



# AGRONOMY PROGRESS REPORT

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## CALIFORNIA RICE VARIETIES

### Description and Performance Summary of the 1992 and Multiyear Statewide Rice Variety Tests in California

J. R. Webster, J. E. Hill, J. F. Williams, S. C. Scardaci,  
C. M. Wick, W. M. Canevari, and B. L. Weir\*

University of California Cooperative Extension rice variety evaluation tests were conducted in the Sacramento and San Joaquin Valleys in 1992. This program, a cooperative effort involving the California Cooperative Rice Research Foundation, Inc. (CCRRFI) and the United States Department of Agriculture (USDA), compares advanced breeding lines with commercially available rice varieties and evaluates preliminary breeding lines to determine their adaptation to the principal rice growing areas of California. Entries in the tests include lines and varieties developed by CCRRFI rice breeders. Selected lines and varieties from private breeding programs are also included. The program is partially funded by the Rice Research Board and cooperating growers provide land, water and on-site management for the tests. Names and brief descriptions of the current publicly developed varieties are listed in Table 1.

Despite six consecutive years of drought, California growers harvested an estimated 389,770 acres of rice in 1992, an increase of about 74,000 acres over 1991 (Table 2). Medium-, short-, and long-grain types comprised 87.7%, 6.0% and 4.6% of the acreage, respectively. The Calrose types M-202 (65.9%) and M-201 (8.7%) occupied most of the acreage. Leading short- and long-grain varieties were S-201 (3.0%) and L-203 (2.8%). Premium quality medium-grain (M-401) was produced on 32,120 acres. The California Agricultural Statistics Service estimates statewide average grain yields at a record high of 8,400 lbs/A, up from 8,000 lbs/A in 1991 and 7,600 lbs/A in 1990.

Record yields for the 1992 season are attributed to a combination of the following factors: (1) Most of the rice producing regions experienced warmer-than-normal temperatures in May which accelerated seedling development making 1992 one of the best years on record for stand establishment. In addition, summer temperatures were generally mild with few prolonged hot periods. (2) Growers have continued to adopt new irrigation management and nitrogen fertilization strategies in conjunction with improved weed control practices. Growers also utilized their most productive ground as water availability was further limited by the drought. (3) The newer rice varieties such as M-202 were able to express their inherent high yield potential under a near-ideal rice growing environment.

Many growers indicated that crop development was seven to ten days advanced compared to previous seasons. A comparison of the average number of days to 50% heading in the 1991 and 1992 variety tests is presented in Table 3. Earlier heading dates in 1992 coincided with increased heat unit accumulation, especially during the first 60 days after planting.

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\*Staff Research Associate, Extension Agronomist (Department of Agronomy and Range Science, UC Davis), Cooperative Extension Farm Advisors for Sutter-Yuba, Colusa, Butte, San Joaquin, and Merced counties, respectively.

## Experimental Procedure

Field experiments were conducted at nine farm locations in the rice growing counties of California. Two classes of tests were conducted at each site: 1) Advanced tests consisting of advanced breeding lines and commercial varieties; and 2) Preliminary tests consisting of lines to be newly evaluated on a statewide basis. Entries in each test were generally restricted to a single maturity group to avoid too early or too late maturation relative to the field variety of the test location. Commercial varieties in the very early and early maturity classes, however, were evaluated in both very early and early tests. Advanced and preliminary lines from three maturity groups were also evaluated at the Rice Experiment Station (RES), Biggs, California for a total of 24 statewide tests. Advanced tests were arranged in randomized complete block designs with four replications, while preliminary lines were planted in two replications only. Seed for the tests was provided by the RES or, in the case of proprietary lines, by their respective owners. Maturity groups, test locations and commercial standards in each test were as follows:

Very Early Maturity Group. Thirteen advanced breeding lines and eleven commercial varieties were evaluated in uniform tests at each of the following on-farm sites: [1] the RES (Butte County), [2] The Skinner Ranch (Butte County) [3] the Brumley Ranch (San Joaquin County), and [4] the Lauppe Ranch (Sutter County). Twenty preliminary lines were also evaluated in separate tests at each location. Commercial varieties included Calmochi-101, Valencia 87, Akitakomachi, M-103, M-201, M-202, M-203, M-204, L-202, L-203, and S-201. Advanced lines at each location included ten entries from the RES breeding program and three proprietary entries from Busch Agricultural Resources (VT-547, VT-695, and VT-698).

Early Maturity Group. Fourteen advanced lines and ten commercial varieties were evaluated in uniform tests at each of the following locations: [1] the RES (Butte County), [2] the Dennis Ranch (Colusa County), [3] the Rieke Ranch (Merced County), [4] Geer and Son's (District 108, Yolo County) and [5] the Mohammed Ranch (District 10, Yuba County). Twenty preliminary lines were also included in separate tests at each site. Commercial varieties included Calmochi-101, Valencia 87, M-103, M-201, M-202, M-203, M-204, L-202, L-203 and S-201. Advanced lines included eleven entries from the RES, two entries from Busch Agricultural Resources (VT-315 and VT-390), and a long-grain entry from H. Carnahan (Donana).

Late Maturity Group. Nine advanced lines and seven commercial varieties were evaluated in uniform tests at the following locations: [1] the RES (Butte County), [2] the Wylie Ranch (Glenn County), and [3] the Shannon Ranch (Sutter County). Nineteen preliminary lines and the Japanese short grain Koshihikari were also included in separate tests at each site. Commercial varieties included M-401, S-301, A-301, M-202, M-203, M-204, and L-202. Advanced entries included eight lines from the RES and one medium grain from Busch Agricultural Resources (VT-675).

Individual plots were water seeded by hand at a planting rate of 144 lbs/A. Agronomic characteristics measured for each entry were seedling vigor, days to 50% heading, plant height, lodging at harvest, grain moisture at harvest and grain yield at 14% moisture. Seedling vigor was rated subjectively by visual observation on a scale of 1 (poor) to 5 (excellent) at three to four weeks after planting. Scores were based on plant health and stand at crop emergence (through the water). Days to 50% heading measured the number of days from planting to when 50% of the heads were free from the boot. Plant height was measured at harvest as the distance from the soil surface to the tip of the panicle. Plant lodging was rated visually on a scale of 1 (no lodging) to 99 (all plants completely lodged).

County tests were harvested with a SWECO 324 combine and plots at the RES were



harvested with an Allis-Chalmers combine. Both machines are modified for small plot harvesting and all plots had a harvest area of 150 square feet (.0034 A). Grain moisture was assessed at harvest and grain yield was adjusted to 14% moisture.

#### **Summary of the Very Early Rice Variety Tests (<90 days to 50% heading at Biggs, CA)**

Agronomic performance data for individual entries at each location are presented in Tables 4 through 7. A four-location combined summary is given in Table 8. Entries are ranked by grain yield with the highest yielding entry appearing first.

Grain yields in the advanced line tests averaged 9,810 lbs/A at the RES, 9,700 lbs/A at Sutter, 8,900 lbs/A at Butte, and 8,550 lbs/A at San Joaquin. Over locations, the highest yielding entry in the advanced test was 89-Y-103, a short-grain. This entry, previously tested as a preliminary line, was also the highest yielding entry over four locations in 1991. Seed increase and expanded quality and market evaluation of 89-Y-103 are being proposed for 1993. The very early advanced lines 90-Y-479 (long-grain), 91-Y-193 (short-grain), and 90-Y-233 (medium-grain) also performed well and produced high yields.

No entry produced yields significantly higher than M-202 at any of the four locations. Yields of M-204, the most recent release from the RES breeding program, were similar to M-202 at the RES, Butte, and Sutter. In the San Joaquin test, however, yields of M-204 were 17% lower than M-202, indicating a lower degree of tolerance to the cooler conditions in this area. Low cold tolerance was also expressed in grain yields of VT-698, VT-547, and VT-695. The very early varieties Calmochi-101 and M-103 ranked 1st and 3rd in yield at this location, respectively. L-203, released in 1991, produced higher yields than L-202 in three of the four tests. Over locations, the Japanese short-grain Akitakomachi was the lowest yielding entry in the advanced test, probably due to severe lodging at most locations. Lodging of M-203, a premium quality variety, was moderately severe at both Butte County locations. In the absence of lodging, however (i.e., Sutter and San Joaquin), M-203 yields were not significantly different than the highest yielding entries. Several preliminary lines exhibited good seedling vigor, strong lodging resistance, and produced yields in excess of 10,000 lbs/A.

Table 9 shows over-year and location yields for the very early commercial varieties compared with leading early varieties in the same tests. Common year-location entries are compared to give relative yield as a percentage of the standard, M-103. Calmochi-101, M-202, and L-203 yielded 101%, 106%, and 107% of M-103, respectively, over the past five years. M-204, (previously tested as 88-Y-317) has yielded 103% of M-103 based on equivalent year/location comparisons.

#### **Summary of the Early Rice Variety Tests (90-97 days to 50% heading at Biggs, CA)**

Agronomic performance data for individual entries at each location are presented in Tables 10 through 14. Unfortunately, portions of the Merced tests were inadvertently lost during harvest of the grower's field. Thus, data for M-202, Calmochi-101, and eight preliminary lines are excluded from the summary table for this location (Table 15). Advanced and preliminary tests at Merced are not included in the combined location summary (Table 15). Entries are ranked by grain yield with the highest yielding entry appearing first.

Yields in the advanced line tests averaged 9,580 lbs/A at the RES, 10,320 lbs/A at Yolo, 9,740 lbs/A at Yuba, 9,710 lbs/A at Colusa, and 10,060 lbs/A at Merced. M-202 was the highest yielding variety over locations (10,950 lbs/A), ranking 1st at the RES, Yolo, and Yuba. However, yields of M-204 were not significantly different from M-202 at the RES, Yuba, or Colusa. The advanced lines 91-Y-322 (short-grain) and 90-Y-423 (medium-grain) produced yields in excess of 10,000 lbs/A at all five locations. Fifteen advanced lines and varieties exceeded 10,000 lbs/A at Merced with five entries, including VT-315 and L-203,

exceeding 11,000 lbs/A. Entry VT-390 suffered severe blanking at this location, yielding 4,220 lbs/A. L-203 continued to show improvement over L-202 in seedling vigor, earliness, and yield. The advanced long-grain 91-Y-84 also showed improved seedling vigor, excellent lodging resistance, earlier heading, and a yield advantage over L-202 at most locations.

Of the preliminary lines, 90-Y-210 (a medium-grain) was the highest yielding entry averaging 10,740 lbs/A over locations (Table 15). Average yield in the preliminary test at Yolo test was 10,760 lbs/A, with one line (91-Y-381) exceeding 12,000 lbs/A. Although lodging due to strong winds was moderate to severe at Merced and Yolo, it occurred too late in the season to adversely effect yield of most entries.

Table 16 shows the over-location and over-year yields for early varieties. M-201 is used as a standard to compare common year-location yield data. Based on tests conducted over the last five years, M-202, L-202, M-203, and S-201 and L-203 have yielded 98%, 93%, 83% and 93% and 97% of M-201, respectively. Since its entry into the statewide testing program, M-204 has yielded 104% of M-201 based on 16 tests conducted during the past four years.

**Summary of the Intermediate-Late Rice Variety Tests** (intermediate = 98-105 days and late = > 105 days to 50% heading at Biggs, CA)

Agronomic performance data for individual entries at each location are presented in Tables 17 through 19. A three-location combined summary is given in Table 20. Entries are ranked by grain yield with the highest yielding entries appearing first.

Average yields in the advanced intermediate-late tests were 9,820 lbs/A at the RES, 10,770 lbs/A at Sutter, and 10,620 lbs/A at Glenn. The medium-grain lines 90-Y-686 and 89-Y-544 were the highest yielding entries over the three locations, exceeding 12,500 lbs/A in Glenn county. The early varieties M-204 and M-202 performed as well or better than M-401 at all three locations. Over locations, VT-675 was the lowest yielding entry in the advanced test, partially due to severe blanking in Glenn county. In the preliminary tests, yields of 91-Y-413, 91-Y-581, and 91-Y-356 were consistent across the three locations and ranked 1st, 2nd, and 3rd, respectively, in the combined summary. These three lines also showed excellent lodging resistance at each location. Six of the nineteen preliminary lines produced yields above 12,000 lbs/A in the Glenn county test, with one short-grain line (91-Y-581) exceeding 13,000 lbs/A. Koshihikari, a tall Japanese short-grain variety, lodged severely and produced the lowest yields at each of the three locations.

Table 21 compares intermediate-late maturing commercial cultivars in over-location/year tests. Using M-401 as the standard for comparison, A-301 and S-301 have yielded 97% and 107% of M-401, respectively, over the last five years.

Table 1. Characteristics of publicly developed rice varieties, 1992.\*

Grain type	Maturity	Seed widely available	Stem rot score <sup>1</sup>	Aggregate sheath spot score <sup>2</sup>	Comments
<b>Short Grain</b>					
S-201	Early	1981	5.2	2.2	High yield potential, excellent seedling vigor, similar to M-201 in maturity and in resistance to blanking. Good pearl shape, larger seed size than other short grains. Maturity delayed by cool temperatures.
S-301	Intermediate	1992	4.8	2.2	Field maturity 5-7 days later than S-201. Smooth leaves and hulls with very few awns. Yield potential comparable to S-201. Seedling vigor equal to M-202 with good resistance to low temperature blanking. Head rice yield superior to S-201. Kernels 13% smaller than S-201. Has fewer green and white kernels at harvest.
<b>Medium Grain</b>					
M-103	Very Early <sup>3</sup>	1990	5.1	2.4	Earliest variety, vigor less than M-202. Excellent resistance to blanking. Good head and total milled rice yields. Moderate lodging. Good yield potential, about 7% less than M-202 at normal planting dates. Alternative variety for M-202 in coldest rice producing areas and for late planting in warmer areas.
M-201	Early	1984	4.8	2.3	Very high yield potential. Two inches shorter than M-202 with excellent resistance to lodging. Threshes very easily so reduce reel and cylinder speed to minimize shatter and enhance head rice. Best resistance to stem rot but susceptible to aggregate sheath spot.
M-202	Early	1987	5.2	2.5	Very high yield potential. Performs better than M-201 in cooler growing areas. Three days earlier, ripens more uniformly and more resistant to blanking than M-201. Moderate lodging. Threshes easily but does not shatter.
M-204	Early	1993	5.0	2.4	Very high yield potential. Seedling vigor lower than M-202, higher than M-201. Height and heading like M-201; matures very close to M-202. Lodging resistance very good. Improved whole grain and total milled head rice yields. Resistance to blanking is similar to M-202. Threshes easily like M-202.
<b>Long Grain</b>					
L-202	Early	1986	5.4	2.2	Good yield potential in warmer areas. Not adapted to colder areas. Shortest of current varieties. Excellent resistance to lodging. Seedling vigor fair, may be affected by water depth. Threshes easily so reduce cylinder speed to enhance head rice. Harvest moisture for L-202 should be between 18% and 21%.
L-203	Early	1993	5.2	2.2	High yield potential. Five to 7 days earlier than L-202. Resistant to lodging. Seedling vigor fair, may be affected by water depth. Cooking and milling similar to L-202. Harvest moisture at 18-20%. Reduce cylinder speed for harvesting to enhance head rice.
<b>Premium Quality</b>					
M-203	Early	1992	6.1	2.4	<i>Premium quality</i> rice with large seeds. An early maturing mutant of M-401 (heads 17 days earlier). Susceptible to blanking and has weak straw. Reduced N is necessary to prevent lodging. Not a substitute for M-201 or M-202. Yields 15% below M-202. Most susceptible to stem rot. Milling yields lower than other medium grains.
M-401	Late	1983	5.6	2.2	<i>Premium quality</i> rice with large kernels. Susceptible to blanking, lodging and damage from early drainage. Use somewhat less N than on other varieties. Best adapted to warmer areas. Milling yields lower than other medium grains.
<b>Specialty Rices<sup>4</sup></b>					
Calmochi-101	Very Early <sup>3</sup>	1987	4.9	2.2	A sweet glutinous rice. Two weeks earlier than S-201. Excellent resistance to low temperature blanking. Has rough leaves and hulls; no awns. Grains dry down rapidly during ripening. Be careful not to contaminate with other varieties. ASCS non-program rice.
A-301	Intermediate	1988	5.2	2.1	An aromatic ("popcorn" aroma) long grain. Moderately high yield in warmer areas. Not adapted to late seeding dates, deep water or cool areas. Seedling vigor fair to poor. Suggest harvest moisture of 20-22% and air drying without heat to retain maximum aroma. Has excellent straw strength.

Proper management of the short-stature varieties to obtain high yields includes: (1) managing water depth and other factors to obtain a dense stand, (2) good weed control, (3) adequate nitrogen fertilization, (4) increase water depth to about 8 inches at 65 to 70 days after seeding, and (5) drain as late as possible before harvest.

<sup>1</sup>Average stem rot score: 1 = no disease and 10 = disease severe.

<sup>2</sup>Average aggregate sheath spot score: 0 = no disease and 4 = disease severe.

<sup>3</sup>Milling quality and yield may be reduced by early planting in warmer areas.

<sup>4</sup>Specialty varieties should not be grown unless arrangements have first been made with marketing agency.

TABLE 2

California Rice Variety Acreage, 1992.<sup>1</sup>

Variety	1992		1991	
	(acres)	(%)	(acres)	(%)
<b>Medium Grains</b>	<b>341,730</b>	<b>87.6</b>	<b>295,689</b>	<b>93.4</b>
M-103	18,580	4.8	11,929	3.8
M-201	34,060	8.7	46,873	14.7
M-202	256,970	65.9	210,184	66.5
M-401	32,120	8.2	26,703	8.4
<b>Short Grains</b>	<b>23,600</b>	<b>6.1</b>	<b>9,769</b>	<b>3.2</b>
S-201	11,610	3.0	3,448	1.1
Calpearl	3,480	0.9	2,043	0.7
Calmochi-101	8,510	2.2	4,278	1.4
<b>Long Grains</b>	<b>17,810</b>	<b>4.6</b>	<b>6,647</b>	<b>2.1</b>
L-202	6,970	1.8	6,647	2.1
L-203	10,840	2.8	--	--
<b>Others<sup>2</sup></b>	<b>6,630</b>	<b>1.7</b>	<b>4,432</b>	<b>1.3</b>
<b>Total</b>	<b>389,770</b>	<b>100</b>	<b>316,051</b>	<b>100</b>

<sup>1</sup>Estimates based on survey of rice millers and seed production.

<sup>2</sup>Others include: short grains S-101, S-301, and 'Valencia 87'; medium grains M-203, M-204, SP-411, 'Kokuhorose', and 'KRM-2'; and long grain A-301.

**TABLE 3**

Planting dates, average number of days to 50% heading, and heat unit accumulation<sup>1</sup> in the 1991 and 1992 statewide advanced evaluation tests.

Year	Planting Date	Very Early			Early			Intermediate-Late	
		Butte (Durham)	Sutter (Natomas)	San Joaquin (Valley Home)	Yolo (Dist.108)	Yuba (Dist.10)	Colusa (Maxwell)	Sutter (Basin)	Glenn (Norman Rd.)
	1991	5/6	5/7	5/1	5/9	5/7	5/13	5/3	4/30
	1992	5/19	5/18	4/29	5/7	5/11	5/5	5/7	4/27
	<b>Days to 50% Heading</b>								
	1991	88	98	102	93	95	93	99	107
	1992	79	83	93	91	88	91	89	99
	<b>Accumulated Heat Units (60 DAP)</b>								
	1991	274	258	227	304	357	428	272	209
	1992	419	383	365	327	466	402	394	411
	<b>Total (9/30)</b>	968	858	931	956	1152	1127	1077	1022
		1038	962	1107	1017	1309	1146	1201	1211

<sup>1</sup>Heat units calculated with daily temperature data recorded by IMPACT weather stations at Durham, Nickolaus, Stockton, Zamora, Marysville, Williams, Yuba City, and Willows. Calculations are based on degree-days accumulated between temperature thresholds of 70 and 94 degrees F during the first 60 days after planting (DAP) and from planting date through September 30.

TABLE 4

1992 Very Early Rice Variety Test - Butte County (Biggs RES).

Entry	Grain <sup>1</sup> Type	Grain Yield	Grain	Seedling <sup>2</sup>	Days to	Lodging <sup>3</sup>	Plant Height	
		at 14% Moisture	Moisture at Harvest	Vigor	50% Heading			
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
7	89Y103	S	11170	14.4	4.8	84	2	32.5
18	90Y479	L	10850	13.5	4.8	81	1	32.9
6	91Y193	S	10640	15.6	4.6	87	2	32.1
12	M-204	M	10470	15.6	4.9	86	1	35.0
14	90Y233	M	10460	13.6	4.9	83	1	32.7
11	M-202	M	10460	15.3	5.0	85	8	37.3
3	S-201	S	10310	16.5	4.9	92	3	35.2
10	M-201	M	10290	16.1	4.8	87	1	33.6
4	89Y124	S	10200	12.6	4.9	78	2	30.3
17	L-203	L	10140	13.3	4.9	83	1	29.5
20	92Y20	L	9970	13.1	4.9	79	2	35.8
2	VALENCIA 87	S	9950	12.8	4.8	80	1	31.5
15	89Y196	M	9850	13.0	4.8	78	3	33.8
9	M-103	M	9720	13.7	4.9	77	14	35.1
21	92Y21	L	9630	11.6	4.8	80	1	32.0
16	L-202	L	9450	13.9	4.8	85	1	30.1
13	90Y210	M	9390	13.6	4.9	83	2	34.2
19	91Y511	L	9310	14.5	4.9	83	1	34.3
1	CALMOCHI-101	W	9280	13.3	4.8	77	8	34.5
8	M-203	M	9260	14.8	5.0	83	54	37.5
24	VT-698	L	9250	12.2	4.8	72	2	35.6
23	VT-695	M	9030	13.1	4.7	73	1	36.5
22	VT-547	M	8850	11.9	4.7	73	2	34.2
5	AKITA	S	7630	13.8	4.5	80	84	37.7
Mean			9810	13.8	4.8	81	8	33.9
CV %			6.6	6.0	1.7	1.5	123.8	3.2
LSD (.05)			920	1.2	0.1	2	5	1.5
<b>Preliminary Lines</b>								
37	91Y264	M	10600	14.9	5.0	80	1	34.7
31	91Y253	M	10600	13.9	4.9	81	3	34.2
35	91Y223	M	10480	14.8	4.9	82	2	35.0
29	92Y29	S	10410	12.2	4.7	81	7	34.0
38	91Y279	M	10290	14.3	4.9	82	2	36.1
33	91Y360	M	10200	14.0	4.9	81	2	34.5
41	92Y41	L	10180	11.9	4.9	80	2	31.8
34	91Y208	M	10130	13.9	4.9	78	2	35.5
26	91Y171	S	10120	11.6	4.9	76	11	34.9
28	91Y286	S	10000	14.1	4.9	86	1	35.0
36	91Y240	M	9890	13.8	5.0	81	2	35.2
25	91Y170	S	9830	12.0	4.8	76	7	33.9
39	92Y39	L	9780	12.3	4.9	75	1	33.6
27	91Y199	W	9770	14.0	4.9	82	3	36.5
32	91Y232	M	9550	13.5	4.9	82	2	35.0
30	92Y30	M	9520	12.8	4.9	79	35	35.5
42	92Y42	L	9130	11.4	4.8	80	1	31.2
40	92Y40	L	8910	11.7	4.8	79	1	30.4
44	91Y569	L	8880	12.1	4.8	80	1	30.1
43	91Y505	L	8400	12.0	4.7	80	1	31.8
Mean			9830	13.1	4.9	80	4	34.0
CV %			6.4	6.8	1.5	1.4	163.7	3.2
LSD (.05)			890	1.3	0.1	2	10	1.6

Planting date: May 7, 1992 (Reps 1 &amp; 2), May 22, 1992 (Reps 3 &amp; 4).

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.



TABLE 5

1992 Very Early Rice Variety Test - Butte County (Skinner Bros., Durham).

Entry	Grain <sup>1</sup> Type	Grain Yield	Grain	Seedling <sup>2</sup>	Days to	Lodging <sup>3</sup>	Plant Height	
		at 14% Moisture	Moisture at Harvest	Vigor	50% Heading			
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
18	90Y479	L	9630	15.9	2.8	80	1	32.6
12	M-204	M	9580	18.5	3.8	86	1	32.3
17	L-203	L	9520	16.1	3.5	81	1	29.7
14	90Y233	M	9420	16.9	4.0	83	1	31.4
11	M-202	M	9380	18.3	4.0	85	1	34.4
10	M-201	M	9350	19.6	3.3	84	1	32.9
7	89Y103	S	9270	19.0	3.8	85	1	31.3
9	M-103	M	9150	15.4	3.3	73	1	32.7
2	VALENCIA 87	S	9110	13.6	3.5	77	1	29.1
15	89Y196	M	9090	15.5	3.5	75	1	32.1
13	90Y210	M	9050	16.7	4.0	80	1	32.5
20	92Y20	L	9040	15.1	3.0	75	1	35.3
16	L-202	L	9030	16.3	3.5	83	1	29.0
22	VT-547	M	9010	15.2	2.0	72	1	35.2
4	89Y124	S	8980	16.5	4.3	74	1	28.7
8	M-203	M	8920	19.0	3.5	85	38	35.1
23	VT-695	M	8850	13.8	2.0	71	1	36.2
1	CALMOCHI-101	W	8670	14.2	4.0	74	6	32.8
24	VT-698	L	8670	14.1	3.0	71	1	35.8
6	91Y193	S	8660	17.4	3.5	85	1	31.4
21	92Y21	L	8400	14.7	3.5	77	1	31.3
3	S-201	S	8120	20.6	4.3	89	1	34.3
19	91Y511	L	8070	15.1	4.0	79	1	33.8
5	AKITA	S	6520	15.9	3.3	75	99	35.0
Mean			8900	16.4	3.5	79	7	32.7
CV %			4.4	2.3	12.1	0.9	81.9	4.0
LSD (.05)			560	0.5	0.6	1	8	1.9
<b>Preliminary Lines</b>								
37	91Y264	M	10070	16.7	4.0	72	1	34.5
29	92Y29	S	9700	15.8	4.0	76	21	32.7
25	91Y170	S	9620	14.4	4.0	72	1	30.7
30	92Y30	M	9450	15.2	3.5	79	68	34.3
38	91Y279	M	9390	16.5	3.5	79	1	34.8
33	91Y360	M	9340	17.4	3.0	79	1	32.5
34	91Y208	M	9320	16.2	3.5	75	1	34.3
32	91Y232	M	9300	16.8	4.0	79	1	34.7
28	91Y286	S	9230	17.4	4.0	81	1	34.7
31	91Y253	M	9210	16.1	4.0	76	1	33.7
27	91Y199	W	9020	15.8	4.0	83	1	37.4
26	91Y171	S	8990	12.4	3.5	72	21	31.3
44	91Y569	L	8790	15.5	3.0	77	1	30.3
36	91Y240	M	8770	15.7	3.5	79	1	33.5
35	91Y223	M	8770	16.2	3.5	79	1	33.5
41	92Y41	L	8720	14.2	3.0	79	1	32.9
42	92Y42	L	8710	14.3	4.0	76	1	32.1
43	91Y505	L	8440	14.7	2.5	75	1	29.7
39	92Y39	L	8420	13.8	3.5	68	18	33.9
40	92Y40	L	8170	14.5	3.0	75	1	28.5
Mean			9070	15.5	3.5	76	7	33.0
CV %			2.9	4.3	12.8	0.8	123.2	4.3
LSD (.05)			560	1.4	0.9	1	18	3.0

Planting date: May 19, 1992

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 6

1992 Very Early Rice Variety Test - Sutter County (Daryl Lauppe, Natomas).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture	Grain Moisture at Harvest	Seedling <sup>2</sup> Vigor	Days to 50% Heading	Lodging <sup>3</sup>	Plant Height	
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
6	91Y193	S	10630	18.1	3.3	86	1	31.8
7	89Y103	S	10600	20.0	3.8	90	1	31.1
8	M-203	M	10410	18.3	3.8	86	3	35.7
11	M-202	M	10360	19.6	4.3	88	1	34.3
10	M-201	M	10260	20.7	3.8	88	1	32.7
12	M-204	M	10130	18.3	3.8	88	1	32.2
18	90Y479	L	10130	16.9	3.3	82	1	30.4
14	90Y233	M	10110	17.9	4.0	87	1	30.6
20	92Y20	L	10100	16.4	3.5	80	1	34.3
3	s-201	S	10010	21.6	4.8	94	1	33.5
13	90Y210	M	9870	17.1	4.0	85	1	33.6
19	91Y511	L	9660	17.1	4.0	85	1	32.2
1	CALMOCHI-101	W	9660	15.1	4.3	76	1	31.5
16	L-202	L	9640	17.6	4.0	85	1	29.8
21	92Y214	L	9610	15.1	4.0	82	1	29.6
2	VALENCIA 87	S	9550	14.3	3.5	82	1	30.6
15	89Y196	M	9540	16.9	3.3	80	1	31.6
17	L-203	L	9430	16.8	4.0	85	1	28.1
9	M-103	M	9320	16.8	3.5	76	2	30.7
4	89Y124	S	9030	18.3	4.0	82	1	28.9
24	VT-698	L	8840	17.0	3.8	77	1	34.5
22	VT-547	M	8730	17.6	3.0	77	1	32.5
5	AKITA	S	8680	18.1	3.0	79	81	34.7
23	VT-695	M	8460	18.0	3.3	79	1	34.6
Mean			9700	17.7	3.7	83	4	32.1
CV %			3.8	4.7	12.6	2.2	60.1	3.5
LSD (.05)			520	1.2	0.7	3	4	1.6
<b>Preliminary Lines</b>								
29	92Y29	S	10940	15.2	4.0	80	1	31.7
37	91Y264	M	10510	16.1	4.0	78	1	34.7
26	91Y171	S	10490	14.2	4.0	76	1	32.1
25	91Y170	S	10340	15.1	4.0	76	1	30.3
30	92Y30	M	10190	14.7	4.0	83	1	35.0
35	91Y223	M	10120	17.2	4.5	82	1	32.9
27	91Y199	W	10060	17.3	4.0	85	1	35.6
33	91Y360	M	9890	18.7	4.0	84	1	34.7
34	91Y208	M	9790	14.7	4.0	78	1	32.7
28	91Y286	S	9750	18.4	4.0	86	1	33.7
31	91Y253	M	9730	16.9	3.5	82	1	31.7
32	91Y232	M	9680	16.6	4.0	84	1	34.5
38	91Y279	M	9510	17.1	4.0	84	1	35.0
36	91Y240	M	9490	18.3	4.0	83	1	32.3
41	92Y41	L	9450	15.2	3.5	81	1	29.5
44	91Y569	L	9130	15.5	3.5	80	1	31.1
39	92Y39	L	9060	14.5	3.5	72	1	31.7
43	91Y505	L	8890	15.6	2.5	80	1	29.1
42	92Y42	L	8870	15.3	4.0	77	1	30.5
40	92Y40	L	8650	16.0	3.5	79	1	28.0
Mean			9730	16.1	3.8	80	1	32.3
CV %			2.5	3.8	14.0	1.4	0.0	4.0
LSD (.05)			500	1.3	ns	2	ns	2.7

Planting date: May 18, 1992

<sup>1</sup>s = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 7

1992 Very Early Rice Variety Test - San Joaquin County (Brumley Ranch, Valley Home).

Entry	Grain <sup>1</sup> Type	Grain Yield	Grain	Seedling <sup>2</sup>	Days to	Lodging <sup>3</sup>	Plant Height	
		at 14% Moisture	Moisture at Harvest	Vigor	50% Heading			
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
1	CALMOCHI-101	W	10360	17.0	4.0	88	1	30.4
11	M-202	M	10340	22.9	4.0	97	1	31.5
9	M-103	M	10120	18.2	3.8	88	1	32.0
7	89Y103	S	10110	22.1	3.0	95	1	29.8
8	M-203	M	9670	23.8	4.0	99	1	33.1
15	89Y196	M	9440	18.6	3.8	90	1	30.5
6	91Y193	S	9320	19.6	3.8	92	1	28.5
18	90Y479	L	9320	17.5	3.8	92	1	30.5
14	90Y233	M	9160	18.7	3.8	94	1	27.5
13	90Y210	M	8890	20.4	4.0	94	1	30.9
20	92Y20	L	8600	16.2	3.3	87	1	32.2
12	M-204	M	8550	22.4	3.5	97	1	30.3
21	92Y21	L	8540	16.5	3.3	90	1	28.3
17	L-203	L	8520	18.4	3.8	97	1	27.3
4	89Y124	S	8170	19.2	3.5	89	1	28.4
19	91Y511	L	8130	19.1	3.8	96	1	30.4
10	M-201	M	8130	23.2	3.5	100	1	30.7
3	S-201	S	7920	25.6	4.3	107	1	32.5
2	VALENCIA 87	S	7520	17.5	3.5	92	1	31.4
5	AKITA	S	7460	21.2	3.5	90	48	35.6
16	L-202	L	7440	19.8	3.3	98	1	27.2
24	VT-698	L	6880	17.5	4.0	87	1	34.5
22	VT-547	M	6650	18.3	4.0	88	1	30.8
23	VT-695	M	5990	17.5	4.3	88	1	34.3
Mean			8550	19.6	3.7	93	3	30.8
CV %			5.9	5.8	11.7	1.3	205.6	5.6
LSD (.05)			710	1.6	0.6	2	9	2.4
<b>Preliminary Lines</b>								
34	91Y208	M	10490	17.8	4.0	90	1	32.3
26	91Y171	S	10000	14.6	4.0	86	1	31.5
29	92Y29	S	9920	15.5	2.5	89	1	27.8
30	92Y30	M	9660	16.6	4.0	91	1	30.1
31	91Y253	M	9610	17.0	4.0	89	1	30.9
25	91Y170	M	9260	14.3	3.0	87	1	29.1
39	92Y39	L	9090	14.8	3.0	84	1	28.0
27	91Y199	W	8920	17.4	3.5	92	1	31.5
33	91Y360	M	8870	17.9	4.0	91	1	30.5
32	91Y232	M	8840	17.9	3.5	93	1	30.5
35	91Y223	M	8830	17.7	4.0	93	1	29.1
36	91Y240	M	8520	16.7	4.0	93	1	32.1
28	91Y286	S	8270	18.0	3.5	90	1	29.3
37	91Y264	M	8020	19.7	3.5	91	1	31.7
40	92Y40	L	7650	15.5	3.0	90	1	29.1
38	91Y279	M	7640	16.2	4.0	89	1	29.5
41	92Y41	L	7470	15.2	3.0	89	1	29.9
42	92Y42	L	7390	15.4	3.5	88	1	28.7
44	91Y569	L	7120	16.6	3.0	89	1	27.6
43	91Y505	L	7100	15.9	3.0	87	1	30.1
Mean			8630	16.5	3.5	89	1	30.0
CV %			5.2	4.7	11.2	1.4	0.0	6.0
LSD (.05)			940	1.6	0.8	3	ns	ns

Planting date: April 29, 1992

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 8

1992 Very Early Rice Variety Test - Four Location Summary:  
Biggs RES, Butte, Sutter, San Joaquin.

Entry	Grain <sup>1</sup> Type	Grain Yield	Grain	Seedling <sup>2</sup> Vigor	Days to	Lodging <sup>3</sup>	Plant Height	
		at 14% Moisture (lbs/a)	Moisture at Harvest (%)		50% Heading			(inches)
<b>Advanced Lines and Varieties</b>								
7	89Y103	S	10290	18.9	3.8	88	1	31.2
11	M-202	M	10130	19.0	4.3	89	3	34.4
18	90Y479	L	9980	15.9	3.7	84	1	31.6
6	91Y193	S	9810	17.7	3.8	88	1	31.0
14	90Y233	M	9790	16.8	4.2	87	1	30.5
12	M-204	M	9680	18.7	4.0	89	1	32.5
9	M-103	M	9580	16.0	3.8	78	4	32.6
8	M-203	M	9560	19.0	4.1	88	24	35.4
10	M-201	M	9500	19.9	3.8	90	1	32.5
1	CALMOCHI-101	W	9490	14.9	4.3	79	4	32.3
15	89Y196	M	9480	16.0	3.8	81	1	32.0
20	92Y20	L	9430	15.2	3.7	80	1	34.4
17	L-203	L	9400	16.1	4.0	86	1	28.7
13	90Y210	M	9300	16.9	4.2	85	1	32.8
4	89Y124	S	9090	16.6	4.2	81	1	29.1
3	S-201	S	9090	21.1	4.6	96	1	33.9
21	92Y21	L	9040	14.5	3.9	82	1	30.3
2	VALENCIA 87	S	9030	14.5	3.8	82	1	30.7
16	L-202	L	8890	16.9	3.9	87	1	29.0
19	91Y511	L	8790	16.4	4.2	86	1	32.7
24	VT-698	L	8410	15.2	3.9	77	1	35.1
22	VT-547	M	8310	15.7	3.4	78	1	33.2
23	VT-695	M	8080	15.6	3.5	78	1	35.4
5	AKITA	S	7570	17.3	3.6	81	78	35.8
Mean			9240	16.9	3.9	84	6	32.4
CV %			5.3	5.0	9.8	1.5	119.0	4.1
LSD (.05)			340	0.6	0.3	1	5	0.9
<b>Preliminary Lines</b>								
29	92Y29	S	10270	14.2	4.0	81	7	32.0
34	91Y208	M	9970	15.3	4.3	79	2	34.1
37	91Y264	M	9960	16.4	4.3	80	1	34.1
31	91Y253	M	9950	15.6	4.3	82	2	32.9
26	91Y171	S	9940	12.9	4.3	77	9	33.0
25	91Y170	S	9780	13.6	4.1	77	3	31.6
35	91Y223	M	9730	16.1	4.4	84	1	33.1
33	91Y360	M	9700	16.4	4.2	83	1	33.3
30	92Y30	M	9670	14.4	4.3	82	29	34.1
27	91Y199	W	9510	15.7	4.3	85	2	35.5
28	91Y286	S	9450	16.4	4.3	86	1	33.5
38	91Y279	M	9420	15.7	4.3	83	1	34.3
32	91Y232	M	9380	15.7	4.3	84	1	33.9
36	91Y240	M	9310	15.7	4.3	83	2	33.7
39	92Y39	L	9230	13.5	4.0	75	4	32.1
41	92Y41	L	9200	13.7	3.8	82	1	31.2
42	92Y42	L	8650	13.6	4.2	80	1	30.7
44	91Y569	L	8560	14.4	3.8	81	1	29.8
40	92Y40	L	8460	13.9	3.8	80	1	29.3
43	91Y505	L	8250	14.1	3.5	80	1	30.5
Mean			9420	14.9	4.1	81	4	32.6
CV %			5.4	5.4	8.0	1.6	170.9	4.1
LSD (.05)			450	0.7	0.3	1	5	1.2

<sup>1</sup>S = short; M = medium; L = long; W = waxy.

<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.



TABLE 9

Grain yield (lbs/A @ 14% moisture) comparison of very early varieties with early varieties by locations and years.

Location	Year	M-103	Calmochi-101	M-202	M-204 (88-Y-317)	L-203
<b>Butte</b> (Durham)	1988	8890	9160	9430		10650
	1989	9250	8220	9980		9460
	1990	8080	7790	9120		10370
	1991	8050	7280	7860	9000	7760
	1992	9150	8670	9380	9580	9520
Loc. mean		8680	8220	9150	9290	9550
<b>Sutter</b> (Natomas)	1988	6820	7660	8320		
	1989	10930	11060	12300		12050
	1990	9770	10380	11920		11220
	1991	11370	11430	12650	12250	11980
	1992	9320	9660	10360	10130	9430
Loc. mean		9640	10040	11110	11190	11170
<b>San Joaquin</b> (Valley Home)	1988	6820	7300	7560		
	1989	9370	9290	6880		7900
	1990	9380	9520	9260		9420
	1991	9630	10120	10380	10010	8520
	1992	10120	10360	10340	8550	8520
Loc. mean		9060	9320	8880	9280	8590
Loc.-years mean		9130	9190	9710	9920	9770
Yield % M-103		--	101	106	103	103
Number of tests		15	15	15	6	13

TABLE 10

1992 Early Rice Variety Test - Butte County (Biggs RES).

Entry	Grain <sup>1</sup> Type	Grain Yield	Grain	Seedling <sup>2</sup>	Days to	Lodging <sup>3</sup>	Plant Height	
		at 14% Moisture	Moisture at Harvest	Vigor	50% Heading			
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
62	M-202	M	10250	15.1	5.0	85	6	37.5
58	91Y332	S	10210	14.2	4.8	86	4	34.7
54	91Y315	S	10120	13.7	4.8	88	3	35.9
66	90Y655	M	10110	15.4	5.0	86	3	34.7
61	M-201	M	10080	15.7	4.8	87	1	33.3
65	90Y423	M	10070	15.6	4.9	83	1	36.5
64	89Y325	M	10050	16.3	5.0	86	2	34.5
74	VT-390	S	10020	13.4	4.8	76	1	30.1
53	S-201	S	9810	15.8	5.0	92	5	34.9
63	M-204	M	9780	15.0	4.9	85	2	33.6
56	91Y325	S	9630	14.8	4.9	87	2	32.7
51	CALMOCHI-101	W	9620	13.1	4.9	77	9	35.8
73	VT-315	M	9610	12.8	4.8	81	5	36.9
55	89Y246	S	9570	14.8	4.8	87	9	35.5
71	91Y84	L	9540	12.8	4.8	81	1	34.7
60	M-103	M	9320	14.1	4.8	77	10	33.8
70	91Y72	L	9210	13.6	4.8	83	1	31.1
57	91Y319	S	9120	15.1	4.9	87	13	37.4
52	VALENCIA 87	S	9100	12.1	4.9	81	2	32.2
59	M-203	M	9040	14.9	5.0	83	46	37.0
72	DONANA	L	9010	13.0	4.9	78	1	29.8
68	L-203	L	8990	12.4	4.9	81	1	29.7
67	L-202	L	8930	13.3	4.8	83	1	29.9
69	91Y70	L	8700	14.0	4.9	83	2	33.0
Mean			9580	14.2	4.9	83	5	34.0
CV %			5.5	5.8	1.6	1.7	160.1	3.8
LSD (.05)			740	1.2	0.1	2	12	1.8
<b>Preliminary Lines</b>								
87	91Y414	M	9860	15.8	4.9	83	4	36.7
75	92Y75	M	9820	15.4	5.0	85	23	38.4
79	91Y370	M	9780	14.6	4.9	83	4	34.5
80	91Y378	M	9760	15.8	4.9	85	2	31.6
93	92Y93	L	9740	12.9	4.7	80	1	31.9
94	92Y94	L	9710	11.9	4.8	81	4	31.5
85	91Y381	M	9670	14.0	4.9	83	3	34.9
84	91Y278	M	9660	16.1	4.8	81	6	35.6
91	92Y91	L	9630	13.2	4.8	82	2	35.8
77	92Y77	M	9460	14.8	5.0	81	5	33.4
82	91Y231	M	9450	13.7	4.8	83	1	36.2
86	91Y408	M	9320	14.0	4.9	82	2	35.2
83	91Y364	M	9310	14.0	4.9	83	1	34.0
81	91Y440	M	9230	14.5	4.9	84	3	32.8
78	92Y78	S	9130	12.3	4.9	84	4	33.6
88	91Y558	L	8990	12.7	4.8	83	1	31.5
76	92Y76	M	8630	14.4	5.0	86	9	33.3
89	92Y89	L	8530	12.4	4.8	79	2	33.9
92	92Y92	L	8490	11.7	4.8	79	1	32.6
90	92Y90	L	8430	14.0	4.9	85	2	35.2
Mean			9330	13.9	4.9	83	4	34.1
CV %			5.0	6.3	1.2	1.6	97.3	4.2
LSD (.05)			660	1.2	0.1	2	5	2.0

Planting date: May 7, 1992 (Reps 1 &amp; 2), May 22, 1992 (Reps 3 &amp; 4).

<sup>1</sup>s = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 11

1992 Early Rice Variety Test - Yuba County (Bob Mohammed, District 10).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Days to 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
<b>Advanced Lines and Varieties</b>								
62	M-202	M	11340	20.8	4.0	88	1	38.7
63	M-204	M	11020	21.6	3.8	89	1	34.0
55	89Y246	S	10730	22.9	4.0	91	1	36.5
60	M-103	M	10600	17.9	3.8	78	3	37.3
58	91Y332	S	10490	20.2	3.5	87	1	35.4
65	90Y423	M	10470	21.3	4.0	88	1	37.2
59	M-203	M	10460	20.5	4.0	86	19	37.7
51	CALMOCHI-101	W	10120	15.9	3.8	77	4	34.2
74	VT-390	S	10020	17.1	4.5	76	1	32.6
61	M-201	M	9860	22.2	3.5	90	1	34.7
66	90Y655	M	9640	23.0	3.8	92	1	37.5
71	91Y84	L	9630	15.8	4.3	87	1	34.7
54	91Y315	S	9620	20.8	3.5	94	1	37.8
73	VT-315	M	9610	14.0	4.3	81	1	39.8
72	DOMANA	L	9500	17.5	3.0	86	1	31.1
57	91Y319	S	9310	24.6	3.5	95	1	39.5
68	L-203	L	9280	16.7	4.0	87	1	30.0
64	89Y325	M	9110	22.3	3.5	91	1	33.4
56	91Y325	S	9090	20.9	3.5	93	1	33.5
53	S-201	S	9080	24.5	4.0	98	1	35.9
70	91Y72	L	8970	16.7	3.8	90	1	28.8
69	91Y70	L	8780	18.5	3.8	90	1	33.7
52	VALENCIA 87	S	8560	16.4	3.8	80	1	33.9
67	L-202	L	8440	17.8	3.3	91	1	30.9
Mean			9740	19.6	3.8	88	2	34.9
CV %			3.1	3.6	12.0	1.1	146.4	5.6
LSD (.05)			430	1.0	0.6	1	4	2.8
<b>Preliminary Lines</b>								
85	91Y381	M	11120	18.7	4.0	84	1	37.7
75	92Y75	M	10880	20.3	3.0	89	1	37.4
80	91Y378	M	10670	21.6	3.0	91	1	32.5
82	91Y231	M	10620	20.0	3.5	84	1	36.6
86	91Y408	M	10560	17.9	4.0	82	1	35.9
83	91Y364	M	10470	19.5	3.5	86	1	35.5
84	91Y278	M	10460	19.9	2.5	82	1	37.9
79	91Y370	M	10420	19.4	3.5	87	1	36.6
94	92Y94	L	10390	17.3	4.0	84	1	34.8
87	91Y414	M	10270	21.2	3.0	86	1	39.4
77	92Y77	M	10200	18.8	4.0	84	1	34.2
88	91Y558	L	9790	17.1	4.0	90	1	35.2
78	92Y78	S	9640	17.0	3.0	89	1	35.0
81	91Y440	M	9570	19.7	4.0	86	1	35.8
93	92Y93	L	9560	16.3	4.0	85	1	32.6
91	92Y91	L	9520	18.0	4.0	86	1	36.5
76	92Y76	M	9470	19.6	3.5	89	1	37.3
89	92Y89	L	8790	15.8	4.0	82	1	36.9
90	92Y90	L	8080	15.7	4.0	90	1	36.6
92	92Y92	L	7880	16.1	3.5	83	1	33.2
Mean			9920	18.5	3.6	86	1	35.2
CV %			3.6	2.9	10.9	0.8	0.0	3.9
LSD (.05)			740	1.1	0.8	1	ns	3.1

Planting date: May 11, 1992

<sup>1</sup>s = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 12

1992 Early Rice Variety Test - Colusa County (Dennis Ranch).

Entry	Grain <sup>1</sup> Type	Grain Yield	Grain	Seedling <sup>2</sup>	Days to	Lodging <sup>3</sup>	Plant Height	
		at 14% Moisture	Moisture at Harvest	Vigor	50% Heading			
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
55	89Y246	S	11310	18.3	4.0	98	8	39.0
58	91Y332	S	11090	15.9	4.0	91	1	36.6
65	90Y423	M	10890	17.4	3.8	89	1	38.3
56	91Y325	S	10410	16.4	4.0	96	1	35.2
51	CALMOCHI-101	W	10360	13.4	4.0	81	5	35.3
62	M-202	M	10270	15.4	4.0	92	1	37.7
53	S-201	S	10160	18.5	3.8	99	1	37.7
66	90Y655	M	10140	18.9	4.0	99	1	37.5
64	89Y325	M	10140	18.8	3.8	100	1	36.6
73	VT-315	M	10140	12.6	4.0	85	9	40.8
60	M-103	M	10110	14.2	4.0	84	5	36.1
63	M-204	M	10070	15.8	4.0	93	1	35.1
52	VALENCIA 87	S	9730	14.4	4.0	84	1	34.6
57	91Y319	S	9690	18.1	4.0	92	3	38.5
61	M-201	M	9630	18.3	3.0	97	1	36.0
54	91Y315	S	9340	16.3	4.0	95	1	36.9
74	VT-390	S	9330	15.0	3.3	80	1	31.7
71	91Y84	L	9040	14.5	4.0	91	1	35.6
59	M-203	M	8970	14.4	4.0	85	69	38.0
68	L-203	L	8830	14.7	4.0	91	1	30.6
69	91Y70	L	8710	15.4	3.8	96	1	32.5
72	DONANA	L	8380	14.9	3.8	88	1	29.9
70	91Y72	L	8300	14.8	3.8	96	1	31.6
67	L-202	L	7980	15.1	3.5	95	1	29.3
Mean			9710	15.9	3.8	91	5	35.5
CV %			4.6	3.6	7.4	0.8	69.3	3.0
LSD (.05)			630	0.8	0.4	1	5	1.5
<b>Preliminary Lines</b>								
82	91Y231	M	11380	16.2	4.0	89	1	35.2
85	91Y381	M	10980	14.0	3.5	87	1	36.2
84	91Y278	M	10630	14.7	4.0	85	3	38.0
87	91Y414	M	10470	16.6	4.0	91	10	39.6
83	91Y364	M	10350	16.0	3.5	89	1	36.4
94	91Y94	L	10310	14.2	3.5	93	8	33.8
86	91Y408	M	10200	14.9	3.5	86	1	37.2
80	91Y378	M	10040	16.9	4.0	95	1	32.5
91	92Y91	L	10030	14.9	3.0	92	1	35.6
93	92Y93	L	9970	14.1	3.5	91	1	33.5
81	91Y440	M	9830	15.4	4.0	88	3	34.8
77	92Y77	M	9830	14.7	4.0	83	3	35.2
79	91Y370	M	9610	14.8	4.0	90	1	37.2
78	92Y78	S	9310	13.6	4.0	94	1	36.6
75	92Y75	M	9270	14.2	4.0	87	43	36.2
89	92Y89	L	8740	14.3	4.0	88	1	36.8
76	92Y76	M	8660	14.0	3.5	87	6	36.0
88	92Y558	L	8390	15.2	3.0	96	1	33.5
90	92Y90	L	8200	13.9	3.5	100	1	37.4
92	92Y92	L	7920	14.1	4.0	90	1	31.3
Mean			9710	14.8	3.7	90	4	35.7
CV %			3.3	2.6	11.5	0.8	58.9	3.2
LSD (.05)			680	0.8	ns	2	5	2.4

Planting date: May 5, 1992.

<sup>1</sup>s = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.



TABLE 13

1992 Early Rice Variety Test - Yolo County (Bill Geer, District 108).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Days to 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
<b>Advanced Lines and Varieties</b>								
62	M-202	M	11920	16.0	4.0	92	59	41.0
58	91Y332	S	11230	15.4	4.0	91	76	38.4
63	M-204	M	11020	14.7	3.5	93	76	39.6
56	91Y325	S	10950	15.2	3.8	98	16	37.9
70	91Y72	L	10920	13.9	3.0	93	16	35.1
72	DOMANA	L	10890	14.6	4.0	86	7	34.7
68	L-203	L	10750	14.9	3.8	91	1	31.7
67	L-202	L	10720	15.4	3.8	93	1	33.5
71	91Y84	L	10690	14.0	3.8	89	45	39.4
52	VALENCIA 87	S	10670	13.0	4.0	84	2	36.2
61	M-201	M	10660	16.7	4.0	95	9	40.2
69	91Y70	L	10570	14.6	3.5	93	36	36.4
64	89Y325	M	10300	15.5	3.5	97	53	40.3
65	90Y423	M	10200	15.0	4.0	90	49	40.0
57	91Y319	S	10130	18.1	3.8	95	69	43.1
54	91Y315	S	10080	14.0	3.8	98	51	40.0
55	89Y246	S	9980	15.4	3.8	98	91	41.7
66	90Y655	M	9640	15.8	3.8	97	44	43.2
74	VT-390	S	9560	13.1	4.0	79	5	33.5
51	CALMOCHI-101	W	9530	13.4	4.0	80	63	35.9
59	M-203	M	9460	13.8	4.0	90	86	42.8
73	VT-315	M	9400	13.6	4.0	90	84	42.8
53	S-201	S	9290	14.4	4.3	102	74	41.7
60	M-103	M	9090	14.0	3.5	81	65	36.6
Mean			10320	14.8	3.8	91	45	38.6
CV %			7.3	3.3	9.7	1.4	30.8	3.7
LSD (.05)			1070	0.7	0.5	2	19	2.0
<b>Preliminary Lines</b>								
85	91Y381	M	12250	13.6	4.0	88	78	40.3
86	91Y408	M	11910	14.1	4.0	88	25	39.0
83	91Y364	M	11520	14.7	4.0	89	15	38.0
82	91Y231	M	11460	13.9	4.0	89	35	37.8
94	92Y94	L	11360	13.5	3.5	87	63	38.2
78	92Y78	S	11150	15.1	4.0	97	55	41.1
88	91Y558	L	11150	15.1	3.5	93	3	35.2
80	91Y378	M	11140	14.5	3.5	97	73	37.0
77	92Y77	M	11140	15.2	4.0	86	63	37.2
93	92Y93	L	10900	13.9	4.0	90	23	35.2
91	92Y91	L	10740	13.6	3.5	90	60	37.0
79	91Y370	M	10600	16.3	3.5	93	70	42.3
90	92Y90	L	10530	13.6	4.0	95	10	41.5
76	92Y76	M	10510	13.8	4.0	93	68	39.4
89	92Y89	L	10450	13.5	4.0	84	10	37.0
84	91Y278	M	10350	13.7	3.5	86	75	40.8
87	91Y414	M	9730	16.5	4.0	90	78	41.9
75	92Y75	M	9620	12.9	4.0	94	97	41.9
81	91Y440	M	9550	16.1	4.0	90	68	37.6
92	92Y92	L	9210	13.7	3.5	90	5	35.6
Mean			10760	14.4	3.8	90	49	38.7
CV %			5.3	2.7	11.2	0.7	15.6	5.2
LSD (.05)			1190	0.8	ns	1	16	4.4

Planting date: May 7, 1992

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 14

1992 Early Rice Variety Test - Merced County (Gary Rieke, Merced).

Entry	Grain <sup>1</sup> type	Grain yield	Grain	Seedling <sup>2</sup>	Lodging <sup>3</sup>	Plant	
		at 14% moisture	moisture at harvest	vigor	(1-99)	height	
		(lbs/a)	(%)	(1-5)	(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>							
65	90Y423	M	11810	15.2	3.2	41	35.4
73	VT-315	M	11290	13.4	3.8	19	37.7
68	L-203	L	11170	14.8	3.5	1	29.4
56	91Y325	S	11050	12.8	4.5	17	30.4
58	91Y332	S	11000	15.4	3.8	11	33.2
71	91Y84	L	10840	15.4	4.2	26	33.1
54	91Y315	S	10830	13.3	4.5	40	36.7
66	90Y655	M	10610	14.8	3.5	16	33.8
61	M-201	M	10570	15.9	3.8	1	31.8
63	M-204	M	10510	15.4	3.8	10	31.3
60	M-103	M	10080	14.3	4.0	43	33.3
57	91Y319	S	10060	16.6	4.0	48	36.0
67	L-202	L	10050	15.4	3.2	1	30.0
59	M-203	M	10030	14.6	3.5	80	37.5
55	89Y246	S	10000	15.9	3.5	29	33.7
53	S-201	S	9770	15.2	4.2	70	37.0
69	91Y70	L	9720	14.8	3.0	1	32.3
52	VALENCIA 87	S	9650	14.0	4.2	1	31.3
70	91Y71	L	9390	14.6	3.5	8	27.9
64	89Y325	M	9390	15.7	3.5	22	36.0
72	DOWANA	L	9270	15.4	4.0	1	29.8
74	VT-390	S	4220	17.9	4.0	1	25.9
Mean			10060	15.0	3.8	22	32.9
CV %			8.9	4.5	19.2	103.4	5.8
LSD (.05)			1280	1.0	1.0	32	2.7
<b>Preliminary Lines</b>							
82	91Y231	M	11690	14.5	4.0	1	34.8
85	91Y381	M	11150	14.6	3.0	40	33.5
79	91Y370	M	10760	15.2	3.5	38	38.4
88	91Y558	L	10670	15.2	4.0	1	34.2
75	92Y75	M	10430	13.7	3.5	72	35.8
80	91Y378	M	10360	15.0	3.5	1	30.3
87	91Y414	M	10080	15.2	4.0	48	38.4
93	92Y93	L	9910	14.3	3.5	1	31.3
77	92Y97	M	9800	15.1	4.5	43	33.0
81	91Y440	M	9500	15.5	3.5	28	33.1
90	92Y90	L	9220	14.6	4.0	8	38.2
76	92Y76	M	9060	14.8	4.5	30	34.4
Mean			10220	14.8	3.7	26	34.6
CV %			9.5	3.5	16.3	97.5	4.5
LSD (.05)			2150	1.1	1.3	56	3.4

Planting date: May 6, 1992

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

TABLE 15

1992 Early Rice Variety Test - Four Location Summary:  
Biggs RES, Yuba, Colusa, Yolo.

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Days to 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
<b>Advanced Lines and Varieties</b>								
62	M-202	M	10950	16.8	4.3	89	17	38.7
58	91Y322	S	10750	16.4	4.1	89	21	36.3
63	M-204	M	10470	16.7	4.0	90	20	35.6
65	90Y423	M	10410	17.3	4.2	87	13	38.0
55	89Y246	S	10400	17.9	4.2	93	27	38.2
61	M-201	M	10060	18.2	3.8	92	3	36.0
56	91Y325	S	10020	16.8	4.0	93	5	34.8
51	CM-101	W	9910	13.9	4.2	79	20	35.3
64	89Y325	M	9900	18.2	3.9	94	14	36.2
66	90Y655	M	9880	18.3	4.1	94	12	38.2
54	91Y315	S	9790	16.2	4.0	94	14	37.7
60	M-103	M	9780	15.1	4.0	80	21	36.0
74	VT-390	S	9730	14.7	4.1	78	2	32.0
71	91Y84	L	9720	14.3	4.2	87	12	36.1
73	VT-315	M	9690	13.3	4.3	84	25	40.1
53	S-201	S	9580	18.3	4.3	98	20	37.6
57	91Y319	S	9570	19.0	4.0	92	21	39.6
52	VAL.87	S	9510	14.0	4.2	82	1	34.2
59	M-203	M	9480	15.9	4.3	86	55	38.9
68	L-203	L	9460	14.7	4.2	88	1	30.5
72	DONANA	L	9450	15.0	3.9	84	2	31.4
70	91Y72	L	9350	14.7	3.8	91	5	31.7
69	91Y70	L	9190	15.6	4.0	90	10	33.9
67	L-202	L	9020	15.4	3.8	91	1	30.9
Mean			9840	16.1	4.1	88	14	35.7
CV %			5.4	4.1	8.0	1.3	59.1	4.1
LSD (.05)			370	0.5	0.2	1	6	1.0
<b>Preliminary Lines</b>								
85	91Y381	M	10740	14.9	4.3	85	17	36.7
82	91Y231	M	10470	15.5	4.2	85	8	36.3
94	92Y94	L	10300	13.8	4.1	85	16	33.8
80	91Y378	M	10280	16.9	4.1	90	16	33.0
86	91Y408	M	10260	15.0	4.3	84	6	36.3
83	91Y364	M	10190	15.6	4.2	86	4	35.5
84	91Y278	M	10150	16.1	3.9	83	18	37.4
79	91Y370	M	10040	17.2	4.2	87	19	38.7
87	91Y414	M	10040	15.9	4.2	87	16	36.8
77	92Y77	M	10020	15.7	4.4	83	15	34.7
93	92Y93	L	9980	14.0	4.2	85	5	32.8
91	92Y91	L	9910	14.6	4.0	86	13	36.1
75	92Y75	M	9880	15.6	4.2	88	37	38.5
78	92Y78	S	9670	14.0	4.2	90	13	36.1
81	91Y440	M	9480	16.0	4.3	86	15	34.5
88	91Y558	L	9470	14.6	4.0	89	1	33.3
76	92Y76	M	9180	15.3	4.2	88	18	35.8
89	92Y89	L	9010	13.7	4.3	82	3	35.6
90	92Y90	L	8730	14.2	4.3	91	3	37.1
92	92Y92	L	8400	13.5	4.1	84	2	33.0
Mean			9810	15.1	3.9	86	12	35.6
CV %			4.6	4.6	8.4	1.2	34.2	4.2
LSD (.05)			400	0.6	0.3	1	4	1.3

<sup>1</sup>S = short; M = medium; L = long; W = waxy.

<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 16

Grain yield summary of the early varieties by location and year.

Location	Year	M-201	M-202	M-203	M-204	L-202	L-203	S-201
<b>Butte (RES)</b>	1988	10740	9350	7990		9980		9830
	1989	9540	9530	7410	9570	9050		8820
	1990	9920	8790	7000	10200	10230	10700	8900
	1991	10280	9490	8570	9940	9330	8830	9030
	1992	10080	10250	9040	9780	8930	8990	9810
Loc. mean		10110	9480	8000	9870	9500	9510	9280
<b>Colusa/ Glenn</b>	1988	9710	8190	6130		8860		6990
	1989	9640	9900	8410	10440	8300		9540
	1990	8530	7430	6050	8760	8780	9220	7810
	1991	9850	9130	7790	10390	8490	9680	9020
	1992	9630	10270	8970	10070	7980	8830	10160
Loc. mean		9470	8980	7470	9920	8480	9240	8700
<b>Yolo (Dist. 108)</b>	1988	8140	7990	7190		8830		8300
	1989	9170	9600	9670	9840	8990		8360
	1990	9300	9640	6830	9500	9210	9750	7970
	1991	11020	11500	10480	11300	10570	10780	11240
	1992	10660	11920	9460	11020	10720	10750	9290
Loc. mean		9660	10130	8730	10420	9660	10430	9030
<b>Yuba (Dist. 10)</b>	1988	9490	8480	6490		9120		8170
	1989	9640	8960	5520	10250	8960		9560
	1990	9500	8940	7620	10160	8770	9740	8630
	1991	10700	11070	10530	11170	9130	9350	10540
	1992	9860	11340	10460	11020	8440	9280	9080
Loc. mean		9840	9760	8120	10650	8880	9460	9200
Loc.-years mean		9770	9590	8080	10220	9130	9660	9050
Yield % M-201		--	98	83	104	93	97	93
Number of tests		20	20	20	16	20	12	20



TABLE 17

1992 Intermediate-Late Rice Variety Test - Butte County (Biggs RES).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Days to 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
<b>Advanced Lines and Varieties</b>								
104	90Y686	M	10760	18.8	5.0	92	2	36.6
105	90Y687	M	10610	17.6	5.0	93	12	40.5
109	M-204	M	10590	16.5	4.9	86	4	35.1
101	S-301	S	10490	17.6	4.9	93	6	37.1
102	89Y544	M	10320	19.0	4.9	91	5	38.5
107	M-401	M	10320	23.4	5.0	97	11	40.2
110	89Y544	M	10240	16.7	4.8	89	1	35.0
111	92Y111	M	10050	16.9	5.0	87	14	40.1
114	M-202	M	10010	16.4	4.9	85	20	36.7
106	92Y106	M	9620	19.7	5.0	93	18	40.7
103	92Y103	M	9590	15.8	5.0	86	13	36.8
115	90Y724	L	9270	15.1	4.7	88	2	29.5
112	L-202	L	9260	14.3	4.8	83	2	30.7
113	A-301	L	9100	16.3	4.7	93	1	32.5
116	VT-675	M	8580	14.1	4.9	83	10	43.3
108	M-203	M	8340	16.0	5.0	84	74	37.0
Mean			9820	17.1	4.9	89	12	36.9
CV %			5.4	7.2	1.1	1.8	52.9	4.2
LSD (.05)			750	1.8	0.1	2	9	2.2
<b>Preliminary Lines</b>								
125	91Y356	M	11090	16.6	4.9	83	2	35.0
124	91Y413	M	10830	16.1	4.9	81	6	37.4
119	91Y581	S	10390	16.4	4.8	86	1	34.3
117	92Y117	M	10290	16.0	5.0	86	10	34.9
133	92Y133	L	10220	14.7	4.8	83	13	34.0
121	91Y363	M	10180	15.6	4.9	82	3	35.9
123	91Y373	M	10160	16.9	4.8	84	5	36.5
128	91Y615	M	10110	16.0	4.9	82	5	34.7
131	91Y645	L	10110	14.5	4.7	87	2	34.2
126	91Y401	M	10100	16.0	5.0	83	5	36.8
122	91Y365	M	10050	14.3	4.8	80	3	33.9
127	91Y420	M	10050	14.7	4.9	81	6	33.7
135	91Y561	L	9850	13.6	4.7	84	2	32.7
118	92Y118	M	9660	17.8	5.0	94	8	38.6
134	92Y134	L	9660	14.4	4.8	82	13	33.0
129	91Y631	L	9660	14.6	4.9	83	1	33.5
136	92Y136	L	9610	13.2	4.8	80	6	32.1
130	92Y130	L	9330	14.4	4.9	85	23	35.2
132	92Y132	L	9130	13.2	4.9	83	1	35.0
120	KOSHIHIKARI	S	6090	18.5	4.7	93	96	43.9
Mean			9830	15.4	4.9	84	10	35.3
CV %			6.7	6.2	1.9	2.1	71.5	4.5
LSD (.05)			930	1.4	0.1	3	11	2.3

Planting date: May 10, 1992 (Reps 1 &amp; 2), May 21, 1992 (Reps 3 &amp; 4).

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 18

1992 Intermediate-Late Rice Variety Test - Sutter County (Mike Shannon, Sutter Basin).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Days to 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
<b>Advanced Lines and Varieties</b>								
101	S-301	S	11730	19.2	4.5	94	2	36.0
104	90Y686	M	11660	18.5	3.8	90	17	34.5
102	89Y544	M	11550	16.9	4.0	89	7	37.0
114	M-202	M	11440	16.7	4.0	85	1	34.9
106	92Y106	M	11370	18.9	3.8	93	40	38.0
111	92Y111	M	11220	18.5	4.3	85	1	34.7
105	90Y687	M	11010	20.0	3.5	93	10	39.7
109	M-204	M	10890	16.5	3.8	84	1	33.7
110	89Y296	M	10830	16.2	3.8	85	1	32.1
107	M-401	M	10800	18.5	4.0	99	65	39.7
103	92Y103	M	10620	16.1	3.5	83	1	34.3
108	M-203	M	10480	16.3	3.5	82	73	35.1
112	L-202	L	10150	15.5	3.3	86	1	29.5
115	90Y724	L	9930	17.1	3.3	91	1	28.9
113	A-301	L	9680	16.1	3.3	94	1	29.4
116	VT-675	M	8900	15.2	4.0	85	1	36.9
Mean			10770	17.3	3.8	89	14	34.7
CV %			4.7	3.8	12.0	1.5	114.2	4.8
LSD (.05)			720	0.9	0.6	2	23	2.4
<b>Preliminary Lines</b>								
125	91Y356	M	11630	16.4	3.5	81	1	37.4
119	91Y581	S	11630	18.0	4.0	85	1	36.2
124	91Y413	M	11590	15.5	3.5	81	1	36.0
131	91Y645	L	11370	14.1	4.0	90	6	33.3
117	92Y117	M	11360	16.1	3.5	86	1	36.2
121	91Y363	M	10570	14.5	4.0	78	1	35.6
127	91Y420	M	10520	15.8	3.5	79	1	34.4
118	92Y118	M	10240	16.6	4.0	97	6	40.0
128	91Y615	M	10210	15.9	3.5	80	1	34.8
126	91Y401	M	10190	15.0	3.5	82	1	37.2
132	92Y132	L	10170	14.4	3.5	87	6	36.8
123	91Y373	M	10050	15.2	4.5	80	1	33.7
136	92Y136	L	10030	14.1	3.5	81	1	33.3
122	91Y365	M	10000	14.9	4.0	78	1	33.8
129	91Y631	L	9810	15.1	3.5	84	1	33.1
135	91Y561	L	9710	15.2	3.0	88	1	31.9
130	92Y130	L	9560	14.7	3.5	87	3	33.7
134	92Y134	L	9320	14.5	4.0	83	1	30.7
133	92Y133	L	9040	14.5	4.0	84	1	30.7
120	KOSHIHIKARI	S	7670	17.4	3.0	94	99	41.7
Mean			10230	15.4	4.9	84	7	35.0
CV %			6.5	2.6	1.9	1.2	38.5	4.5
LSD (.05)			1400	0.8	0.1	2	5	3.3

Planting date: May 7, 1992

<sup>1</sup>S = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 19

1992 Intermediate-Late Rice Variety Test - Glenn County (Wylie Farms).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture	Grain Moisture at Harvest	Seedling <sup>2</sup> Vigor	Days to 50% Heading	Lodging <sup>3</sup>	Plant Height	
		(lbs/a)	(%)	(1-5)		(1-99)	(inches)	
<b>Advanced Lines and Varieties</b>								
102	89Y544	M	12540	16.0	4.0	99	5	38.6
104	90Y686	M	12530	16.2	4.0	100	2	36.9
106	92Y106	M	12100	19.5	4.0	106	61	44.6
109	M-204	M	11810	16.5	4.0	98	6	38.1
107	M-401	M	11710	18.7	4.0	106	79	42.4
105	90Y687	M	11660	18.1	3.8	102	6	42.9
101	S-301	S	11580	18.9	3.8	105	5	38.2
110	89Y296	M	11540	16.6	4.0	101	1	38.7
114	M-202	M	11510	17.3	4.0	92	59	41.1
111	92Y111	M	11050	18.7	4.0	99	53	41.3
103	92Y103	M	10460	17.4	4.0	94	53	41.1
113	A-301	L	10120	16.4	3.5	105	1	33.7
112	L-202	L	9110	15.6	3.5	94	1	34.2
108	M-203	M	9040	16.8	4.0	90	70	40.0
115	90Y724	L	8180	16.2	3.0	105	1	32.7
116	VT-675	M	5020	16.9	4.0	93	2	45.8
Mean			10620	17.2	3.8	99	25	39.4
CV %			6.6	5.4	7.1	0.9	60.0	4.0
LSD (.05)			990	1.3	0.4	1	21	2.2
<b>Preliminary Lines</b>								
119	91Y581	S	13300	18.6	4.0	98	1	37.4
124	91Y413	M	12700	15.9	3.5	93	1	36.2
122	91Y365	M	12420	16.4	2.5	90	1	36.0
126	91Y401	M	12200	15.6	3.5	97	36	33.3
123	91Y373	M	12130	17.0	4.0	100	1	36.2
117	92Y117	M	12120	16.3	3.5	94	28	35.6
133	92Y133	L	11250	14.3	4.0	97	6	34.4
125	91Y356	M	11130	16.6	3.0	92	1	40.0
128	91Y615	M	10950	17.0	4.0	94	8	34.8
134	92Y134	L	10920	14.5	3.5	100	1	37.2
121	91Y363	M	10610	15.5	3.5	93	1	36.8
118	92Y118	M	10570	15.4	4.0	104	1	33.7
136	92Y136	L	10160	14.5	3.0	92	3	33.3
131	91Y645	L	10110	14.0	4.0	97	1	33.8
132	92Y132	L	9740	13.3	3.0	98	1	33.1
129	91Y631	L	9730	15.0	3.5	98	1	31.9
135	91Y561	L	9380	15.1	3.0	98	1	33.7
127	91Y420	M	9340	16.2	4.0	91	36	30.7
130	92Y130	L	9270	15.8	4.0	94	38	30.7
120	KOSHINIKARI	S	7530	18.1	4.0	102	99	41.7
Mean			10780	15.8	3.6	96	13	35.0
CV %			5.9	6.4	12.0	0.8	141.6	4.5
LSD (.05)			1340	2.1	0.9	2	39	3.3

Planting date: April 27, 1992

<sup>1</sup>s = short; M = medium; L = long; W = waxy.<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

TABLE 20

1992 Intermediate-Late Variety Test - Three Location Summary:  
Biggs RES, Sutter Basin, Glenn.

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Days to 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
<b>Advanced Lines and Varieties</b>								
104	90Y686	M	11650	17.8	4.3	94	7	36.0
102	89Y544	M	11470	17.3	4.3	93	6	38.0
101	S-301	S	11270	18.6	4.4	97	4	37.1
109	M-204	M	11100	16.5	4.2	89	4	35.6
105	90Y687	M	11090	18.6	4.1	96	9	41.0
106	92Y106	M	11030	19.4	4.3	97	40	41.1
114	M-202	M	10990	16.8	4.3	87	27	37.6
107	M-401	M	10940	20.2	4.3	100	52	40.8
110	89Y296	M	10870	16.5	4.2	91	1	35.3
111	92Y111	M	10770	18.0	4.4	90	22	38.7
103	92Y103	M	10220	16.4	4.2	88	22	37.4
113	A-301	L	9630	16.3	3.8	97	1	31.9
112	L-202	L	9510	15.1	3.9	88	1	31.5
108	M-203	M	9290	16.4	4.2	85	72	37.4
115	90Y724	L	9130	16.1	3.7	95	1	30.4
116	VT-675	M	7500	15.4	4.3	87	4	42.0
Mean			10400	17.2	4.2	92	17	37.0
CV %			5.6	5.6	7.3	1.4	77.3	4.3
LSD (.05)			470	0.8	0.2	1	11	1.3
<b>Preliminary Lines</b>								
124	91Y413	M	11490	15.9	4.2	84	3	37.9
119	91Y581	S	11430	17.3	4.4	89	1	36.0
125	91Y356	M	11240	16.6	4.1	85	1	35.9
117	92Y117	M	11010	16.1	4.2	88	12	36.6
126	91Y401	M	10650	15.6	4.2	86	12	37.5
122	91Y365	M	10630	15.0	4.0	82	2	35.2
123	91Y373	M	10630	16.5	4.6	87	3	36.2
131	91Y645	L	10420	14.3	4.3	90	3	34.8
121	91Y363	M	10390	15.3	4.3	84	2	37.4
128	91Y615	M	10350	16.3	4.3	84	5	36.2
133	92Y133	L	10180	14.6	4.4	87	8	34.2
118	92Y118	M	10040	16.9	4.5	97	5	38.5
127	91Y420	M	9990	15.3	4.3	83	12	35.4
134	92Y134	L	9890	14.4	4.3	87	7	33.6
136	92Y136	L	9850	13.7	4.1	83	4	33.9
129	91Y631	L	9710	14.8	4.2	87	1	34.6
135	91Y561	L	9700	14.4	3.8	88	2	33.1
132	92Y132	L	9540	13.5	4.1	88	2	37.3
130	92Y130	L	9370	14.9	4.3	88	22	36.5
120	KOSHIIKARI	S	6850	18.1	4.1	95	97	43.2
Mean			10170	15.5	4.1	87	10	36.2
CV %			6.4	5.8	8.0	1.7	100.4	4.5
LSD (.05)			650	0.9	0.3	2	10	1.6

<sup>1</sup>S = short; M = medium; L = long; W = waxy.

<sup>2</sup>Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

<sup>3</sup>Subjective rating of 1-99 where 1 = none and 99 = completely lodged.

**TABLE 21**

Grain yield summary of the intermediate and late varieties by location and year.

Location	Year	M-401	A-301	S-301
<b>Butte</b> (RES)	1988	9330	9520	9920
	1989	9070	10040	10890
	1990	7800	10370	10840
	1991	9950	8910	10110
	1992	10320	9100	10490
Loc. mean		9290	9590	10450
<b>Glenn/ Colusa</b>	1988	6270	5890	6740
	1989	8780	8660	9310
	1990	8600	10700	9990
	1991	11750	9810	11700
	1992	11710	10120	11580
Loc. mean		9420	9040	9860
<b>Sutter</b> (Basin)	1988	7560	6050	7420
	1989	8340	7730	7380
	1990	7990	8520	9350
	1991	8760	8040	8640
	1992	10800	9680	11730
Loc. mean		8690	8000	8900
Loc.-years mean		9130	8880	9740
Yield % M-401		--	97	107
Number of tests		15	15	15