

Management Guidelines Cont.

- Water depth should be increased to about 8 inches at panicle initiation (50 to 55 days after planting) through heading to protect panicles from low temperature exposure during occasional cool nights.
- Optimal harvest moisture is around 23%. Care should be taken during harvest and drying to minimize fissuring. Timely drying is suggested to avoid off odors that can reduce premium quality value.

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CALHIKARI-201 RICE: DESCRIPTION AND MANAGEMENT GUIDELINES



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CALHIKARI-201

Introduction. Calhikari-201 is being released as California's first premium quality short-grain variety. Calhikari-201 exhibits a much greater yield potential and resistance to lodging than Japanese varieties. Seed of Calhikari-201 will be available for commercial production in California in 2001. Its pedigree includes Koshihikari and S-101. The following information is intended to assist growers in optimizing the yield and quality of Calhikari-201.

Description. Calhikari-201 is a photoperiod insensitive, early maturing, semi-dwarf, rough premium quality short-grain selected in 1992. Calhikari-201 is susceptible to stem rot and the IG-1 race of blast found in California. Days to 50% heading is 5 days longer than Akitakomachi but 9 days less than Koshihikari. Calhikari-201 averaged higher stem rot scores, higher greenhouse blanking scores and delayed maturity in cold locations. The 1999 season was unusually cool and severe blanking greatly reduced the yield in San Joaquin County compared to the RES, 1910 and 9460 lbs/acre respectively.

Performance. Calhikari-201 has greater seedling vigor, yield potential and lodging resistance than Akitakomachi and Koshihikari, but less than M-202. Average grain yields of Calhikari-201 and Akitakomachi in Statewide Yield Tests in 1996 to 1998 were 8200 and 6390 lbs/acre, respectively. The following table includes a summary of agronomic characteristics for Calhikari-201, Akitakomachi and M-202. Grain size and shape is very similar and milling yield potential is high

but somewhat less than Japanese varieties. Between 1995 and 1998, the protein content ranged between 4.8 – 6.2%.

Area of adaption. Calhikari-201 is being released as a short-grain rice for the premium Japanese short-grain market that is currently being served by the Japanese short-grain varieties Koshihikari and Akitakomachi. Seedling vigor, lodging resistance, and grain yield potential are superior to the Japanese varieties. Tolerance to cool temperature induced sterility (blanking) determined from greenhouse and cold nursery tests indicate it may not be well suited to the coldest growing regions of California.

SUMMARY OF AGRONOMIC CHARACTERISTICS FOR CALHIKARI-201, AKITAKOMACHI AND M-202 1996 TO 1998 AT RES

Character	Calhikari-201	Akitakomachi	M-202
Seedling vigor (score)	4.5	3.8	4.4
Days to 50% heading	90	82	89
Plant height (cm)	88	101	96
Lodging (%)	40	97	30
Blanking - Greenhouse	28	10	22
Blanking - Davis	8	10	9
Blanking - San Joaquin	6	12	9
Overall blanking mean	14	11	13
Stem rot (score) ¹	5.7	5.4	5.8
Aggregate sheath spot (score) ²	2.0	2.1	2.5
Harvest moisture (%)	19.0	19.4	21.6
Yield (lb/acre @ 14%)	8200	6390	9270
Milling (%) total	68.6	68.6	67.5
Milling (%) whole grain	61.6	63.2	61.7
Brown rice 1000 grain wt (gms)	*22.1	*21.8	--
Brown rice length (cm)	*5.2	*5.4	--
Brown rice width (cm)	*3.0	*2.8	--
Ratio (L/W)	*1.8	*1.9	--

¹ Stem rot resistance visual score where 0 = no damage and 10 = plant killed.

² Number of top 4 leaves killed by aggregate sheath spot.

* 1998 RES samples only.

Calhikari-201 may not be a desirable cultivar for fields that routinely suffer significant damage from stem rot and aggregate sheath spot diseases. Its quality characteristics should make it suitable as a premium quality short-grain market type.

Management Guidelines. The following guidelines are based on research, observation and experience gained in developing Calhikari-201. These suggested cultural practices are intended to assist in the production of optimum yields and quality of Calhikari-201.

- Uniform water depth, fertility, seed distribution and weed control are important because they affect heading, harvest moisture and in turn head rice milling yield.

- Fertilizer rates should be managed carefully to avoid excess lodging and reduced grain quality. Preplant nitrogen rates of 110 lbs/acre produced maximum yields and milling quality in 1999 at RES. Further studies are needed to determine optimum N management for market quality characteristics.

- Preferred seeding dates are May 1 to May 24. There are better variety alternatives when planting later. Calhikari-201 should be seeded at the rate of 130 to 150 lbs/acre. Excessive seeding rates reduce yield potential and increase susceptibility to disease.