REGISTRATION OF CROP CULTIVARS

The designation, M7, indicates that the new cultivar is a medium-grain type. It has glabrous lemma, palea and leaf blade except that some hairs are present on the lemma keel and on the leaf blade margins. No plant parts of M7 show anthocyanin pigmentation. M7 has a moderate awn more closely resembling CS-M3 than Calrose 76 in this characteristic.

M7 has short stature, averaging 90±5 cm in height. Panicles of M7 normally are completely exserted from the leaf sheath. Seedlings of M7 show variation in height from the water slightly slower than those of its taller parent. It is similar to both parents in maturity.

Brown rice kernels of M7 average 5.8 and 2.7 mm in length and width, respectively, and 22.67 g/1000 in weight. They have light brown bran (pericarp) color and white non-glutinous and non-aromatic endosperm. Recent results from the Cooperative Regional Rice Quality Laboratory at Beaumont, Tex., showed that the percent amylose and alkali reaction score in 1.7% KOH were 19.4 and 7.0, respectively. These values are typical of those for U. S. medium grain rice. Whole (head) and total rice-milling yields of M7 are satisfactory, averaging 62 and 70%, respectively, when harvested at 24% moisture. Taste panelists rated M7 as satisfactory and comparable to 'Calrose' in taste and consistency.

M7 has performed well in 9 replicated tests in 1975 and 1976 conducted at sites representing the areas where rice is grown in California. Average yields of paddy (rough) rice in kg/ha at 12% moisture were 9093, 8296 and 7756 for M7, Calrose 76, and CS-M3, respectively. Unpublished information obtained by University of California Agricultural Extension personnel indicate that M7 and CS-M3 are highly responsive to nitrogen fertility levels above those at which tall, lodging-susceptible varieties such as the CS-M3 parent reach a maximum yield.

M7 is moderately tolerant to stem rot (Sclerotium oryzae Catt.), being similar to its parents in reaction to this disease. M7 is lodging resistant and has good tolerance to sterility (comparable to its parents) caused by low temperatures 10 to 14 days before heading. It is expected to replace Calrose and CS-M3 as seed becomes available.

M7 was released jointly by the California Co-operative Rice Research Foundation, Inc.; the California Agric. Exp. Stn.; and the ARS-USDA. It was approved for certification by the California Crop Improvement Association in 1977. Classes of seed will be breeder, foundation, registered and certified. Application for plant variety protection of M7 is not being made.

REGISTRATION OF 'M9' RICE

(Reg. No. 47)

H. L. Carnahan, C. W. Johnson, S. T. Tseng, and J. J. Mastenbroek

'M9' RICE (Oryza sativa L.), CI 9688 (experimental designation 'CS-M3' rice) was developed from the following crosses—IR8/CS-M3/10/10, made at the California Co-operative Rice Research Foundation's Rice Experiment Station near Biggs, California. The first and second crosses, designated R75 and R135, were made in 1968. The third cross, R236, was made in 1970. The final cross, R450, was made in 1971. The greenhouse and a winter nursery in Hawaii were used to enhance the earlier crosses.

The source of M9's short stature was IR8, the so-called miracle rice which has poor grain quality, susceptibility to cold, and otherwise unadapted to California. IR8 is an indica rice that was developed for the tropics by the International Rice Research Institute, Los Banos, Philippines. CS-M3, previously described, and 10-7 are tall, late-maturing, medium-grain rices that are adapted to California. They have glossy hulls and leaves. The parent 10-7, a cultivar of unknown pedigree, has large translucent seeds.

M9 was compared with commercial and experimental varieties from California in tests conducted cooperatively with the California Agric. Exp. Stn. and the California Agric. Extension Service.

The designation, M9, indicates that the new variety is a medium-grain type. It has glabrous lemma, palea and leaf blades except that some hairs are present on the lemma keel and on the leaf blade margins. No plant parts of M9 show anthocyanin pigmentation. M9 has moderate awn.

M9 has short stature, averaging around 90 cm. Panicles of M9 normally are completely exserted from the leaf sheath. The new cultivar emerges through the water slower than does 'Earlirose', a tall cultivar of comparable maturity. M9 heads 2 to 3 days earlier than Earlirose but requires about a week longer to mature. It is not photoperiod sensitive. M9 is more resistant to lodging than Earlirose, averaging 6.5 compared with 55.0% lodging for the latter.

Brown rice kernels of M9 are large and average 6.2 and 2.87 mm in length and width, respectively, 25 g/1000 in weight, and are more translucent than those of IR8 or CS-M3. Grains of M9 have light brown bran (pericarp) color and white non-glutinous and non-aromatic endosperm. Results from the Cooperative Regional Rice Quality Laboratory at Beaumont, Tex., showed that the percent amylose and alkali reaction score in 1.7% KOH for M9 were 17.0 and 6.7, respectively. These values are typical of those for U. S. medium grain rice.

Whole (head) and total rice milling yields of M9 are satisfactory, averaging 58.9% and 69.5%, respectively, when harvested on 10 dates at moisture contents from 29.4 down to 18.5%.

M9 has performed well in 22 replicated tests conducted during the last 3 years at sites representative of the California rice growing areas. M9 yielded more than Earlirose in 16 tests, averaging 8,372 kg/ha as compared with 7,560 kg/ha of paddy (rough rice) at 12% moisture for Earlirose. Unpublished information obtained by Univ. of California Cooperative Extension Service personnel indicates that M9 is highly responsive to high levels of nitrogen fertility.

M9 has moderate tolerance to sterility (comparable to that of 'S6') caused by low temperatures 10 to 14 days before heading. It thrives better than presently grown cultivars. Some panicle branches tend to remain attached to the seeds during threshing. There is a slight tendency for unevenness of ripening within the heads of M9. Reaction of M9 to diseases that are prevalent in humid areas is unknown. More lesions caused by Rhizoctonia species (R. solani type) have been seen on sheaths of M9 than on present commercial varieties. This is not expected to become an economic problem in California since the environment is not well suited for development of this disease. M9 is moderately tolerant to stem rot (Sclerotium oryzae Catt.) and is similar in reaction to other California cultivars.

M9 appears to be adapted to the major rice-growing areas of California.