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**CALIFORNIA RICE VARIETIES:
Description and Performance Summary of the 1983
and Multiyear Statewide Rice Variety Tests in California**

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Cover

SWECO 324 plot combine constructed for research studies and funded by the Rice Research Board was used extensively in the harvest of 1983 research trials. The combine is shown harvesting small plots on the Keller Ranch, Colusa County.

Acknowledgment:

Rice cultivars used in these tests were developed by Drs. H. L. Carnahan, C. W. Johnson and S. T. Tseng, rice breeders of the California Cooperative Rice Research Foundation Incorporated (CCRRFI), Biggs, California. Commercial standards were provided by Mr. Morton Morse, Director CCRRFI, and by N. F. Davis, Firebaugh, California. Variety tests on the Rice Experiment Station were conducted by the CCRRFI rice breeders. This work was supported in part by the Rice Research Board.

Introduction

The California rice variety improvement program is a cooperative arrangement of the California Cooperative Rice Research Foundation, Inc. (CCRRFI), the United States Department of Agriculture (USDA), the University of California (UC), and the rice industry. CCRRFI rice breeders develop rice varieties. The USDA rice geneticist stationed at UC Davis investigates breeding methods and develops germplasm. The University of California Cooperative Extension, consisting of an Extension Agronomist and Staff Research Associate at UC Davis and county farm advisors, conducts on-farm field tests of advanced lines to determine their adaptation to the primary areas of rice production in California. The program is financially supported, in part, by the Rice Research Board. Rice growers provide land and production inputs required for the tests.

This report describes the results of the 1983 regional rice variety testing program. Information on varietal performance is used by the CCRRFI and USDA rice breeders to: (1) determine the suitability for varietal release and (2) to make decisions on further development of experimental lines. The information also provides factual data from which rice growers can determine the most suitable varieties for their specific areas of the state. The names and a brief description of the current publicly developed varieties are listed in Table 1.

Experimental Procedure for the 1983 Regional Rice Variety Tests

A total of 11 uniform rice variety tests were conducted in eight locations from Butte to Stanislaus County. Twenty-five to 28 entries including currently grown "standards" and experimental lines were planted in each of three maturity classes for a total of 79 entries. Three tests, one of each maturity group, were conducted at the Rice Experiment Station at Biggs by the CCRRFI plant breeders, H. L. Carnahan, C. W. Johnson, and S. T. Tseng. The remaining tests were carried out using the typical cultural practices for the grower in order to test agronomic performance under a wide range of production practices and locations. The tests were divided into maturity groups as follows:

Statewide Uniform Rice Variety Tests

Very Early Maturity Group - Three uniform tests were conducted; at the Rice Experiment Station (Butte County), the Lauppe Ranch (Natomas district, Sutter County) and the Beck Ranch (Stanislaus County). Twenty-two experimental lines and several commercially available varieties were included.

Early Maturity Group - Five uniform tests were conducted; at the Rice Experiment Station (Butte County), the R. and L. Grell Ranch (Butte County), the Wylie Ranch (Colusa County), the Mohammed Ranch (Yuba County), and the Geer Ranch (District 108, Yolo County). Twenty experimental lines and several commercially available varieties were included.

Late Maturity Group - Three uniform tests were conducted; at the Rice Experiment Station (Butte County), the Nevis Industries Ranch (Sutter

County), and on Terhel Farms (Colusa County). Twenty-one experimental lines and four commercially available varieties were included. Because of spring rains the number of late maturity tests were reduced from four in previous years to three in 1983. The variety testing program may continue to emphasize early and very early variety tests in the future because of the high interest in these varieties by the California rice producer.

Long Grain Test - Two uniform special long grain tests were conducted; at the Rice Experiment Station (Butte County) and at the Geer Ranch (District 108, Yolo County). Twenty-one experimental lines and four commercially available varieties were included.

Performance characteristics measured for each varietal entry 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 approximately 28 days after planting. Seedling vigor is a measure of the overall plant health, height and stand at emergence through the water. Days to 50% heading was determined by visual observation. Plant height was determined at harvest by measuring 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 (all plants lodged). This method does not characterize time of lodging which is more highly correlated with grain yield. Lodging after field drainage does not reduce rice grain yield as significantly as lodging into the water before substantial seed development.

In-county trials were harvested with a SWECO 324 plot combine and on-station tests were harvested with an Allis-Chalmers modified plot combine for yield determination. A 7 X 20 foot swath (0.0032 A) was harvested in the off-station tests and a 10 X 15 foot swath (0.0034 A) was harvested at Biggs. Grain was subsampled for moisture determination at harvest and grain yield adjusted to 14% moisture.

Agronomic Performance Summary of 1983 and Multiyear Varietal Entries by Maturity Group

Varietal performance summaries are presented by maturity group excepting for the long grain tests which are reported separately. Results of 1983 tests are presented by location for each maturity group followed by an over-location summary and a multiyear and multilocation grain yield summary. The multiyear and multilocation grain yield summaries contain only commercial varieties or very advanced experimental cultivars. Grain yields of promising varieties and experimental lines are also reported as a percentage of check varieties in each maturity group for comparative purposes. **These percentage yield comparisons are based on equivalent location and year means and may not reflect the mean yield of a particular variety over all locations and years.** The long grain tests are reported by location followed only by an overlocation summary. Multiyear and multilocation yield summaries are not reported for the long grain tests.

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

The 1983 very early maturity rice variety tests were conducted at the three locations described above. Only the Biggs (Rice Experiment Station) and Sutter County locations are included in this report. The Stanislaus County location is not included because several plots were lost due to deep water and other factors and it was apparent through visual observation that the variability would prohibit interpretation of the results. Twenty-five entries at the Rice Experiment Station and 30 at the Sutter County location were evaluated for agronomic performance as given in Tables 2 and 3, respectively. Table 4 shows the two location summary. Varietal standards included Calpearl, M-9, and M-101 with Calmochi 202, S-201, M-201, M-302 and California Belle added to the off-station sites. Twelve experimental cultivars were new in 1983 and 10 had been tested previously. All entries were either short or medium grain types; two of these were waxy.

The leading cultivar in yield over both locations in 1983 was 81-y-124 (10,980 lbs/acre - entry No. 10) which ranked second in the 1982 very early trials when it was first tested. 82-y-14 and 82-y-122, both short grain types, ranked second and third, respectively, in these tests. Among the standard varieties Calpearl and M-9 ranked fifth, producing 10,490 lbs/acre and M-101 ranked 24th at 9,460 lbs/acre. Grain moisture among all cultivars varied from 16.3 (Calpearl) to 23.7% (82-y-130) for the same harvest date, seedling vigor was uniformly good, days to 50% heading ranged from 80 days for the two waxy types to 96 days (82-y-130). Plant height varied from 80 to 96 cm and lodging from 1 to a high of 60%.

Table 5 shows the multiyear and multilocation yield summary for the very early varieties and a few promising experimental lines. All entries were not tested at each location in every year so location means cannot be compared directly. All standard and experimental cultivars produced yields superior to M-101 except the long grain California Belle.

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

The 1983 early maturity rice variety tests were conducted in the five locations described above. Twenty experimental lines and five varieties (California Belle, Calmochi 202, M-9, M-201 and S-201) were tested on the Rice Experiment Station, Biggs. Three additional varieties (Calpearl, M-101 and M-302) were added to the other four off-station locations. The agronomic performance of these cultivars is shown in Tables 6 through 10 for each of the five locations.

Table 11 gives the five-location performance summary. Thirteen experimental cultivars were new in 1983 and seven had been previously tested in off-station trials. All grain types were represented in these tests with 10 medium grain, three short grain, two waxy, and 10 long grain types. Experimental cultivar 81-y-124 was the leading producer in these tests (9,500 lbs/acre - entry No. 36) as well as in the very early tests. Ten cultivars yielded above 9,000 lbs/acre and included all grain types. Among them were two of the standard varieties, S-201 and M-9. M-201 ranked 11th yielding 8,940 lbs/acre, Calmochi 202 ranked 22nd at 8,050 lbs/acre, and California

Belle ranked 25th at 7,570 lb/acre. Grain moisture at harvest ranged from 16.0 to 23.7 and was related to grain type and heading date. Long grain types were drier at harvest given similar heading dates. Seedling vigor ranged from 3.1 to 4.5 with long grains having the greatest variability and generally poorer seedling vigor than medium or short grain cultivars. One exception was the long grain cultivar 82-y-311, which had the highest seedling vigor. Plant height ranged from 81 cm to 104 cm, the shortest being cultivar 81-y-295 and the tallest 82-y-311, both long grains. Two cultivars had equal or greater lodging than M-9 (33%), whereas the remaining cultivars were an improvement over M-9 for lodging resistance.

Table 11a summarizes for four off-station locations the agronomic performance of the eight commercially available rice varieties. Calpearl ranked first in yield and California Belle ranked eighth. The seedling vigor of Calpearl was less than S-201, a finding that differs from the results of previous years. M-201 did not lodge whereas all the other commercial varieties lodged to some extent ranging from 6% for Calpearl to 55% for M-101 (Table 11a).

Table 12 gives the multiyear and multilocation yield summary for commercial varieties and promising experimental lines. All yields are compared as a percentage of M-9 on an equivalent location-year means. The over years means for a given location cannot be directly compared from Table 12 except where cultivars were included in all five years. Compared to M-9 over a five year period, M-201 and S-201 yielded 108 and 106%, respectively, whereas Calpearl yielded 109% on a two-year multilocation comparison. Calmochi 202, a glutinous short grain type, produced 97% of M-9 and 91% of S-201 (genetically similar but nonglutinous type).

Summary of the Late Rice Variety Tests (>105 days to 50% heading at Biggs)

The 1983 late maturity rice variety tests were conducted at the three locations described above and included four commercial and 21 experimental lines. Tables 13, 14 and 15 give the results for each location and Table 16 shows the average of the three locations. Thirteen of the experimental lines were in the first year of testing and eight had been tested in previous years. The standard varieties included Calrose 76, M-7, M-302 and M-401.

The leading commercial variety in this test was M-401 which ranked second among all cultivars. M-302, Calrose 76 and M-7 ranked 18th, 19th, and 23rd, respectively. Several experimental medium grain cultivars were similar in yield to M-401. Moisture at harvest varied from 18.6% for long grain types to 24.4% for the latest heading medium grain. Seedling vigor was generally good (above 4.0) for all cultivars except the short grain 82-y-502 (3.8). Days to 50% heading varied from 96 to 103 days. Plant height ranged from 83 to 94 cm and all cultivars showed excellent resistance to lodging. M-401, which may lodge under high fertility or cool temperature, lodged 11%, indicating that lodging was not a factor in these trials.

Table 17 gives the multiyear and multilocation yield summary for commercial varieties and selected experimental cultivars. All varieties are compared to M-7 for all locations and years. The cultivar 79-y-438 is compared to M-7 on equivalent years (1980-1983) over all locations. The 18

year-location comparisons show M-401 to be 3% greater than M-7 in yield, whereas M-302 and Calrose 76 were 1 and 2% less, respectively, in yield. 79-y-438, a short grain experimental cultivar, has produced 1% greater yield than M-7 in these trials.

Summary of the Long Grain Test

Long grain variety tests were conducted in two locations in 1983, as previously described. Twenty-one experimental lines and four varieties, L-201, California Belle, M-302 and M-201, were included as standards for comparison. The agronomic performance of these cultivars is given in Tables 18 and 19 for each of the two locations. Table 20 gives the overlocation summary. Several experimental long grain cultivars produced yields at or above M-201 and 10 yielded above 10,000 pounds per acre. Grain moisture at harvest varied from 13.4 to 20.7% for the long grain types (M-302 was 21.3%). Seedling vigor was acceptable to excellent with several long grain cultivars rating 4.4 and only two below 4.0. Days to 50% heading ranged from 80 to 99 days and plant height from 80 to 107 cm. Lodging also varied widely but several high yielding cultivars showed excellent resistance to lodging.

These data demonstrate that high yielding long grain cultivars are available with acceptable agronomic traits for California production. Quality and cooking characteristics (not measured in these tests) will be an important determinant in the release of any of these cultivars for commercial production.

CHARACTERISTICS OF PUBLICLY DEVELOPED RICE VARIETIES - 1983

GRAIN TYPE	HEIGHT*	MATURITY	SEED WIDELY AVAILABLE	COMMENTS
SHORT GRAIN				
S-201	Short	Early	1981	Very high yield potential, replaced S6; more resistance to blanking than S6; maturity like S6.
MEDIUM GRAIN				
M-101	Short	Very Early	1981	Earliest variety; excellent seedling vigor; good resistance to blanking; best suited for special conditions such as cold areas and/or late planting dates; head rice can be low, so harvest at 25-26% moisture if possible to enhance head yield. May not yield as well as other varieties at normal planting dates.
M9	Short	Early	1979	Very high yield potential in warmer areas; not adapted to colder areas or to very early seeding because of poor seedling vigor; mixed maturity of seeds on panicles. Somewhat difficult to thresh cleanly--special harvest adjustment may be necessary. May be more susceptible to sheath blight.
M-201	Short	Early	1984	Same maturity but with improved yield potential compared to M9; 2-3 inches shorter than M9 with greater resistance to lodging and easier threshing. Intended as a replacement for M9 in all but the coolest rice growing areas.
M-302	Short	Intermediate	1983	Replacement for M-301; has better straw strength; more translucent grains; is about 2 days later; has good seedling vigor and resistance to blanking. Can be seeded 7 or 8 days later than late varieties to spread harvest season.
M7	Short	Late	1979	High yield potential; good seedling vigor and resistance to blanking; very good straw strength.
Calrose 76	Short	Late	1979	High yield potential; good seedling vigor and resistance to blanking; rough hulls and leaves; long awns in warmer areas.
M-401	Short	Late	1983	Intended as a premium quality rice and <u>not as a replacement for M7</u> . Has high yield potential; 3 days earlier than M7 but lodges more, is more sensitive to blanking and early drainage similar to M9; also sensitive to overfertilization--requires somewhat less N than other short stature varieties.
LONG GRAIN				
L-201**	Intermediate	Early	1981	Very high yield potential in warmer areas; not adapted to colder areas; injury to Ordram® has been observed at rates greater than 3 a.i. lbs/acre; threshes readily at low cylinder speeds. Harvest at moisture content as near to 25% as possible to enhance head yield; matures in 7 to 10 fewer days after heading than do short- or medium-grain varieties.
SWEET				
Calmochi-202**	Short	Early	1983	A sweet rice replacing Calmochi-201. Similar to S-201 in growth characteristics but 2 days later. Has smaller seeds. Yields much greater and lodges less than Calmochi-201, but yields about 8% less than S-201.

* THE VARIETIES WITH SHORT HEIGHT ARE RAPIDLY REPLACING THE TALL VARIETIES. 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) NITROGEN FERTILIZATION OF 20 TO 40 UNITS HIGHER THAN HAS BEEN USED FOR TALL VARIETIES; AND (4) DRAIN AS LATE AS POSSIBLE BEFORE HARVEST.

** L-201 AND CALMOCHI VARIETIES SHOULD NOT BE GROWN UNLESS ARRANGEMENTS HAVE FIRST BEEN MADE WITH MARKETING AGENCY.

Table 2. Performance summary of the very early experimental lines and varieties, Butte County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
17	82-y-17	S	11250	19.8	5.0	90	89	3
3	82-y-122	S	11220	19.6	5.0	91	91	2
2	M-9	M	11120	20.7	5.0	90	94	6
4	80-y-24-B	S	11040	18.0	5.0	84	85	9
14	82-y-14	S	10960	20.0	5.0	89	92	3
9	82-y-138	S	10890	20.8	5.0	94	86	1
15	82-y-15	S	10810	19.8	5.0	91	89	1
10	81-y-124	M	10790	18.2	5.0	87	87	1
20	83-y-20	M	10780	15.6	4.9	84	93	2
23	82-y-172	M	10740	19.6	5.0	87	84	2
21	82-y-126	WXY	10650	15.9	4.9	79	82	16
13	81-y-35	M	10630	20.8	5.0	88	85	1
18	82-y-18	M	10590	21.2	5.0	87	91	13
11	81-y-154	S	10570	20.3	4.8	91	83	1
7	82-y-168	M	10490	17.5	5.0	84	87	4
6	82-y-130	S	10440	20.8	5.0	96	85	1
25	Calpearl	S	10340	14.7	5.0	83	84	1
12	82-y-162	M	10330	16.7	5.0	85	91	28
8	82-y-166	M	10300	19.8	5.0	86	91	3
19	82-y-19	M	10260	18.1	5.0	84	93	34
24	83-y-24	M	10200	17.7	5.0	81	86	3
5	80-y-138A	S	10190	16.9	5.0	85	86	18
22	82-y-182	M	9970	17.8	5.0	84	89	24
1	M-101	M	9920	17.7	5.0	81	88	40
16	82-y-104	WXY	9640	15.0	4.9	78	77	55
GRAND MEAN			10560	18.5	5.0	86	87	11
CV			5.8	5.1	1.8	2.4	3.7	143
LSD (.05)			860	1.3	0.1	3	5	22

Conducted by the Rice Experiment Station, Butte County, near Biggs.

Planting Date: Two reps planted May 22, two reps planted May 24, 1983. Data an average of all replications.

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 3. Performance summary of the very early rice experimental lines and varieties, Sutter County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
10	81-y-124	M	11160	23.5	4.0	83	85	1
25	Cal Pearl	S	10640	17.9	5.0	83	88	5
12	82-y-162	M	10400	20.0	4.5	82	90	13
6	82-y-130	S	10230	26.6	4.8	96	84	2
20	82-y-20	M	10210	19.6	4.8	81	95	24
29	Calmochi 202	WXY	10190	27.0	4.3	92	84	1
14	82-y-14	S	10170	25.6	4.8	88	91	11
27	S-201	S	10090	26.6	4.8	98	85	21
3	82-y-122	S	9900	24.4	5.0	87	88	12
11	81-y-154	S	9880	24.4	4.8	88	85	1
2	M-9	M	9860	25.0	4.0	85	91	29
13	81-y-35	M	9850	24.5	4.5	87	83	1
24	83-y-24	M	9840	21.2	4.5	80	91	14
15	82-y-15	S	9800	25.5	4.8	89	93	20
21	82-y-126	WXY	9730	21.7	4.8	81	84	33
26	M-201	M	9710	25.0	4.3	87	84	1
8	82-y-166	M	9670	24.6	5.0	83	90	5
9	82-y-138	S	9660	25.5	4.3	91	86	1
23	82-y-172	M	9590	22.9	4.5	82	84	2
17	82-y-17	S	9460	26.4	4.8	89	88	33
30	M-302	M	9450	25.5	4.0	99	88	1
19	82-y-19	M	9440	24.0	5.0	83	98	55
4	80-y-24-B	S	9430	24.6	4.3	83	84	29
5	80-y-138A	S	9410	22.3	5.0	83	82	14
7	82-y-168	M	9370	23.0	4.8	82	92	34
22	82-y-182	M	9350	22.6	4.5	82	93	53
16	82-y-104	WXY	9120	20.7	5.0	82	83	64
1	M-101	M	9000	21.2	4.5	82	90	30
18	82-y-18	M	8970	25.1	4.0	84	93	50
28	California Belle	L	8480	18.0	3.0	81	96	11
GRAND MEAN			9740	23.5	4.5	86	88	19
CV			5.7	5.6	9.9	2.0	4.6	112
LSD (.05)			780	1.8	0.6	2	6	30

Cooperator and Location: Lauppe and Son, Natomas
 Planting Date: May 29, 1983.

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 4. Performance summary of the very early rice experimental lines and varieties, means of two locations (Butte and Sutter counties).

1983 entry no.	Cultivar description	Grain ¹ type	Grain yield @ 14% moisture (lbs/acre)	Grain moisture @ harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (cm)	Lodging ³ (1-99)
10	81-y-124	M	10980	20.9	4.5	85	86	1
14	82-y-14	S	10560	22.8	4.9	88	91	7
3	82-y-122	S	10560	22.0	5.0	89	89	7
20	83-y-20	M	10500	17.6	4.8	82	94	13
25	Calpearl	S	10490	16.3	5.0	83	86	3
2	M-9	M	10490	22.9	4.5	88	93	17
12	82-y-162	M	10360	18.3	4.8	84	90	21
17	82-y-17	S	10350	23.1	4.9	89	89	18
6	82-y-130	S	10340	23.7	4.9	96	84	2
15	82-y-15	S	10310	22.7	4.9	90	91	11
9	82-y-138	S	10280	23.1	4.6	92	86	1
13	81-y-35	M	10240	22.7	4.7	88	84	1
4	80-y-24-B	S	10240	21.3	4.6	83	84	19
11	81-y-154	S	10230	22.3	4.8	89	84	1
21	82-y-126	Wxy	10190	18.8	4.8	80	83	24
23	82-y-172	M	10160	21.3	4.8	85	84	2
24	83-y-24	M	10020	19.4	4.8	81	88	9
8	82-y-166	M	9980	22.2	5.0	84	90	4
7	82-y-168	M	9930	20.2	4.9	83	90	19
19	82-y-19	M	9850	21.0	5.0	84	96	45
5	80-y-138A	S	9800	19.6	5.0	84	84	16
18	82-y-18	M	9780	23.1	4.5	86	92	32
22	82-y-182	M	9660	20.2	4.8	83	91	38
1	M-101	M	9460	19.4	4.8	81	89	35
16	82-y-104	Wxy	9380	17.9	5.0	80	80	60
GRAND MEAN			10170	20.9	4.8	85	88	16
CV			5.7	5.7	6.8	2.2	4.1	114
LSD (.05)			580	1.2	0.3	2.0	4.0	18

¹S = short; M = medium, Wxy = 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% lodging.

Table 5. Grain yield summary of very early maturing rice varieties and experimental lines by location and years.

County location	Year	Varieties and Experimental Lines							
		California					Belle	Calpearl	82-y-126-A
		M-9	M-101	S-201	81-y-124				
Butte	1979	7470	8040	9050	--	--	--	--	
	1980	8870	8620	10010	--	--	--	--	
	1981	6710	7930	10060	--	--	--	--	
	1982	9500	9840	--	9930	--	--	--	
	1983	11220	9920	--	10790	--	10340	10650	
Location Mean		8750	8870	9710	10360	--	10340	10650	
Sacramento	1979	8070	7620	8800	--	--	--	--	
	1980	7980	--	8680	--	--	--	--	
	1981	7700	5330	8020	--	--	--	--	
	1982	8990	8420	8390	9200	6400	9210	--	
	1983	9860	9000	10090	11160	8480	10640	9730	
Location Mean		8520	7590	8800	10180	7440	9930	9730	
San Joaquin - Stanislaus	1979	7020	6630	6280	--	--	--	--	
	1980	5220	4770	5070	--	--	--	--	
	1981	9270	8690	9780	--	--	--	--	
	1982	--	--	--	--	--	--	--	
Location Mean		7170	6700	7040	--	--	--	--	
Location-years mean		8300	7900	8570	10270	7440	10060	10190	
Yield as % of M-101 ¹		105	100	114	110	85	110	108	
Number of tests		13	--	11	4	2	3	2	

¹Based on equivalent location-year means and may not reflect mean of all locations and years for M-101.

Table 6. Performance summary of the early rice experimental lines and varieties, Butte County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
45	83-y-45	L	11620	16.5	5.0	83	86	1
42	81-y-215	M	11260	20.7	5.0	92	86	1
40	82-y-270	M	11150	20.5	5.0	94	90	4
31	S-201	S	11100	21.3	5.0	95	85	1
35	80-y-36	S	10860	20.5	5.0	93	86	1
39	82-y-280	M	10570	22.0	5.0	98	90	1
52	82-y-52	L	10550	17.7	5.0	86	81	1
50	82-y-396	L	10510	18.6	4.9	87	82	1
41	81-y-35	M	10500	20.4	5.0	88	85	1
37	82-y-251	M	10400	20.1	5.0	94	87	1
47	82-y-311	L	10400	14.9	5.0	84	101	1
38	81-y-110	S	10310	20.3	5.0	92	86	1
32	Calmochi 202	WXY	10250	22.4	5.0	97	89	1
51	82-y-448	L	10220	18.2	5.0	87	82	1
29	M-9	M	10210	20.5	5.0	90	89	11
36	81-y-124	M	10200	18.7	5.0	87	90	1
48	82-y-386	L	10140	17.3	5.0	89	90	1
34	82-y-257	M	10030	20.0	5.0	90	96	1
30	M-201	M	10010	20.0	5.0	88	81	1
44	81-y-295	L	9700	16.9	5.0	87	81	1
33	82-y-33	WXY	9390	21.8	4.9	96	86	1
46	82-y-297	L	9270	16.1	4.9	89	95	1
43	83-y-43	M	8950	17.8	5.0	88	83	1
53	California Belle	L	8880	15.3	4.6	85	97	1
49	82-y-394	L	7690	17.0	5.0	83	89	79
GRAND MEAN			10170	19.0	5.0	90	88	5
CV			3.4	5.4	1.9	1.9	3.2	126
LSD (.05)			490	1.5	0.1	2	4	8

Conducted by the Rice Experiment Station, Butte County, near Biggs.

Planting Date: Two reps planted May 23, two reps planted May 25, 1983. Data an average of all replications.

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 7. Performance summary of the early rice experimental lines and varieties, Butte County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Plant height (cm)	Lodging 1-99 ³
44	81-y-295	L	8290	20.7	3.4	78	1
52	82-y-52	L	7920	21.1	3.8	84	1
35	80-y-36	S	7790	24.6	4.5	89	1
31	S-201	S	7510	24.4	4.6	89	1
40	82-y-270	M	7380	22.7	4.4	86	1
29	M-9	M	7230	23.4	4.3	89	1
36	81-y-124	M	7110	22.5	4.5	93	1
41	81-y-35	M	7100	23.7	4.3	87	2
54	Calpearl	S	7030	18.8	4.1	90	1
51	82-y-448	L	7020	23.5	3.8	90	1
45	83-y-45	L	6960	21.2	4.4	82	1
34	82-y-257	M	6840	23.8	4.4	94	39
43	83-y-43	M	6810	23.6	4.1	87	1
55	M-101	M	6560	21.0	4.3	91	35
53	California Belle	L	6540	18.1	2.9	99	1
47	82-y-311	L	6530	15.4	4.5	95	1
38	81-y-110	S	6420	24.9	4.3	94	1
37	82-y-251	M	6410	24.2	4.0	85	1
42	81-y-215	M	6400	24.1	4.4	84	1
50	82-y-396	L	6050	20.0	2.5	92	1
49	82-y-394	L	6040	21.1	4.3	100	69
30	M-201	M	6010	24.8	4.3	88	1
33	82-y-33	WXY	5890	24.9	3.8	91	1
46	82-y-297	L	5850	20.4	3.6	100	1
39	82-y-280	M	5200	25.2	4.4	97	1
56	M-302	M	4770	25.1	4.3	88	1
32	Calmochi 202	WXY	4750	26.4	4.4	94	2
48	82-y-386	L	4520	22.7	4.3	87	1
GRAND MEAN			6530	22.6	4.1	90	6
CV			16.2	4.3	8.6	7.4	155
LSD (.05)			1490	1.4	0.5	9	13

Cooperator and Location: R. & L. Grell, Richvale
 Planting Date: May 23, 1983

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 8. Performance summary of the early rice experimental lines and varieties, Colusa County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
42	81-y-215	M	10030	22.1	3.8	90	96	2
40	82-y-270	M	9800	21.7	4.5	88	98	2
41	81-y-35	M	9640	22.2	3.9	87	91	28
31	S-201	S	9600	20.8	4.0	88	97	2
36	81-y-124	M	9530	20.1	3.9	85	94	2
37	82-y-251	M	9420	21.4	4.3	88	97	2
35	80-y-36	S	9390	21.6	4.1	88	95	14
54	Calpearl	S	9290	17.8	4.0	84	97	2
29	M-9	M	9170	22.5	3.5	86	97	52
52	82-y-52	L	9100	19.4	3.8	89	87	1
45	83-y-45	L	8900	17.8	3.9	83	93	9
39	82-y-280	M	8870	21.8	4.0	90	98	20
32	Calmochi 202	WXY	8850	22.6	3.9	91	101	3
30	M-201	M	8790	21.5	3.6	87	89	1
38	81-y-110	S	8750	21.0	4.0	88	99	2
56	M-302	M	8720	24.2	3.9	97	102	1
33	82-y-33	WXY	8610	22.9	3.4	91	98	34
47	82-y-311	L	8440	16.0	4.3	84	108	1
51	82-y-448	L	8420	18.9	3.6	88	89	1
50	82-y-396	L	8410	18.9	3.6	86	91	3
34	82-y-257	M	8310	23.0	4.0	89	102	47
48	82-y-386	L	8300	18.0	3.9	91	97	1
44	81-y-295	L	8120	18.2	3.8	88	83	1
43	83-y-43	M	7910	20.9	3.6	87	90	18
55	M-101	M	7620	20.5	4.1	82	94	38
49	82-y-394	L	7540	17.2	4.0	83	93	12
46	82-y-297	L	7020	17.5	3.6	87	98	1
53	California Belle	L	6430	17.2	2.9	85	108	45
GRAND MEAN			8680	20.3	3.8	87	96	12
CV			6.0	6.8	6.7	1.7	4.4	147
LSD (.05)			730	1.9	0.4	2	6	25

Cooperator and Location: Wylie Farming, Norman
Planting Date: May 23, 1983.

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 9. Performance summary of the early rice experimental lines and varieties, Yolo County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
44	81-y-295	L	11530	19.1	3.3	93	90	1
54	Calpearl	S	11530	17.3	3.6	85	99	19
52	82-y-52	L	11260	19.8	3.4	94	103	5
36	81-y-124	M	11220	21.7	3.9	93	102	74
47	82-y-311	L	11190	16.5	4.1	88	117	10
30	M-201	M	11190	23.4	3.9	94	105	1
51	82-y-448	L	10950	18.1	3.5	95	96	1
48	82-y-386	L	10930	17.8	2.9	93	109	1
43	83-y-43	M	10700	23.3	4.0	96	102	3
45	83-y-45	L	10590	16.4	3.8	90	103	39
37	82-y-251	M	10370	22.1	3.9	96	99	32
42	81-y-215	M	10250	17.9	4.0	94	101	98
29	M-9	M	10170	23.4	4.0	95	108	99
41	81-y-35	M	10080	21.6	4.0	95	99	89
50	82-y-396	L	10030	18.6	2.0	93	102	8
46	82-y-297	L	9920	17.3	4.0	90	111	1
55	M-101	M	9710	18.5	4.3	84	104	97
34	82-y-257	M	9650	18.1	3.8	89	107	97
31	S-201	S	9590	17.2	4.1	97	100	98
38	81-y-110	S	9550	20.9	4.0	94	103	90
40	82-y-270	M	9550	20.1	4.0	95	103	99
39	82-y-280	M	9550	22.6	4.0	101	109	5
49	82-y-394	L	9290	17.2	3.6	83	100	2
35	80-y-36	S	9210	17.3	4.1	94	101	98
33	82-y-33	WXY	9140	19.1	3.9	99	105	95
56	M-302	M	9000	20.4	3.9	95	107	96
32	Calmochi 202	WXY	8470	22.7	4.0	98	109	89
53	California Belle	L	7810	18.4	2.3	89	110	85
GRAND MEAN			10090	19.5	3.7	93	104	51
CV			10.2	10.0	10.5	1.0	3.8	21
LSD (.05)			1450	2.7	0.5	1	6	15

Cooperator and Location: William Geer, District 108.
 Planting Date: May 16, 1983

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 10. Performance summary of the early rice experimental lines and varieties, Yuba County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
54	Calpearl	S	9470	19.0	4.0	87	92	1
36	81-y-124	M	9440	23.1	3.9	90	89	1
29	M-9	M	9220	24.6	3.8	90	89	1
41	81-y-35	M	9000	24.5	4.1	91	83	1
35	80-y-36	S	8890	24.2	3.8	94	87	1
55	M-101	M	8860	21.5	3.4	85	94	49
42	81-y-215	M	8830	23.8	3.6	95	84	1
34	82-y-257	M	8760	22.5	3.9	89	91	1
38	81-y-110	S	8750	24.2	3.4	96	85	1
31	S-201	S	8740	24.9	3.9	95	85	1
45	83-y-45	L	8740	20.6	3.3	85	81	1
30	M-201	M	8710	24.0	4.3	93	83	1
40	82-y-270	M	8630	23.9	3.8	95	89	1
33	82-y-33	WXY	8230	25.2	3.4	96	90	1
53	California Belle	L	8180	17.5	3.6	87	97	1
52	82-y-52	L	8120	22.0	3.0	97	75	1
37	82-y-251	M	8040	24.6	3.8	95	87	1
44	82-y-295	L	8020	21.5	3.4	95	75	1
51	82-y-448	L	8010	21.3	3.0	93	75	1
39	82-y-280	M	7970	24.5	3.9	97	88	1
32	Calmochi 202	WXY	7940	24.7	3.6	98	90	1
56	M-302	M	7880	24.7	3.8	99	89	1
47	82-y-311	L	7860	17.2	4.4	88	100	1
50	82-y-396	L	7840	22.1	2.6	94	81	1
48	82-y-386	L	7820	19.8	3.9	93	82	1
43	83-y-43	M	7690	23.7	3.8	93	85	1
49	82-y-394	L	7630	18.6	3.9	81	96	4
46	82-y-297	L	6750	19.5	3.8	90	88	1
GRAND MEAN			8360	22.4	3.7	92	87	3
CV			4.6	3.4	8.9	1.8	3.5	197
LSD (.05)			540	1.1	0.5	2	4	8

Cooperator and Location: Bob Mohammed, District 10.

Planting Date: May 26, 1983

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 11. Performance summary of the early rice experimental lines and varieties, means of five locations (Butte, Colusa, Butte-Rice Experiment Station, Yolo and Yuba counties).

1983 entry no.	Cultivar description	Grain ¹ type	Grain yield @ 14% moisture (lbs/acre)	Grain moisture @ harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading ³	Plant height (cm)	Lodging ⁴ (1-99)
36	81-y-124	M	9500	21.2	4.2	89	93	16
52	82-y-52	L	9390	20.0	3.8	93	86	2
45	83-y-45	L	9360	18.5	4.0	86	89	10
42	81-y-215	M	9350	21.7	4.2	93	90	21
31	S-201	S	9310	21.7	4.3	93	91	21
40	82-y-270	M	9300	21.8	4.3	92	93	21
41	81-y-35	M	9260	22.5	4.3	91	89	24
35	80-y-36	S	9230	21.6	4.3	92	91	23
29	M-9	M	9200	22.9	4.1	91	94	33
44	81-y-295	L	9130	19.3	3.8	92	81	1
30	M-201	M	8940	22.7	4.2	91	89	1
37	82-y-251	M	8930	22.5	4.2	93	91	7
51	82-y-448	L	8930	20.0	3.8	92	86	1
47	82-y-311	L	8880	16.0	4.5	87	104	3
38	81-y-110	S	8760	22.2	4.1	92	93	19
34	82-y-257	M	8720	21.5	4.2	89	98	37
50	82-y-396	L	8570	19.6	3.1	91	89	3
39	82-y-280	M	8430	23.2	4.3	96	96	5
43	83-y-43	M	8410	21.9	4.1	92	89	5
48	82-y-386	L	8340	19.1	4.0	92	93	1
33	82-y-33	Wxy	8250	22.8	3.8	95	94	26
32	Calmochi 202	Wxy	8050	23.7	4.2	96	97	19
46	82-y-297	L	7760	18.2	4.0	89	98	1
49	82-y-394	L	7640	18.2	4.2	82	95	33
53	Calif. Belle	L	7570	17.3	3.2	87	102	27
GRAND MEAN			8770	20.8	4.0	91	93	14
CV			8.3	5.8	7.5	1.5	4.8	72.1
LSD (.05)			460	0.8	0.2	1	3	6

¹S = short; M = medium, L = long; Wxy = waxy.

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

³Based on four locations (Rice Experiment Station, Colusa, Yolo and Yuba Counties).

⁴Subjective rating of 1-99 where 1 = none and 99 = 99% lodging.

Table 11a. Performance summary of the early commercial varieties, means of four locations (Butte, Colusa, Yolo and Yuba counties).

1983 entry no.	Cultivar description	Grain ¹ type	Grain yield @ 14% moisture (lbs/acre)	Grain moisture @ harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading ³	Plant height (cm)	Lodging ⁴ (1-99)
54	Calpearl	S	9330	18.2	3.9	85	94	6
29	M-9	M	8950	23.5	3.9	91	96	38
31	S-201	S	8860	21.8	4.2	93	93	25
30	M-201	M	8670	23.4	4.0	91	91	1
55	M-101	M	8190	20.4	4.0	83	96	55
56	M-302	M	7590	23.6	3.9	97	96	25
32	Calmochi 202	S	7500	24.1	4.0	96	98	24
53	Calif. Belle	L	7240	17.8	2.9	87	103	33
CV			9.6	6.4	8.8	1.5	4.9	65.9
LSD (.05)			560	0.9	0.2	1	3	8

¹S = short; M = medium; L = long.

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

³Based on three locations (Colusa, Yolo and Yuba counties).

⁴Subjective rating of 1-99 where 1 = 1% lodging and 99 = 99% lodging.

Table 12. Grain yield summary of the early maturing rice varieties and experimental lines by location and year.

County location	Year	Varieties and Experimental Lines					
		M-9	S-201	Calmochi 202	M-201	80-y-36	Calpearl
Butte	1979	8370	8430	9020	9740	--	--
	1980	8380	9730	9280	10080	--	--
	1981	7510	9410	8490	10540	--	--
	1982	8560	9910	9720	9640	9350	--
	1983	10210	11100	10250	10010	9980	--
Location Mean		8610	9720	9350	10000	9670	--
Yuba	1979	8640	8720	7600	8050	--	--
	1980	5070	5370	4950	5850	--	--
	1981	8960	9740	9140	10050	9960	--
	1982	9480	8940	8080	9310	9600	10550
	1983	9220	8740	7940	8710	8890	9470
Location Mean		8270	8300	7540	8390	9480	10010
Yolo	1979	9990	10560	10070	10550	--	--
	1980	8750	9360	7710	8440	--	--
	1981	8670	9470	7720	9570	9490	--
	1982	9210	9100	9170	10360	8970	10110
	1983	10170	9590	8470	11190	9210	11530
Location Mean		9360	9620	8630	10020	9220	10820
Colusa-Glenn	1981	8510	9710	8020	9090	8610	--
	1982	8240	8990	7750	9100	8100	9690
	1983	9170	9600	8850	8790	9390	9290
Location Mean		8640	9430	8210	8990	8700	9490
Location-years mean		8730	9250	8460	9390	9230	10110
Yield as % of M-9 ²		100	106	97	108	101	115
Number of tests			18	18	18	11	6

¹Based on equivalent location-year means and may not reflect mean of all locations and years for M-9.

Table 13. Performance summary of the late experimental lines and varieties, Butte County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
61	M-401	M	11230	21.7	5.0	103	92	8
68	82-y-570	M	11080	22.7	5.0	104	91	1
71	82-y-544	M	11010	23.0	5.0	105	95	2
64	82-y-502	S	10950	21.4	4.6	103	84	1
66	80-y-393	M	10880	22.4	5.0	104	93	3
82	82-y-567	M	10790	23.4	5.0	105	91	1
67	80-y-426	M	10700	20.8	5.0	104	92	5
81	82-y-587	M	10580	22.3	5.0	103	91	1
69	82-y-550	M	10330	21.9	5.0	105	88	1
70	82-y-578	M	10320	22.8	5.0	104	85	1
75	81-y-411	M	10210	22.3	5.0	107	89	1
73	82-y-495	M	10110	21.7	5.0	107	89	1
72	82-y-608	M	10110	22.8	5.0	106	88	1
80	82-y-599	M	10050	24.3	5.0	107	91	1
78	82-y-78	M	9940	24.0	5.0	107	88	1
74	81-y-407	M	9880	24.1	5.0	107	89	1
85	Calrose 76	M	9840	20.2	5.0	105	90	1
76	82-y-76	M	9770	20.4	4.8	102	87	1
62	M-302	M	9690	21.3	5.0	103	92	1
79	82-y-79	M	9520	22.0	5.0	106	88	1
63	M-7	M	9520	22.7	5.0	107	88	1
83	82-y-645	L	9190	17.4	5.0	103	87	1
77	82-y-77	M	9120	22.3	5.0	107	91	2
65	79-y-438	S	9030	22.2	5.0	105	83	1
84	82-y-649	L	8860	18.1	5.0	105	100	1
GRAND MEAN			10110	21.9	5.0	105	90	2
CV			5.7	6.6	1.1	2.0	3.6	138
LSD (.05)			820	2.0	0.1	3	5	3

Conducted by the Rice Experiment Station, Butte County, near Biggs.
Planting Date: May 19, 1983.

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

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 14. Performance summary of the late rice experimental lines and varieties, Colusa County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
72	82-y-608	M	9660	24.5	3.6	97	102	1
67	80-y-426	M	8570	20.8	3.6	95	94	1
75	81-y-411	M	8450	21.5	3.6	96	95	1
80	82-y-599	M	8340	23.7	3.4	101	94	1
61	M-401	M	8090	23.3	2.9	98	91	1
82	82-y-567	M	8060	22.2	3.8	99	90	1
69	82-y-550	M	8050	22.2	3.5	94	98	7
78	82-y-78	M	8050	23.2	3.6	96	96	1
73	82-y-495	M	7970	22.1	3.8	93	94	1
62	M-302	M	7940	19.5	3.6	91	94	5
77	82-y-77	M	7930	22.0	3.4	93	92	1
76	83-y-76	M	7880	21.6	3.4	92	85	1
74	81-y-407	M	7780	22.6	3.6	98	96	13
66	80-y-393	M	7770	22.3	3.5	97	93	3
70	82-y-578	M	7760	21.8	3.8	97	85	1
65	79-y-438	S	7720	23.8	3.5	100	88	1
79	82-y-79	M	7720	22.4	3.8	97	89	1
81	82-y-587	M	7660	22.0	3.6	97	91	1
71	82-y-544	M	7480	22.5	3.5	97	95	1
68	82-y-570	M	7480	21.3	3.8	96	88	1
64	82-y-502	S	7270	20.6	2.9	96	80	1
85	Calrose 76	M	7250	21.8	3.0	100	91	1
63	M-7	M	6900	23.1	3.6	100	92	1
84	82-y-649	L	5960	18.1	3.4	94	94	1
83	82-y-645	L	5220	19.5	2.4	100	84	1
GRAND MEAN			7720	21.9	3.5	96	91	2
CV			13.9	8.0	9.7	1.4	8.4	283
LSD (.05)			1510	2.5	0.5	2	11	ns

Cooperator and Location: Terhel Farms, Colusa County
 Planting Date: May 20, 1983.

¹S = short; M = medium; L = long.

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 15. Performance summary of the late experimental lines and varieties, Sutter County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
70	82-y-578	M	10200	24.0	4.5	95	85	2
80	82-y-599	M	10120	25.2	5.0	101	90	1
66	80-y-393	M	10120	23.4	5.0	94	91	2
68	82-y-570	M	10060	22.9	4.3	94	85	3
82	82-y-567	M	10010	23.2	4.5	93	92	1
71	82-y-544	M	9910	23.3	4.5	94	91	1
69	82-y-550	M	9910	22.1	4.8	95	89	1
79	82-y-79	M	9880	23.5	5.0	97	86	1
74	81-y-407	M	9880	24.2	5.0	95	91	2
81	82-y-587	M	9790	24.7	5.0	95	89	1
73	82-y-495	M	9740	23.0	5.0	95	93	1
78	82-y-78	M	9730	24.2	5.0	96	86	1
65	79-y-438	S	9680	25.1	4.5	100	86	1
61	M-401	M	9660	23.1	4.0	93	88	23
64	82-y-502	S	9610	22.1	4.0	97	79	3
72	82-y-608	M	9570	24.9	5.0	97	89	1
63	M-7	M	9570	24.7	4.5	99	81	1
67	80-y-426	M	9550	24.2	4.8	95	92	19
62	M-302	M	9360	22.5	5.0	94	86	1
77	82-y-77	M	9360	23.5	5.0	95	98	1
85	Calrose 76	M	9360	24.1	4.3	101	89	2
75	81-y-411	M	9180	22.4	5.0	97	89	1
76	83-y-76	M	8680	22.9	4.8	94	80	1
84	82-y-649	L	7310	21.3	4.0	97	87	1
83	82-y-645	L	6660	19.0	4.8	98	79	1
GRAND MEAN			9480	23.3	4.7	96	87	3
CV			6.4	4.0	7.0	1.6	5.5	350
LSD (.05)			860	1.3	0.5	2	7	ns

Cooperator and Location: Nevis Industries, Nicholas
 Planting Date: May 17, 1983.

¹S = short; M = medium; L = long.

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 16. Performance summary of the late rice experimental lines and varieties, means of three locations (Butte, Colusa and Sutter counties).

1983 entry no.	Cultivar description	Grain ¹ type	Grain yield @ 14% moisture (lbs/acre)	Grain moisture @ harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (cm)	Lodging ³ (1-99)
72	82-y-608	M	9780	24.1	4.5	100	93	1
61	M-401	M	9660	22.7	4.0	98	90	11
82	82-y-567	M	9620	22.9	4.4	99	91	1
67	80-y-426	M	9610	22.0	4.5	98	92	8
66	80-y-393	M	9590	22.7	4.5	98	92	3
68	82-y-570	M	9540	22.3	4.3	98	88	2
80	82-y-599	M	9500	24.4	4.5	103	91	1
71	82-y-544	M	9470	22.9	4.3	98	93	1
69	82-y-550	M	9430	22.1	4.4	98	92	3
70	82-y-578	M	9430	22.9	4.4	99	85	1
81	82-y-587	M	9340	23.0	4.5	98	90	1
75	81-y-411	M	9280	22.1	4.5	100	91	1
64	82-y-502	S	9270	21.3	3.8	98	81	2
73	82-y-495	M	9270	22.3	4.6	98	92	1
78	82-y-78	M	9240	23.8	4.5	100	90	1
74	81-y-407	M	9180	23.6	4.5	100	92	5
79	82-y-79	M	9040	22.6	4.6	100	87	1
62	M-302	M	9000	21.1	4.5	96	91	2
85	Calrose 76	M	8820	22.0	4.1	102	90	1
65	79-y-438	S	8810	23.7	4.3	102	86	1
77	82-y-77	M	8800	22.6	4.5	98	94	1
76	83-y-76	M	8780	21.6	4.3	96	84	1
63	M-7	M	8660	23.5	4.4	102	87	1
84	82-y-649	L	7380	19.2	4.1	99	93	1
83	83-y-645	L	7020	18.6	4.0	100	83	1
GRAND MEAN			9100	22.4	4.4	99	89	2
CV			8.7	6.3	6.3	1.7	6.2	317
LSD (.05)			630	1.1	0.2	1	5	6

¹S = short; M = medium; L = long.

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

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

Table 17. Grain yield summary of the late maturing rice varieties and experimental line by location and year.

County location	Year	Varieties and Experimental Lines				
		M-7	Calrose 76	M-302	M-401	79-y-438
Butte	1979	8040	7820	7650	7310	--
	1980	9690	9320	9170	10570	10160
	1981	10130	9740	9680	10030	9880
	1982	10630	--	10550	9170	10910
	1983	9520	9840	9690	11230	9030
Location Mean		9600	9180	9350	9660	9990
Glenn-Colusa	1979	9380	9120	9540	11240	--
	1980	9260	8540	9390	10110	8980
	1981	9530	9390	8920	9910	9450
	1982	8950	8520	8160	6740	8860
	1983	6900	7250	7940	8090	7720
Location Mean		8800	8560	8790	9220	8750
Sutter	1979	8130	7610	7630	8000	--
	1980	9560	8990	9370	9430	9840
	1981	10030	10360	10550	11620	10920
	1982	8820	9390	9720	9500	7960
	1983	9570	9360	9360	9660	9680
Location Mean		9220	9140	9330	9640	9600
Merced-Fresno	1979	7220	6780	6250	7180	--
	1980	--	--	--	--	--
	1981	6920	7700	7180	7560	7940
	1982	7660	7110	8390	7170	7550
	1983	--	--	--	--	--
Location Mean		7270	7200	7270	7300	7750
Location-years mean		8890	8640	8840	9140	9210
Yield as % of M-7 ¹		100	98	99	103	101
Number of tests			17	18	18	14

¹Based on equivalent location-year means and may not reflect mean of all locations and years for M-7.

Table 18. Performance summary of the long grain test, Butte County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
459	82-y-340	L	10930	17.7	4.9	88	87	19
470	82-y-455	L	10860	22.3	5.0	91	96	2
453	82-y-51-1	L	10670	16.9	5.0	85	86	2
454	82-y-52	L	10460	18.8	4.8	87	82	1
468	82-y-51-2	L	10410	16.2	4.7	85	86	5
463	82-y-429	L	10140	16.6	5.0	86	87	3
461	82-y-371	L	10090	20.0	4.9	95	95	5
452	82-y-21	L	9920	17.0	4.8	87	81	1
455	M-201	M	9880	18.5	5.0	87	83	2
458	82-y-330	L	9850	15.9	5.0	84	87	1
471	81-y-32433	L	9720	16.2	4.8	87	78	1
456	M-302	M	9670	23.7	4.9	100	94	1
450	L-201	L	9660	16.5	4.9	87	100	10
466	81-y-48225	L	9600	15.2	5.0	84	90	1
457	81-y-300	L	9500	14.4	4.8	82	75	1
462	81-y-415	L	9480	17.7	5.0	93	83	1
469	81-y-392	L	9240	18.5	5.0	88	100	59
460	81-y-364	L	9190	15.0	4.7	83	86	1
465	81-y-47725	L	9080	14.9	5.0	82	93	1
467	81-y-49319	L	9050	14.2	4.4	80	93	2
464	81-y-32969	L	8970	13.7	5.0	81	77	1
451	California Belle	L	8970	16.2	4.7	87	99	1
472	81-y-33117	L	8940	14.3	5.0	83	78	1
473	81-y-47766	L	8170	14.7	5.0	83	85	1
474	81-y-32181	L	6750	18.2	5.0	98	84	1
GRAND MEAN			9570	16.9	4.9	87	87	5
CV			4.7	7.6	3.6	1.8	4.6	154
LSD (.05)			630	1.8	0.3	2	6	10

Conducted by the Rice Experiment Station, Butte County, near Biggs.

Planting Date: Two reps planted May 22, two reps planted May 25, 1983. Data an average of all replications.

¹M = medium; L = long.

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 19. Performance summary of the long grain test, Yolo County, 1983.

1983 entry no.	Cultivar description	Grain type ¹	Grain yield @ 14% H ₂ O (lbs/acre)	Grain moisture at harvest (%)	Seedling vigor 1-5 ²	Days to 50% heading	Plant height (cm)	Lodging 1-99 ³
470	82-y-455	L	11930	19.2	3.9	92	108	7
458	82-y-330	L	11570	17.1	3.9	91	99	1
454	82-y-52	L	11490	19.2	3.4	94	91	1
452	82-y-21	L	11180	19.0	3.1	94	92	1
460	81-y-364	L	11030	12.8	3.5	86	100	1
472	81-y-33117	L	10980	12.1	3.5	85	88	1
464	81-y-32969	L	10780	12.3	3.6	85	89	1
455	M-201	M	10780	20.7	4.0	93	99	1
466	81-y-48225	L	10560	15.2	3.4	89	104	4
471	81-y-32433	L	10260	19.7	3.3	99	86	1
468	82-y-51-2	L	10240	17.4	3.3	93	96	25
453	82-y-51-1	L	9960	16.6	3.5	91	97	25
463	82-y-429	L	9960	16.7	3.6	91	100	63
473	81-y-47766	L	9910	13.9	3.5	91	100	1
462	82-y-21	L	9860	17.9	3.9	95	103	1
465	81-y-47725	L	9670	15.6	3.5	89	105	53
467	81-y-49318	L	9620	12.6	3.6	82	106	8
457	81-y-300	L	9480	14.3	4.0	79	85	1
456	M-302	M	9450	18.9	3.5	95	103	89
469	81-y-392	L	9410	15.4	3.5	91	106	89
450	L-201	L	9350	19.0	1.4	101	115	8
459	82-y-340	L	8700	16.9	3.5	95	94	82
475	Filler		8530	15.0	2.9	87	115	39
461	82-y-371	L	8530	18.2	3.8	101	113	5
451	California Belle	L	7960	13.8	3.4	88	110	87
474	81-y-32181	L	6570	19.2	3.9	100	105	1
GRAND MEAN			9910	16.5	3.5	91	100	23
CV			6.6	8.1	8.0	1.4	4.4	53
LSD (.05)			930	1.9	0.4	2	6	17

Cooperator and Location: William Geer, District 108.

Planting Date: May 16, 1983

¹M = medium; L = long.

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

³Subjective rating of 1-99 where 1 = none and 99 = 100% lodged.

Table 20. Performance summary of the long grain test, means of two locations (Butte and Yolo counties).

1983 entry no.	Cultivar description	Grain ¹ type	Grain yield @ 14% moisture (lbs/acre)	Grain moisture @ harvest (%)	Seedling ² vigor (1-5)	Days to 50% heading	Plant height (cm)	Lodging ³ (1-99)
470	82-y-455	L	11390	20.7	4.4	92	102	4
454	82-y-52	L	10970	19.0	4.1	90	87	1
458	82-y-330	L	10710	16.5	4.4	88	93	1
452	82-y-21	L	10550	18.0	3.9	90	86	1
455	M-201	M	10330	19.6	4.5	90	91	1
468	82-y-51-2	L	10320	16.8	4.0	89	91	15
453	82-y-51-1	L	10310	16.8	4.3	88	91	13
460	81-y-364	L	10110	13.9	4.1	85	93	1
466	81-y-48225	L	10080	15.2	4.2	86	97	2
463	82-y-429	L	10050	16.6	4.3	88	93	33
471	81-y-32433	L	9990	17.9	4.0	93	82	1
472	81-y-33117	L	9960	13.2	4.3	84	83	1
464	81-y-32969	L	9880	13.0	4.3	83	83	1
459	82-y-340	L	9820	17.3	4.2	91	91	50
462	81-y-415	L	9670	17.8	4.4	94	93	1
456	M-302	M	9560	21.3	4.2	98	98	45
450	L-201	L	9510	17.7	3.1	94	107	9
457	81-y-300	L	9490	14.3	4.4	80	80	1
465	81-y-47725	L	9370	15.3	4.3	85	99	27
467	81-y-49319	L	9330	13.4	4.0	81	100	5
469	81-y-392	L	9330	16.9	4.2	89	103	74
461	82-y-371	L	9310	19.1	4.3	98	104	5
473	81-y-47766	L	9040	14.3	4.3	87	92	1
451	Calif. Belle	L	8460	15.0	4.0	87	105	44
474	81-y-32181	L	6660	18.7	4.4	99	94	1
GRAND MEAN			9770	16.7	4.2	89	93	14
CV			5.8	7.9	5.5	1.6	4.6	67.2
LSD (.05)			560	1.3	0.2	1	4	9

¹M = medium, L = long.

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

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