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## CALIFORNIA RICE VARIETIES DESCRIPTION AND PERFORMANCE SUMMARY OF THE 1988 AND MULTIYEAR STATEWIDE RICE VARIETY TESTS IN CALIFORNIA

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### INTRODUCTION

University of California rice cultivar evaluation trials were conducted in the Sacramento and San Joaquin Valleys in cooperation with the California Cooperative Rice Research Foundation, Inc. (CCRRFI) and the United States Department of Agriculture (USDA). The tests, conducted by UC Cooperative Extension, compared advanced experimental lines with commercially available rice cultivars to determine their adaptation to the principal rice growing regions of the state. The program is partially funded by a grant from the Rice Research Board. Rice growers provide land and on-site management for the trials. This report describes the results of the 1988 regional rice testing program. The names and a brief description of the current publicly developed cultivars are listed in Table 1.

### GENERAL SUMMARY OF THE 1988 SEASON

Approximately 420,000 acres of rice were harvested in California in 1988, up from about 370,000 acres in 1987. Most of the acreage was planted to M-202 and S-201 followed by L-202 and M-401 and various public and proprietary cultivars.

Weather extremes in 1988 caused many production problems and lower statewide average yields. Early season cool temperatures and unseasonal spring rain delayed planting, stressed emerging seedlings and resulted in thin stands. As a result, many trials suffered increased weed pressure and delayed heading. A long spell of high temperatures beginning in mid-July may have also contributed to lower yields. High temperatures during the ripening phase contributed to reduced grain filling, pinched kernels and chalkiness. Sterility and ripening problems were widespread in 1988. Late season high winds contributed to severe lodging at many locations.

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### **ACKNOWLEDGMENT**

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Average statewide yields, as reported by California Field Crop Review, were 7,000 lbs/A in 1988 as compared to 7,550 lbs/A in 1987 and 7,700 lbs/A in 1986. In addition to decreased yields, average head and total in sample appraisals were low in 1988 probably due to rapid grain drying in the field from high winds near harvest time.

## **EXPERIMENTAL PROCEDURE FOR THE 1988 REGIONAL RICE VARIETY TESTS**

Thirteen uniform rice variety tests were conducted in ten locations from Butte to Fresno County. Twenty-four to thirty-two entries, including commercially available standards and experimental lines were planted in one of three maturity groups. Four tests, one from each maturity group plus a special short and medium grain test, were conducted at the Rice Experiment Station, Biggs, by the CCRRFI. The remaining tests were conducted statewide by UC Cooperative Extension, under a range of grower production practices and environments. The maturity groups and locations were as follows:

**VERY EARLY MATURITY GROUP.** Three uniform tests were conducted at [1] the Rice Experiment Station (Butte County), [2] the Hoffman Ranch (San Joaquin County), and [3] the Lauppe Ranch (Sutter County). Twenty-one experimental lines and eleven commercially available cultivars were included.

**EARLY MATURITY GROUP.** Five uniform tests were conducted at [1] the Rice Experiment Station (Butte County), [2] Britz Inc. (Fresno County), [3] the Whyler Ranch (Glenn County), [4] William Geer and Son (Yolo County) and [5] the Mohammed Ranch (Yuba County). Twenty experimental lines and ten commercially available cultivars were tested at all sites. Two additional proprietary experimental lines were included in the Fresno trial.

**LATE MATURITY GROUP.** Three uniform late maturity tests were conducted at [1] the Rice Experiment Station (Butte County), [2] the Dennis Ranch (Colusa County), and Carl Yank's (Sutter County). Twenty experimental lines and four commercially available cultivars were tested at all locations.

**SHORT AND MEDIUM GRAIN GROUP.** Two uniform tests were conducted [1] the Rice Experiment Station (Butte County) and [2] the Erdman Ranch (Colusa County). Twenty experimental lines and five commercially available cultivars were tested at each location. An additional five commercially available cultivars were included at the Colusa County site.

Performance characteristics measured for each cultivar were seedling vigor, days to 50% heading, plant height, lodging, grain moisture at harvest and grain yield at 14% moisture. Seedling vigor was subjectively rated by visual observation on a scale of 1 (poor) to 5 (excellent) at 21 to 28 days after planting based on plant health and stand at crop emergence (through the water). Days to 50% heading were measured 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 at harvest on a scale of 1 (no lodging) to 99% lodging (all plants completely lodged). This method does not characterize time of lodging. Early lodging may lower grain yield.

County trials were harvested with a SWECO 324 combine and on-station tests

were harvested with an Allis-Chalmers combine; both machines were modified for small plot harvesting. A 150 square foot swath (0.0034 A) was harvested from the center of all plots. Grain was subsampled at harvest for moisture determination and grain yield was adjusted to 14% moisture, for reporting purposes.

## **AGRONOMY PERFORMANCE SUMMARY OF THE 1988 AND MULTIYEAR VARIETAL ENTRIES BY MATURITY GROUP**

Varietal performance summaries are presented by location for each maturity group followed by an over-location summary and multiyear, multilocation grain yield summary. Only the yields of commercial cultivars or very advanced experimental cultivars are summarized in the multiyear, multilocation tables. Comparative yield in the latter is expressed as a percentage of a standard cultivar based only on equivalent location and year means.

The "short and medium grain" tests are reported by location at the two locations described previously.

### **SUMMARY OF THE VERY EARLY RICE VARIETY TESTS (<90 days to 50% heading at Biggs, CA)**

The 1988 very early maturity tests were conducted at the three locations previously described. Varietal standards at all locations included M-101, M-102, M-201, M-202, M-203, S-101, S-201, Calmochi-101, Valencia 87, and L-202. Eleven experimentals were new in the 1988 off-station trials and nine had been tested previously. Two proprietary cultivars, Early California Belle (ECB) and S-2 were also tested in the two off station sites. Grain types of the experimentals included seven short grain, eight medium grain, four long grain and one "waxy" cultivar.

Tables 3, 4, and 5 show the agronomic performance of these lines at each location and Tables 6 and 7 give the over-location summaries. Entries are ranked by yield with the highest yielding entries appearing first.

The Butte County trial out-performed the San Joaquin and Sutter trials by an average of 2410 and 1450 lbs/A respectively. The San Joaquin trial (Table 4) exhibited characteristic signs of nitrogen deficiency such as lower plant height and no lodging, when compared to the Butte and Sutter tests (Tables 3,5). Although nitrogen deficiency may have contributed to lower yields in 1988, the San Joaquin test has historically lower yields as a result of cooler temperatures during heading. The two highest yielding experimental lines, 87-Y-760 and 87-Y-384, produced nearly 9,000 lbs/A as an average of all trials; these experimental lines yielded over 10,000 lbs/A in the Butte County trial. M-102 and M-201 were the highest yielding commercial cultivars, although not statistically better than L-202, M-202, or S-201; M-203 and M-101 ranked the lowest of all experimental or commercial cultivars. Grain moisture at harvest was lowest in the Sutter County test at 17.0%, followed by Butte at 18.7%, and San Joaquin at 22.5%.

Average number of days to 50% heading at Biggs was 84 days after planting with a spread of 80 to 89 days for the experimental lines. Sutter County averaged 87 days from planting to 50% heading with a spread of 82 to 92 days for the

experimental lines. Of the commercial cultivars, M-101 matured first, followed by Calmochi-101 and S-101.

Plant height averaged about 36 inches in the Butte and Sutter Counties tests but only 26 inches in the San Joaquin test. Lodging was high in both the Biggs and Sutter County tests at an average of 56% and 66% respectively.

Table 8 shows the over-year and location yields for the very early commercial cultivars. All entries were not tested at each location and/or every year; therefore, means cannot be directly compared. However, common year-location entries can be compared to give relative yield as a percent of the standard, M-101. M-102, M-202 and Calmochi-101 yielded 116%, 112%, and 113% of M-101, respectively. S-101, a recently released very early, short grain cultivar averaged 107% of M-101 in nine over location-year tests. A very early experimental medium grain cultivar, soon to be released as M-103, averaged 109% of M-101 in fourteen tests.

#### **SUMMARY OF THE EARLY RICE VARIETY TRIALS** (90-97 days to 50% heading at Biggs, CA)

The 1988 early maturity tests were conducted in the five locations previously described. The ten commercial standards included in all trials were M-101, M-102, M-201, M-202, M-203, S-101, S-201, Calmochi-101, Valencia 87 and L-202. Five experimentals were new in the 1988 off-station trials and fifteen had been tested previously. Grain types of the experimentals included five short grain, eight medium grain, and seven long grain.

Tables 9 through 13 show the agronomic performance of these lines at each location, and Tables 14 and 15 gives the over-location summary. Entries are ranked by yield with the highest ranking entries appearing first.

The mean yields of all trials can be ranked in the following order: Butte > Yuba > Yolo > Glenn > Fresno. Reduced yields at the Fresno site can be partially attributed to severe weed (sedge) competition. The highest yielding experimental cultivar in the over location summary, 87-Y-285 (Table 14), was in the top ten yielding cultivars in all trials. However, the second ranking experimental cultivar, 87-Y-456, ranged from 1st in Yuba County to 25th in Fresno County, indicating that this cultivar may be highly sensitive to environmental conditions.

M-201 was the highest ranking commercial cultivar in the over-location summary. M-201 ranked in the top 3 cultivars in all trials except Yolo, where it ranked 18th. L-202 and M-102 were the next highest yielding commercial cultivars in the over location summary, ranking 3rd and 7th, respectively. M-203, a cultivar released primarily as an early maturing premium quality grain (i.e.: M-401 quality) exhibited severe lodging and ranked lowest in yield for all trials except Fresno County. Grain moisture at harvest averaged 17.9% for all trials with a range of 19.6% in Fresno to 16.1% in Yolo.

For all trials combined, 50% heading occurred at an average of 94 days. The Butte, Glenn and Yolo tests all averaged 90 to 91 days to 50% heading, whereas Fresno averaged a high 103 days. Heading of individual cultivars in the Sacramento Valley tests ranged from 81 to 109 days after planting. M-201, M-203, and S-201 averaged 91, 92, and 95 days after planting, respectively.

The influence of height on lodging was clearly a factor in determining the extent of lodging in the 1988 Early trials, as the average rankings below illustrate:

HEIGHT: (INCHES)	Fresno	<	Butte	<	Yuba	<	Yolo	<	Glenn
	(30.6)		(36.7)		(37.5)		(38.8)		(42.9)
LODGING: (PERCENT)	Fresno	≤	Butte	<	Yolo	≤	Yuba	<	Glenn
	(12)		(14)		(46)		(47)		(62)

Table 16 shows the over-location and over-year yields for early cultivars. M-201 was used as a standard to compare common year-location summaries. S-201, M-202, and L-202 all had yields equivalent to M-201, when compared in 20 trials; M-203 yielded 10% less than M-201 when compared in 12 trials.

### **SUMMARY OF THE INTERMEDIATE AND LATE RICE VARIETY TRIALS** (>105 days to 50% heading at Biggs, CA)

The 1988 late maturity tests were conducted at the three locations described previously and included 20 experimental cultivars and M-401, M-302, A-301, and M-7. Grain types, of the experimentals, included six short grain, eleven medium grain, and three long grain cultivars.

Tables 17, 18, 19 show the agronomic performance of these lines at each location and Table 20 gives the over-location summary. Entries are ranked by yield with the highest yielding entries appearing first.

Average yields of these trials ranked Butte > Sutter > Colusa. The significant reduction in yield at Colusa was the result of severe early lodging; several cultivars lodged prior to field drainage.

Over all locations, yields ranged from a high of 8,390 lbs/A for the experimental medium grain 87-Y-530 to a low 6,400 lbs/A for the experimental long grain 87-Y-553 (Table 20). M-401 and M-7 were the highest ranked commercial cultivars in the over location summary at 10th and 11th, respectively. A-301, the specialty market aromatic long grain, performed moderately in Butte and Colusa ranking 11th and 13th respectively. Grain moisture averaged 18.1% for all entries and locations. All experimental entries were earlier to 50% heading than M-7.

The long growing season required by the late maturing cultivars requires early planting. The 1988 cool spring temperatures proved especially detrimental to seedling vigor in the late trials in Colusa and Sutter and the average for all trials was a low 3.6. The long grain types, typically sensitive to low temperature, showed low vigor, with an average of only 2.1 for the Colusa and Sutter trials combined.

Heading in the late trials was protracted: the earliest cultivars headed in less than 100 days after planting and the latest cultivars headed at 125 days. The Butte county trial was the earliest to head at an average of 105 days after planting; Colusa was the last trial to head at an average of 121 days after planting.

Lodging, but not height differed significantly across all trials. The Colusa county trial exhibited severe early lodging, whereas the Butte and Sutter county trials had little lodging.

Table 21 compares several late maturing commercial cultivars in over-location tests from 1984 through 1988 using M-7 for comparison. M-401 yielded 7% higher than M-7 when compared in 14 tests. The specialty market aromatic long grain, A-301, yielded 12% lower than M-7.

## **SUMMARY OF THE SPECIAL SHORT AND MEDIUM GRAIN TRIALS**

Special short and medium grain tests were conducted to accelerate identification of superior lines. These were conducted in Butte and Colusa counties. Eighteen experimental lines were new in the 1988 test, and two had been tested previously. Grain types, of the experimentals, included three short grain, eight medium grain, five long grain and four "waxy" types.

Tables 22 and 23 show the results for the Butte and Colusa county trials, respectively. Table 24 shows an over-location summary for the two trials.

M-202 was the highest yielding commercial cultivar for the two trials combined, followed by M-102, S-101, and S-201, none significantly different from each other. Two experimental long grains included in these trials yielded over 10,000 lbs/A in the Butte county trial. Lodging was minimal in both trials and seedling vigor was good. Heading averaged 90 days and ranged between 84 and 101 days after planting.

Table 1. Characteristics of publicly developed rice varieties, 1988.\*

Grain Type	Maturity	Seed Widely Available	Comments
<b>SHORT GRAIN</b>			
S-101	Very Early	1989	High yield potential, 3 inches shorter than S-201, heads 7 days earlier and ready to harvest 10-12 days earlier than S-201. Translucent seeds 13% smaller than S-201. Good milling. Has rough leaves and hulls with awns. Adapted to S-201 area. Both Foundation and Registered seed available in 1988.
S-201	Early	1981	High yield potential, excellent seedling vigor, similar to M-201 in maturity and in resistance to blanking; has good pearl shape.
<b>MEDIUM GRAIN</b>			
M-101	Very Early	1981	Earliest variety; excellent seedling vigor; good resistance to blanking. Yields are less than other varieties at normal planting dates. Suggested only for special conditions such as coldest areas and/or latest planting dates. To minimize reduction in head rice, which is generally low, harvest at 25% moisture.
M-102	Very Early-Early	1988	Heads 2 days earlier but maturity similar to M-202, very high yield potential, excellent seedling vigor, good resistance to blanking, has more resistance to stem rot and to lodging than M-202. Has more variable maturity within panicles than M-202.
M-201	Early	1984	Very high yield potential; 2 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	Very high yield potential; adapted to cooler growing areas where M-201 is not well adapted, but for general use; 3 days earlier, ripens more uniformly and more resistant to blanking than M-201; moderate lodging; threshes easily but does not shatter; not as resistant to stem rot as M-201 or M-102.
<b>LONG GRAIN</b>			
L-202	Early	1986	Good yield potential in warmer areas; not adapted to colder areas; shortest of current varieties; excellent resistance to lodging. Seedling vigor fair; requires careful water management for stand establishment. Threshes easily so reduce cylinder speed to minimum to enhance head rice. Harvest moisture for L-202 should <u>not</u> be below 18% or above 21%.
<b>SPECIALTY RICES**</b>			
M-203	Early	1989	Is a <u>premium quality</u> rice with large seeds. It is 17 days earlier than M-401 and is intended as a companion to it. M-203 is sensitive to blanking and has weak straw; therefore use 25-50 lb/acre less N than on other varieties.
M-401	Late	1983	Is a <u>premium quality</u> rice with high yield potential. Has large bold seeds; is sensitive to blanking, lodging and damage from early drainage; therefore use somewhat less N than on other varieties.
Calmochi-101	Very Early	1987	A sweet rice 2 weeks earlier than S-201; has desirable larger seed and improved cooking quality; excellent resistance to low temperature blanking; has rough leaves and hulls; no awns.
A-301	Intermediate	1988	An aromatic ("popcorn" aroma) long grain with moderately high yield in warmer areas, not adapted to late seeding dates, deep water or cool areas. Suggest harvest moisture of 2-22% and air drying without heat to retain maximum aroma. A-301 has excellent straw strength.

Proper management of the short stature varieties to obtain high yield include: (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; (5) drain as late as possible before harvest.

\*Prepared by the California Cooperative Research Foundation, Inc. and University of California Cooperative Extension.

\*\*Specialty varieties should not be grown unless arrangements have first been made with marketing agency.





Table 3. Performance summary of the very early rice experimental lines and varieties. Butte County, 1988.

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)
11 87-Y-125	S	10290	17.0	4.8	82	14	37.2
3 86-Y-3	M	10160	19.1	4.8	84	3	37.8
4 M-102	M	10160	19.8	4.9	86	2	37.7
18 87-Y-760	S	10120	16.8	4.8	81	14	37.1
16 87-Y-188	M	10110	20.8	4.7	86	3	35.3
22 86-Y-706	L	10110	18.1	4.6	84	7	36.9
23 87-Y-364	L	10090	16.4	4.6	87	1	37.3
19 86-Y-126	W	10070	23.7	4.5	86	15	38.0
30 M-201	M	10060	22.0	4.8	91	2	35.0
24 87-Y-384	L	10000	16.6	4.6	87	5	35.9
26 Valencia 87	S	9740	16.0	4.8	82	3	34.1
5 87-Y-101	S	9720	18.0	4.7	82	2	36.2
27 L-202	L	9680	21.2	4.6	93	1	33.4
25 87P271G	M	9670	19.0	4.8	89	36	38.1
13 86-Y-97	S	9670	16.4	4.7	84	5	31.7
2 86-Y-2	M	9640	17.8	4.9	82	7	37.6
29 S-201	S	9520	22.7	4.9	93	6	36.5
6 87-Y-104	S	9470	16.7	4.7	80	13	35.6
10 M-202	S	9430	20.9	4.9	88	13	36.4
15 87-Y-188	M	9260	17.9	4.8	82	12	36.5
21 Calmochi-101	M	9160	18.2	4.7	81	18	35.2
14 86-Y-109	W	9090	19.9	4.7	81	23	33.7
20 87-Y-352	S	9080	16.5	4.7	87	6	36.1
17 87-Y-209	L	9050	19.5	4.9	81	7	38.8
12 S-101	S	8990	17.4	4.8	84	17	35.3
9 84-Y-9	M	8890	17.8	4.7	81	15	35.6
7 87-Y-109	S	8890	18.0	4.8	81	5	38.3
8 86-Y-211	M	8450	16.8	4.8	80	46	36.5
28 M-203	M	7840	23.0	5.0	92	88	38.9
1 M-101	M	7690	18.0	4.9	80	82	36.3
Mean		9470	18.7	4.8	84	16	36.3
CV		4.6	6.8	1.8	2.7	56.3	3.1
LSD (.05)		610	1.8	0.1	3	12	1.6

Location: Rice Experiment Station, Biggs

Planting date: Replications 1 and 2 - May 4. Replications 3 and 4 - May 29.

<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 4. Performance summary of the very early rice experimental lines and varieties. San Joaquin County, 1988.

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lb/a)	Grain Moisture at Harvest (%)	Lodging <sup>2</sup> (1-99)	Plant Height (inches)	
11	87-Y-125	S	7870	19.5	1.0	28.0
18	87-Y-760	M	7810	20.9	1.0	26.5
6	87-Y-104	S	7800	20.6	1.0	26.8
19	86-Y-126	W	7600	26.9	1.0	29.4
10	M-202	M	7560	24.3	1.0	28.4
24	87-Y-384	L	7470	20.7	1.0	28.3
15	87-Y-188	M	7370	21.0	1.0	28.3
23	87-Y-364	L	7350	20.6	1.0	29.1
2	86-Y-2	M	7340	24.4	1.0	28.4
21	Calmochi-101	W	7300	20.6	1.0	28.4
12	S-101	S	7280	19.7	1.0	26.4
3	86-Y-3	M	7220	24.1	1.0	28.7
14	86-Y-109	S	7180	25.1	1.0	26.3
29	S-201	S	7100	26.5	1.0	28.4
5	87-Y-101	S	7090	22.3	1.0	27.4
17	87-Y-209	M	7090	23.3	1.0	28.4
8	86-Y-211	M	7040	19.1	1.0	26.3
4	M-102	M	7040	25.8	1.0	28.8
22	86-Y-706	L	7020	20.3	1.0	27.8
30	M-201	M	7010	25.9	1.0	28.5
28	M-203	M	7000	24.5	1.0	27.8
16	87-Y-188	M	7000	24.7	1.0	26.5
7	87-Y-109	S	6900	23.8	1.0	28.4
13	86-Y-97	S	6890	21.5	1.0	24.2
9	86-Y-9	M	6820	22.2	1.0	26.6
20	87-Y-352	L	6740	21.3	1.0	28.0
1	M-101	M	6580	22.6	1.0	26.4
27	L-202	L	6530	22.7	1.0	25.3
25	87P271G	M	6390	23.1	1.0	28.9
26	Valencia 87	S	6340	20.1	1.0	28.0
30C	ECB	L	6210	20.5	1.0	27.7
30B	S-2	S	5980	20.3	1.0	28.0
Mean			7060	22.5	1.0	27.6
CV			8.1	6.7	--	4.3
LSD (.05)			800	2.1	--	1.7

Location: Valley Home  
Planting date: May 12, 1988

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

<sup>2</sup>Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 5. Performance summary of the very early rice experimental lines and varieties. Sutter County, 1988.

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)	
4	M-102	M	9720	18.5	4.8	92	1	34.3
30	M-201	M	9280	20.5	4.0	96	12	34.7
27	L-202	L	9230	17.1	4.8	98	7	32.9
2	86-Y-2	M	9190	16.9	4.8	87	1	34.9
15	87-Y-188	M	9160	15.3	4.8	83	53	35.8
22	86-Y-706	L	9110	17.8	3.8	87	71	36.1
24	87-Y-384	L	9070	14.9	4.0	87	28	34.0
18	87-Y-760	S	8920	16.9	3.3	84	86	37.2
5	87-Y-101	S	8900	15.9	4.5	84	45	35.2
16	87-Y-188	M	8800	18.3	3.8	87	70	37.3
3	86-Y-3	M	8800	18.0	4.8	87	23	36.4
23	87-Y-364	L	8720	15.9	4.3	88	38	37.4
30C	ECB	L	8590	16.2	2.8	92	29	38.1
7	87-Y-109	S	8550	17.5	4.5	84	1	35.8
26	Valencia 87	S	8390	17.9	2.5	88	18	37.7
29	S-201	S	8340	19.3	5.0	95	45	35.6
10	M-202	M	8320	17.9	4.3	93	60	35.9
19	86-Y-126	W	8320	18.0	3.3	88	65	37.1
30B	S-2	S	8280	15.8	3.5	87	4	35.2
6	87-Y-104	S	8260	17.6	3.3	83	47	37.2
8	86-Y-211	M	8150	14.1	3.5	82	55	34.8
20	87-Y-352	L	8120	15.2	4.3	89	13	34.5
11	87-Y-125	S	7880	17.5	2.3	85	82	37.7
13	86-Y-97	S	7820	15.7	3.0	84	34	34.9
9	84-Y-9	M	7760	17.0	4.0	82	47	34.8
25	87P271G	M	7720	15.6	5.0	90	72	36.7
17	87-Y-209	M	7700	20.3	4.3	84	75	39.2
21	Calmochi-101	W	7660	16.3	3.5	84	75	36.5
12	S-101	S	7320	16.4	4.0	87	77	35.1
14	86-Y-109	S	6900	19.2	4.5	84	76	32.7
28	M-203	M	6720	15.0	4.3	95	94	37.8
1	M-101	M	5520	16.7	4.8	83	92	37.2
Mean			8290	17.0	4.0	87	47	36.0
CV			11.4	10.7	17.7	1.8	66.1	6.6
LSD (.05)			1320	2.6	1.0	2	43	3.3

Location: Natomas

Planting date: May 11, 1988

<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 6. 1986 very early variety trial - three location summary (Butte, San Joaquin, and Sutter Counties).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2,4</sup> Vigor (1-5)	Days to 50% <sup>4</sup> Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)
4 M-102	M	8970	21.4	4.8	89	1	33.6
18 87-Y-760	S	8950	18.2	4.0	83	34	33.6
24 87-Y-384	L	8850	17.4	4.3	87	11	32.7
30 M-201	M	8780	22.8	4.4	93	5	32.7
22 86-Y-706	M	8740	18.7	4.2	86	26	33.6
3 86-Y-3	L	8730	20.4	4.8	85	9	34.3
2 86-Y-2	M	8720	19.7	4.8	84	3	33.7
23 87-Y-364	M	8720	17.7	4.4	87	13	34.6
11 87-Y-125	L	8680	18.0	3.5	83	32	34.3
19 86-Y-126	W	8660	22.8	3.9	87	27	34.8
16 87-Y-188	W	8640	21.3	4.2	86	25	33.0
15 87-Y-188	M	8600	18.1	4.8	82	22	33.5
5 87-Y-101	M	8570	18.7	4.6	83	16	32.9
6 87-Y-104	S	8510	18.3	4.0	81	20	33.2
27 L-202	S	8480	20.3	4.7	96	3	30.5
10 M-202	L	8440	21.0	4.6	91	25	33.6
29 S-201	M	8320	22.8	5.0	94	17	33.5
26 Valencia 87	S	8160	18.0	3.6	85	7	33.3
13 86-Y-97	S	8130	17.9	3.8	84	13	30.3
7 87-Y-109	S	8110	19.8	4.6	82	2	34.2
21 Calmochi-101	W	8040	18.4	4.1	82	31	33.4
20 87-Y-352	L	7980	17.7	4.4	88	7	32.9
17 87-Y-209	M	7950	21.0	4.6	82	28	35.5
25 87P271G	M	7930	19.3	4.9	89	37	34.6
8 86-Y-211	M	7880	16.7	4.1	81	34	32.5
12 S-101	S	7860	17.8	4.4	86	32	32.3
9 86-Y-9	M	7820	19.0	4.3	82	21	32.3
14 86-Y-109	S	7730	21.4	4.6	82	33	30.9
28 M-203	M	7190	20.8	4.6	93	61	34.8
1 M-101	M	6600	19.1	4.8	82	58	33.3
Mean		8290	19.5	4.4	86	22	33.3
CV		8.3	8.1	11.2	2.3	86.2	4.9
LSD (.05)		560	1.3	0.5	2	15	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 = 99% lodged.

<sup>4</sup>Butte and Sutter Counties only.

Table 7. 1988 very early rice variety trial, two location summary (San Joaquin and Sutter counties).

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2,4</sup> Vigor (1-5)	Days to 50% <sup>4</sup> Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)	
4	M-102	M	8380	22.2	4.8	92	1	31.5
18	87-Y-760	S	8360	18.9	4.0	96	44	31.8
24	87-Y-384	L	8270	17.8	4.8	98	15	31.1
2	86-Y-2	M	8270	20.6	4.8	87	1	31.7
15	87-Y-188	M	8260	18.2	4.8	83	27	32.0
30	M-201	L	8140	23.2	3.8	87	6	31.6
22	86-Y-706	M	8060	19.1	4.0	87	36	31.9
23	87-Y-364	M	8040	18.3	3.3	84	19	33.3
6	87-Y-104	L	8030	19.1	4.5	84	24	32.0
3	86-Y-3	W	8010	21.1	3.8	87	12	32.6
5	87-Y-101	W	8000	19.1	4.8	87	23	31.3
19	86-Y-126	M	7960	22.4	4.3	88	33	33.3
10	M-202	M	7940	21.1	2.8	92	30	32.1
16	87-Y-188	S	7900	21.5	4.5	84	35	31.9
27	L-202	S	7880	19.9	2.5	88	4	29.1
11	87-Y-125	L	7870	18.5	5.0	95	42	32.9
7	87-Y-109	M	7730	20.7	4.3	93	1	32.1
29	S-201	S	7720	22.9	3.3	88	23	32.0
8	86-Y-211	S	7590	16.6	3.5	87	28	30.6
21	Calmochi-101	S	7480	18.5	3.3	83	38	32.4
20	87-Y-352	W	7430	18.2	3.5	82	7	31.3
30C	ECB	L	7400	18.3	4.3	89	15	32.9
17	87-Y-209	M	7390	21.8	2.3	85	38	33.8
26	Valencia 87	M	7370	19.0	3.0	84	9	32.9
13	86-6-97	M	7360	18.6	4.0	82	17	29.6
12	S-101	S	7300	18.0	5.0	90	39	30.8
9	86-Y-9	M	7290	19.6	4.3	84	24	30.7
30B	S-2	S	7130	18.0	3.5	84	3	31.6
25	87P271G	M	7060	19.4	4.0	87	37	32.8
14	86-Y-109	M	7040	22.2	4.5	84	38	29.5
28	M-203	M	6860	19.8	4.3	95	48	32.8
1	M-101	M	6050	19.7	4.8	83	47	31.8
Mean			7670	19.8	4.0	87	24	31.8
CV			10.2	8.5	17.7	1.8	91.5	5.9
LSD (.05)			770	1.6	1.0	2	22	1.9

<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.

<sup>4</sup>Sutter County only.

Table 8. Grain yield summary of the very early experimental lines and varieties by location and years.

County Location	Year	Varieties					M-103 (84-Y-9)
		M-101	M-202	Calmochi 101	M-102	S-101	
Butte	1984	7180	9690	8950			10490
	1985	8810	10470	9080	10710		10880
	1986	8770	9510	9490	10400	9780	9110
	1987	8770	9510	10350	10230	9990	10210
	1988	7690	9430	9160	10160	9520	8890
Location Mean		8170	9720	9410	10380	9760	9920
Sacramento	1984	9600	11520	11130			9990
	1985	8760	8130	9170	9030		8180
	1986	9480	11770	10600	11760	11380	10580
	1987	8770	9270	8940	10190	9700	9000
	1988	5520	8320	7660	9720	7760	6820
Location Mean		8350	9800	9500	10180	9610	8910
San Joaquin	1984	8070	8460	8880			7580
	1985						
	1986	9030	9670	10950	9220	7300	9220
	1987	8080	8100	10240	8680	7980	9690
	1988	8580	7560	7300	7040	7280	6820
Location Mean		8670	8450	9340	8310	7520	8330
Location-years mean		8370	9390	9420	9740	8970	9100
Yield % M-101			112	113	116	107	109
Number of tests		14	14	14	11	9	14

Table 9. Performance summary of the early rice experimental lines and varieties. Butte County, 1988.

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 <sup>4</sup> 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)
57 M-201	M	10740	21.4	4.8	92	1	36.9
43 86-Y-329	M	10530	21.1	4.8	93	2	37.3
45 87-Y-456	L	10520	18.5	4.3	94	1	36.9
48 87-Y-3710	L	10450	17.1	4.6	93	1	38.0
51 87-Y-285	M	10370	19.2	4.8	88	2	35.1
60 Valencia 87	S	10360	15.1	4.9	84	3	35.3
33 M-102	M	10340	20.0	4.9	87	2	38.6
54 87-Y-196	M	10280	17.4	4.8	87	19	39.4
46 86-Y-482	L	10220	17.9	4.6	93	1	33.9
42 87-Y-278	M	10130	21.5	4.8	90	2	35.7
49 87-Y-4011	L	10040	19.8	4.5	96	1	33.1
36 87-Y-130	S	10040	15.5	4.9	86	7	36.3
39 87-Y-238	S	10030	20.2	4.9	93	1	36.7
44 L-202	L	9980	19.0	4.7	94	1	33.1
40 87-Y-249	S	9930	20.5	4.8	92	14	35.2
47 87-Y-479	L	9870	16.9	4.7	94	1	39.1
31 S-201	S	9830	19.9	4.9	94	14	37.4
32 86-Y-235	S	9790	19.5	4.7	87	3	34.8
38 86-Y-267	S	9730	19.1	4.8	90	7	35.6
52 86-Y-763	M	9610	20.3	4.9	90	5	37.6
55 87-Y-3338	L	9490	21.3	4.5	96	1	32.3
56 M-202	M	9350	19.6	4.9	89	13	38.1
41 87-Y-275	M	9340	19.4	4.8	87	11	36.5
34 S-101	S	9250	16.1	4.9	85	18	35.2
53 87-Y-417	M	9000	19.3	4.8	84	46	36.4
58 Calmochi-101	S	8820	17.0	4.8	82	46	37.1
37 87-Y-191	M	8790	19.1	4.8	87	7	39.2
50 87-Y-50	L	8450	16.8	4.5	92	49	42.8
59 M-101	M	8200	16.5	4.8	81	63	37.2
35 M-203	M	7990	19.6	5.0	90	95	39.6
Mean		9720	18.8	4.8	90	14	36.7
CV		5.2	5.8	2.1	2.0	85.8	3.6
LSD (.05)		710	1.5	0.1	3	17	1.8

Location: Rice Experiment Station, Riggs

Planting date: Two replications planted May 4; two replications planted May 24.

Data is an average of all replications.

<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 10. Performance summary of the early rice experimental lines and varieties. Fresno County, 1988.

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)	
44	L-202	L	7870	20.1	3.3	107	2	28.7
40	87-Y-249	S	7600	18.9	3.3	104	30	30.7
57	M-201	M	7570	22.4	3.5	104	1	30.2
41	87-Y-275	M	7490	19.9	3.4	102	11	31.7
56	M-202	M	7470	19.6	3.6	102	5	30.1
60A	S-2	S	7360	18.6	3.4	102	3	29.9
34	S-101	S	7360	15.9	3.5	99	2	30.0
42	87-Y-278	M	7320	22.8	3.3	102	6	29.8
43	86-Y-329	M	7210	20.6	3.4	104	7	31.4
51	87-Y-285	M	7090	20.4	3.2	102	3	28.8
52	86-Y-763	M	7080	21.0	3.4	105	13	33.8
33	M-102	M	6880	20.7	3.5	103	13	33.6
49	87-Y-4011	L	6850	19.8	3.1	106	1	27.1
46	86-Y-482	L	6840	17.4	3.2	104	1	26.9
35	M-203	M	6800	17.7	3.5	101	31	30.5
50	87-Y-50	L	6730	19.8	3.0	107	44	38.9
39	87-Y-238	S	6700	23.8	3.6	104	25	33.5
31	S-201	S	6650	22.0	3.5	106	6	31.1
60	Valencia 87	S	6590	17.5	3.5	102	1	29.5
38	86-Y-267	S	6470	21.3	3.5	103	28	29.6
54	87-Y-196	M	6430	15.4	3.4	100	42	30.4
37	87-Y-191	M	6420	19.1	3.5	103	19	32.3
48	87-Y-3710	L	6410	20.2	3.0	110	1	33.9
32	86-Y-235	S	6410	22.6	3.3	104	13	30.3
45	87-Y-456	L	6370	20.4	3.0	110	1	32.0
53	87-Y-417	M	6300	17.8	3.5	100	9	29.1
60B	ECB	L	6300	17.4	3.0	107	7	32.5
59	M-101	M	6270	17.1	3.3	99	33	30.3
47	87-Y-479	L	6130	20.1	3.0	106	3	29.5
36	87-Y-130	S	6120	18.4	3.4	101	23	29.2
55	87-Y-3338	L	6110	20.1	3.2	108	1	26.8
58	Calmochi-101	S	5830	17.4	3.3	100	3	28.0
Mean			6780	19.6	3.3	103	78	30.6
CV			10.4	8.6	5.1	1.9	8.2	8.2
LSD (.05)			990	2.4	0.2	3	9	3.5

Location: West Dos Palos  
Planting date: May 13, 1988

<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 9 = 99% lodged.

Table 11. Performance summary of the early rice experimental lines and varieties. Glenn County, 1988.

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)
57 M-201	M	9710	18.3	3.6	93	4	42.1
55 87-Y-3338	L	9550	17.1	3.5	102	1	39.6
45 87-Y-456	L	9540	15.6	3.4	97	1	45.0
43 86-Y-329	M	9340	18.9	3.7	92	71	41.8
46 86-Y-482	L	9240	15.1	3.5	93	1	38.1
42 87-Y-278	M	9220	18.3	3.5	88	63	40.5
51 87-Y-285	M	9140	17.5	3.5	88	38	41.1
54 87-Y-196	M	8920	15.1	3.6	88	94	44.5
44 L-202	L	8860	15.9	3.6	97	1	39.1
49 87-Y-4011	L	8760	15.9	3.3	104	1	40.0
33 M-102	M	8710	19.7	3.6	90	60	45.5
60 Valencia 87	S	8700	13.8	3.7	87	16	42.3
47 87-Y-479	L	8300	15.8	3.6	99	59	48.7
36 87-Y-130	S	8280	14.5	3.6	85	63	44.7
48 87-Y-3710	L	8270	15.4	3.3	100	18	43.0
56 M-202	M	8190	18.1	3.5	86	86	42.8
39 87-Y-238	S	8130	20.0	3.7	91	91	42.5
32 86-Y-235	S	8100	20.6	3.5	90	68	40.8
52 86-Y-763	M	7980	17.9	3.6	90	97	46.4
37 87-Y-191	M	7830	19.1	3.6	89	81	45.6
40 87-Y-249	S	7800	18.0	3.4	91	95	44.1
38 86-Y-267	S	7560	19.4	3.8	89	89	41.8
31 S-201	S	7460	21.1	3.8	92	89	41.6
41 87-Y-275	M	7090	18.7	3.5	87	95	41.5
34 S-101	S	6990	15.3	3.7	83	94	42.2
58 Calmochi-101	S	6720	17.2	3.5	84	94	42.8
59 M-101	M	6560	17.0	3.7	80	96	44.5
50 87-Y-50	L	6420	15.7	3.1	93	96	50.1
53 87-Y-417	M	6230	18.1	3.3	84	96	40.7
35 M-203	M	6130	19.1	3.6	90	97	44.5
Mean		8120	17.4	3.5	91	62	42.9
CV		9.3	6.7	5.7	1.2	17.4	4.9
LSD (.05)		1060	1.6	0.3	1	15	3.0

Location: Glenn

Planting date: May 9, 1988

<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 9 = 99% lodged.

Table 12. Performance of summary of the early rice experimental lines and varieties. Yolo County, 1988.

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)
51 87-Y-285	M	9230	15.4	3.5	87	7	38.0
54 87-Y-196	M	8980	16.2	3.7	88	77	41.3
33 M-102	M	8860	16.3	3.6	89	17	40.1
44 L-202	L	8830	15.9	3.8	99	33	36.8
46 86-Y-482	L	8810	15.1	3.6	95	1	37.2
60 Valencia 87	S	8800	14.4	3.8	88	14	39.2
36 87-Y-130	S	8750	12.2	4.2	85	67	40.5
42 87-Y-278	M	8650	19.5	3.6	89	43	36.6
41 87-Y-275	M	8530	19.3	3.8	87	79	39.8
34 S-101	S	8470	13.4	4.3	83	91	36.8
58 Calmochi-101	S	8450	16.2	3.9	84	53	37.7
38 86-Y-267	S	8350	15.6	3.9	86	61	37.5
31 S-201	S	8300	15.9	4.1	91	95	37.7
59 M-101	M	8260	13.5	3.8	81	51	38.9
49 87-Y-4011	L	8220	15.6	3.7	104	8	36.8
48 87-Y-3710	L	8170	16.9	3.5	100	16	40.3
32 86-Y-235	S	8160	17.3	3.8	87	32	35.7
57 M-201	M	8140	18.8	3.4	94	4	36.5
43 86-Y-329	M	8110	18.4	3.7	92	39	39.7
47 87-Y-479	L	8110	14.0	3.9	102	40	40.3
45 87-Y-456	L	8100	15.3	3.4	98	3	40.5
50 87-Y-50	L	8090	14.2	3.2	93	43	41.6
55 87-Y-3338	L	8050	18.3	3.4	103	2	37.1
56 M-202	M	7990	17.6	4.1	87	44	39.4
52 86-Y-763	M	7950	14.7	3.8	91	76	40.7
40 87-Y-249	S	7940	15.1	3.9	90	97	38.8
37 87-Y-191	M	7810	17.5	3.8	89	49	41.1
39 87-Y-238	S	7780	16.3	4.0	89	91	39.1
53 87-Y-417	M	7680	17.1	4.0	85	81	38.5
35 M-203	M	7190	17.3	3.8	88	83	40.2
Mean		8290	16.1	3.8	91	46	38.8
CV		8.3	9.6	4.3	1.5	33.5	4.5
LSD (.05)		960	2.2	0.2	2	22	2.5

Location: District 108

Planting date: April 29, 1988

<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 13. Performance summary of the early rice experimental lines and varieties. Yuba County, 1988.

Entry	Grain <sup>1</sup> Type	Grain Yield at 14% Moisture (lbs/a)	Grain Moisture at Harvest (%)	Seedling <sup>2</sup> Vigor (1-5)	Lodging <sup>3</sup> (1-99)	Plant Height (inches)
45 87-Y-456	L	9870	16.3	1.8	4	39.6
57 M-201	M	9490	19.4	3.3	8	37.1
48 87-Y-3710	L	9280	16.6	2.8	9	37.2
51 87-Y-285	M	9270	18.4	3.5	5	36.7
60 Valencia 87	S	9260	13.4	4.3	2	34.5
33 M-102	M	9180	19.8	3.3	24	39.9
44 L-202	L	9120	16.7	2.5	3	33.4
46 86-Y-482	L	9030	15.7	2.5	1	33.6
36 87-Y-130	S	8880	13.5	4.8	41	35.3
52 86-Y-763	M	8850	16.9	3.8	64	39.3
54 87-Y-196	M	8820	15.1	4.3	71	39.9
42 87-Y-278	M	8710	20.5	3.0	58	38.5
38 86-Y-267	S	8530	19.0	4.0	63	37.4
55 87-Y-3338	L	8520	18.1	1.8	1	32.3
49 87-Y-4011	L	8490	17.6	2.0	1	31.4
56 M-202	M	8480	19.4	3.8	71	38.5
32 86-Y-235	S	8430	19.1	3.0	53	35.4
47 87-Y-479	L	8380	13.8	2.8	48	38.5
37 87-Y-191	M	8260	19.6	3.3	40	38.8
31 S-201	S	8170	18.2	4.3	76	37.8
39 87-Y-238	S	7920	19.0	4.0	78	37.7
41 87-Y-275	M	7880	20.4	3.8	63	38.0
53 87-Y-417	M	7810	16.9	3.8	74	37.0
43 86-Y-329	M	7770	19.5	3.3	88	39.6
58 Calmochi-101	S	7640	13.3	3.0	69	35.7
40 87-Y-249	S	7590	16.9	3.5	88	37.8
34 S-101	S	7450	15.8	4.0	78	37.7
59 M-101	M	7390	17.4	3.5	65	39.5
50 87-Y-50	L	7140	15.9	2.3	73	46.1
35 M-203	M	6490	20.8	4.0	89	41.3
Mean		8400	17.4	3.3	47	37.5
CV		9.6	6.1	16.3	24.9	4.1
LSD (.05)		1130	1.5	0.8	16	2.2

Location: District 10

Planting date: April 20, 1988

<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 14. 1988 early variety trial, five location summary (Butte, Fresno, Glenn, Yolo, and Yuba counties).

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% <sup>4</sup> Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)
57 M-201	M	9130	20.1	3.7	96	3	36.6
51 87-Y-285	M	9020	18.2	3.7	91	11	36.0
44 L-202	L	8930	17.5	3.6	99	8	34.2
45 87-Y-456	L	8880	17.2	3.2	99	2	38.8
46 86-Y-482	L	8830	16.3	3.5	96	1	33.9
42 87-6-278	M	8810	20.5	3.6	92	34	36.2
33 M-102	M	8790	19.3	3.8	92	23	39.5
60 Valencia 87	S	8740	14.8	4.0	90	7	36.2
54 87-Y-196	M	8690	15.8	4.0	91	61	39.1
43 86-Y-329	M	8600	19.7	3.8	95	41	38.0
48 87-Y-3710	L	8520	17.2	3.5	101	9	38.5
49 87-Y-4011	L	8470	17.8	3.3	103	2	33.7
36 87-Y-130	S	8410	14.8	4.2	89	40	37.2
55 87-Y-3338	L	8340	19.0	3.3	102	1	33.6
56 M-202	M	8300	18.9	4.0	91	44	37.8
52 86-Y-763	M	8290	18.1	3.9	94	51	39.5
32 86-Y-235	S	8180	19.0	3.7	92	33	35.4
40 87-Y-249	S	8170	17.0	3.8	94	65	37.3
47 87-Y-479	L	8160	16.0	3.6	100	30	39.2
38 86-Y-267	S	8130	18.0	4.0	92	49	36.4
39 87-Y-238	S	8110	19.0	4.0	94	57	37.9
31 S-201	S	8080	19.4	4.1	95	56	37.1
41 87-Y-275	M	8060	19.5	3.9	91	52	37.5
34 S-101	S	7900	15.3	4.1	87	56	36.4
37 87-Y-191	M	7820	18.9	3.8	92	39	39.4
58 Calmochi-101	W	7490	16.2	3.7	87	53	36.3
53 87-Y-417	M	7400	17.9	3.8	88	61	36.3
50 87-Y-50	L	7370	16.5	3.2	96	61	43.9
59 M-101	M	7340	16.3	3.8	85	61	38.1
35 M-203	M	6920	18.9	4.0	92	79	39.2
Mean		8260	17.9	3.7	94	36	37.3
CV		8.4	7.5	7.5	1.7	41.5	5.1
LSD (.05)		430	0.8	0.2	1	9	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 = 99% lodged.

<sup>4</sup>Does not include Yuba County.

Table 15. 1988 early variety trial, four location summary (Fresno, Glenn, Yolo, and Yuba counties).

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 <sup>4</sup> 50% Heading	Lodging <sup>3</sup> (1-99)	Plant Height (inches)
57 M-201	M	8730	19.7	3.4	97	4	36.5
51 87-Y-285	M	8680	17.9	3.4	92	13	36.2
44 L-202	L	8670	17.1	3.3	100	10	34.5
46 86-Y-482	L	8480	15.8	3.2	97	1	33.9
42 87-Y-278	L	8480	20.3	3.3	93	42	36.4
45 87-Y-456	L	8470	16.9	2.9	101	2	39.3
33 M-102	M	8410	19.1	3.5	93	28	39.7
60 Valencia 87	S	8340	14.8	3.8	92	8	36.4
54 87-Y-196	M	8290	15.4	3.7	92	71	39.0
43 86-Y-329	M	8110	19.3	3.5	96	51	38.1
49 87-Y-4011	L	8080	17.2	3.0	105	3	33.8
55 87-Y-3338	L	8060	18.4	3.0	104	1	33.9
48 87-Y-3710	L	8030	17.3	3.2	103	11	38.6
56 M-202	M	8030	18.7	3.7	92	51	37.7
36 87-Y-130	S	8010	14.7	4.0	90	49	37.5
52 86-Y-763	M	7960	17.6	3.6	95	62	40.0
32 86-Y-235	S	7780	19.9	3.4	93	41	35.6
41 87-Y-275	M	7750	19.6	3.6	92	62	37.8
40 87-Y-249	S	7730	17.2	3.5	95	77	37.8
38 86-Y-267	S	7730	18.8	3.8	92	60	36.6
47 87-Y-479	L	7730	15.9	3.3	102	37	39.3
31 S-201	S	7640	19.3	3.9	96	66	37.1
39 87-Y-238	S	7630	19.8	3.8	95	71	38.2
37 87-Y-191	M	7580	18.8	3.5	93	47	39.4
34 S-101	S	7570	15.1	3.9	88	66	36.7
58 Calmochi-101	S	7160	16.0	3.4	89	54	36.1
59 M-101	M	7120	16.3	3.6	87	61	38.3
50 87-Y-50	L	7100	16.4	2.9	98	64	44.2
53 87-Y-417	M	7010	17.5	3.6	90	65	36.3
35 M-203	M	6650	18.7	3.7	93	75	39.1
Mean		7900	17.7	3.5	95	42	37.5
CV		9.4	7.9	8.9	1.6	37.5	5.4
LSD (.05)		510	1.0	0.2	1.22	11	1.4

<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 = 99% lodged.

<sup>4</sup>Does not include Yuba County.

Table 16. Grain yield summary of the early experimental lines and varieties by location and year.

County Location	Year	Varieties				M-203 (86-Y-35)
		S-201	M-201	L-202	M-202	
Butte	1984	9150	10470	10020	880	
	1985	8590	8400	7920	9280	
	1986	10490	10390	10130	10270	8690
	1987	9590	8640	9760	9720	8330
	1988	9830	10740	9980	9350	7990
Location Mean		9530	9730	9560	9480	8340
Colusa/Glenn	1984	7650	9950	8770	9110	
	1985	10450	10680	9580	10890	
	1986	8460	8430	7900	9530	7500
	1987	11080	7320	9980	10880	9510
	1988	6990	9710	8860	8190	6130
Location Mean		8930	9220	9020	9720	7710
Yolo	1984	8610	9090	8470	8630	
	1985	9540	10060	10080	10070	
	1986	9690	9120	9600	10150	8440
	1987	10820	11220	10530	12050	9980
	1988	8300	8140	8830	7990	7190
Location Mean		9390	9520	9500	9780	8540
Yuba	1984	7870	8900	9720	9190	
	1985	8640	8730	6900	9240	
	1986	9710	8960	6800	10100	9940
	1987	6850	4360	7760	7140	5870
	1988	8170	9490	9120	8480	6490
Location Mean		8250	8080	8060	8830	7430
Location-years mean		9020	9140	9040	9450	8000
Yield % M-201		99	100	99	103	90
Number of tests		20	20	20	20	12

Table 17. Performance summary of the intermediate and late rice experimental lines and varieties.  
Butte County, 1988.

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)
66 87-Y-488	M	10410	20.5	4.8	104	1	38.6
72 87-Y-530	M	10360	24.4	4.8	109	1	38.6
80 86-Y-570	M	10200	23.8	4.8	110	1	41.2
68 86-Y-516	S	10200	21.9	4.7	104	1	38.9
75 86-Y-525	M	10200	24.8	4.8	110	1	40.1
69 86-Y-502	S	9920	23.2	4.8	106	2	38.3
73 87-Y-2121	S	9880	19.9	4.7	100	1	36.3
79 86-Y-564	M	9660	25.5	4.8	109	1	40.0
82 87-Y-4012	L	9640	19.6	4.7	99	1	32.4
67 87-Y-511	M	9550	25.9	4.9	118	1	40.2
83 A-301	L	9520	18.1	4.6	102	1	33.5
65 87-Y-243	M	9490	19.6	5.0	97	20	36.8
78 86-Y-560	M	9450	21.3	4.8	104	5	39.0
62 M-302	M	9400	22.0	4.8	105	1	39.1
77 86-Y-558	M	9400	22.4	4.8	104	1	40.2
70 86-Y-519	S	9370	20.4	4.8	107	1	39.3
63 M-401	M	9330	27.5	5.0	115	1	41.0
81 87-Y-553	L	9160	15.6	4.8	92	16	36.8
64 87-Y-2271	M	9110	21.3	4.9	109	1	40.3
76 87-Y-242	S	9080	17.9	4.8	95	4	34.5
84 87-Y-3988	L	8960	16.8	4.4	101	1	34.7
74 86-Y-495	S	8880	18.3	4.9	98	3	36.4
61 M-7	M	8780	25.8	4.9	118	1	39.5
71 86-Y-497	M	8730	21.3	4.9	102	1	35.6
Mean		9530	21.6	4.8	105	96	38.0
CV		3.5	5.3	1.7	1.4	3.8	3.8
LSD (.05)		470	1.6	0.1	2	5	2.1

Location: Rice Experiment Station, Biggs

Planting date: May 9, 1989

<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 18. Performance summary of the intermediate and late rice experimental lines and varieties.  
Colusa County, 1988.

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 <sup>1</sup>	Lodging <sup>3</sup> (1-99)	Plant Height (inches)
70 86-Y-519	S	7190	17.9	2.6	124	26	45.0
61 M-7	M	6760	20.0	2.4	136	1	44.0
69 86-Y-502	S	6740	17.6	2.5	118	76	43.1
82 87-Y-4012	L	6620	16.4	2.1	129	2	38.6
75 86-Y-525	M	6560	16.3	2.3	132	60	42.4
79 86-Y-564	M	6310	16.8	2.0	127	66	44.9
72 87-Y-530	M	6280	17.0	2.5	128	63	46.1
63 M-401	M	6270	19.0	2.6	130	4	42.5
80 86-Y-570	M	6240	18.0	2.1	130	38	44.0
68 86-Y-516	S	6230	17.6	2.5	117	50	39.8
67 87-Y-511	M	6180	20.8	2.8	137	3	45.5
64 87-Y-2271	M	6070	15.6	2.8	129	44	50.9
83 A-301	L	5890	16.2	1.5	129	2	40.0
66 87-Y-488	M	5820	15.9	2.4	118	48	40.1
77 86-Y-558	M	5560	16.5	2.4	117	86	42.8
84 87-Y-3988	L	5420	14.4	2.4	118	81	38.2
78 86-Y-560	M	5300	16.1	2.8	115	83	40.9
62 M-302	M	5220	16.0	2.6	116	83	42.2
71 86-Y-497	M	5200	15.6	2.7	116	84	39.8
76 87-Y-242	S	5160	17.4	2.9	103	64	38.6
74 86-Y-495	S	4540	16.7	2.9	106	81	39.9
81 87-Y-553	L	4250	16.2	1.9	122	80	40.5
73 87-Y-2121	S	4110	22.3	2.8	107	97	38.2
65 87-Y-243	M	4080	17.3	3.0	104	96	37.5
Mean		5750	17.2	2.5	121	55	41.9
CV		10.8	6.8	14.9	2.7	19.2	6.3
LSD (.05)		880	1.7	0.5	5	15	3.7

Location: Delevan

Planting date: April 26, 1988

<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 19. Performance summary of the intermediate and late rice experimental lines and varieties. Sutter County, 1988.

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)
72 87-Y-530	M	8530	15.6	3.5	111	1	44.8
66 87-Y-488	M	8410	15.1	3.8	108	1	44.1
79 86-Y-564	M	8390	15.3	3.3	111	1	47.4
75 86-Y-525	M	8270	16.5	4.0	115	1	48.9
80 86-Y-570	M	8140	16.1	3.0	112	1	45.3
67 87-Y-511	M	8100	16.9	3.8	117	1	45.9
70 86-Y-519	S	8060	17.6	3.8	111	1	47.5
68 86-Y-516	S	7680	17.2	3.0	105	1	46.5
63 M-401	M	7560	16.4	4.5	117	1	42.3
61 M-7	M	7540	17.9	4.0	120	1	47.9
69 86-Y-502	S	7420	17.2	4.0	107	1	44.9
73 87-Y-2121	S	7210	16.1	3.8	97	1	39.8
62 M-302	M	6970	15.3	3.3	107	1	44.3
78 86-Y-560	M	6960	14.8	3.8	104	1	44.7
77 86-Y-558	M	6800	14.1	3.3	107	1	46.8
65 87-Y-243	M	6740	14.0	4.5	93	1	41.5
82 87-Y-4012	L	6740	15.4	1.8	104	1	43.4
64 87-Y-2271	M	6700	12.9	3.8	113	1	45.3
74 86-Y-495	S	6460	15.4	4.3	94	1	40.3
84 87-Y-3988	L	6420	14.0	2.8	102	1	41.0
71 86-Y-497	M	6350	14.9	3.3	105	1	43.2
76 87-Y-242	S	6240	15.3	3.5	93	1	37.4
83 A-301	L	6050	15.1	1.5	103	1	41.2
81 87-Y-553	L	5790	15.4	2.5	97	11	40.5
Mean		7230	15.6	3.4	106	1	44.0
CV		7.1	4.5	14.5	0.7	160.4	5.7
LSD (.05)		720	1.0	0.7	1	3	3.5

Location. Sutter

Planting date: May 5, 1988

<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 20. 1988 intermediate and late variety trial, three location summary (Butte, Colusa, and Sutter counties).

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)
72 87-Y-530	M	8390	19.0	3.6	116	22	43.1
75 86-Y-525	M	8340	19.2	3.7	119	21	43.8
66 87-Y-488	M	3210	17.2	3.7	110	17	40.9
70 86-Y-519	S	8210	18.7	3.7	114	9	43.9
80 86-Y-570	M	8190	19.3	3.3	117	13	43.5
79 86-Y-564	M	8120	19.2	3.3	116	23	44.1
68 86-Y-516	S	8040	18.9	3.4	109	17	41.7
69 86-Y-502	S	8030	19.3	3.8	111	26	42.1
67 87-Y-511	M	7950	21.2	3.8	124	2	43.8
63 M-401	M	7720	21.0	4.0	121	2	42.0
61 M-7	M	7690	21.2	3.8	125	1	43.8
82 87-Y-4012	L	7670	17.1	2.9	111	1	38.1
64 87-Y-2271	M	7290	16.6	3.8	117	15	45.5
77 86-Y-558	M	7250	17.7	3.5	109	29	43.3
78 86-Y-560	M	7240	17.4	3.8	108	29	41.5
62 M-302	M	7200	17.7	3.6	109	28	41.9
83 A-301	L	7150	16.5	2.5	111	1	38.2
73 87-Y-2121	S	7060	19.4	3.8	101	33	38.1
84 87-Y-3988	L	6930	15.1	3.2	107	28	38.0
76 1Y-Y-242	S	6820	16.9	3.7	97	23	36.8
65 87-Y-243	M	6770	17.0	4.2	98	39	38.6
71 86-Y-497	M	6760	17.3	3.6	107	29	39.5
74 86-Y-495	S	6630	16.8	4.0	99	28	38.8
81 87-Y-553	L	6400	15.7	3.0	104	36	39.3
Mean		7500	18.1	3.6	111	20	41.3
CV		6.7	5.7	10.1	1.9	33.4	5.5
LSD (.05)		400	0.8	0.3	2	5	1.8

<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 21. Grain yield summary of the intermediate and late experimental lines and varieties by location and years.

County Location	Year	Varieties			
		M-7	M-302	M-401	A-301 (83-Y-414)
Butte	1984	8320	8810	6360	9800
	1985	9540	10640	10720	8940
	1986	9230	9380	10040	9520
	1987	9210	9230	9890	3410
	1988	8780	9400	9330	9520
Location Mean		9020	9490	9270	8240
Glenn/Colusa	1984	8010	7940	9380	5060
	1985	7370	7150	8620	4170
	1986	--	--	--	--
	1987	6570	6960	8690	6390
	1988	6760	5220	6270	5890
Location Mean		7180	6820	8240	5380
Sutter	1984	8110	8640	8070	9760
	1985	9940	10980	9650	8940
	1986	6980	7060	8340	5110
	1987	7230	7700	8070	7640
	1988	7540	6970	7560	6050
Location Mean		7960	8270	8340	7500
Location-years mean		8110	8290	8640	7160
Yield % M-7		100	102	107	88
Number of tests		14	14	14	14

Table 22. Performance summary of the short and medium grain rice experimental lines and varieties.  
Butte County, 1988.

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)
774 87-Y-2915	L	10650	17.5	4.7	88	1	34.7
775 87-Y-2926	L	10060	17.1	4.7	88	1	31.6
773 87-Y-2914	L	9750	17.7	4.7	88	27	36.7
752 M-102	M	9700	18.3	4.8	86	5	36.6
771 87-Y-2930	L	9620	15.7	4.8	87	8	37.0
751 S-201	S	9510	19.9	4.9	94	3	35.9
769 87-Y-332	M	9500	21.3	4.9	97	1	35.5
763 87-Y-167	M	9400	18.5	4.8	86	41	37.3
767 87-Y-279	M	9390	19.5	4.8	90	8	34.7
753 M-202	M	9310	18.3	4.9	87	14	35.9
768 87-Y-288	M	9250	17.6	4.9	88	13	36.1
760 87-Y-19	S	9240	19.3	4.5	85	28	35.9
759 87-Y-259	S	9150	18.2	4.7	89	39	36.5
765 87-Y-247	S	9140	19.0	4.9	91	11	35.9
770 87-Y-343	M	9120	21.9	4.8	98	1	37.8
764 87-Y-180	M	9100	14.4	4.8	81	12	34.9
754 S-101	S	9090	15.5	4.9	85	13	33.8
772 87-Y-3360	L	9090	17.1	4.6	91	3	35.6
757 Calmochi-101	S	9080	15.1	4.7	80	14	35.9
761 86-Y-215	M	8840	19.2	4.7	89	8	36.4
755 87-Y-9	M	8830	16.4	4.7	81	10	35.2
766 87-Y-252	S	8640	17.8	4.8	86	65	38.1
758 87-Y-119	S	8620	17.0	4.4	85	33	35.8
756 87-Y-118	S	8600	16.0	4.7	80	18	35.0
762 87-Y-105	S	8520	15.9	4.8	82	17	36.3
Mean		9250	17.8	4.8	87	16	37.8
CV		5.3	10.0	2.3	2.6	91.1	3
LSD (.05)		690	2.5	0.2	3	20	3

Location: Rice Experiment Station, Biggs

Planting date: Two replications planted May 6; two replications planted May 25.

<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 23. Performance summary of the short and medium grain rice experimental lines and varieties.  
Colusa County, 1988.

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)
753 M-202	M	8640	17.7	3.9	91	1	40.3
763 87-Y-167	M	8630	18.1	3.6	90	1	39.1
766 87-Y-252	S	8560	17.1	3.6	93	1	39.0
760 87-Y-19	S	8430	21.0	2.5	92	1	39.3
774 87-Y-2915	L	8400	17.0	3.7	95	1	38.8
754 S-101	S	8340	14.1	3.5	87	1	35.0
768 87-Y-288	M	8320	17.2	3.8	93	1	39.2
765 87-Y-247	S	8310	18.9	3.8	94	1	38.8
755 87-Y-9	M	8290	15.8	3.5	87	2	38.1
762 87-Y-105	S	8190	15.3	4.0	87	1	38.4
773 87-Y-2914	L	7990	16.5	3.8	91	43	41.2
771 87-Y-2930	L	7980	16.9	3.3	100	1	43.8
769 87-Y-332	M	7870	18.7	4.0	99	1	38.0
752 M-102	M	7820	16.6	3.8	91	1	39.0
751 S-201	S	7770	19.1	3.9	96	1	37.1
775 87-Y-2926	L	7750	16.9	3.2	104	1	35.8
780 Valencia 870	M	7700	13.8	3.5	93	1	37.8
778 M-2010	M	7700	18.8	3.1	96	1	37.1
776 M-2030	M	7670	19.8	3.6	94	33	39.6
767 87-Y-279	M	7650	18.5	3.6	94	1	36.8
759 87-Y-259	S	7620	19.3	3.6	92	2	37.7
761 86-Y-215	M	7610	18.1	3.5	90	1	38.5
757 Calmochi-101	S	7590	14.9	3.7	87	1	38.5
758 87-Y-119	S	7510	18.5	3.3	91	28	37.6
777 L-2020	L	7490	19.8	2.7	107	1	37.0
764 87-Y-180	M	7430	15.4	3.7	88	1	37.4
779 M-1010	M	7430	15.1	3.9	84	1	38.8
756 87-Y-118	S	7230	15.4	3.5	88	2	40.3
772 87-Y-3360	L	7170	18.9	2.5	106	1	36.5
770 87-Y-343	M	6860	19.4	3.5	103	1	40.5
Mean		7870	17.4	3.5	93	4	38.5
CV		6.0	4.9	9.7	1.7	222.5	4.3
LSD (.05)		660	1.2	0.5	2	14	2.3

Location: Grimes

Planting date: May 1, 1988

<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 24. 1988 special short and medium grain trial, two location summary (Butte and Colusa counties).

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)
774 87-Y-2915	L	9520	17.2	4.2	91	1	36.8
763 87-Y-167	M	9010	18.3	4.2	88	21	38.2
753 M-202	M	8980	18.0	4.4	89	8	38.1
775 87-Y-2926	L	8900	17.0	3.9	96	1	33.7
773 87-Y-2914	L	8870	17.1	4.2	89	35	39.0
760 87-Y-19	W	8830	20.1	3.5	89	14	37.6
771 87-Y-2930	L	8800	16.3	4.1	93	5	40.4
768 87-Y-288	M	8790	17.4	4.4	90	7	37.7
752 M-102	M	8760	17.5	4.3	88	3	37.8
765 87-Y-247	S	8720	19.0	4.3	93	6	37.3
754 S-101	S	8720	14.8	4.2	86	7	34.4
769 87-Y-332	M	8680	20.0	4.4	98	1	36.8
751 S-201	S	8640	19.5	4.4	95	2	36.5
766 87-Y-252	S	8600	17.4	4.2	90	33	38.5
755 87-Y-9	M	8560	16.1	4.1	84	6	36.7
767 87-Y-279	M	8520	19.0	4.2	92	5	35.8
759 87-Y-259	S	8380	18.8	4.1	90	20	37.1
762 87-Y-105	S	8350	15.6	4.4	85	9	37.3
757 Calmochi-101	S	8340	15.0	4.2	84	8	37.2
764 87-Y-180	M	8260	14.9	4.2	84	7	36.2
761 86-Y-215	M	8220	18.6	4.1	90	5	37.5
772 87-Y-3360	L	8130	18.0	3.5	99	2	36.1
758 87-Y-119	S	8070	17.7	3.9	88	30	36.7
770 87-Y-343	M	7990	20.6	4.2	101	1	39.2
756 87-Y-118	S	7910	15.7	4.1	84	10	37.7
Mean		8580	17.6	4.1	90	10	37.2
CV		5.5	7.9	5.5	2.2	118.4	4.1
LSD (.05)		470	1.4	0.2	2	11	1.5

<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.