

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.

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Cover graphic art by Linda Seman.

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**Agronomy Fact Sheet Series
2001-6**

CALMATI-201 RICE: DESCRIPTION AND MANAGEMENT GUIDELINES



2001

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CALMATI-201

Introduction. Calmati-201 is a early, basmati type aromatic long grain. Seed for commercial production will be available 2001. It is the first basmati type rice in California and is expected to permit grower entry into this market. This aromatic rice with a kernel that elongates when cooked is expected to compete in the market with basmati rice currently imported from India and Pakistan. Comparisons for evaluation are made with the aromatic long-grain A-201 and non aromatic long-grain L-204. Application has been made for plant variety protection.

Description. Calmati-201 is an early maturing, rough hulled, semi-dwarf, aromatic long-grain selected in 1992. Its pedigree includes germplasm from semidwarf and tall basmati rice varieties from Pakistan. Calmati-201 heads about the same time as A-201 and five days late than L-204. It is 0" to 3.5" taller than A-201 and L-204, respectively. It has lower seedling vigor than either of those varieties, stem rot score lower than A-201 and greater susceptibility to blanking and lodging than L-204. Calmati-201 yields less than L-204 and A-201. Amylose content of Calmati-201 is similar to L-204 and about 2% less than A-201. Kernel size and weight are smaller than either L-204 or A-201. It produces higher head rice than A-201 but less than L-204 and should be harvested at 18-19% moisture. Calmati-201 is suited only to the warmer rice growing areas.

Performance. Calmati-201 has yielded significantly less than A-201 and L-204 in

Statewide Yield Tests. In 1996 to 1998 tests, Calmati-201 averaged 7117 lbs/acre compared to 8435 lbs/acre for L-204. In 1997 to 1998 tests, Calmati-201 averaged 6947 lbs/acre compared to 7792 lbs/acre for A-201, a currently grown aromatic long-grain cultivar in California. Calmati-201 differed from A-201 and L-204 by having kernel elongation during cooking, which is a unique characteristic of basmati rice. Calmati-201 like L-204 has a "moderate" amylographic profile while A-201 has a "weak" amylographic profile. Calmati-201 had better head rice milling yield than A-201, a currently grown aromatic long-grain California cultivar, in milling studies at RES. Head rice milling yield of Calmati-201 was less than L-204. The following table is a summary of agronomic characteristics of Calmati-201 as compared to A-201 and L-204 from 1996 to 1998 at RES.

**SUMMARY OF AGRONOMIC CHARACTERISTICS FOR
CALMATI-201, A-201 AND L-204
1996 TO 1998 AT RES**

Character	CALMATI-201	A-201	L-204
Seedling vigor (score)	3.9	*4.5	*4.4
Days to 50% heading	91	91	*86
Plant height (cm)	100	100	*91
Lodging (%)	11	4	4
Blanking - Greenhouse	25	20	12
Stem rot (score) ¹	5.1	5.9	5.3
Milling (%) total ²	68.9	67.4	69.0
Milling (%) whole grain ²	53.6	48.2	58.9
Brown rice 1000 grain wt (gms)	21.0	23.6	25.9
Brown rice length (cm)	7.54	8.28	8.1
Brown rice width (cm)	2.11	2.11	2.3
Ratio (L/W)	3.57	3.92	3.6
Apparent Amylose (%)	22.7	24.0	22.6
Kernel elongation ratio	2.06	1.67	1.56

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

²1997 and 1998 at RES

*Significantly different from Calmati-201 at P=0.05.

Area of Adaption. Calmati-201 like A-201 should be suitable for production in only the warmer rice growing regions of California. It will not likely produce acceptably in the coolest regions because of its susceptibility to cool temperature induced sterility. The quality characteristics of Calmati-201 should make it suitable for expanding typical California aromatic long-grain markets by entry into the imported basmati rice markets.

Management Guidelines. The following guidelines are based on research, observation and experience gained in developing Calmati-201. These suggested cultural practices are intended to assist in the production of optimum yields and quality of Calmati-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 125 lbs/acre produced maximum yields and grain quality in 1999 at RES.
- Preferred seeding dates are May 1 to May 24. There are better variety alternatives when planting later. Calmati-201 should be seeded at the rate of 130 to 150 lbs/acre. Excessive seeding rates reduce yield potential and increase susceptibility to disease.