (33)	4.8 (25)	76 (32)	80 (29)	49 (31)
02Y171	SPQ	6850 (34)	5.0 (1)	69 (2)	79 (28)	45 (11)
MEAN		8390	4.8	72	44	46
CV		8	1.4	2.4	30.7	3.2
LSD (.05)		1370	0.1	4	28	3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 3. 2003 Very Early Rice Variety Test - Sutter Co.

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)
01Y266	M	8780 (1)	19.5 (5)	3.9 (17)	79 (13)	49 (7)	38 (12)
00Y170	S	8680 (2)	18.0 (8)	5.0 (9)	71 (1)	98 (15)	35 (2)
01Y185	SPQ	8680 (3)	20.7 (3)	4.7 (15)	76 (9)	66 (10)	36 (5)
L-205	REX	8610 (4)	16.1 (13)	5.0 (9)	82 (17)	1 (1)	36 (5)
M-206	M	8580 (5)	17.2 (10)	5.0 (1)	79 (13)	48 (6)	37 (8)
S-102	S	8460 (6)	16.7 (11)	5.0 (1)	71 (1)	99 (17)	37 (9)
M-104	M	8420 (7)	18.1 (6)	5.0 (1)	73 (6)	88 (12)	38 (12)
L-204	L	8370 (8)	15.0 (16)	5.0 (9)	78 (12)	8 (2)	35 (2)
02Y045	L	8350 (9)	16.5 (12)	5.0 (1)	77 (10)	29 (5)	38 (14)
00Y805	M	8300 (10)	15.7 (14)	5.0 (1)	82 (15)	63 (9)	35 (2)
01Y220	WX	8260 (11)	20.9 (2)	4.8 (14)	74 (8)	75 (11)	38 (15)
M-202	M	8250 (12)	18.0 (7)	5.0 (1)	82 (16)	24 (4)	36 (7)
99Y469	L	8240 (13)	14.2 (17)	4.7 (16)	77 (10)	50 (8)	35 (1)
00Y175	WX	7960 (14)	21.8 (1)	5.0 (9)	74 (7)	97 (13)	37 (11)
M-103	M	7940 (15)	19.8 (4)	5.0 (9)	72 (4)	97 (13)	37 (9)
02Y520	REX	7810 (16)	15.3 (15)	5.0 (1)	71 (3)	15 (3)	38 (17)
CM101	WX	7350 (17)	17.5 (9)	5.0 (1)	72 (5)	98 (15)	38 (15)
MEAN		8300	17.7	4.9	76	59	37
CV		5.3	4.5	2.9	1	32.3	2.8
LSD (.05)		630	1.1	0.2	1	27	1

Preliminary Lines and Varieties

02Y238	M	9330 (1)	16.2 (23)	5.0 (1)	79 (33)	85 (30)	36 (3)
02Y210	WX	9220 (2)	18.4 (12)	4.9 (29)	76 (14)	73 (25)	39 (32)
02Y505	REX	9020 (3)	15.1 (26)	5.0 (1)	79 (31)	1 (1)	38 (27)
02Y187	S	9010 (4)	20.0 (1)	5.0 (1)	75 (10)	50 (23)	36 (3)
02Y234	M	8850 (5)	18.2 (13)	4.9 (29)	78 (26)	25 (17)	37 (22)
02Y816	M	8820 (6)	17.7 (15)	5.0 (1)	85 (34)	1 (1)	37 (14)
02Y244	M	8820 (7)	19.7 (2)	5.0 (1)	76 (14)	6 (9)	37 (22)
02Y516	L	8740 (8)	16.5 (22)	5.0 (27)	75 (7)	1 (1)	39 (32)
02Y237	M	8740 (9)	16.8 (21)	4.8 (32)	74 (3)	97 (31)	37 (22)
02Y833	M	8740 (10)	17.3 (20)	5.0 (1)	75 (7)	25 (17)	38 (31)
02Y221	WX	8650 (11)	17.3 (19)	4.7 (34)	75 (10)	83 (28)	36 (3)
02Y889	M	8590 (12)	19.5 (5)	5.0 (1)	72 (1)	23 (16)	41 (34)
02Y198	S	8470 (13)	18.9 (8)	5.0 (1)	76 (14)	11 (13)	36 (3)
02Y887	M	8470 (14)	18.9 (9)	5.0 (1)	79 (31)	40 (22)	38 (27)
02Y864	M	8430 (15)	18.9 (7)	5.0 (1)	76 (14)	83 (28)	37 (14)
02Y243	M	8260 (16)	19.0 (6)	5.0 (1)	75 (7)	1 (1)	37 (14)
02Y502	L	8150 (17)	14.9 (28)	4.9 (29)	76 (21)	11 (13)	37 (14)
02Y844	M	8150 (18)	17.3 (17)	5.0 (1)	75 (10)	6 (9)	37 (14)
02Y519	REX	8130 (19)	14.7 (29)	5.0 (1)	78 (26)	3 (8)	37 (22)
02Y872	M	8120 (20)	19.5 (4)	5.0 (1)	74 (3)	97 (31)	37 (14)
01Y451	REX	8090 (21)	14.0 (32)	5.0 (1)	74 (3)	30 (19)	36 (11)
02P2878	REX	8050 (22)	14.4 (31)	5.0 (1)	74 (2)	73 (25)	36 (3)
99Y324	SPQ	8030 (23)	17.5 (16)	5.0 (1)	78 (26)	8 (12)	35 (2)
02Y834	M	8030 (24)	19.6 (3)	5.0 (1)	78 (26)	1 (1)	36 (3)
01Y295	MPQ	7920 (25)	17.3 (18)	5.0 (1)	78 (26)	65 (24)	38 (27)
02Y172	SPQ	7860 (26)	18.8 (10)	5.0 (1)	77 (23)	30 (19)	37 (22)
02Y847	M	7820 (27)	16.0 (25)	5.0 (1)	78 (25)	35 (21)	36 (3)
02Y480	SR	7760 (28)	16.2 (24)	5.0 (1)	77 (23)	1 (1)	38 (27)
02Y496	L	7690 (29)	13.2 (34)	5.0 (27)	75 (10)	11 (13)	37 (14)
01Y478	BAS	7630 (30)	14.5 (30)	5.0 (1)	76 (14)	8 (11)	36 (3)
02Y474	REX	7420 (31)	13.4 (33)	5.0 (1)	74 (3)	97 (31)	34 (1)
02Y171	SPQ	7370 (32)	18.1 (14)	5.0 (1)	76 (14)	97 (31)	37 (14)
01Y477	BAS	7160 (33)	15.0 (27)	4.8 (32)	76 (14)	1 (1)	36 (11)
01Y195	MPQ	7140 (34)	18.7 (11)	5.0 (1)	77 (22)	73 (25)	36 (11)
MEAN		8250	17.1	5.0	76	37	37
CV		4.7	3.3	2.1	1.2	38.4	3.4
LSD (.05)		790	1.2		2	29	3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 4. 2003 Very Early Rice Variety Test - Yolo Co.

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)
02Y045	L	9720 (1)	16.9 (13)	5.0 (1)	77 (11)	1 (1)	41 (15)
M-202	M	9350 (2)	20.1 (3)	5.0 (5)	82 (16)	1 (1)	41 (15)
M-206	M	9300 (3)	21.2 (1)	5.0 (1)	77 (11)	2 (9)	39 (11)
02Y520	REX	9300 (4)	16.4 (16)	4.9 (6)	69 (2)	1 (1)	40 (14)
01Y220	WX	9290 (5)	20.6 (2)	4.6 (14)	73 (7)	13 (12)	39 (11)
00Y170	S	9270 (6)	19.0 (8)	4.5 (15)	69 (1)	24 (14)	36 (1)
00Y805	M	9100 (7)	18.7 (9)	5.0 (1)	79 (13)	1 (1)	41 (15)
S-102	S	9050 (8)	17.2 (11)	4.9 (10)	70 (3)	3 (11)	39 (10)
01Y266	M	9050 (9)	19.5 (7)	4.6 (13)	76 (10)	2 (9)	38 (4)
L-205	REX	9030 (10)	16.2 (17)	4.7 (12)	83 (17)	1 (1)	39 (8)
01Y185	SPQ	8930 (11)	19.6 (5)	4.5 (15)	75 (9)	1 (1)	38 (6)
M-104	M	8880 (12)	18.6 (10)	4.9 (6)	70 (4)	35 (15)	39 (8)
99Y469	L	8670 (13)	16.4 (15)	4.5 (15)	79 (13)	1 (1)	37 (3)
L-204	L	8590 (14)	16.8 (14)	4.7 (11)	80 (15)	1 (1)	36 (1)
00Y175	WX	8580 (15)	19.8 (4)	5.0 (1)	74 (8)	15 (13)	39 (7)
CM101	WX	8480 (16)	17.1 (12)	4.9 (8)	73 (6)	50 (16)	38 (4)
M-103	M	8420 (17)	19.5 (6)	4.9 (8)	72 (5)	65 (17)	40 (13)
MEAN		9000	18.5	4.8	75	13	39
CV		3.9	2.9	3.3	0.8	111.5	2.9
LSD (.05)		500	0.8	0.2	1	20	2

Preliminary Lines and Varieties

01Y451	REX	10130 (1)	16.2 (27)	4.6 (22)	79 (29)	8 (22)	42 (31)
02Y816	M	10120 (2)	18.1 (19)	5.0 (1)	83 (34)	1 (1)	41 (22)
02Y516	L	10040 (3)	18.0 (20)	4.7 (20)	77 (20)	1 (1)	42 (31)
02Y519	REX	9700 (4)	16.8 (24)	4.5 (27)	80 (31)	1 (1)	41 (28)
02Y221	WX	9660 (5)	23.2 (1)	4.3 (33)	75 (9)	83 (30)	41 (28)
02Y833	M	9640 (6)	17.9 (21)	5.0 (5)	72 (1)	1 (1)	40 (12)
02Y237	M	9470 (7)	19.0 (12)	4.9 (7)	73 (2)	40 (25)	40 (15)
02Y505	REX	9390 (8)	15.3 (30)	4.6 (22)	80 (32)	1 (1)	38 (6)
02Y887	M	9340 (9)	20.2 (6)	5.0 (1)	79 (29)	23 (24)	41 (28)
02Y502	L	9320 (10)	15.6 (29)	4.9 (8)	77 (20)	1 (1)	39 (7)
02Y474	REX	9280 (11)	16.1 (28)	4.4 (30)	75 (12)	1 (1)	38 (4)
02Y238	M	9250 (12)	19.2 (9)	4.8 (16)	77 (24)	53 (28)	40 (15)
02Y198	S	9220 (13)	19.1 (10)	4.8 (16)	74 (7)	1 (1)	39 (7)
02Y496	L	9100 (14)	15.3 (31)	4.6 (22)	78 (27)	1 (1)	41 (22)
02Y187	S	9010 (15)	19.4 (8)	4.4 (28)	76 (13)	1 (1)	42 (34)
02Y210	WX	8990 (16)	20.2 (7)	4.8 (14)	75 (9)	50 (27)	41 (22)
02Y172	SPQ	8990 (17)	18.7 (14)	5.0 (5)	76 (18)	1 (1)	40 (15)
99Y324	SPQ	8940 (18)	18.4 (16)	4.6 (22)	77 (20)	8 (23)	36 (1)
02Y844	M	8910 (19)	20.2 (5)	4.8 (14)	74 (7)	48 (26)	40 (15)
02Y864	M	8850 (20)	18.9 (13)	4.9 (8)	77 (24)	85 (32)	40 (12)
02Y244	M	8830 (21)	19.0 (11)	4.8 (16)	76 (13)	1 (1)	42 (31)
02Y834	M	8730 (22)	18.1 (18)	4.9 (8)	77 (20)	1 (1)	39 (7)
02Y234	M	8720 (23)	17.3 (23)	5.0 (1)	75 (9)	3 (20)	41 (22)
02Y171	SPQ	8510 (24)	16.7 (25)	4.9 (8)	78 (27)	65 (29)	40 (15)
01Y477	BAS	8440 (25)	14.7 (34)	4.4 (30)	76 (18)	1 (1)	39 (7)
02P2878	REX	8440 (26)	14.7 (33)	4.4 (28)	74 (4)	1 (1)	36 (2)
01Y195	MPQ	8400 (27)	20.5 (3)	4.8 (16)	74 (4)	97 (34)	40 (15)
02Y480	SR	8370 (28)	16.3 (26)	4.6 (22)	82 (33)	1 (1)	40 (12)
01Y478	BAS	8300 (29)	14.7 (32)	3.9 (34)	77 (24)	1 (1)	39 (7)
02Y889	M	8210 (30)	17.7 (22)	4.9 (8)	76 (13)	1 (1)	41 (22)
02Y847	M	8190 (31)	18.4 (17)	4.7 (20)	76 (13)	1 (1)	37 (3)
01Y295	MPQ	8180 (32)	22.0 (2)	5.0 (1)	74 (4)	93 (33)	41 (22)
02Y243	M	7970 (33)	18.5 (15)	4.9 (8)	73 (3)	3 (20)	38 (4)
02Y872	M	7770 (34)	20.4 (4)	4.3 (32)	76 (13)	83 (30)	40 (15)
MEAN		8950	18.1	4.7	76	22	40
CV		3.2	3.7	5.7	1.8	64.7	2.7
LSD (.05)		590	1.4	0.5	3	29	2

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 5. 2003 Very Early Rice Variety Test - San Joaquin Co.

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)
S-102	S	9070 (1)	17.1 (15)	5.0 (1)	78 (1)	1 (1)	36 (13)
01Y220	WX	8990 (2)	22.0 (6)	5.0 (14)	82 (6)	1 (1)	35 (10)
M-206	M	8890 (3)	24.0 (3)	5.0 (14)	92 (16)	1 (1)	36 (15)
00Y170	S	8830 (4)	21.4 (9)	5.0 (1)	79 (3)	1 (1)	32 (1)
00Y175	WX	8720 (5)	22.3 (5)	5.0 (1)	83 (7)	1 (1)	35 (12)
02Y045	L	8700 (6)	19.3 (11)	5.0 (1)	86 (11)	1 (1)	36 (13)
CM101	WX	8630 (7)	18.0 (13)	5.0 (1)	80 (4)	1 (1)	35 (10)
M-104	M	8470 (8)	21.5 (8)	5.0 (1)	87 (12)	1 (1)	34 (6)
02Y520	REX	8420 (9)	17.1 (16)	5.0 (1)	79 (2)	1 (1)	34 (6)
01Y185	SPQ	8400 (10)	22.6 (4)	5.0 (1)	89 (13)	1 (1)	35 (8)
99Y469	L	8390 (11)	17.7 (14)	5.0 (14)	85 (10)	1 (1)	33 (2)
01Y266	M	8340 (12)	24.1 (2)	5.0 (17)	91 (14)	1 (1)	36 (15)
M-103	M	8330 (13)	20.5 (10)	5.0 (1)	81 (5)	1 (1)	34 (4)
00Y805	M	8270 (14)	21.9 (7)	5.0 (1)	91 (14)	1 (1)	38 (17)
L-204	L	8190 (15)	19.2 (12)	5.0 (1)	84 (8)	1 (1)	34 (3)
M-202	M	7980 (16)	24.8 (1)	5.0 (1)	97 (17)	1 (1)	35 (8)
L-205	REX	7890 (17)	16.6 (17)	5.0 (1)	84 (8)	1 (1)	34 (4)
MEAN		8500	20.6	5.0	85	1	35
CV		4	5.5	0.5	1.7		3.7
LSD (.05)		480	1.6		2		2

Preliminary Lines and Varieties

02Y210	WX	9330 (1)	21.0 (12)	5.0 (1)	87 (22)	3 (33)	35 (24)
02Y187	S	9330 (2)	22.2 (4)	4.7 (33)	84 (13)	2 (32)	36 (29)
02Y237	M	9190 (3)	20.5 (16)	5.0 (1)	83 (11)	1 (1)	36 (28)
02Y221	WX	9170 (4)	20.5 (17)	4.7 (33)	85 (17)	31 (34)	35 (19)
02Y238	M	9150 (5)	21.2 (7)	5.0 (1)	90 (28)	1 (1)	35 (19)
02Y872	M	8800 (6)	20.2 (18)	5.0 (1)	82 (7)	1 (1)	34 (15)
02Y198	S	8790 (7)	22.8 (2)	5.0 (27)	83 (11)	1 (1)	36 (29)
02Y516	L	8770 (8)	18.4 (24)	5.0 (27)	86 (20)	1 (1)	37 (34)
02Y244	M	8680 (9)	20.8 (15)	5.0 (1)	87 (23)	1 (1)	36 (29)
02Y816	M	8540 (10)	22.6 (3)	5.0 (1)	97 (34)	1 (1)	35 (19)
02Y887	M	8430 (11)	19.8 (20)	5.0 (1)	86 (20)	1 (1)	34 (11)
01Y451	REX	8430 (12)	14.8 (32)	5.0 (1)	79 (1)	1 (1)	34 (11)
02Y474	REX	8350 (13)	15.0 (31)	5.0 (1)	80 (2)	1 (1)	30 (1)
02Y833	M	8320 (14)	18.9 (23)	5.0 (1)	84 (15)	1 (1)	34 (11)
02Y234	M	8260 (15)	21.3 (6)	5.0 (1)	92 (31)	1 (1)	34 (15)
02Y864	M	8160 (16)	19.7 (21)	5.0 (1)	84 (13)	1 (1)	33 (6)
02Y171	SPQ	8050 (17)	17.8 (26)	5.0 (1)	85 (17)	1 (1)	36 (29)
02Y496	L	8020 (18)	15.2 (30)	5.0 (1)	84 (15)	1 (1)	33 (6)
02P2878	REX	8010 (19)	15.8 (28)	5.0 (1)	81 (4)	1 (1)	34 (11)
02Y844	M	8010 (20)	22.0 (5)	5.0 (1)	90 (29)	1 (1)	34 (15)
02Y502	L	8000 (21)	15.5 (29)	5.0 (1)	81 (5)	1 (1)	32 (5)
01Y295	MPQ	7940 (22)	21.0 (13)	5.0 (27)	82 (8)	1 (1)	36 (29)
01Y195	MPQ	7910 (23)	20.9 (14)	5.0 (1)	83 (9)	1 (1)	34 (15)
02Y889	M	7850 (24)	21.1 (11)	5.0 (1)	83 (9)	1 (1)	35 (24)
02Y519	REX	7830 (25)	20.0 (19)	5.0 (1)	89 (26)	1 (1)	35 (24)
02Y834	M	7820 (26)	21.1 (10)	5.0 (1)	92 (31)	1 (1)	35 (24)
02Y505	REX	7770 (27)	16.3 (27)	5.0 (1)	89 (27)	1 (1)	33 (10)
02Y172	SPQ	7710 (28)	23.5 (1)	5.0 (27)	94 (33)	1 (1)	35 (19)
02Y243	M	7630 (29)	19.5 (22)	5.0 (1)	85 (17)	1 (1)	33 (6)
02Y847	M	7460 (30)	21.2 (8)	5.0 (1)	91 (30)	1 (1)	35 (19)
02Y480	SR	7210 (31)	18.2 (25)	5.0 (1)	88 (24)	1 (1)	33 (6)
99Y324	SPQ	7100 (32)	21.1 (9)	5.0 (1)	88 (25)	1 (1)	31 (2)
01Y478	BAS	6760 (33)	14.7 (34)	4.9 (32)	81 (5)	1 (1)	32 (4)
01Y477	BAS	6670 (34)	14.8 (33)	5.0 (27)	80 (3)	1 (1)	31 (2)
MEAN		8160	19.4	5.0	85	2	34
CV		5.2	5.0	1.1	1.9	368.5	3.7
LSD (.05)		870	2	0.1	3		3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 6. Grain Yield (lb/acre @14% moisture) Summary of Very Early Rice Varieties by Location and Year (1999-2003)

Location	Year	**M-103**	M-104	M-202	M-206	Calmochi 101	S-102	L-204	L-205
Biggs (RES)	1999	**10330**	10550	10480	-	10200	11140	10310	10610
	2000	**9160**	9720	9380	-	8590	9390	9330	10500
	2001	**9040**	9760	9950	9720	8930	10260	10300	10220
	2002	**8740**	10170	9710	10670	8890	9910	10120	10910
	2003	**6720**	7470	7760	7950	8630	10150	9480	9370
Location Mean		**8798**	9534	9456	9447	9048	10170	9908	10322
San Joaquin	1999	**7980**	5620	-	-	8860	8260	2460	2490
	2000	**7710**	8260	6670	-	6750	8180	7370	6720
	2001	**8080**	8400	7010	8280	9070	9680	7750	7300
	2002	**8630**	9400	8750	8900	8550	8910	7800	7280
	2003	**8330**	8470	7980	8890	8630	9070	8190	7890
Location Mean		**8146**	8030	7602.5	8690	8372	8820	6714	6336
Sutter	1999	**9670**	9260	9990	-	9670	10150	9410	9170
	2000	**9230**	9220	9940	-	9300	9750	8980	9370
	2001	**8310**	8780	8590	9480	8530	9260	8530	8250
	2002	**9320**	9620	8940	9870	9010	9950	8860	9050
	2003	**7940**	8420	8250	8580	7350	8460	8370	8610
Location Mean		**8894**	9060	9142	9310	8772	9514	8830	8890
Yolo	1999	**9960**	9020	7420	-	9960	10290	9250	7750
	2000	**9290**	9340	9820	-	9800	9870	9170	8970
	2001	**8710**	9300	8880	9130	9550	9880	8230	7680
	2002	**8770**	9580	8680	9180	8890	9830	7570	8180
	2003	**8420**	8880	9350	9300	8480	9050	8590	9030
Location Mean		**9030**	9224	8830	9203	9336	9784	8562	8322
Loc/Years Mean		**8717**	8962	8818	9163	8882	9572	8504	8468
Yield % M-103		**100.0**	**102.8**	**101.2**	**105.1**	**101.9**	**109.8**	**97.6**	**97.1**
Number of Tests		**20**	20	19	12	20	20	20	20

Table 7. 2003 Early Rice Variety Tests - Four Location Yield (lb/ac @ 14% moisture) Summary

Advanced Lines :

Variety	Grain Type	Average	Biggs (RES)	Butte Thompson	Colusa Canal Ranch	Yuba Quad 4
01Y617	M	9240 (1)	10090 (2)	8570 (1)	9850 (1)	8460 (6)
M-205	M	9130 (2)	9860 (5)	8460 (2)	9570 (2)	8630 (4)
01Y327	SPQ	9080 (3)	10830 (1)	8070 (5)	8940 (5)	8470 (5)
01Y655	REX	8900 (4)	9900 (4)	7800 (10)	8860 (6)	9050 (2)
99Y041	L	8820 (5)	9500 (6)	8370 (3)	8560 (8)	8840 (3)
99Y529	L	8720 (6)	9970 (3)	8030 (8)	9480 (3)	7390 (17)
M-204	M	8560 (7)	9280 (12)	8140 (4)	8970 (4)	7830 (13)
01Y314	MPQ	8520 (8)	9440 (8)	7570 (12)	7980 (13)	9070 (1)
00Y805	M	8360 (9)	9480 (7)	7970 (9)	8190 (11)	7790 (14)
S102	S	8290 (10)	9390 (10)	8060 (6)	7430 (16)	8280 (7)
L-204	L	8250 (11)	9410 (9)	7240 (15)	8490 (9)	7850 (12)
M-202	M	8210 (12)	8530 (13)	7580 (11)	8800 (7)	7940 (10)
L-205	REX	8190 (13)	9290 (11)	7570 (13)	8330 (10)	7550 (15)
M-206	M	8130 (14)	8320 (14)	8050 (7)	8020 (12)	8130 (8)
02Y346	SPQ	7610 (15)	7920 (16)	7350 (14)	7700 (14)	7460 (16)
CH201	SPQ	7500 (16)	8310 (15)	6240 (17)	7420 (17)	8020 (9)
CM101	WX	7330 (17)	7900 (18)	6880 (16)	6610 (18)	7930 (11)
CT-201	BAS	7060 (18)	7910 (17)	5830 (18)	7630 (15)	6870 (18)
BL-1	S	6530 (19)	7250 (19)	5790 (19)	6260 (19)	6830 (19)
MEAN		8230	9080	7560	8270	8020
CV		6.1	7.9	3.8	5	6.1
LSD (.05)		350	1020	410	590	690

Preliminary Lines and Varieties

02Y565	SR	9080 (1)	10170 (4)	8500 (4)	9400 (6)	8230 (2)
02Y412	M	8950 (2)	10060 (5)	8580 (2)	9290 (7)	7870 (9)
01Y502	SR	8940 (3)	10700 (3)	7960 (13)	9200 (9)	7920 (8)
02Y413	M	8880 (4)	9660 (9)	8520 (3)	9530 (2)	7830 (14)
02Y461	M	8870 (5)	9390 (17)	8280 (9)	9670 (1)	8130 (4)
02Y466	M	8810 (6)	9650 (10)	8460 (6)	9430 (5)	7680 (19)
02Y366	S	8790 (7)	9860 (7)	8350 (7)	8640 (15)	8290 (1)
02Y823	M	8780 (8)	9560 (12)	8210 (10)	9530 (3)	7840 (11)
02 P2644	REX	8760 (9)	10850 (1)	6970 (24)	9100 (10)	8130 (5)
02Y458	M	8710 (10)	9420 (16)	7820 (15)	9460 (4)	8130 (3)
01Y110	REX	8710 (11)	10710 (2)	7680 (16)	8510 (16)	7930 (7)
02Y459	M	8670 (12)	9560 (11)	8290 (8)	8980 (12)	7840 (10)
02Y662	M	8650 (13)	10030 (6)	7980 (12)	9020 (11)	7580 (20)
02Y273	M	8600 (14)	9230 (19)	8740 (1)	9210 (8)	7220 (25)
02Y838	M	8460 (15)	9540 (13)	7650 (17)	8870 (13)	7810 (15)
00Y506	L	8440 (16)	9810 (8)	7420 (20)	8740 (14)	7770 (18)
01Y345	BG	8320 (17)	9140 (20)	8490 (5)	7590 (28)	8060 (6)
02Y275	M	8160 (18)	9050 (23)	8080 (11)	8450 (17)	7070 (27)
02Y293	M	8120 (19)	9500 (14)	7900 (14)	8330 (19)	6750 (29)
02Y333	MPQ	8080 (20)	9470 (15)	7400 (21)	8260 (23)	7190 (26)
02Y577	L	7920 (21)	9110 (21)	6440 (28)	8310 (21)	7830 (13)
00Y342	BG	7890 (22)	9290 (18)	7290 (23)	8040 (26)	6960 (28)
02Y111	SR	7890 (23)	9070 (22)	6710 (27)	8330 (20)	7440 (23)
02Y308	MPQ	7820 (24)	7820 (28)	7620 (18)	8050 (25)	7800 (16)
02Y898	M	7790 (25)	8820 (25)	6910 (26)	8130 (24)	7320 (24)
02Y246	M	7760 (26)	8950 (24)	7440 (19)	8290 (22)	6370 (31)
00Y292	MPQ	7740 (27)	7290 (32)	7390 (22)	8450 (18)	7830 (12)
02Y311	MPQ	7660 (28)	8430 (26)	6970 (25)	7750 (27)	7510 (21)
02Y343	SPQ	7200 (29)	7770 (30)	5900 (30)	7340 (30)	7780 (17)
01 51493	BAS	7020 (30)	8200 (27)	6190 (29)	7360 (29)	6310 (32)
BL-2	SPQ	6840 (31)	7810 (29)	5350 (32)	6710 (32)	7480 (22)
9843561	BAS	6580 (32)	7760 (31)	5530 (31)	6520 (33)	6480 (30)
01Y489	BAS	6270 (33)	7140 (34)	5180 (34)	6770 (31)	6010 (33)
01 51577	BAS	5920 (34)	7170 (33)	5270 (33)	5960 (34)	5270 (34)
MEAN		8090	9120	7400	8390	7460
CV		6.1	7.4	4.7	5.5	5.5
LSD (.05)		480	1370	700	940	840

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant; BG = bold grain.
Numbers in parentheses indicate relative rank in column.

Table 8. 2003 Early Rice Variety Test - Biggs (RES)

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
01Y327	SPQ	10830 (1)	4.8 (11)	79 (16)	40 (9)	37 (12)
01Y617	M	10090 (2)	4.6 (19)	78 (12)	10 (5)	35 (4)
99Y529	L	9970 (3)	4.7 (16)	78 (12)	1 (1)	36 (6)
01Y655	REX	9900 (4)	4.9 (6)	80 (17)	9 (4)	37 (9)
M-205	M	9860 (5)	4.8 (13)	80 (18)	29 (7)	35 (2)
99Y041	L	9500 (6)	5.0 (3)	76 (7)	73 (15)	38 (16)
00Y805	M	9480 (7)	4.9 (6)	73 (3)	56 (13)	39 (18)
01Y314	MPQ	9440 (8)	4.6 (18)	75 (6)	48 (11)	37 (14)
L-204	L	9410 (9)	4.9 (8)	77 (9)	1 (1)	32 (1)
S102	S	9390 (10)	4.8 (11)	70 (1)	80 (18)	38 (16)
L-205	REX	9290 (11)	4.8 (13)	78 (11)	20 (6)	35 (2)
M-204	M	9280 (12)	4.7 (17)	78 (15)	29 (7)	37 (9)
M-202	M	8530 (13)	5.0 (3)	77 (8)	79 (16)	37 (14)
M-206	M	8320 (14)	4.8 (9)	72 (2)	45 (10)	37 (12)
CH201	SPQ	8310 (15)	5.0 (1)	77 (10)	79 (17)	35 (4)
02Y346	SPQ	7920 (16)	4.9 (5)	78 (14)	49 (12)	39 (19)
CT-201	BAS	7910 (17)	4.7 (15)	82 (19)	1 (1)	37 (9)
CM101	WX	7900 (18)	4.8 (9)	73 (3)	88 (19)	37 (8)
BL-1	S	7250 (19)	5.0 (2)	74 (5)	71 (14)	36 (6)
MEAN		9080	4.8	77	42	36
CV		7.9	2.2	2.1	46.7	4.4
LSD (.05)		1020	0.2	2	28	2

Preliminary Lines and Varieties

02 P2644	REX	10850 (1)	4.8 (17)	81 (29)	1 (1)	34 (2)
01Y110	REX	10710 (2)	4.8 (17)	74 (3)	40 (25)	37 (13)
01Y502	SR	10700 (3)	4.7 (27)	77 (12)	1 (1)	36 (5)
02Y565	SR	10170 (4)	4.7 (29)	80 (26)	2 (8)	37 (13)
02Y412	M	10060 (5)	4.8 (17)	79 (18)	20 (16)	38 (26)
02Y662	M	10030 (6)	4.9 (7)	78 (13)	8 (12)	35 (3)
02Y366	S	9860 (7)	4.9 (7)	73 (1)	25 (19)	38 (21)
00Y506	L	9810 (8)	3.7 (34)	80 (24)	1 (1)	34 (1)
02Y413	M	9660 (9)	4.7 (29)	79 (18)	30 (21)	37 (18)
02Y466	M	9650 (10)	4.7 (31)	80 (28)	11 (13)	35 (3)
02Y459	M	9560 (11)	4.8 (17)	79 (23)	2 (7)	36 (10)
02Y823	M	9560 (12)	4.8 (13)	79 (21)	3 (9)	36 (10)
02Y838	M	9540 (13)	4.8 (25)	74 (5)	35 (23)	38 (21)
02Y293	M	9500 (14)	4.8 (17)	76 (10)	7 (11)	36 (5)
02Y333	MPQ	9470 (15)	4.8 (23)	84 (32)	3 (10)	36 (5)
02Y458	M	9420 (16)	4.8 (25)	78 (16)	76 (30)	37 (18)
02Y461	M	9390 (17)	4.9 (3)	80 (24)	23 (17)	37 (18)
00Y342	BG	9290 (18)	4.9 (7)	81 (30)	55 (28)	39 (32)
02Y273	M	9230 (19)	4.8 (13)	78 (13)	15 (15)	36 (5)
01Y345	BG	9140 (20)	4.9 (4)	82 (31)	13 (14)	38 (26)
02Y577	L	9110 (21)	4.9 (7)	76 (9)	1 (1)	38 (21)
02Y111	SR	9070 (22)	4.7 (31)	80 (26)	1 (1)	36 (5)
02Y275	M	9050 (23)	4.8 (17)	73 (1)	39 (24)	37 (13)
02Y246	M	8950 (24)	4.6 (33)	74 (4)	26 (20)	37 (13)
02Y898	M	8820 (25)	4.9 (4)	78 (16)	24 (18)	38 (26)
02Y311	MPQ	8430 (26)	4.9 (7)	79 (18)	90 (31)	39 (29)
01 51493	LB	8200 (27)	5.0 (2)	85 (34)	33 (22)	39 (29)
02Y308	MPQ	7820 (28)	4.8 (23)	77 (11)	97 (32)	38 (21)
BL-2	SPQ	7810 (29)	4.9 (4)	78 (15)	49 (27)	37 (13)
02Y343	SPQ	7770 (30)	5.0 (1)	79 (21)	99 (34)	38 (21)
9843561	BAS	7760 (31)	4.9 (7)	76 (8)	1 (1)	39 (29)
00Y292	MPQ	7290 (32)	4.7 (27)	75 (6)	98 (33)	42 (34)
01 51577	BAS	7170 (33)	4.8 (13)	84 (33)	40 (25)	36 (10)
01Y489	BAS	7140 (34)	4.8 (13)	76 (7)	64 (29)	41 (33)
MEAN		9120	4.8	78	30	37
CV		7.4	6.4	1.2	39.9	2.6
LSD (.05)		1370		2	25	2

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant; BG = bold grain.
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. 2003 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 (in)
01Y617	M	9850 (1)	23.4 (1)	5.0 (8)	88 (15)	38 (7)	40 (4)
M-205	M	9570 (2)	22.0 (5)	5.0 (1)	88 (17)	22 (6)	39 (2)
99Y529	L	9480 (3)	17.2 (14)	5.0 (8)	86 (12)	2 (2)	42 (15)
M-204	M	8970 (4)	20.7 (9)	5.0 (1)	86 (13)	50 (8)	40 (5)
01Y327	SPQ	8940 (5)	21.3 (7)	5.0 (8)	82 (6)	75 (10)	40 (8)
01Y655	REX	8860 (6)	17.0 (16)	5.0 (8)	87 (14)	20 (5)	42 (15)
M-202	M	8800 (7)	23.0 (2)	5.0 (1)	84 (9)	99 (16)	42 (13)
99Y041	L	8560 (8)	18.3 (13)	5.0 (1)	85 (11)	61 (9)	42 (15)
L-204	L	8490 (9)	16.8 (18)	5.0 (1)	85 (10)	3 (3)	40 (8)
L-205	REX	8330 (10)	16.4 (19)	5.0 (8)	90 (18)	9 (4)	40 (5)
00Y805	M	8190 (11)	18.9 (11)	5.0 (8)	81 (3)	92 (11)	42 (19)
M-206	M	8020 (12)	22.9 (3)	5.0 (1)	81 (3)	97 (12)	42 (15)
01Y314	MPQ	7980 (13)	22.8 (4)	5.0 (16)	84 (8)	97 (12)	41 (11)
02Y346	SPQ	7700 (14)	21.7 (6)	5.0 (8)	81 (5)	98 (14)	40 (5)
CT-201	BAS	7630 (15)	17.1 (15)	5.0 (16)	94 (19)	1 (1)	41 (12)
S102	S	7430 (16)	16.9 (17)	5.0 (1)	74 (1)	99 (16)	40 (10)
CH201	SPQ	7420 (17)	18.9 (12)	5.0 (8)	88 (15)	98 (14)	39 (1)
CM101	WX	6610 (18)	21.0 (8)	4.9 (18)	76 (2)	99 (16)	42 (13)
BL-1	S	6260 (19)	19.6 (10)	3.9 (19)	83 (7)	99 (16)	39 (2)
MEAN		8270	19.8	4.9	84	61	41
CV		5	5.8	3.2	0.7	34.6	3
LSD (.05)		590	1.6	0.2	1	30	2

Preliminary Lines and Varieties

02Y461	M	9670 (1)	20.5 (3)	4.8 (23)	88 (27)	28 (21)	39 (16)
02Y413	M	9530 (2)	19.1 (12)	5.0 (11)	84 (14)	95 (30)	39 (11)
02Y823	M	9530 (3)	20.3 (4)	4.8 (23)	89 (29)	1 (1)	38 (3)
02Y458	M	9460 (4)	19.5 (9)	5.0 (11)	84 (14)	50 (24)	37 (1)
02Y466	M	9430 (5)	19.7 (7)	4.9 (20)	86 (23)	8 (18)	38 (3)
02Y565	SR	9400 (6)	16.4 (27)	4.7 (30)	88 (27)	1 (1)	41 (30)
02Y412	M	9290 (7)	19.2 (11)	5.0 (11)	83 (9)	48 (23)	39 (16)
02Y273	M	9210 (8)	19.5 (8)	4.8 (23)	84 (12)	1 (1)	40 (23)
01Y502	LSR	9200 (9)	15.8 (28)	4.9 (20)	85 (18)	1 (1)	38 (8)
02 P2644	REX	9100 (10)	16.9 (26)	5.0 (1)	90 (32)	1 (1)	39 (16)
02Y662	M	9020 (11)	18.9 (13)	5.0 (1)	85 (18)	1 (1)	38 (3)
02Y459	M	8980 (12)	20.0 (5)	5.0 (1)	85 (20)	1 (1)	38 (8)
02Y838	M	8870 (13)	17.7 (20)	5.0 (1)	81 (6)	88 (26)	41 (27)
00Y506	L	8740 (14)	14.6 (34)	4.8 (23)	89 (31)	1 (1)	40 (21)
02Y366	S	8640 (15)	18.4 (16)	5.0 (11)	76 (1)	95 (30)	40 (23)
01Y110	REX	8510 (16)	15.2 (31)	5.0 (1)	84 (12)	16 (19)	40 (23)
02Y275	M	8450 (17)	18.3 (17)	5.0 (1)	79 (3)	62 (25)	40 (21)
00Y292	MPQ	8450 (18)	17.4 (23)	4.7 (30)	76 (1)	99 (32)	44 (34)
02Y293	M	8330 (19)	18.8 (14)	5.0 (1)	83 (9)	1 (1)	37 (1)
02Y111	SR	8330 (20)	17.0 (24)	5.0 (11)	89 (29)	1 (1)	39 (11)
02Y577	L	8310 (21)	14.9 (33)	4.7 (30)	84 (14)	1 (1)	41 (27)
02Y246	M	8290 (22)	17.5 (21)	4.8 (23)	83 (9)	3 (17)	39 (16)
02Y333	MPQ	8260 (23)	17.8 (18)	5.0 (1)	84 (14)	1 (1)	39 (11)
02Y898	M	8130 (24)	17.8 (19)	5.0 (1)	85 (20)	1 (1)	40 (23)
02Y308	MPQ	8050 (25)	21.2 (1)	5.0 (11)	82 (7)	99 (32)	39 (16)
00Y342	BG	8040 (26)	19.3 (10)	5.0 (11)	81 (4)	90 (29)	43 (31)
02Y311	MPQ	7750 (27)	20.6 (2)	4.7 (30)	86 (23)	88 (26)	39 (11)
01Y345	BG	7590 (28)	19.8 (6)	5.0 (1)	82 (7)	43 (22)	38 (3)
01 51493	BAS	7360 (29)	14.9 (32)	5.0 (11)	92 (33)	1 (1)	41 (27)
02Y343	SPQ	7340 (30)	17.5 (22)	4.8 (23)	87 (25)	99 (32)	38 (3)
01Y489	BAS	6770 (31)	15.7 (29)	4.9 (20)	81 (4)	16 (19)	43 (31)
BL-2	SPQ	6710 (32)	18.8 (15)	3.8 (34)	86 (22)	90 (28)	39 (11)
9843561	BAS	6520 (33)	17.0 (25)	4.8 (23)	87 (25)	1 (1)	44 (33)
01 51577	BAS	5960 (34)	15.6 (30)	5.0 (11)	97 (34)	1 (1)	38 (8)
MEAN		8390	18	4.9	85	33	39
CV		5.5	4.5	4.8	0.9	51.4	3.5
LSD (.05)		940	1.7	0.5	1	35	3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant; BG = bold grain.
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. 2003 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 (in)
01Y617	M	8570 (1)	21.5 (5)	4.6 (18)	81 (16)	5 (5)	38 (8)
M-205	M	8460 (2)	21.3 (7)	4.9 (13)	80 (14)	55 (9)	37 (3)
99Y041	L	8370 (3)	19.4 (10)	5.0 (7)	80 (13)	81 (12)	38 (11)
M-204	M	8140 (4)	21.2 (8)	5.0 (10)	80 (14)	81 (12)	37 (3)
01Y327	SPQ	8070 (5)	21.3 (6)	4.9 (15)	77 (9)	15 (6)	37 (7)
S102	S	8060 (6)	17.0 (14)	4.8 (17)	71 (1)	96 (16)	38 (9)
M-206	M	8050 (7)	22.3 (3)	5.0 (1)	73 (4)	77 (10)	38 (11)
99Y529	L	8030 (8)	16.1 (18)	4.6 (18)	81 (17)	1 (1)	37 (3)
00Y805	M	7970 (9)	19.7 (9)	5.0 (7)	74 (5)	86 (14)	40 (17)
01Y655	REX	7800 (10)	16.9 (15)	4.8 (16)	85 (19)	2 (4)	39 (16)
M-202	M	7580 (11)	22.1 (4)	5.0 (7)	79 (12)	80 (11)	40 (19)
01Y314	MPQ	7570 (12)	22.9 (2)	4.9 (13)	77 (7)	44 (8)	40 (18)
L-205	REX	7570 (13)	16.7 (16)	4.9 (11)	83 (18)	40 (7)	38 (9)
02Y346	SPQ	7350 (14)	24.3 (1)	5.0 (1)	76 (6)	95 (15)	38 (14)
L-204	L	7240 (15)	16.5 (17)	4.9 (11)	79 (10)	1 (1)	36 (2)
CM101	WX	6880 (16)	17.6 (13)	5.0 (1)	73 (2)	99 (18)	38 (11)
CH201	SPQ	6240 (17)	18.2 (12)	5.0 (1)	77 (8)	99 (18)	37 (3)
CT-201	BAS	5830 (18)	14.4 (19)	5.0 (1)	79 (10)	1 (1)	39 (15)
BL-1	S	5790 (19)	18.7 (11)	5.0 (1)	73 (3)	98 (17)	35 (1)
MEAN		7560	19.4	4.9	78	56	38
CV		3.8	5.4	3.5	0.9	28.5	3.4
LSD (.05)		410	1.5	0.2	1	22	2

Preliminary Lines and Varieties

02Y273	M	8740 (1)	19.9 (8)	4.9 (21)	76 (11)	1 (1)	36 (7)
02Y412	M	8580 (2)	19.5 (12)	4.8 (29)	76 (11)	50 (25)	37 (15)
02Y413	M	8520 (3)	20.5 (4)	4.7 (31)	76 (7)	70 (27)	36 (7)
02Y565	SR	8500 (4)	16.3 (27)	5.0 (16)	80 (24)	1 (1)	37 (15)
01Y345	BG	8490 (5)	18.5 (17)	5.0 (1)	80 (28)	1 (1)	37 (12)
02Y466	M	8460 (6)	19.5 (13)	4.8 (28)	79 (19)	1 (1)	36 (5)
02Y366	S	8350 (7)	17.8 (19)	5.0 (1)	74 (1)	8 (18)	37 (15)
02Y459	M	8290 (8)	20.0 (7)	5.0 (1)	77 (16)	1 (1)	37 (15)
02Y461	M	8280 (9)	19.9 (9)	4.9 (21)	79 (19)	25 (21)	37 (15)
02Y823	M	8210 (10)	20.1 (5)	5.0 (1)	80 (24)	1 (1)	38 (24)
02Y275	M	8080 (11)	19.5 (14)	4.6 (33)	75 (5)	38 (24)	36 (7)
02Y662	M	7980 (12)	19.7 (11)	5.0 (1)	79 (22)	1 (1)	38 (24)
01Y502	SR	7960 (13)	16.0 (28)	4.7 (31)	80 (24)	1 (1)	35 (1)
02Y293	M	7900 (14)	19.2 (16)	4.8 (29)	76 (11)	1 (1)	35 (1)
02Y458	M	7820 (15)	21.6 (2)	4.5 (34)	79 (22)	95 (29)	38 (24)
01Y110	REX	7680 (16)	16.5 (26)	4.9 (21)	78 (17)	15 (20)	37 (15)
02Y838	M	7650 (17)	17.1 (22)	5.0 (1)	76 (7)	35 (23)	37 (12)
02Y308	MPQ	7620 (18)	19.8 (10)	5.0 (1)	75 (4)	99 (32)	37 (15)
02Y246	M	7440 (19)	16.9 (23)	5.0 (16)	74 (3)	13 (19)	38 (24)
00Y506	L	7420 (20)	15.1 (32)	5.0 (1)	80 (24)	1 (1)	37 (12)
02Y333	MPQ	7400 (21)	19.4 (15)	5.0 (1)	81 (30)	1 (1)	37 (15)
00Y292	MPQ	7390 (22)	20.0 (6)	4.9 (21)	74 (1)	99 (32)	41 (33)
00Y342	BG	7290 (23)	20.8 (3)	5.0 (1)	77 (15)	95 (29)	40 (31)
02 P2644	REX	6970 (24)	15.9 (29)	5.0 (16)	81 (30)	1 (1)	35 (1)
02Y311	MPQ	6970 (25)	22.5 (1)	5.0 (16)	81 (29)	88 (28)	38 (28)
02Y898	M	6910 (26)	17.2 (20)	4.9 (21)	76 (7)	3 (17)	37 (15)
02Y111	SR	6710 (27)	16.8 (24)	4.9 (21)	84 (32)	1 (1)	36 (7)
02Y577	L	6440 (28)	15.2 (31)	5.0 (16)	78 (17)	1 (1)	40 (30)
01 51493	BAS	6190 (29)	14.5 (33)	4.9 (21)	84 (32)	1 (1)	39 (29)
02Y343	SPQ	5900 (30)	17.2 (21)	5.0 (1)	76 (11)	99 (32)	36 (5)
9843561	BAS	5530 (31)	15.4 (30)	5.0 (1)	79 (19)	1 (1)	41 (34)
BL-2	SPQ	5350 (32)	17.9 (18)	5.0 (1)	75 (5)	97 (31)	36 (7)
01 51577	BAS	5270 (33)	16.6 (25)	5.0 (1)	84 (32)	60 (26)	35 (1)
01Y489	BAS	5180 (34)	14.4 (34)	5.0 (1)	76 (7)	26 (22)	40 (31)
MEAN		7400	18.1	4.9	78	30	37
CV		4.7	3.9	2.7	1.3	35	3.2
LSD (.05)		700	1.5	0.3	2	22	2

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant; BG = bold grain.
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. 2003 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 (in)
01Y314	MPQ	9070 (1)	22.3 (2)	5.0 (1)	79 (12)	2 (11)	38 (10)
01Y655	REX	9050 (2)	15.8 (18)	4.9 (14)	80 (17)	1 (1)	40 (17)
99Y041	L	8840 (3)	17.0 (13)	4.9 (18)	79 (10)	30 (17)	39 (14)
M-205	M	8630 (4)	21.3 (5)	5.0 (1)	79 (12)	1 (1)	38 (9)
01Y327	SPQ	8470 (5)	19.6 (9)	5.0 (1)	77 (7)	5 (12)	37 (7)
01Y617	M	8460 (6)	22.2 (3)	5.0 (13)	82 (19)	1 (1)	37 (7)
S102	S	8280 (7)	16.7 (14)	4.9 (14)	69 (1)	7 (14)	39 (13)
M-206	M	8130 (8)	21.4 (4)	5.0 (1)	73 (4)	1 (1)	38 (10)
CH201	SPQ	8020 (9)	19.1 (11)	5.0 (1)	79 (12)	17 (15)	36 (4)
M-202	M	7940 (10)	20.8 (7)	5.0 (1)	79 (11)	6 (13)	40 (17)
CM101	WX	7930 (11)	17.5 (12)	5.0 (1)	71 (2)	43 (19)	38 (12)
L-204	L	7850 (12)	16.4 (16)	4.9 (14)	76 (6)	1 (1)	35 (1)
M-204	M	7830 (13)	21.1 (6)	5.0 (1)	79 (12)	1 (1)	37 (6)
00Y805	M	7790 (14)	19.5 (10)	5.0 (1)	72 (3)	1 (1)	39 (14)
L-205	REX	7550 (15)	15.7 (19)	4.9 (14)	78 (9)	1 (1)	36 (2)
02Y346	SPQ	7460 (16)	24.8 (1)	5.0 (1)	79 (16)	28 (16)	40 (19)
99Y529	L	7390 (17)	16.6 (15)	4.8 (19)	78 (8)	1 (1)	36 (4)
CT-201	BAS	6870 (18)	15.9 (17)	5.0 (1)	81 (18)	1 (1)	40 (16)
BL-1	S	6830 (19)	20.0 (8)	5.0 (1)	75 (5)	34 (18)	36 (2)
MEAN		8020	19.1	5.0	77	9	38
CV		6.1	4.0	1.9	2	169.7	2.4
LSD (.05)		690	1.1		2	23	1

Preliminary Lines and Varieties

02Y366	S	8290 (1)	18.6 (21)	5.0 (24)	74 (2)	1 (1)	39 (22)
02Y565	SR	8230 (2)	17.3 (24)	5.0 (1)	79 (14)	1 (1)	39 (22)
02Y458	M	8130 (3)	22.5 (3)	5.0 (1)	80 (27)	1 (1)	39 (22)
02Y461	M	8130 (4)	21.9 (6)	5.0 (1)	78 (10)	1 (1)	38 (20)
02 P2644	REX	8130 (5)	15.9 (33)	4.9 (27)	79 (17)	1 (1)	37 (16)
01Y345	BG	8060 (6)	20.1 (16)	5.0 (1)	80 (22)	1 (1)	39 (22)
01Y110	REX	7930 (7)	15.9 (34)	5.0 (1)	78 (10)	1 (1)	37 (9)
01Y502	SR	7920 (8)	16.8 (27)	4.8 (34)	79 (17)	1 (1)	35 (2)
02Y412	M	7870 (9)	21.4 (9)	5.0 (1)	79 (17)	1 (1)	37 (16)
02Y459	M	7840 (10)	22.1 (5)	5.0 (1)	79 (17)	1 (1)	36 (7)
02Y823	M	7840 (11)	21.1 (11)	4.9 (27)	82 (33)	1 (1)	37 (9)
00Y292	MPQ	7830 (12)	21.5 (8)	4.9 (25)	76 (8)	99 (33)	40 (30)
02Y577	L	7830 (13)	16.2 (30)	5.0 (1)	76 (6)	1 (1)	39 (22)
02Y413	M	7830 (14)	21.1 (12)	5.0 (1)	74 (2)	1 (1)	37 (9)
02Y838	M	7810 (15)	19.2 (19)	5.0 (1)	76 (6)	1 (1)	37 (9)
02Y308	MPQ	7800 (16)	24.8 (1)	5.0 (1)	79 (17)	97 (32)	39 (22)
02Y343	SPQ	7780 (17)	21.6 (7)	5.0 (1)	80 (22)	99 (33)	36 (7)
00Y506	L	7770 (18)	16.0 (32)	5.0 (1)	80 (27)	1 (1)	36 (5)
02Y466	M	7680 (19)	19.5 (17)	5.0 (1)	81 (32)	1 (1)	34 (1)
02Y662	M	7580 (20)	20.5 (14)	5.0 (1)	80 (27)	1 (1)	37 (9)
02Y311	MPQ	7510 (21)	23.1 (2)	4.9 (27)	80 (22)	63 (30)	39 (22)
BL-2	SPQ	7480 (22)	21.3 (10)	5.0 (1)	80 (22)	65 (31)	38 (18)
02Y111	SR	7440 (23)	16.8 (26)	4.9 (27)	80 (27)	1 (1)	37 (9)
02Y898	M	7320 (24)	18.6 (22)	5.0 (1)	79 (14)	1 (1)	38 (18)
02Y273	M	7220 (25)	22.4 (4)	4.9 (25)	79 (14)	1 (1)	36 (5)
02Y333	MPQ	7190 (26)	20.8 (13)	5.0 (1)	91 (34)	1 (1)	40 (31)
02Y275	M	7070 (27)	19.5 (18)	5.0 (1)	75 (4)	1 (1)	37 (9)
00Y342	BG	6960 (28)	18.9 (20)	4.9 (27)	78 (13)	1 (1)	39 (29)
02Y293	M	6750 (29)	20.3 (15)	4.9 (27)	78 (10)	1 (1)	35 (2)
9843561	BAS	6480 (30)	16.7 (28)	4.9 (27)	76 (8)	1 (1)	42 (34)
02Y246	M	6370 (31)	17.9 (23)	5.0 (1)	73 (1)	1 (1)	35 (2)
01 51493	BAS	6310 (32)	16.1 (31)	5.0 (1)	80 (27)	1 (1)	40 (31)
01Y489	BAS	6010 (33)	16.4 (29)	5.0 (1)	75 (4)	1 (1)	41 (33)
01 51577	BAS	5270 (34)	17.1 (25)	5.0 (1)	80 (22)	1 (1)	38 (20)
MEAN		7460	19.4	5.0	78	13	37
CV		5.5	3.8	2.3	1.8	88	2.9
LSD (.05)		840	1.5		3	24	2

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant; BG = bold grain.
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 (1999-2003)

Location	Year	Calhikari 201	**M-202**	M-204	M-205	M-206	Calmati 201
Biggs (RES)	1999	9460	**10540**	11130	11200	10910	6620
	2000	9020	**10140**	11200	10870	10740	8490
	2001	9290	**9300**	9880	10180	9290	8280
	2002	8910	**10620**	10180	11230	10210	9040
	2003	8310	**8530**	9280	9860	8320	7910
Location Mean		8998	**9826**	10334	10668	9894	8068
Butte	1999	3930	**6780**	6070	4740	7660	-
	2000	7540	**7710**	8250	9270	8570	6650
	2001	7760	**8170**	8150	8410	8210	6800
	2002	7930	**8530**	8850	9060	9010	7390
	2003	6240	**7580**	8140	8460	8050	5830
Location Mean		6680	**7754**	7892	7988	8300	6668
Colusa	1999	8220	**10550**	9780	8260	10460	2680
	2000	7540	**9350**	10170	10570	8400	6840
	2001	8670	**9370**	9810	9960	9940	6740
	2002	8080	**8840**	8950	9690	9170	7710
	2003	7420	**8800**	8970	9570	8020	7630
Location Mean		7986	**9382**	9536	9610	9198	6320
Yuba	1999	6310	**7920**	7100	7130	8420	2420
	2000	8390	**9210**	9400	9520	9330	6840
	2001	7330	**7810**	7960	7770	8230	5630
	2002	8230	**9040**	7520	8220	9510	6790
	2003	8020	**7940**	7830	8630	8130	6870
Location Mean		7656	**8384**	7962	8254	8724	5710
Loc/Years Mean		7830	**8837**	8931	9130	9029	6693
Yield % M-202		**88.6**	**100**	**101.1**	**103.3**	**102.2**	**75.7**
Number of Tests		20	**20**	20	20	20	19

Table 13. 2003 Intermediate/Late Rice Variety Tests - Three Location Yield (lb/ac @ 14% moisture) Summary

Advanced Lines and Varieties

Variety	Grain Type	Average	Biggs (RES)	Glenn Wylie	Sutter Akin
01Y401	M	9740 (1)	11070 (1)	8000 (6)	10150 (4)
01Y567	SPQ	9590 (2)	9910 (6)	8540 (1)	10330 (3)
99Y158	SR	9550 (3)	10610 (3)	7670 (7)	10360 (2)
M-205	M	9540 (4)	9850 (7)	8110 (5)	10660 (1)
01Y501	SR	9460 (5)	10620 (2)	8130 (4)	9620 (7)
94Y663	L	9440 (6)	10380 (5)	8520 (3)	9420 (8)
00Y578	SR	9050 (7)	8910 (9)	8530 (2)	9710 (6)
L-205	REX	8880 (8)	10580 (4)	7170 (10)	8900 (13)
M-202	M	8370 (9)	8650 (10)	6560 (12)	9900 (5)
01Y320	MPQ	8300 (10)	8370 (11)	7550 (8)	8980 (12)
M-402	MPQ	8280 (11)	8130 (13)	7540 (9)	9190 (10)
02Y705	REX	8090 (12)	9020 (8)	6090 (14)	9170 (11)
CH-201	SPQ	7900 (13)	8170 (12)	6260 (13)	9270 (9)
CT-201	BAS	7620 (14)	7670 (14)	6950 (11)	8230 (14)
MEAN		8870	9420	7580	9560
CV		7.7	10.3	5.3	5.6
LSD (.05)		550	1380	570	770

Preliminary Lines and Varieties

02Y382	M	10060 (1)	10620 (3)	8610 (2)	10950 (1)
02Y289	M	9780 (2)	10790 (1)	8250 (7)	10290 (4)
02Y394	M	9630 (3)	9860 (7)	8390 (4)	10650 (2)
99Y494	LW	9620 (4)	10790 (2)	8210 (8)	9870 (7)
02Y638	SR	9430 (5)	10150 (6)	8780 (1)	9360 (13)
99Y529	L	9370 (6)	10570 (4)	8190 (9)	9350 (14)
02Y376	M	9320 (7)	9470 (12)	8360 (5)	10120 (5)
02Y689	M	9210 (8)	9750 (8)	8420 (3)	9450 (12)
02P2900	REX	9160 (9)	10160 (5)	7490 (14)	9820 (10)
02Y449	M	9120 (10)	8650 (14)	8140 (10)	10580 (3)
02Y656	M	9110 (11)	9560 (10)	7860 (11)	9900 (6)
02Y465	M	9100 (12)	9670 (9)	7810 (12)	9830 (9)
02Y836	M	9010 (13)	8860 (13)	8330 (6)	9830 (8)
02Y885	M	8900 (14)	9470 (11)	7580 (13)	9650 (11)
02Y305	MPQ	8090 (15)	8110 (15)	6990 (16)	9180 (15)
02Y313	MPQ	8070 (16)	7760 (16)	7490 (15)	8950 (16)
01-262	SPQ	7590 (17)	7240 (18)	6600 (17)	8940 (17)
9843475	BAS	6820 (18)	7340 (17)	5460 (19)	7670 (18)
02Y720	BAS	6650 (19)	6620 (19)	6100 (18)	7220 (19)
9844473	BAS	6020 (20)	6040 (20)	5260 (20)	6760 (20)
MEAN		8700	9070	7620	9420
CV		5.9	6.5	3.6	6.5
LSD (.05)		600	1240	570	1280

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; REX = Newrex; SR = stem rot resistant.
Numbers in parentheses indicate relative rank in column.

Table 14. 2003 Intermediate/Late Rice Variety Test - Biggs (RES)

Advanced Lines and Varieties

Variety	Grain Type	Grain Yield at 14% Moisture lbs/acre	Seedling Vigor (1-5)	Days to 50% Heading	Lodging (1-99)	Plant Height (in)
01Y401	M	11070 (1)	4.6 (12)	83 (7)	23 (5)	37 (4)
01Y501	SR	10620 (2)	4.7 (8)	79 (2)	1 (3)	37 (6)
99Y158	SR	10610 (3)	4.6 (12)	83 (6)	34 (7)	38 (11)
L-205	REX	10580 (4)	4.6 (10)	81 (4)	51 (10)	36 (2)
94Y663	L	10380 (5)	4.6 (11)	83 (7)	1 (1)	34 (1)
01Y567	SPQ	9910 (6)	4.7 (9)	90 (12)	39 (8)	37 (4)
M-205	M	9850 (7)	4.8 (4)	85 (9)	71 (11)	38 (9)
02Y705	REX	9020 (8)	4.8 (4)	85 (10)	8 (4)	38 (10)
00Y578	SR	8910 (9)	4.5 (14)	92 (13)	1 (1)	36 (3)
M-202	M	8650 (10)	4.8 (2)	80 (3)	94 (14)	39 (13)
01Y320	MPQ	8370 (11)	4.8 (3)	78 (1)	89 (13)	37 (7)
CH-201	SPQ	8170 (12)	5.0 (1)	81 (4)	87 (12)	37 (7)
M-402	MPQ	8130 (13)	4.8 (4)	98 (14)	39 (9)	40 (14)
CT-201	BAS	7670 (14)	4.8 (4)	85 (10)	28 (6)	39 (12)
MEAN		9420	4.7	84	40	37
CV		10.3	2.7	3.1	51.8	3.8
LSD (.05)		1380	0.2	4	30	2

Preliminary Lines and Varieties

02Y289	M	10790 (1)	4.7 (13)	83 (13)	45 (7)	39 (15)
99Y494	WX	10790 (2)	4.8 (5)	86 (18)	8 (2)	35 (1)
02Y382	M	10620 (3)	4.5 (20)	80 (5)	48 (9)	38 (10)
99Y529	L	10570 (4)	4.7 (13)	80 (7)	18 (4)	37 (7)
02P2900	REX	10160 (5)	5.0 (2)	81 (11)	3 (1)	35 (1)
02Y638	SR	10150 (6)	4.7 (18)	85 (16)	17 (3)	37 (9)
02Y394	M	9860 (7)	4.7 (13)	85 (16)	55 (12)	38 (14)
02Y689	M	9750 (8)	4.6 (19)	82 (12)	61 (15)	35 (1)
02Y465	M	9670 (9)	4.7 (13)	80 (7)	45 (7)	39 (17)
02Y656	M	9560 (10)	4.7 (13)	81 (9)	56 (14)	36 (5)
02Y885	M	9470 (11)	4.8 (7)	78 (2)	55 (12)	35 (1)
02Y376	M	9470 (12)	4.8 (9)	80 (6)	39 (6)	36 (5)
02Y836	M	8860 (13)	4.8 (5)	81 (10)	91 (17)	39 (15)
02Y449	M	8650 (14)	4.7 (12)	84 (14)	54 (11)	38 (10)
02Y305	MPQ	8110 (15)	4.8 (7)	79 (3)	96 (18)	41 (20)
02Y313	MPQ	7760 (16)	4.9 (3)	84 (14)	96 (18)	40 (19)
9843475	BAS	7340 (17)	4.7 (11)	77 (1)	61 (15)	40 (18)
01-262	SPQ	7240 (18)	5.0 (1)	79 (4)	97 (20)	38 (10)
02Y720	BAS	6620 (19)	4.8 (9)	86 (19)	48 (9)	38 (10)
9844473	BAS	6040 (20)	4.9 (4)	88 (20)	18 (4)	37 (7)
MEAN		9070	4.7	82	50	37
CV		6.5	3.3	1.6	32.2	3.2
LSD (.05)		1240		3	34	3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 15. 2003 Intermediate/Late Rice Variety Test - Glenn Co.

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)
01Y567	SPQ	8540 (1)	15.0 (2)	4.7 (12)	88 (11)	10 (10)	36 (2)
00Y578	SR	8530 (2)	14.2 (3)	4.1 (14)	90 (13)	1 (1)	39 (8)
94Y663	L	8520 (3)	12.3 (14)	4.7 (11)	87 (8)	2 (2)	38 (5)
01Y501	SR	8130 (4)	12.9 (9)	4.9 (8)	85 (6)	4 (4)	38 (5)
M-205	M	8110 (5)	14.0 (5)	5.0 (7)	89 (12)	14 (11)	39 (9)
01Y401	M	8000 (6)	13.7 (6)	4.8 (10)	88 (10)	8 (8)	40 (11)
99Y158	SR	7670 (7)	12.7 (13)	4.4 (13)	80 (1)	3 (3)	38 (5)
01Y320	MPQ	7550 (8)	13.4 (7)	4.9 (9)	81 (2)	88 (14)	37 (3)
M-402	MPQ	7540 (9)	18.2 (1)	5.0 (5)	98 (14)	5 (7)	40 (13)
L-205	REX	7170 (10)	12.9 (11)	5.0 (1)	82 (3)	4 (4)	37 (3)
CT-201	BAS	6950 (11)	12.7 (12)	5.0 (1)	87 (9)	9 (9)	44 (14)
M-202	M	6560 (12)	13.3 (8)	5.0 (5)	86 (7)	60 (13)	40 (12)
CH-201	SPQ	6260 (13)	14.1 (4)	5.0 (1)	85 (4)	58 (12)	35 (1)
02Y705	REX	6090 (14)	12.9 (10)	5.0 (1)	85 (4)	4 (4)	39 (9)
MEAN		7580	13.7	4.8	86	19	38
CV		5.3	2.8	3.6	1	49.8	3.3
LSD (.05)		570	0.5	0.2	1	14	2

Preliminary Lines and Varieties

02Y638	SR	8780 (1)	13.0 (14)	4.8 (9)	85 (5)	3 (4)	38 (7)
02Y382	M	8610 (2)	13.1 (13)	4.7 (15)	86 (9)	13 (9)	39 (13)
02Y689	M	8420 (3)	13.5 (10)	4.5 (18)	88 (17)	35 (14)	37 (4)
02Y394	M	8390 (4)	14.1 (3)	4.8 (9)	90 (19)	36 (15)	38 (7)
02Y376	M	8360 (5)	12.9 (16)	5.0 (5)	85 (6)	25 (12)	36 (1)
02Y836	M	8330 (6)	13.9 (4)	5.0 (1)	86 (9)	65 (17)	41 (18)
02Y289	M	8250 (7)	13.8 (7)	4.7 (15)	86 (9)	18 (11)	40 (15)
99Y494	WX	8210 (8)	12.2 (20)	5.0 (5)	86 (9)	3 (4)	39 (10)
99Y529	L	8190 (9)	12.4 (18)	4.8 (9)	85 (6)	3 (4)	40 (15)
02Y449	M	8140 (10)	14.3 (2)	4.8 (9)	88 (16)	45 (16)	39 (10)
02Y656	M	7860 (11)	13.9 (5)	4.7 (15)	87 (14)	8 (8)	38 (9)
02Y465	M	7810 (12)	13.7 (8)	4.5 (18)	85 (6)	13 (10)	37 (4)
02Y885	M	7580 (13)	13.5 (11)	4.8 (9)	83 (3)	5 (7)	36 (1)
02P2900	REX	7490 (14)	12.6 (17)	5.0 (1)	86 (13)	1 (1)	37 (4)
02Y313	MPQ	7490 (15)	13.8 (6)	5.0 (1)	87 (14)	85 (18)	39 (13)
02Y305	MPQ	6990 (16)	13.5 (12)	4.4 (20)	84 (4)	85 (18)	41 (18)
01-262	SPQ	6600 (17)	13.6 (9)	5.0 (5)	80 (1)	88 (20)	36 (3)
02Y720	BAS	6100 (18)	13.0 (15)	5.0 (1)	90 (19)	30 (13)	40 (15)
9843475	BAS	5460 (19)	12.3 (19)	5.0 (5)	81 (2)	1 (1)	42 (20)
9844473	BAS	5260 (20)	14.6 (1)	4.8 (9)	90 (18)	1 (1)	39 (10)
MEAN		7620	13.4	4.8	86	28	38
CV		3.6	4	4.7	1	59.2	3.8
LSD (.05)		570	1.1		2	35	3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 16. 2003 Intermediate/Late Rice Variety Test - Sutter Co.

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)
M-205	M	10660 (1)	19.9 (4)	4.6 (7)	90 (12)	32 (10)	39 (8)
99Y158	SR	10360 (2)	19.1 (8)	4.5 (10)	80 (1)	15 (8)	39 (8)
01Y567	SPQ	10330 (3)	18.8 (10)	4.8 (4)	87 (8)	49 (12)	38 (4)
01Y401	M	10150 (4)	20.6 (3)	4.3 (11)	87 (10)	2 (5)	39 (8)
M-202	M	9900 (5)	21.7 (2)	4.6 (8)	86 (5)	53 (13)	41 (11)
00Y578	SR	9710 (6)	19.7 (7)	4.1 (14)	86 (5)	1 (1)	38 (6)
01Y501	SR	9620 (7)	19.1 (9)	4.3 (13)	86 (5)	1 (1)	38 (7)
94Y663	L	9420 (8)	18.4 (11)	4.3 (12)	89 (11)	1 (1)	37 (1)
CH-201	SPQ	9270 (9)	19.8 (5)	5.0 (2)	85 (4)	99 (14)	37 (3)
M-402	MPQ	9190 (10)	22.8 (1)	4.9 (3)	91 (13)	11 (7)	41 (11)
02Y705	REX	9170 (11)	18.0 (12)	5.0 (1)	82 (3)	19 (9)	41 (14)
01Y320	MPQ	8980 (12)	19.7 (6)	4.8 (5)	82 (2)	38 (11)	37 (2)
L-205	REX	8900 (13)	17.2 (13)	4.6 (8)	87 (9)	1 (1)	38 (4)
CT-201	BAS	8230 (14)	16.7 (14)	4.7 (6)	96 (14)	2 (5)	41 (11)
MEAN		9560	19.4	4.6	87	23	39
CV		5.6	5.8	5.5	1.4	90.8	3.2
LSD (.05)		770	1.6	0.4	2	30	2

Preliminary Lines and Varieties

02Y382	M	10950 (1)	19.3 (9)	4.8 (8)	84 (7)	1 (1)	40 (13)
02Y394	M	10650 (2)	20.6 (3)	4.4 (18)	90 (19)	21 (18)	39 (9)
02Y449	M	10580 (3)	18.6 (13)	5.0 (6)	87 (15)	8 (15)	40 (13)
02Y289	M	10290 (4)	19.4 (7)	5.0 (1)	85 (14)	1 (1)	41 (18)
02Y376	M	10120 (5)	19.1 (11)	4.7 (12)	84 (7)	3 (9)	39 (9)
02Y656	M	9900 (6)	20.4 (4)	4.4 (17)	85 (12)	3 (9)	38 (7)
99Y494	WX	9870 (7)	16.5 (19)	4.8 (8)	85 (12)	3 (9)	38 (7)
02Y836	M	9830 (8)	18.9 (12)	5.0 (1)	84 (10)	13 (16)	39 (9)
02Y465	M	9830 (9)	19.3 (8)	5.0 (1)	84 (7)	3 (9)	40 (13)
02P2900	REX	9820 (10)	16.5 (18)	5.0 (1)	82 (4)	3 (9)	37 (4)
02Y885	M	9650 (11)	20.0 (5)	4.0 (20)	82 (4)	3 (9)	37 (2)
02Y689	M	9450 (12)	21.6 (2)	4.5 (15)	88 (17)	1 (1)	37 (4)
02Y638	SR	9360 (13)	16.9 (14)	4.5 (15)	79 (2)	1 (1)	36 (1)
99Y529	L	9350 (14)	16.6 (17)	4.7 (13)	84 (10)	1 (1)	40 (17)
02Y305	MPQ	9180 (15)	21.8 (1)	4.7 (13)	82 (4)	53 (19)	41 (18)
02Y313	MPQ	8950 (16)	19.5 (6)	4.2 (19)	87 (15)	16 (17)	39 (9)
01-262	SPQ	8940 (17)	19.2 (10)	5.0 (1)	80 (3)	99 (20)	40 (13)
9843475	BAS	7670 (18)	16.6 (16)	4.8 (8)	78 (1)	1 (1)	43 (20)
02Y720	BAS	7220 (19)	16.9 (15)	4.8 (8)	90 (20)	1 (1)	37 (4)
9844473	BAS	6760 (20)	16.4 (20)	5.0 (6)	88 (17)	1 (1)	37 (2)
MEAN		9420	18.7	4.7	84	12	39
CV		6.5	3.7	6	1.3	94.7	3.9
LSD (.05)		1280	1.4	0.6	2	23	3

S = short; M = medium; L = long; PQ = premium quality; BAS = Basmati; WX = waxy; 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 parentheses indicate relative rank in column.

Table 17. Grain Yield (lb/acre @14% moisture) Summary of Intermediate/Late Rice Varieties by Location and Year (1999-2003)

Location	Year	M-205	M-402	**M-202**
Biggs (RES)	1999*	7830	9270	**9170**
	2000	11110	9810	**10480**
	2001	9430	8710	**8580**
	2002	11600	10800	**9970**
	2003	10610	8130	**8650**
Location Mean		10116	9344	**9370**
Glenn	1999	-	8230	**7420**
	2000	9630	7800	**8490**
	2001	9020	8100	**7690**
	2002	8840	8850	**8000**
	2003	8110	7540	**6560**
Location Mean		8900	8104	**7632**
Yuba	1999	7130	7820	**8720**
Sutter	2000	9840	9620	**9840**
Sutter	2001	9870	9390	**10240**
Sutter	2002	9670	8310	**10270**
Sutter	2003	10660	9190	**9900**
Location Mean		9434	8866	**9794**
Loc/Years Mean		8837	8771	**8932**
Yield % M-202		**98.9**	**98.2**	**100**
Number of Tests		14	15	**15**

* 1999 M-205 yield is an average of the Biggs Early and Very Early tests.

Table 18. 2003 San Joaquin Rice Strip Trial

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)
M-104	M	8540 (1)	19.8 (2)	5 (1)	87 (2)	4 (2)	32 (1)
M-206	M	8350 (2)	20.9 (1)	5 (1)	91 (3)	9 (3)	34 (3)
M-103	M	8100 (3)	18.2 (3)	5 (1)	81 (1)	2 (1)	33 (2)
MEAN		8330	19.6	5	86	5	33
CV		4.5	3.3		0.5	189.8	3.2
LSD (.05)			1.5		1		

M = medium
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 19. Treatment means for yield, plant height and flag leaf height, adjusted for position.

Nitrogen Treatment*	Yield (14%) (Adjusted Means**) (lb/ac)		Mature Plant Height (Adjusted Means**) (cm)		Flag Leaf Height (Adjusted Means**) (in)	
67-33-0	8167	a	80.2	abc	33.9	abc
0-100-0	7999	ab	82.6	a	35.1	a
33-67-0	7998	ab	81.5	ab	34.6	ab
50-50-0	7846	abc	79.9	bc	33.4	bcd
0-67-33	7777	bcd	80.5	abc	33.1	bcd
67-0-33	7554	cde	78.8	cd	32.8	cd
0-50-50	7507	cde	79.7	bc	32.6	cde
33-33-33	7480	de	76.8	d	32.1	de
100-0-0	7424	e	78.1	cd	32.8	d
50-0-50	6907	f	76.7	d	31.1	e
LSD(0.05)	346		2.6		1.6	
CV (%)	2.62		1.9		2.8	

Table 20. Means for canopy height, percent cover and LCC leaf color, adjusted for outliers (in bold).

	Canopy Height				Percent Cover			Leaf Color			
DAS	38	PI 47	62	FlagLf 91	38	PI 47	62	Tiller 38	PI 47	62	FlagLf 91
	(in)	(in)	(in)	(in)	(%)	(%)	(%)				
67-33-0	14.3	18.0	27.3	34.7	63.3	86.7	93.0	4.33	5.00	7.07	7.07
33-67-0	14.7	19.0	27.7	34.3	63.3	90.0	94.7	5.67	5.33	6.80	6.8
50-50-0	15.0	18.0	26.3	33.7	66.7	86.7	94.0	5.67	4.50	7.23	7.23
0-100-0	13.7	18.3	28.0	34.7	55.0	88.3	96.7	5.67	6.00	6.90	6.9
0-67-33	14.3	16.8	27.2	33.0	58.3	83.3	95.3	4.83	4.50	6.73	6.73
33-33-33	15.0	17.2	27.0	32.7	63.3	81.7	90.3	5.00	3.33	6.43	6.43
67-0-33	14.3	16.5	25.7	32.7	61.7	76.7	91.7	3.67	3.50	6.50	6.5
100-0-0	15.0	18.2	25.5	33.0	55.0	80.0	92.7	5.00	4.00	6.17	6.17
0-50-50	14.0	16.0	26.5	32.3	58.3	76.7	94.0	5.17	3.17	6.77	6.77
50-0-50	14.0	15.0	25.5	30.7	48.3	65.0	86.7	4.00	1.83	5.50	5.5