REGISTRATION OF ‘CALMOCHI-201’ RICE
(Reg. No. 52)

H. L. Carnahan, C. W. Johnson, S. T. Tseng, and D. M. Brandon

‘CALMOCHI-201’ rice (Oryza sativa L.), CI 9972, was designated experimentally as S-8157-101 and as 77-Y-35. Calmochi-201 was one of three waxy endosperm mutants identified in 1975 from an examination of 2,000 X2 generation panicles following radiation of seed of the non-waxy cultivar, 'S6' with Cobalt-60. S6 is the primary short grain cultivar grown in California and has been described. Developmental work was done at the California Co-operative Rice Research Foundation's Rice Experiment Station near Biggs, Calif.

Plants of Calmochi-201 resemble those of the S6 parent; they are tall and have short grain shape, glabrous leaves and hulls (except for pubescence on leaf blade margins and on the lemma keel bow), are awnless, have no anthocyanin pigments in any plant part, are early maturing and moderately tolerant to the stem rot fungus (incited by Sclerotium oryzae Catt.). Calmochi-201, like S6, also has white non-aromatic endosperm, is non-sensitive to photoperiod, and has rather non-synchronous heading. Starch of Calmochi-201 kernels has a low gelatinization temperature, as indicated by an alkali reaction of 6.8 to 6.9 in 1.7% KOH. Physicochemical characteristics determined at the Cooperative Rice Quality Laboratory at Beaumont, Tex., indicated that Calmochi-201 is comparable to commercial California waxy rice.

The primary difference between Calmochi-201 and S6 is that the new cultivar has waxy endosperm which contains 98 to 100% amylopectin whereas the starch of the non-waxy endosperm of S6 contains 18 to 21% amylose with the balance being amylopectin. Individual seed weight of Calmochi-201 averages 24.8 mg compared to 28.0 for S6. This reduced seed weight appears to be the basis for the slightly reduced average grain yield for Calmochi-201 (6,964 kg/ha) as compared to that of S6 (7,740 kg/ha) at 12% moisture, in six replicated state-wide tests conducted cooperatively with the University of California Cooperative Extension Service in 1977 and 1978. Both averaged 99 days from seeding to 50% heading. Comparative values for other characteristics of Calmochi-201 and S6, respectively, were 4.4 and 4.6 in rating for seedling vigor (1 = very poor to 5 = excellent), 58 and 75% lodging, and 110 and 114 cm in plant height.

Calmochi-201 appears to be adapted to those areas in California where S6 is grown successfully. Like S6, it is not as resistant to low-temperature-induced sterility as the semidwarf cultivars 'M7' and 'Calrose 76'.

Calmochi-201 was released jointly by the California Co-operative Rice Research Foundation, Inc., the California Agricultural Experimental Station, and AR-SEA-USDA. The Crop Improvement Association approved it for release in 1979. Application is not being made for plant variety protection. Classes of seed are Breeder and Foundation.

REGISTRATION OF MATON RYE
(Reg. No. 8)

Richard P. Bates

‘MATON’ rye (Secale cereale L.) CI 9323, was developed at the Noble Foundation, Ardmore, Okla. It was selected from progeny of NF331. Joint release was made in January 1976 by the Noble Foundation and the Oklahoma Agricultural Experiment Station. The Oklahoma Foundation Seed Stocks, Inc., and the Crop Improvement Association are increasing seed and maintaining purity of Maton.

The name is derived from the first letters of the agencies that cooperated in the development of this cultivar: (M - Missouri; A - Arkansas; T - Texas and Tennessee; O - Oklahoma; N - Noble Foundation). This rye was also tested in Florida and represented in the name.

MATON originated from a single plant selected in 1968 from a space-planted F2 population. The plant was outstanding in early forage production, winterhardiness, heavy tillering, and grain size and yield. During the 1975-76 season, F6 plants were evaluated in a progeny row test. The characteristics listed above were exhibited. The F6 generation was evaluated in a progeny row test and also included in a grain yield test during the 1969-70 season. It was also tested in a replicated forage and grain yield test during the 1969-70 season and 1970-71 at Ardmore, Okla.

Total annual forage production, fall and spring forage production, and weight per plant of 105, 106, 110, and 101% of 'Bonel' rye, respectively. Combines superior early forage production, and yields along with equal or superior late forage production. It offers increased grain yields and winterhardiness, particularly to leaf rust (incited by Puccinia graminicola (Ces.) Wilson). It is slightly more winterhardiness and lodging, but slightly less than 'Bonel' rye as recorded in Missouri. It appears to be adapted to southern Oklahoma, Arkansas, and Alabama. Bonel. Information concerning performance of MATON have been published.

Breeder’s seed, F10 generation, was used by the Oklahoma Foundation Seed Stocks, Inc., in purification of foundation seed. This agency will maintain a supply of breeder’s seed.

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