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CALIFORNIA RICE VARIETIES
DESCRIPTION AND PERFORMANCE SUMMARY
OF THE 1987 AND MULTIYEAR STATEWIDE
RICE VARIETY TESTS IN CALIFORNIA

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Rough and milled A-301, the first aromatic or scented rice adapted to California's rice climate. Although a specialty market class, expected to be produced on limited acreage, A-301 represents one of several market niches being filled by the CCRRFI rice breeders.

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Introduction

University of California rice cultivar evaluation trials are 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 varieties 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 1987 regional rice variety testing program. The names and a brief description of the current publicly developed varieties are listed in Table 1.

General Summary of the 1987 Season

Approximately 380,000 acres of rice were planted in California in 1987. Most of the acreage was planted to the varieties M-201, M-202 and S-201 followed by L-202 and M-401 and various public and proprietary varieties. The public varieties M-102 and A-301 were introduced in a seed production program on small acreages.

Early planting weather from April 20 to May 15 was ideal. With the exception of a brief cool period from April 30-May 2, temperatures exceeded requirements for normal rice growth and stands were uniformly good. A cold period from May 15 to June 1 negatively affected later plantings with slow and staggered stand establishment.

The single most important weather factor for the 1987 season, however, was a period of cool night temperatures in the latter half of July. Temperatures of 48-55°F were recorded throughout the Sacramento and upper San Joaquin Valleys. Much acreage was in the sensitive stage of pollen meiosis (approximately two weeks before flowering) and was affected by cold temperature induced floret sterility. Blanking, normally about 12%, reached well above 50% in some fields. The severity of crop response depended mostly on the growth stage of a given field when night temperatures fell below 55°F. Fields and trials managed with higher water levels to modify the microenvironment near the developing panicle escaped some injury but still showed greater than normal sterility levels. The statewide yields were estimated by the California Crop and Livestock Reporting Service at 7,100 lbs/A, down 500-600 lbs/A from recent record years.

Experimental Procedure for the 1987 Regional Rice Variety Tests

Thirteen uniform rice variety tests were conducted in ten locations from Butte to Fresno County. Twenty-four to 29 entries, including commercially grown "standards" and experimental lines, were planted in one of three maturity groups. Three tests, one from each maturity group, plus a 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, using the cultural practices of the cooperative grower, thus obtaining agronomic performance under a wide range of production practices and environments. The maturity groups and locations were as follows:

Very Early Maturity Group. Three uniform uniform tests were conducted at [1] the Rice Experiment Station, (Butte County), [2] the Paulas Ranch (San Joaquin County), and [3] the Lauppe Ranch (Natomas, Sutter County). Twenty-one experimental lines and 7 commercially available varieties 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 Wylie Ranch (Glenn County), [4] William Geer and Son (Yolo county), and [5] the Mohammed

Ranch (Yuba County). Twenty experimental lines and 8 commercially available varieties were included.

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 [3] the Shannon Ranch (Sutter County). Twenty experimental lines and 4 commercially available varieties were included.

Short- and Medium-Grain Group. Two uniform tests were conducted at [1] the Rice Experiment Station (Butte County) and [2] the Erdman Ranch (Colusa County). Twenty-one experimental lines and 4 commercially available varieties were included.

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 21-28 days after planting based on plant health, height, and stand at crop emergence (through the water). Days to 50% heading was measured when 50% of the heads were free from the boot. Plant height was measured at harvest at 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, which is more highly correlated with grain yield.

County trials were harvested with a SWECO 324 combine and on-station tests were harvested with an Allis-Chalmers combine; both modified for small plots. A 7.5 x 20 ft swath was harvested in the off-station test, and a 10 x 15 ft swath was harvested at Biggs; both had a harvest area of .0034 A. Grain was subsampled for moisture determination at harvest and grain yield was adjusted to 14% moisture.

Agronomy Performance Summary of 1987 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 a multiyear, multilocation grain yield summary. Only the yields of commercial varieties or very advanced experimental cultivars are summarized in the multiyear, multilocation tables. Comparative yield in the latter is expressed as the percentage of a standard variety based only on equivalent location and year means.

The short- and medium-grain tests are reported by location followed only by an over-location summary. Multiyear, multilocation yield summaries are not reported for the short- and medium-grain tests.

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

The 1987 very early maturity tests were conducted at the three locations described previously. Varietal standards at all locations included M-101, M-102, M-201, M-202 and Calmochi-101. Ten experimental cultivars were new in the 1987 off-station trials, and 11 had been tested previously. Grain types, of the experimentals, included 8 short grain, 8 medium grain, and 5 long grain.

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 highest yielding entries appearing first.

Yields in Butte County averaged about 1,200 lbs/A more than in the Sutter or San Joaquin trials. The two highest yielding entries in the over-location summary, 86-Y-126 and 84-Y-149-E-C-15, had yields over 10,000 lbs/A. Calmochi-101 and M-102 were the highest ranked commercial varieties in the over-location test, both with yields over 9,700 lbs/A. In Sutter County, M-102 and M-201 were the highest ranked varieties; in the other counties, Calmochi-101 and M-102 were the highest varieties. Grain moisture at harvest was highest in the San Joaquin trial at almost 22%; Sutter was lowest, and somewhat dry, at 16%. In most cases, the long-grain types were 2 to 3% drier than the other cultivars.

Seedling vigor was high in Butte and San Joaquin Counties (4.9, 4.8), but low in Sutter County (3.2), reflecting a difference in local weather conditions and planting dates. The long-grain cultivars tended towards lower seedling vigor, which in part may have reduced long-grain yields. Heading date over all locations and entries averaged 97 days after planting (DAP). Calmochi-101 and M-101 were the earliest varieties to head, at 93 and 94 DAP, respectively; four experimental cultivars also headed with 93-94 DAP. Heading was very late in the San Joaquin trial, at an average of 107 DAP for all entries.

M-102 was the tallest entry at 34 inches, and an experimental line, 85-Y-354, was the shortest entry, at 27 inches. There was little lodging in either Butte or San Joaquin Counties, with the exception of M-101 in Butte County (23%). In Sutter County, minor lodging was exhibited in many of the experimental lines, but this did not exceed 21%; in Sutter, M-101 had a lodging index of 35%.

Table 7 gives a summary for the two off-station locations where three additional cultivars were tested. These proprietary cultivars were Valencia 87 and PS 1029, ranked 24 and 28, respectively, as an average of the San Joaquin and Sutter tests.

Table 8 shows the over-year and location yields for the very early varieties and two advanced experimental lines. 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 expressed as a percent of the standard, M-101. 84-Y-149, released conditionally in 1986 as M-102, had a yield of 117% of M-101 when compared in eight tests. M-202 and Calmochi-101 both produced yields 113% of M-101 when compared in 13 tests.

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

The 1987 early maturity tests were conducted in the five locations previously described. Twenty experimental lines and six commercial standards (S-201, M-101, M-102, M-201, M-202, and L-202) were included at the Rice Experiment Station. At all other locations, Calmochi-101 and Valencia 87 were also included. Thirteen experimental cultivars were new in the 1987 off-station trials, and 7 had been previously tested. Grain types, of the experimentals, included 5 short grain, 7 medium grain, 7 long grain, and a waxy type.

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

The mean yields of all entries at each location, were ranked, Yolo > Glenn > Butte > Fresno > Yuba. The top yielding cultivars in the over-location summary, 86-Y-329, at 10,010 lbs/A was in the highest five in all trials except Yolo, where it ranked 17th. The next highest yielding cultivar, 86-Y-267 was in the top ten of the Butte, Glenn, and Yuba trials, but ranked 11th and 14th in Fresno and Yolo, respectively. The highest ranked commercial variety, M-102, was in

the top ten entries in all tests, with an overall yield of 9,800 lbs/A. The Yolo County trial was unusual: yields were about 1,000 lbs/A greater than any other test, and the entries were ranked very differently with respect to yield. Grain moisture was about 16% in the Yolo, Butte and Glenn trials, 19% in the Fresno trial, and 23% in the Yuba trial. Again, the long-grain entries were the driest at harvest.

Seedling vigor was lowest in Yuba County at 3.7, and highest in Butte County at 4.9; at other locations seedling vigor was about 4.1. In the overall summary, M-101, M-202 and M-102 were the highest ranked varieties. 86-Y-474 had the lowest seedling vigor averaged over all tests. Heading date over all locations and entries was 99 days after planting (DAP). Average heading date was lowest in Yolo at 94 days and highest in Fresno at 106 days; Biggs had an average heading date of 96 DAP. In the overall comparison, M-202 and L-202 headed at 99 DAP, and most of the top yielding cultivars heading at 100-102 DAP.

Overall height was about 34 inches, with the highest yielding cultivar 86-Y-329 being one of the tallest varieties at 36.4 inches. Lodging was minor in the Butte, Yuba and Fresno trials, but significant in the Glenn and Yolo trials. All of the top five yielding cultivars appeared to have good lodging resistance.

Table 15 summarizes the agronomic performance of nine commercial (or near commercial, 85-Y-136) varieties in the four off-station locations where Calmochi-101 and Valencia 87 were included. The rankings were similar for the entries common to the five location averages excepting that S-201 and M-101 were reversed. Calmochi-101 yielded highest of all commercial varieties in the off-station tests at 10,330 lbs/A. Valencia 87 yielded 8,680 lbs/A. M-201 yields were unusually low reflecting the sensitivity of this variety to cold induced sterility, a characteristic of the cool 1987 season.

Table 16 shows over-location and year yields for early varieties and the advanced experimental line, 86-Y-35. M-201 was used as a standard to compare common year-location summaries. M-202, in 20 tests, yielded 7% better than M-201; S-201, L-202, and 86-Y-35 all had yields equivalent to M-201.

Summary of the Intermediate and Late Rice Variety Trials (>105 days to 50% heading at Biggs, CA)

The 1987 late maturity tests were conducted at the three locations described previously and included 20 experimental cultivars as well as M-401, M-302, A-301, and M-7 as the commercial standards. Sixteen experimental cultivars were new in the 1987 off-station tests and 4 had been tested previously. Grain types of the experimentals included 12 short grain, 7 medium grain and 1 long grain.

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

The average yields by county were ranked Butte > Sutter > Colusa. Yields in the over-location summary ranged from a high of 9,090 lbs/A for the experimental line 86-Y-564, a medium grain, to a low of 5,810 lbs/A for A-301, a long grain. The top four yielding cultivars, which included M-401, were the same in the Butte, Colusa and the over-location summary, although their order changed somewhat. In Sutter, the entries which were top-ranked in the over-location summary, were ranked 7th, 1st, 14th, and 17th. Grain moisture in all trials averaged about 18.3%, with M-401 slightly higher at 20%.

Seedling vigor for the short- and medium-grain entries ranged from 4.1 to 4.5 in the over-

location summary; the long-grain varieties showed poorer seedling vigor of 3.3 to 3.8. Average seedling vigor was 5.0, 4.3, and 3.6 for Butte, Colusa, and Sutter, respectively. Average 50% heading at Biggs was 111 days after planting (DAP), and about a week less than that the other locations. M-401 headed at 112 DAP in Biggs and at about 106 DAP at the other locations.

Average height across all varieties and locations was 35.4 inches. Lodging was not significant in any of the trials.

Table 21 compares several late maturing commercial varieties and an advanced experimental line, 83-Y-414, in over-location tests from 1983 to 1987. M-7 was used as the standard. M-401 yielded 9% higher than M-401, whereas 83-Y-414 yielded 14% lower.

Summary of the Short- and Medium-Grain Special Test

Special short and medium tests were conducted for rapidly identifying superior lines to be advanced into statewide yield trials. These were conducted at the two previously described locations. Six short grain, 14 medium grain, and a waxy type were compared to the commercial varieties M-101, M-102, M-202 and Calmochi-101.

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

In the over-location summary, 86-Y-135, a short grain, had the highest yield at 10,100 lbs/A compared to the highest ranked commercial varieties M-202 at 10,030 lbs/A. Grain moisture at both trials was low, for an overall average of 15%.

Seedling vigor was high, averaging 4.6 for both trials. Days to 50% heading were relatively low at 91 days after planting (DAP). The highest yielding entry, 86-Y-135, reached 50% heading at 84 DAP, at both locations. M-202 and Calmochi-101 reached 50% heading at 91 and 85 DAP, respectively. There was no significant lodging in the Butte trial, although several entries showed significant lodging in the Colusa trial.

Table 1. Characteristics of publicly-developed rice varieties, 1987.

GRAIN TYPE	MATURITY	SEED WIDELY AVAILABLE	COMMENTS
Short Grain -----			
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.
Medium Grain -----			
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 5 days later than M-101, 2 days earlier than M-202; matures mid-way between M-101 and M-201, very high yield potential, excellent seedling vigor, good resistance to blanking, has more resistance to stem rot and to lodging than M-101 or M-202. Has more variable maturity within panicles than M-101 or M-202. Foundation and registered seed available in 1987.
M-201	Early	1984	Very high yield potential; 2-3 inches shorter than M9 with excellent resistance to lodging and more responsive to nitrogen. Threshes very easily so reduce reel and cylinder speed to minimize shatter and enhance head rice. Has replaced M9 in warmer rice growing areas; best resistance to stem rot but susceptible to aggregate sheath spot.
M-202	Early	1987	Very high yield potential; replaced M9 in cooler rice growing areas where M-201 is not well adapted and for general use; three days earlier, ripens more uniformly and more resistant to blanking than M-201; lodging intermediate between M-201 and M9; threshes easily but does not shatter; not as resistant to stem rot as M-201 or M-102.
M-401	Late	1983	Is a <u>premium quality</u> rice with high yield potential. Has large bold seeds; is more sensitive to blanking, lodging and damage from early drainage than M7; therefore use somewhat less N than on other varieties.
Long Grain -----			
L-202	Early	1986	Good yield potential in warmer areas; not adapted to colder area; shortest of current varieties; excellent resistance to lodging and appears to be highly responsive to nitrogen. Seedling vigor fair; requires careful water management. 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 20%.
Specialty Rices* -----			
Calmochi-101	Very Early	1987	A sweet rice 15 days earlier than Calmochi-202; has desirable larger seed and improved cooking quality; excellent resistance to low temperature blanking; has rough leaves and hulls; no awns.
Calmochi-202	Early	1983	A sweet rice similar to S-201 in growth characteristics but two days later. Has smaller seeds. Yields about 8% less than S-201.
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 20-22% and air drying without heat to retain maximum aroma. A-301 has excellent straw strength. Foundation seed available in 1987.

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.

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

Table 2. Comparison of daily temperature patterns between Butte and Sutter Counties, 1987.

Month	Butte		Sutter		Month	Butte		Sutter	
	Max	Min	Max	Min		Max	Min	Max	Min
<u>April</u>					<u>May</u>				
					1	71	49	69	47
					2	75	44	74	43
					3	88	53	88	46
					4	92	52	91	52
					5	95	61	97	54
					6	100	63	95	57
					7	100	70	99	63
					8	92	61	91	62
					9	85	50	92	62
					10	74	53	92	61
					11	102	68	98	58
					12	98	63	97	58
					13	99	70	93	64
					14	100	70	98	59
15	88	48	90	44	15	83	50	92	61
16	87	47	89	43	16	81	63	78	55
17	75	43	78	47	17	79	54	55	52
18	66	44	66	43	18	79	54	73	51
19	70	40	70	40	19	79	54	76	52
20	82	43	83	40	20	81	55	77	54
21	90	46	87	45	21	76	52	75	51
22	85	46	85	44	22	83	50	83	49
23	79	51	77	50	23	82	57	79	52
24	86	42	84	39	24	73	50	69	50
25	90	48	89	43	25	72	52	71	50
26	95	52	94	48	26	71	53	71	52
27	95	52	92	52	27	79	55	76	52
28	81	60	78	56	28	82	54	81	58
29	81	52	79	50	29	79	55	76	52
30	69	54	67	52	30	81	54	80	51
					31			81	56

Table 2. Comparison of daily temperature patterns (cont'd)

Month	Butte		Sutter		Month	Butte		Sutter	
	Max	Min	Max	Min		Max	Min	Max	Min
<u>June</u>					<u>July</u>				
1	91	52	92	54	1	82	58	78	54
2	100	57	100	54	2	91	57	86	53
3	97	64	94	62	3	85	56	83	54
4	90	61	85	57	4	86	55	85	52
5	85	56	84	55	5	88	60	87	56
6	82	55	84	51	6	98	62	95	54
7	91	65			7	100	65	100	57
8	95	63	92	59	8	100	65	94	62
9	95	63	90	57	9	100	67	93	60
10	99	64	92	56	10	89	63	84	59
11	97	61	92	57	11	88	60	85	56
12	100	64	98	57	12	90	61	88	59
13	104	62	92	59	13	97	64	93	60
14	81	59	77	56	14	103	70	97	62
15	77	57	77	55	15	96	68	93	60
16	82	57	80	54	16	86	63	81	58
17	81	54	79	52	17	70	57	76	51
18	90	55	87	49	18	78	57	77	53
19	90	57	87	54	19	84	52	83	49
20	84	55	86	53	20	87	56	83	53
21	86	58	84	57	21	74	58	74	53
22	93	59	90	50	22	85	54	82	48
23	97	61	95	55	23	85	58	85	58
24	102	66	99	55	24	89	57	86	54
25	106	68	103	64	25	90	58	87	56
26	102	68	97	62	26	89	56	87	54
27	95	66	88	59	27	91	55	89	54
28	85	59	85	57	28	90	57	89	54
29	90	59	86	55	29	88	57	86	56
30	88	59	82	55	30	90	55	88	54

Table 2. Comparison of daily temperature patterns (cont'd)

Month	Butte		Sutter		Month	Butte		Sutter	
	Max	Min	Max	Min		Max	Min	Max	Min
<u>August</u>					<u>Sept.</u>				
1	102	61	97	57	1	92	67	92	60
2	107	64	101	58	2	100	67	99	61
3	107	66	101	62	3	97	65	93	61
4	104	65	96	60	4	89	56	86	55
5	105	65	101	59	5	85	56	84	55
6	101	64	95	58	6	80	58	76	57
7	94	62	87	57	7	84	58	83	52
8	96	60	91	56	8	91	61	91	54
9	96	60	93	58	9	93	59	86	57
10	89	61	87	57	10	89	56	88	54
11	94	57	90	55	11	84	56	81	52
12	92	58	85	55	12	79	55	79	50
13	82	58	76	54	13	77	57	74	55
14	74	59	76	56	14	82	54	79	53
15	87	55	83	51	15	86	58	85	50
16	92	58	92	55	16	89	53	89	47
17	98	61	96	57	17	94	52	91	46
18	90	60	84	57	18	93	52	91	48
19	84	59	81	57	19	94	52	93	45
20	85	56	84	56	20	97	51	94	46
21	90	57	87	55	21	105	52	101	50
22	89	58	86	56	22	96	54	92	51
23	87	56	84	54	23	89	54	83	52
24	94	57	89	50	24	80	56	81	52
25	98	60	95	55	25	86	59	83	54
26	95	61	89	57	26	89	54	89	48
27	97	62	94	55	27	93	50	92	47
28	104	62	100	54	28	96	49	94	48
29	108	64	104	59	29	99	53	96	51
30	106	67	105	61	30	101	53	100	52
31	100	65	95	60					

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

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain		Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
			moisture at harvest (%)	Seedling ² vigor (1-5)			
3 84-Y-149-E-C-15	M	11450	18.5	5.0	89	33.1	1
13 86-Y-97	S	11240	18.7	4.8	95	33.0	1
22 85-Y-321	L	11210	17.7	4.8	89	33.1	1
5 84-Y-149-E-C-33	M	11070	17.8	5.0	88	34.8	1
2 84-Y-149-EC6-HR	M	10960	18.0	5.0	88	35.1	1
17 85-Y-130	S	10810	18.0	4.9	95	34.1	1
6 86-Y-171	M	10780	16.6	5.0	87	33.6	5
20 85-Y-296	L	10740	14.8	5.0	92	34.2	1
19 86-Y-126	S	10720	21.3	4.8	92	34.9	1
16 85-Y-98	S	10710	19.4	4.9	91	32.7	1
14 86-Y-109	S	10710	19.7	4.9	89	31.6	1
7 86-Y-296	M	10610	19.5	5.0	92	33.1	1
15 86-Y-235	S	10540	19.7	5.0	93	31.4	1
11 86-Y-11	M	10480	15.6	5.0	89	33.7	1
18 86-Y-124	S	10410	20.4	5.0	95	33.5	1
21 Calmochi-101	W	10350	16.0	4.9	85	32.9	1
8 86-Y-211	M	10290	16.1	5.0	86	34.7	1
4 M-102	M	10230	19.3	5.0	93	35.0	1
9 84-Y-9	M	10210	16.3	5.0	84	32.2	1
25 86-Y-368	L	10070	14.0	4.9	89	32.2	1
12 85-Y-136	S	9990	18.4	4.9	95	32.3	1
24 85-Y-354	L	9920	15.2	5.0	92	28.4	1
13 85-Y-718	L	9730	14.9	4.9	90	30.0	1
10 M-202	M	9510	19.8	5.0	96	34.8	1
1 M-101	M	8980	17.3	5.0	86	33.4	23
26 M-201	M	8740	22.4	5.0	99	32.9	1
Grand Mean		10400	17.9	4.9	91	33.1	2
CV		7.2	6.9	1.6	2.5	4.0	285.3
LSD (.05)		1050	1.7	0.1	3	1.9	8

Location: Conducted by the Rice Experiment Station, Biggs.

Planting date: Two replications planted. May 3, 1987; two replications planted May 22, 1987.

Data is an average of all replications.

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

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

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
19 86-Y-126	W	10400	27.3	4.8	106	30.8	1
21 Calmochi-101	W	10240	18.7	5.0	105	30.6	1
14 86-Y-109	S	10030	24.4	4.8	103	29.7	1
9 84-Y-9	M	9690	21.0	4.8	104	29.8	1
16 85-Y-98	S	9420	23.0	4.8	104	30.7	1
11 86-Y-11	M	9410	19.8	4.8	110	31.9	1
18 86-Y-124	W	9370	25.8	4.3	107	31.4	1
6 86-Y-171	M	9140	20.7	5.0	104	30.2	1
3 84-Y-149-E-C-15	M	9030	23.1	5.0	104	32.5	1
7 86-Y-296	M	9030	24.3	4.9	108	30.2	1
17 85-Y-130	S	8910	22.4	4.8	111	32.0	1
2 84-Y-149-EC6-HR	M	8880	22.5	5.0	104	32.0	1
8 86-Y-211	M	8830	17.4	4.6	105	31.2	1
5 84-Y-149-E-C-33	M	8750	23.0	5.0	105	32.6	1
4 M-102	M	8680	24.0	4.5	105	32.7	1
15 86-Y-235	S	8440	24.3	5.0	113	29.3	2
1 M-101	M	8380	22.4	5.0	104	33.0	1
13 86-Y-97	S	8160	20.3	5.0	108	28.8	1
10 M-202	M	8100	23.9	5.0	111	32.3	1
12 85-Y-136	S	7980	20.2	5.0	109	28.9	1
23 85-Y-718	L	7690	18.5	5.0	105	26.8	1
24 85-Y-354	L	7620	19.9	4.8	110	25.8	5
25 86-Y-368	L	7490	19.2	4.5	108	30.0	1
22 85-Y-321	L	7050	21.1	4.1	109	29.8	1
29 S-2	S	6670	20.7	4.5	117	30.3	1
26 M-201	M	6660	26.1	4.7	110	32.5	1
28 Valencia 87	S	6530	20.6	5.0	111	29.4	1
27 PS1020	M	6300	20.0	5.0	103	34.7	1
20 85-Y-296	L	4900	21.6	5.0	118	31.7	1
Grand Mean		8340	21.9	4.8	107	30.7	1
CV		9.9	5.7	8.0	1.3	5.9	115.5
LSD (.05)		1160	1.8	0.5	2	2.6	NS

Location: Escalon. Planting Date: May 14, 1987.

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective 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.

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ 1-99
4 M-102	M	10190	18.8	3.8	94	34.5	1
13 86-Y-97	S	9850	14.3	3.7	94	31.6	9
26 M-201	M	9760	19.6	3.7	99	34.0	17
12 85-Y-136	S	9700	13.3	3.5	94	32.2	15
3 84-Y-149-E-C-15	M	9620	18.2	3.0	93	34.9	1
15 86-Y-235	S	9370	18.0	2.7	94	33.9	8
8 86-Y-211	M	9360	12.3	3.8	88	31.6	10
19 86-Y-126	W	9320	16.6	3.3	95	34.8	23
10 M-202	M	9270	16.5	3.7	94	34.3	4
17 85-Y-130	W	9180	15.2	2.7	93	35.4	2
7 86-Y-296	M	9160	20.0	2.7	97	37.1	31
5 84-Y-149-E-C-33	M	9020	17.0	3.5	93	34.9	1
9 84-Y-9	M	9000	16.4	3.0	91	32.7	11
2 84-Y-149-EG6-HR	M	8990	17.0	2.8	92	33.9	1
21 Calmochi-101	W	8940	15.1	3.3	88	34.7	28
14 86-Y-109	S	8810	18.0	2.8	92	31.8	32
18 86-Y-124	W	8800	16.9	3.0	96	32.8	32
6 86-Y-171	M	8730	16.4	3.3	92	33.6	47
20 85-Y-296	L	8650	14.3	3.2	98	34.5	1
28 Valencia 87	S	8640	15.0	3.7	95	33.7	1
11 86-Y-11	M	8590	15.3	3.3	93	34.9	2
23 85-Y-718	L	8450	14.7	2.7	94	30.6	1
29 S-2	S	8380	13.3	3.5	95	32.8	1
1 M-101	M	8370	15.4	4.0	90	35.6	75
16 85-Y-98	S	8190	17.6	2.7	93	32.8	42
27 PS1020	M	8170	15.1	4.0	88	34.9	8
22 85-Y-321	L	7980	15.5	2.0	97	34.3	6
24 85-Y-354	L	7770	15.1	2.7	99	27.8	1
25 86-Y-368	L	7220	15.0	2.3	96	33.7	1
Grand Mean		8880	16.1	3.2	94	33.6	14
CV		8.0	7.1	10.3	1.5	4.8	103.0
LSD (.05)		1170	1.9	0.5	2	2.7	24

Location: Natomas. Planting date: May 6, 1987.

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 6. 1987 very early rice variety trial, three-location summary (Butte, San Joaquin, and Sutter Counties).

Entry	Grain ¹ type	Grain			Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
		Grain yield (@14% moisture (lbs/a)	moisture at harvest (%)	Seedling ² vigor (1-5)			
19 86-Y-126	S	10140	21.7	4.3	98	33.6	9
13 84-Y-149-E-C-15	M	10030	19.9	4.4	95	33.5	1
14 86-Y-109	S	9850	20.7	4.2	95	31.0	15
21 Calmochi-101	W	9840	16.6	4.4	93	32.6	8
13 86-Y-97	S	9750	17.8	4.5	99	31.2	5
4 M-102	M	9700	20.7	4.4	98	34.1	1
9 84-Y-9	M	9630	17.9	4.3	93	31.6	5
17 85-Y-130	S	9630	18.5	4.2	100	34.0	2
5 84-Y-149-E-C-33	M	9610	19.3	4.5	95	34.0	1
2 84-Y-149-EC6-HR	M	9610	19.2	4.4	94	33.6	1
7 86-Y-296	M	9600	21.2	4.1	99	33.5	12
6 86-Y-171	M	9550	17.9	4.5	94	32.5	21
18 86-Y-124	S	9530	21.0	4.1	99	32.5	13
8 86-Y-211	M	9490	15.3	4.4	93	32.7	6
11 86-Y-11	M	9490	16.9	4.3	97	33.5	3
15 86-Y-235	S	9450	20.7	4.3	100	31.6	3
16 85-Y-98	S	9440	20.0	4.2	96	32.3	19
12 85-Y-136	S	9220	17.3	4.5	99	31.1	6
10 M-202	M	8960	20.0	4.6	101	33.9	2
22 85-Y-321	L	8750	18.1	3.6	98	32.2	2
23 85-Y-718	L	8620	16.0	4.2	96	28.9	1
1 M-101	M	8570	18.4	4.7	94	33.8	35
24 85-Y-354	L	8440	16.7	4.2	100	27.4	2
26 M-201	M	8390	22.7	4.4	103	33.0	5
25 86-Y-368	L	8260	16.1	3.9	98	31.9	1
20 85-Y-296	L	8100	16.9	4.4	103	33.5	1
Grand Mean		9290	18.7	4.3	97	32.4	7
CV		7.4	6.1	6.7	1.8	4.8	38.3
LSD (.05)		560	0.9	0.2	1	1.3	8

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 7. 1987 very early rice variety trial, two location summary (San Joaquin and Sutter Counties).

Entry	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain		Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
			moisture at harvest (%)	moisture at harvest (%)				
19 86-Y-126	S	9860	21.9	21.9	4.0	100	32.9	13
21 Calmochi-101	S	9590	16.9	16.9	4.1	97	32.4	11
4 M-102	M	9430	21.4	21.4	4.1	100	33.7	2
14 86-Y-109	S	9420	21.2	21.2	3.8	98	30.8	22
9 84-Y-9	M	9350	18.7	18.7	3.9	97	31.4	8
3 84-Y-149-E-C-15	M	9330	20.7	20.7	4.1	98	33.8	1
7 86-Y-296	M	9100	22.1	22.1	3.7	102	33.7	17
8 86-Y-211	M	9100	14.8	14.8	4.2	96	31.6	8
18 86-Y-124	S	9090	21.3	21.3	3.7	101	32.0	19
17 85-Y-130	S	9040	18.8	18.8	3.8	102	33.9	3
13 86-Y-97	S	9000	17.3	17.3	4.3	101	30.3	7
11 86-Y-11	M	9000	17.5	17.5	4.0	102	33.5	4
2 84-Y-149-EC6-HR	M	8940	19.8	19.8	4.1	98	32.9	1
6 86-Y-171	M	8930	18.5	18.5	4.3	98	31.9	29
15 86-Y-235	S	8910	21.1	21.1	3.9	104	31.7	4
5 84-Y-149-E-C-33	M	8890	20.0	20.0	4.3	99	33.6	1
12 85-Y-136	S	8840	16.8	16.8	4.3	101	30.6	9
16 85-Y-98	S	8810	20.3	20.3	3.8	98	32.2	28
10 M-202	M	8690	20.2	20.2	4.4	103	33.4	3
1 M-101	M	8370	18.9	18.9	4.5	97	34.0	41
26 M-201	M	8210	22.9	22.9	4.1	105	33.0	7
23 85-Y-718	L	8070	16.6	16.6	3.9	100	28.4	1
24 85-Y-354	L	7700	17.5	17.5	3.8	104	26.8	3
28 Valencia 87	S	7590	17.8	17.8	4.3	103	31.5	1
29 S-2	S	7530	17.0	17.0	4.1	106	31.5	1
22 85-Y-321	L	7520	18.3	18.3	3.1	103	31.7	3
25 86-Y-368	L	7360	17.1	17.1	3.4	102	31.7	1
27 PS1020	M	7230	17.6	17.6	4.6	95	34.9	15
20 85-Y-296	L	6780	18.0	18.0	4.1	108	33.2	1
Grand Mean		8610	19.0	19.0	4.0	101	32.2	9
CV		8.3	5.8	5.8	9.1	1.4	5.2	128.2
LSD (.05)		700	1.1	1.1	0.4	1	1.6	11

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

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

County Location	Year	Varieties					
		M-101	M-202	California Belle	Calmochi 101	M-102	85-y-136
Butte	1983	9920	10790	-	10650	-	-
	1984	7180	9690	7970	8950	-	-
	1985	8810	10470	9200	9080	10710	-
	1986	8170	9510	7920	9490	10400	9780
	1987	8980	9510	-	10350	10230	9990
Location mean		8612	9990	8360	9704	10450	9890
Sacramento	1983	9000	11160	8480	9730	-	-
	1984	9600	11520	8750	11130	-	-
	1985	8760	8130	9090	9170	9030	-
	1986	9480	11770	8890	10600	11760	11380
	1987	8370	9270	-	8940	10190	9700
Location mean		9040	10370	8800	9910	10330	10540
San Joaquin	1983	-	-	-	-	-	-
	1984	8070	8460	7280	8880	-	-
	1985	-	-	-	-	-	-
	1986	9630	9670	8610	10950	9220	7300
	1987	8380	8100	-	10240	8680	7980
Location mean		8220	8740	7940	10023	8950	7640
Location-years mean		8730	9850	8470	9860	10030	9350
Yield as % of M-101			113	98	113	117	104
Number of tests		12	13	9	13	8	6

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

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
43 86-Y-329	M	10560	19.0	5.0	98	34.8	1
40 86-Y-269	S	10370	18.7	5.0	99	34.2	1
38 86-Y-267	S	10280	17.5	5.0	101	33.3	1
33 M-102	M	9990	16.9	5.0	92	34.7	1
54 86-Y-54	M	9970	18.7	4.8	98	32.3	1
41 85-Y-207	S	9780	17.5	4.9	100	33.4	1
50 85-35864	L	9770	13.3	4.8	92	37.5	2
44 L-202	L	9760	15.1	4.9	95	28.9	1
37 86-Y-247	W	9750	19.1	4.9	97	33.5	1
29 M-202	M	9720	16.1	5.0	94	34.1	1
53 86-Y-599	L	9690	14.2	5.0	95	31.2	1
39 85-Y-287	M	9690	16.8	4.9	95	34.3	1
49 86-Y-474	L	9660	13.9	4.9	92	31.4	1
47 86-Y-435	L	9650	12.9	4.8	95	30.1	1
51 86-Y-754	M	9650	17.5	4.9	94	33.7	1
31 S-201	S	9590	20.1	5.0	103	33.0	1
36 83-Y-254	S	9510	18.0	5.0	101	31.4	1
52 86-Y-763	M	9390	16.9	5.0	98	33.6	1
46 86-Y-715	L	9230	14.1	4.9	93	33.0	1
48 86-Y-468	L	8890	13.3	4.8	94	30.3	1
45 85-Y-395	L	8650	12.1	4.9	91	31.4	1
42 84-Y-298	M	8650	20.1	4.9	100	31.6	1
30 M-201	M	8640	19.8	5.0	100	32.3	1
32 M-101	M	8360	14.3	5.0	86	34.1	18
35 86-Y-35	M	8330	16.4	5.0	96	34.1	17
34 85-Y-136	S	8320	11.7	4.9	93	30.7	1
Grand Mean		9460	16.3	4.9	96	32.8	2
CV		7.	7.6	1.9	2.	3.9	232.4
LSD (.05)		1030	1.7	0.1	3	1.8	8

Location: Conducted by the Rice Experiment Station, Biggs.

Planting date: Two replications planted May 4, 1987; two replications planted May 20, 1987. Data is an average of all replications.

¹S - short; M - medium; L - long; W - waxy.

²Subjective rating of 1-5 where 1 - poor and 5 - excellent seedling emergence.

³Subjective 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.

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain		Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
			moisture at harvest (%)	moisture @14% moisture (lbs/a)				
55 CM-101	W	9940	13.9	9940	4.2	101	29.8	3
52 86-Y-763	M	8650	22.9	8650	4.0	110	31.5	3
33 M-102	M	8590	20.3	8590	4.2	105	30.3	6
37 86-Y-247	W	8580	21.2	8580	4.1	108	30.8	7
43 86-Y-329	M	8470	22.6	8470	4.0	109	32.0	10
50 85-35864	L	8290	14.6	8290	4.1	103	36.8	3
36 83-Y-254	S	8290	20.9	8290	4.2	110	28.0	2
39 85-Y-287	M	8280	19.1	8280	4.0	104	30.4	2
51 86-Y-754	M	8200	21.0	8200	3.9	106	30.1	2
32 M-101	M	8190	16.8	8190	4.2	101	32.1	9
38 86-Y-267	S	8180	19.8	8180	4.1	108	28.1	1
54 86-Y-54	M	8160	24.7	8160	4.1	108	28.9	2
42 84-Y-298	M	8150	24.6	8150	4.0	108	28.6	3
41 85-Y-207	S	8090	21.0	8090	4.1	106	29.0	1
34 85-Y-136	S	7980	12.9	7980	3.9	102	25.2	4
31 S-201	S	7950	22.6	7950	4.0	110	31.0	1
56 Valencia 87	S	7850	16.5	7850	4.2	104	28.8	1
30 M-201	M	7780	24.1	7780	4.1	109	28.9	3
49 86-Y-474	L	7750	14.3	7750	3.7	102	26.8	1
40 86-Y-269	S	7690	24.8	7690	4.1	112	31.6	5
53 86-Y-599	L	7620	16.1	7620	4.0	107	26.7	1
35 86-Y-35	M	7590	19.4	7590	4.2	105	30.4	4
45 85-Y-395	L	7540	14.1	7540	4.1	101	27.4	1
29 M-202	M	7470	22.8	7470	4.2	108	30.2	2
44 L-202	L	7270	16.4	7270	4.1	106	25.1	1
46 86-Y-715	L	7060	16.0	7060	4.1	106	28.3	1
48 86-Y-468	L	6690	16.0	6690	4.1	104	25.3	1
47 86-Y-435	L	5750	16.1	5750	4.0	109	23.0	3
Grand Mean		7930	19.1	7930	4.1	106	29.1	3
CV		6.2	6.2	6.2	3.5	1.9	5.1	106.4
LSD (.05)		710	1.7	710	0.2	3	2.1	4

Location: West Dos Palos. Planting date: May 1, 1987.

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 11. Performance summary of the early rice experimental lines and varieties, Glenn County, 1987.

Variety	Grain ¹ type	Grain yield (@14% moisture (lbs/a)	Grain		Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
			moisture at harvest (%)	moisture (%)				
38 86-Y-267	S	11630	17.2	4.0	101	38.1	1	
43 86-Y-329	M	11280	18.1	4.2	103	41.3	5	
55 CM-101	W	11170	13.4	4.4	91	35.1	2	
31 S-201	S	11080	18.9	4.3	105	38.4	1	
41 85-Y-207	S	11080	17.2	4.2	101	36.4	1	
39 85-Y-287	M	10940	16.6	4.1	99	37.9	1	
29 M-202	M	10880	18.0	4.4	101	40.3	13	
52 86-Y-763	M	10740	16.8	4.1	103	40.8	14	
36 83-Y-254	S	10660	19.3	4.4	105	36.6	1	
33 M-102	M	10280	17.5	4.3	99	40.8	1	
37 86-Y-247	W	10270	17.5	4.0	101	40.8	6	
40 86-Y-269	S	10150	18.6	4.1	105	40.3	1	
51 86-Y-754	M	10110	18.1	4.2	99	38.1	1	
32 M-101	M	10100	15.4	4.3	89	38.3	33	
44 L-202	L	9980	15.6	3.8	99	33.7	3	
45 85-Y-395	L	9980	13.9	3.6	95	36.3	1	
35 86-Y-35	M	9510	18.1	4.4	95	37.1	99	
34 85-Y-136	S	9320	12.5	4.3	101	36.7	4	
56 Valencia 87	S	9200	14.2	4.1	95	35.5	1	
50 85-35864	L	9050	15.3	3.8	98	40.5	32	
49 86-Y-474	L	9020	15.2	3.4	99	37.4	1	
48 86-Y-468	L	8880	14.9	3.7	99	36.6	1	
53 86-Y-599	L	8750	14.1	3.7	101	35.4	1	
46 86-Y-715	L	8620	15.3	3.9	98	38.0	1	
54 86-Y-54	M	8260	19.0	4.0	102	37.1	1	
42 84-Y-298	M	7540	20.0	3.9	104	38.0	1	
30 M-201	M	7320	20.0	4.2	103	38.6	1	
47 86-Y-435	L	5980	14.9	3.7	101	34.3	1	
Grand Mean		9710	16.6	4.1	100	37.8	8	
CV		6.2	4.2	4.2	1.7	5.2	145.1	
LSD (.05)		850	1.0	0.2	2	2.8	17	
Location: Norman Road. Planting date: April 29, 1987.								

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

Table 12. Performance summary of the early rice experimental lines and varieties, Yolo County, 1987.

Variety	Grain ¹ type	Grain yield (lbs/a)	Grain moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
29 M-202	M	12050	17.6	4.3	93	36.7	20
34 85-Y-136	S	11410	13.7	4.3	91	36.7	33
52 86-Y-763	M	11390	16.0	4.1	94	39.4	50
42 84-Y-298	M	11320	17.5	4.0	95	37.2	1
41 85-Y-207	S	11310	16.4	4.2	94	38.5	9
36 83-Y-254	S	11310	17.0	4.3	98	37.5	5
49 86-Y-474	L	11280	14.6	3.7	90	35.9	1
33 M-102	M	11270	16.3	4.1	90	37.1	3
40 86-Y-269	S	11240	17.9	4.1	101	40.2	13
30 M-201	M	11220	19.0	4.2	95	36.7	2
51 86-Y-754	M	11210	17.3	4.0	92	38.7	9
54 86-Y-54	M	10960	17.5	4.0	95	36.6	1
56 Valencia 87	S	10890	12.7	4.1	89	36.9	1
38 86-Y-267	S	10850	15.6	4.1	92	36.2	6
39 85-Y-287	M	10830	16.0	4.0	92	39.2	5
31 S-201	S	10820	18.4	4.3	103	39.1	45
43 86-Y-329	M	10760	17.4	4.0	94	39.7	6
44 L-202	L	10530	15.1	3.9	96	34.2	1
55 CM-101	W	10450	11.7	4.2	88	35.1	1
45 85-Y-395	L	10250	13.4	3.8	90	35.4	1
37 86-Y-247	W	10220	17.5	4.0	96	37.4	58
48 86-Y-468	L	10070	14.3	3.8	95	34.5	1
35 86-Y-35	M	9980	18.3	4.3	94	38.4	58
53 86-Y-599	L	9740	13.4	4.0	94	34.7	1
32 M-101	M	9630	13.6	4.3	88	36.1	18
47 86-Y-435	L	9620	13.4	3.8	99	32.7	1
50 85-35864	L	9570	14.2	3.8	93	38.9	21
46 86-Y-715	L	9170	13.7	3.9	92	36.3	1
GRAND MEAN		10690	15.7	4.0	94	37.0	13
CV		5.6	7.8	3.7	1.5	4.1	152.4
LSD (.05)		840	1.7	0.2	2	2.1	28
Location:	District 108.	Planting date:	May 5, 1987.				

¹S = short; M = medium; L = long; W = waxy.
²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.
³Subjective 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, 1987.

Variety	Grain ¹ type	Grain				Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
		Grain yield (@14% moisture (lbs/a)	moisture at harvest (%)	Seedling ² vigor (1-5)	Seedling ² vigor (1-5)			
55 CM-101	W	9760	17.8	4.0	92	31.5	1	
32 M-101	M	9520	18.1	4.4	89	34.4	1	
43 86-Y-329	M	8990	25.0	3.6	99	34.3	1	
33 M-102	M	8860	22.8	4.3	97	33.7	1	
39 85-Y-287	M	8700	23.8	3.4	99	33.5	1	
45 85-Y-395	L	8700	17.6	3.1	93	31.9	1	
38 86-Y-267	S	8600	23.8	3.9	99	31.3	1	
41 85-Y-207	S	8000	24.9	3.9	100	31.3	1	
50 85-35864	L	7980	18.0	3.3	95	38.4	1	
49 86-Y-474	L	7860	18.2	2.6	95	31.7	1	
44 L-202	L	7760	21.0	3.5	98	28.5	1	
36 83-Y-254	S	7470	25.9	3.9	101	31.7	1	
53 86-Y-599	L	7190	19.7	3.1	99	31.8	1	
52 86-Y-763	M	7150	26.6	4.0	102	33.7	1	
29 M-202	M	7140	27.9	4.5	100	33.9	1	
51 86-Y-754	M	7120	28.5	3.5	99	33.5	1	
40 86-Y-269	S	6920	27.2	4.1	104	32.4	1	
48 86-Y-468	L	6890	19.3	3.0	96	30.7	1	
31 S-201	S	6850	25.8	4.0	100	31.1	1	
56 Valencia 87	S	6790	22.6	4.0	94	32.1	1	
34 85-Y-136	S	6370	23.6	3.8	101	30.6	1	
46 86-Y-715	L	6050	20.8	3.4	96	31.9	1	
35 86-Y-35	M	5870	28.8	4.5	99	31.6	1	
37 86-Y-247	W	5830	28.2	3.5	102	32.7	1	
54 86-Y-54	M	5290	30.1	3.8	100	32.6	1	
42 84-Y-298	M	4870	28.6	3.9	100	32.3	1	
47 86-Y-435	L	4750	20.5	3.1	99	30.4	1	
30 M-201	M	4360	30.5	3.9	102	32.3	1	
Grand Mean		7200	23.8	3.7	98	32.3	1	
CV		11.8	8.1	8.1	1.8	4.8	--	
LSD (.05)		1200	2.7	0.4	2	2.2	--	
Location: District 10. Planting date: May 1, 1987.								

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 14. 1987 Early variety trial, five location summary (Butte, Fresno, Glenn, Yolo, Yuba).

Entry	Grain ¹ type	Grain			Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ 1-99
		Grain yield @14% moisture (lbs/a)	moisture at harvest (%)	moisture				
43 86-Y-329	M	10010	20.4	4.2	101	36.4	4	
38 86-Y-267	S	9910	18.8	4.2	100	33.4	2	
33 M-102	M	9800	18.7	4.4	96	35.3	2	
39 85-Y-287	M	9690	18.5	4.1	98	35.0	2	
41 85-Y-207	S	9650	19.4	4.3	100	33.7	3	
52 86-Y-763	M	9460	19.9	4.2	101	35.8	14	
29 M-202	M	9450	20.5	4.5	99	35.0	8	
36 83-Y-254	S	9450	20.2	4.4	103	33.0	2	
40 86-Y-269	S	9270	21.4	4.3	104	35.7	4	
31 S-201	S	9260	21.2	4.3	104	34.5	10	
51 86-Y-754	M	9260	20.5	4.1	98	34.8	3	
32 M-101	M	9160	15.6	4.4	91	35.0	16	
49 86-Y-474	L	9110	15.3	3.7	95	32.6	1	
44 L-202	L	9060	16.6	4.1	99	30.1	1	
45 85-Y-395	L	9020	14.2	3.9	94	32.5	1	
50 85-35864	L	8930	15.1	3.9	96	38.4	12	
37 86-Y-247	S	8930	20.7	4.1	101	35.0	14	
34 85-Y-136	S	8680	14.9	4.3	97	32.0	9	
53 86-Y-599	L	8600	15.5	4.0	99	32.0	1	
54 86-Y-54	M	8530	22.0	4.1	101	33.5	1	
48 86-Y-468	L	8280	15.6	3.9	98	31.5	1	
35 86-Y-35	M	8260	20.2	4.5	98	34.3	36	
42 84-Y-298	M	8110	22.2	4.2	101	33.5	1	
46 86-Y-715	L	8030	16.0	4.0	97	33.5	1	
30 M-201	M	7870	22.7	4.3	102	33.8	2	
47 86-Y-435	L	7150	15.6	3.9	100	30.1	1	
Grand Mean		8960	18.5	4.2	99	33.9	6	
CV		7.5	7.2	4.3	1.9	4.7	92.3	
LSD (.05)		420	0.8	0.1	1	1.0	7	

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 15. 1987 Early variety trial, four location summary (Fresno, Glenn, Yolo, Yuba).

Entry	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain		Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ 1-99
			moisture at harvest (%)	moisture at harvest (%)				
55 CM-101	W	10330	14.2	14.2	4.2	93	32.9	2
33 M-102	M	9750	19.2	19.2	4.2	98	35.5	3
29 M-202	M	9380	21.6	21.6	4.3	100	35.3	9
32 M-101	M	9360	16.0	16.0	4.3	92	35.2	15
31 S-201	S	9170	21.5	21.5	4.2	104	34.9	12
44 L-202	L	8890	17.0	17.0	3.8	100	30.4	2
34 85-Y-136	S	8770	15.7	15.7	4.1	99	32.3	11
56 Valencia 87	S	8680	16.5	16.5	4.1	95	33.3	1
30 M-201	M	7670	23.4	23.4	4.1	102	34.1	2
Grand Mean		9110	18.3	18.3	4.1	98	33.8	6.3
CV		7.3	7.1	7.1	5.1	1.7	4.8	186.4
LSD (.05)		450	0.9	0.9	0.1	1	1.1	8

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 16. Grain yield summary of the early experimental lines and varieties by locations and years.

County location	Year	Varieties				
		S-201	M-201	L-202	M-202	86-Y-35
Butte	1983	11100	10010	9700	10200	-
	1984	9150	10470	10020	8800	-
	1985	8590	8400	7920	9280	-
	1986	10490	10390	10130	10270	8690
	1987	9590	8640	9760	9720	8330
Location mean		9780	9580	9500	9650	8510
Yuba	1983	8740	8710	8020	9440	-
	1984	7870	8900	9720	9190	-
	1985	8640	8730	6900	9240	-
	1986	9710	8960	6800	10100	9940
	1987	6850	4360	7760	7140	5870
Location mean		8360	7930	7840	9020	7900
Yolo	1983	9590	11190	11530	11220	-
	1984	8610	9090	8470	8630	-
	1985	9540	10060	10080	10070	-
	1986	9690	9120	9600	10150	8440
	1987	10820	11220	10530	12050	9980
Location mean		9650	10140	10040	10420	9210
Colusa-Glenn	1983	9600	8790	8120	9530	-
	1984	7650	9950	8770	9110	-
	1985	10450	10680	9580	10890	-
	1986	8460	8430	7900	9530	7500
	1987	11080	7320	9980	10880	9510
Location mean		9450	9030	8870	9990	8500
Location-years mean		9310	9170	9060	9770	8530
Yield as a % of M-201		102	-	99	107	100
Number of tests		20	20	20	20	8

Table 17. Performance summary of the intermediate and late rice experimental lines and varieties, Butte County, 1987.

Variety	Grain ¹ type	Grain				Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
		Grain yield @14% moisture (lbs/a)	moisture at harvest (%)	Seedling ² vigor (1-5)	Seedling ² vigor (1-5)			
79 86-Y-564	M	10650	19.7	5.0	110	36.0	1	
80 86-Y-570	M	10130	18.7	5.0	112	39.3	1	
75 86-Y-525	M	10120	20.5	5.0	114	37.7	1	
63 M-401	M	9890	20.7	5.0	112	37.8	2	
78 86-Y-560	M	9780	17.9	5.0	108	36.9	1	
82 86-Y-82	S	9740	18.1	5.0	110	35.1	1	
68 86-Y-516	S	9690	19.1	5.0	110	34.7	1	
69 85-Y-502	S	9370	18.4	5.0	112	35.5	1	
70 86-Y-519	S	9320	18.3	5.0	114	38.1	1	
77 86-Y-558	M	9310	18.6	5.0	111	37.3	1	
72 86-Y-766	S	9300	18.2	5.0	111	33.6	1	
65 85-Y-508	S	9300	18.4	4.9	109	33.8	1	
67 86-Y-509	S	9270	18.8	5.0	110	36.0	1	
62 M-302	M	9230	18.3	5.0	110	37.3	1	
61 M-7	M	9210	19.2	4.8	119	37.6	1	
66 86-Y-505	S	9200	18.7	5.0	110	34.9	1	
81 86-Y-83	S	9130	18.3	5.0	111	35.3	1	
71 85-Y-497	S	9110	17.5	4.9	108	35.0	1	
83 86-H-3689	L	8880	16.5	4.9	109	32.0	1	
74 85-Y-463	M	8840	17.0	5.0	109	37.1	1	
64 86-Y-489	S	8760	18.5	5.0	111	37.4	1	
73 86-Y-768	S	8460	19.6	5.0	115	36.8	1	
76 86-Y-532	M	8460	17.8	5.0	110	35.8	1	
84 A-301	L	3410	18.0	4.7	109	29.2	1	
Grand Mean		9110	18.5	5.0	111	35.9	1	
CV		4.3	4.8	1.2	1.1	3.3	39.2	
LSD (.05)		550	1.3	0.1	2	1.7	NS	

Location: Conducted by the Rice Experiment Station, Biggs.
Planting date: May 2, 1987

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective 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, 1987.

Variety	Grain ¹ type	Grain yield (lbs/a)	Grain moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
63 M-401	M	8690	16.6	4.3	106	36.0	1
79 86-Y-564	M	8280	17.8	4.3	105	35.3	1
75 86-Y-525	M	7870	18.6	4.3	106	36.9	1
80 86-Y-570	M	7700	18.1	4.3	105	36.3	1
68 86-Y-516	S	7620	19.0	4.4	105	34.7	1
70 86-Y-519	S	7580	19.5	4.4	108	37.1	1
73 86-Y-768	S	7540	16.8	4.4	102	34.7	1
77 86-Y-558	M	7480	17.1	4.4	104	34.9	1
66 86-Y-505	S	7450	18.5	4.4	103	32.3	1
64 86-Y-489	S	7310	17.8	4.3	101	35.3	1
51 86-Y-83	S	7300	20.0	4.3	104	35.1	1
82 86-Y-82	S	7300	19.0	4.4	104	35.2	1
65 85-Y-508	S	7190	19.0	4.2	102	36.4	1
69 85-Y-502	S	7140	18.7	4.1	104	36.1	1
72 86-Y-766	S	7080	17.9	4.3	100	32.3	1
78 86-Y-560	M	6990	17.8	4.4	102	35.7	1
62 M-302	M	6960	19.0	4.3	103	36.3	1
67 86-Y-509	S	6940	19.1	4.3	104	32.9	1
76 86-Y-532	M	6760	16.6	4.3	102	36.0	1
71 85-Y-497	S	6730	18.2	4.3	102	33.6	1
61 M-7	M	6570	18.8	4.3	109	35.5	1
84 A-301	L	6390	16.7	3.3	106	31.1	1
74 85-Y-463	M	6240	17.0	4.5	102	35.1	1
83 86-H-3689	L	6030	15.7	3.8	105	31.2	1
Grand Mean		7210	18.1	4.3	104	34.8	1
CV		7.5	8.3	3.1	1.2	3.7	NS
LSD (.05)		770	2.1	0.2	2	1.8	NS

Location: Delevan. Planting date: April 22, 1987.

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective 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, 1987.

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain			Days to 50% heading	Lodging ³ (1-99)
			moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading		
75 86-Y-525	M	9130	20.5	3.5	107	1	
69 85-Y-502	S	8600	20.1	3.4	102	1	
78 86-Y-560	M	8540	15.6	4.3	100	1	
81 86-Y-83	S	8510	19.1	3.6	102	1	
70 86-Y-519	S	8400	18.3	3.9	104	1	
65 85-Y-508	S	8380	19.7	3.2	101	3	
79 86-Y-564	M	8350	18.7	3.6	103	1	
68 86-Y-516	S	8290	18.1	3.8	101	1	
66 86-Y-505	S	8280	17.4	3.9	101	1	
82 86-Y-82	S	8120	18.6	4.0	101	1	
72 86-Y-766	S	8120	18.0	3.1	102	1	
73 86-Y-768	S	8100	18.9	4.0	101	1	
67 86-Y-509	S	8090	19.1	3.6	101	1	
63 M-401	M	8070	23.2	3.5	107	1	
77 86-Y-558	M	8020	18.1	3.8	103	1	
76 86-Y-532	M	7860	16.2	4.3	100	1	
80 86-Y-570	M	7840	18.3	3.4	103	1	
62 M-302	M	7700	17.8	3.9	101	1	
64 86-Y-489	M	7700	19.5	3.3	104	1	
74 85-Y-463	S	7640	15.5	4.1	100	1	
84 A-301	L	7640	16.1	2.7	108	1	
71 85-Y-497	S	7480	18.9	3.3	102	1	
61 M-7	M	7230	19.5	3.1	106	1	
83 86-H-3689	L	6120	15.1	2.5	105	1	
Grand Mean		8010	18.3	3.6	103	1	
CV		10.7	7.1	12.9	2.2	84.0	
LSD (.05)		1200	1.8	0.6	3	NS	

Location: Sutter. Planting date: April 29, 1987

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Note: No height taken at this location

Table 20. 1987 Intermediate and late variety trial, three-location summary (Butte, Colusa, Sutter).

Entry	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain		Seedling ² vigor (1-5)	Days to 50% heading	Plant ³ height (in)	Lodging ⁴ 1-99
			moisture at harvest (%)	moisture @14% moisture (lbs/a)				
79 86-Y-564	M	9090	18.7	18.7	4.3	106	35.7	1
5 86-Y-525	M	9040	19.9	19.9	4.3	109	37.3	1
63 M-401	M	8880	20.2	20.2	4.3	108	36.9	1
80 86-Y-570	M	8560	18.4	18.4	4.2	106	37.8	1
68 86-Y-516	S	8530	18.8	18.8	4.4	105	34.7	1
78 86-Y-560	M	8440	17.1	17.1	4.6	103	36.3	1
70 86-Y-519	S	8430	18.7	18.7	4.4	109	37.6	1
82 86-Y-82	S	8390	18.5	18.5	4.5	105	35.2	1
69 85-Y-502	S	8370	19.1	19.1	4.2	106	35.8	1
81 86-Y-83	S	8310	19.1	19.1	4.3	106	35.2	1
66 86-Y-505	S	8310	18.2	18.2	4.4	105	33.6	1
65 85-Y-508	S	8290	19.0	19.0	4.1	104	35.1	2
77 86-Y-558	M	8270	17.9	17.9	4.4	106	36.1	1
72 86-Y-766	S	8170	18.0	18.0	4.2	104	32.9	1
67 86-Y-509	S	8100	19.0	19.0	4.3	105	34.5	1
73 86-Y-768	S	8030	18.4	18.4	4.5	106	35.8	1
62 M-302	M	7960	18.3	18.3	4.4	105	36.8	1
64 86-Y-489	S	7920	18.6	18.6	4.2	105	36.4	1
71 85-Y-497	S	7770	18.2	18.2	4.2	104	34.3	1
76 86-Y-532	M	7690	16.9	16.9	4.5	104	35.9	1
61 M-7	M	7670	19.2	19.2	4.1	111	36.6	1
74 85-Y-463	M	7580	16.5	16.5	4.5	104	36.1	1
83 86-H-3689	L	7010	15.8	15.8	3.8	106	31.6	1
84 A-301	L	5810	16.9	16.9	3.5	108	30.2	1
Grand Mean		8110	18.3	18.3	4.3	106	35.4	1
CV		7.	6.9	6.9	6.5	1.5	3.5	55.5
LSD (.05)		500	1.0	1.0	0.2	1	1.2	NS

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Heights for 2 locations, Biggs and Colusa, only.

⁴Subjective 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 locations and years.

County location	Year	Varieties			
		M-7	M-302	M-401	83-y-414
Butte	1983	9520	9690	11230	-
	1984	8320	8810	6360	9800
	1985	9540	10640	10720	8940
	1986	9230	9380	10040	9520
	1987	9210	9230	9890	3410
Location mean		9160	9550	9650	7920
Glenn-Colusa	1983	6900	7940	8090	-
	1984	8010	7940	9380	5060
	1985	7370	7150	8620	4170
	1986	-	-	-	-
	1987	6570	6960	8690	6390
Location mean		7210	7500	8695	5200
Sutter	1983	9570	9360	9660	-
	1984	8110	8640	8070	9760
	1985	9940	10980	9650	8940
	1986	6980	7060	8340	5110
	1987	7230	7700	8070	7640
Location mean		8370	8750	8760	7860
Location-year means		8230	8680	9060	7160
Yield as a % of M-7		-	104	109	86
Number of tests		14	14	14	11

Table 22. Performance summary of the short- and medium-grain experimental lines and varieties, Butte County, 1987.

Variety	Grain ¹ type	Grain			Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
		Grain yield @14% moisture (lbs/a)	moisture at harvest (%)	moisture				
769 86-Y-227	S	9990	18.9	5.0	99	31.8	1	
766 86-Y-202	M	9810	17.1	5.0	93	33.7	1	
760 86-Y-135	S	9760	13.3	5.0	84	32.9	1	
765 86-Y-179	M	9740	17.9	5.0	94	32.9	1	
758 86-Y-105	S	9740	15.3	5.0	90	34.9	1	
751 M-102	M	9700	16.7	5.0	92	32.9	1	
772 86-Y-285	M	9700	18.1	5.0	94	32.2	1	
756 84-Y-149	M	9680	16.0	5.0	89	34.3	1	
764 86-Y-166	M	9630	16.5	5.0	90	32.7	1	
753 M-202	M	9580	16.4	5.0	94	33.8	1	
755 84-Y-9	M	9580	14.4	5.0	85	33.0	1	
757 CM-101	W	9550	14.5	4.9	85	32.7	1	
773 86-Y-293	M	9480	17.0	5.0	95	34.2	1	
761 86-Y-761	M	9450	18.7	5.0	96	31.8	1	
768 86-Y-208	M	9320	13.3	5.0	92	34.5	1	
759 86-Y-121	W	9280	14.3	4.4	90	32.8	1	
754 85-Y-136	S	9260	14.5	5.0	93	31.9	1	
774 86-Y-314	M	9200	17.7	4.8	97	35.7	1	
775 86-Y-315	M	9090	18.9	5.0	98	34.2	1	
762 86-Y-762	M	8830	17.1	5.0	95	33.7	5	
763 86-Y-157	M	8810	16.5	5.0	93	33.3	1	
770 86-Y-254	S	8770	19.0	5.0	102	34.3	1	
767 86-Y-204	M	8720	15.7	5.0	97	33.0	1	
771 86-Y-258	S	8720	19.1	5.0	101	32.3	1	
751 M-101	M	8640	15.0	5.0	87	34.5	16	
Grand Mean		9360	16.5	5.0	93	33.3	2	
CV		5.	6.9	2.1	1.8	3.0	351.6	
LSD (.05)		750	1.6	0.1	2	1.4	NS	

Location: Conducted by the Rice Experiment Station, Biggs.

Planting date: Two replications planted May 4; two replications planted May 21.

Data is an average of all replications.

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.

Table 23. Performance summary of the short and medium rice experimental lines and varieties, Colusa County, 1987.

Variety	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain moisture at harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ (1-99)
754 85-Y-136	S	10580	12.4	4.3	87	30.5	2
753 M-202	M	10480	13.8	4.7	88	35.4	7
760 86-Y-135	S	10450	11.9	4.2	84	34.9	6
751 M-102	M	10320	15.9	4.4	87	35.4	1
768 86-Y-208	M	10310	11.0	4.2	87	33.6	1
766 86-Y-202	M	10300	17.5	4.2	88	34.3	1
772 86-Y-285	M	10250	15.2	4.3	89	33.2	6
756 84-Y-149	M	9950	14.6	4.2	86	34.1	1
774 86-Y-314	M	9920	14.3	4.2	91	34.8	1
775 86-Y-315	M	9900	15.9	4.1	94	33.6	1
758 86-Y-105	S	9820	14.0	4.2	86	33.7	40
755 84-Y-9	M	9790	13.6	4.2	84	32.7	3
761 86-Y-761	M	9760	17.5	4.2	90	32.0	1
763 86-Y-157	M	9750	11.6	4.2	92	33.7	17
759 86-Y-121	W	9740	12.3	4.1	85	31.9	16
757 Calmochi-101	W	9720	11.6	4.2	84	32.5	1
765 86-Y-179	M	9590	15.3	4.2	88	31.4	8
776 S-201	S	9550	14.3	4.2	94	33.5	6
769 86-Y-227	S	9520	15.7	4.2	93	32.5	1
764 86-Y-166	M	9520	13.8	4.2	87	31.5	5
773 86-Y-293	M	9500	16.6	4.1	91	34.7	16
767 86-Y-204	M	9460	11.9	4.2	93	33.8	3
777 M-201	M	9420	18.1	4.2	90	31.3	1
779 S-1	S	9410	12.3	4.2	87	33.5	1
770 86-Y-254	S	9410	17.0	4.2	95	34.1	1
751 M-101	M	9250	13.0	4.3	86	35.6	13
771 86-Y-258	S	9220	17.0	4.3	95	33.1	1
762 86-Y-762	M	8510	12.6	4.3	90	34.0	90
780 S-2	S	8480	13.0	4.2	88	31.8	1
778 L-202	L	7900	16.8	4.0	93	28.0	1
Grand Mean		9660	14.3	4.2	89	33.2	8
CV		4.3	5.9	2.7	0.8	4.1	130.2
LSD (.05)		580	1.2	0.2	1	1.9	15

Location: Grimes. Planting date: May 11, 1987.

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

Table 24. 1987 Special short- and medium-grain variety trials, two locations (Butte, Colusa).

Entry	Grain ¹ type	Grain yield @14% moisture (lbs/a)	Grain		Seedling ² vigor (1-5)	Days to 50% heading	Plant height (in)	Lodging ³ 1-99
			moisture at harvest (%)	moisture				
760 86-Y-135	S	10100	12.6	4.6	84	33.9	3	
766 86-Y-202	M	10060	17.3	4.6	91	34.0	1	
753 M-202	M	10030	15.1	4.8	91	34.6	4	
751 M-102	M	10010	16.3	4.7	89	34.2	1	
772 86-Y-285	M	9970	16.6	4.6	91	32.7	3	
754 85-Y-136	S	9920	13.4	4.6	90	31.2	2	
756 84-Y-149	M	9820	15.3	4.6	88	34.2	1	
768 86-Y-208	M	9820	12.2	4.6	90	34.0	1	
758 86-Y-105	S	9780	14.6	4.6	88	34.3	21	
769 86-Y-227	S	9760	17.3	4.6	96	32.1	1	
755 84-Y-9	M	9680	14.0	4.6	85	32.8	2	
765 86-Y-179	M	9670	16.6	4.6	91	32.1	5	
757 CM-101	W	9630	13.1	4.5	85	32.6	1	
761 86-Y-761	M	9610	18.1	4.6	93	31.9	1	
764 86-Y-166	M	9570	15.2	4.6	88	32.1	3	
774 86-Y-314	M	9560	16.0	4.5	94	35.3	1	
759 86-Y-121	S	9510	13.3	4.3	87	32.3	8	
775 86-Y-315	M	9490	17.4	4.6	96	33.9	1	
773 86-Y-293	M	9490	16.8	4.5	93	34.4	8	
763 86-Y-157	M	9280	14.0	4.6	92	33.5	9	
767 86-Y-204	M	9090	13.8	4.6	95	33.4	2	
770 86-Y-254	S	9090	18.0	4.6	98	34.2	1	
771 86-Y-258	S	8970	18.0	4.6	98	32.7	1	
751 M-101	M	8940	14.0	4.7	86	35.1	14	
762 86-Y-762	M	8670	14.9	4.7	92	33.8	47	
Grand Mean		9580	15.4	4.6	91	33.4	6	
CV		4.9	6.7	2.4	1.4	3.5	165.2	
LSD (.05)		460	1.0	0.1	1	1.2	9	

¹S = short; M = medium; L = long; W = waxy.

²Subjective rating of 1-5 where 1 = poor and 5 = excellent seedling emergence.

³Subjective rating of 1-99 where 1 = none and 99 = 99% lodged.