Registration of ‘Madison’ Rice

‘Madison’ rice (*Oryza sativa* L.) (Reg. no. CV-110, PI 603010), an early-maturing long-grain cultivar with improved disease resistance, was developed at the Texas A&M Univ. System Agric. Res. & Ext. Ctr. at Beaumont, TX, by the USDA-ARS and the Texas Agric. Exp. Stn. in cooperation with the Texas Rice Improvement Assoc. and the Texas Rice Res. Foundation. Madison was officially released in 1998 by the USDA-ARS and the Texas Agric. Exp. Stn. in cooperation with the Agric. Exp. Stns. of the Univ. of Arkansas, Louisiana State Univ., and Mississippi State University.

Madison was developed from the cross ‘Lemont’/‘Katy’ (cross No. B881A1) produced at Beaumont in 1988. Lemont is an early-maturing semidwarf cultivar with excellent main crop yield and milling quality that was released in 1983 (1). It has moderate resistance to the blast pathogen, *Pyricularia grisea* (Cooke) Sacc., due to the presence of two major resistance genes, *Pi-d* and *Pi-k*. Katy was released in 1989 and is a tall cultivar that is relatively late maturing (2). It carries the *Pi-ta* gene, which conveys resistance to all but one (IE-IK) of the U.S. races of blast. The objective of the cross was to incorporate the disease resistance of Katy into the semidwarf plant type of Lemont. Madison was developed using the pedigree breeding method and was entered into the 1994 Uniform Regional Rice Nurseries under the designation RU9403166 using a bulk of F8 breeding rows.

Madison has a semidwarf plant type (88 cm mature plant height), with superior lodging resistance, similar to Lemont. At maturity, the spikelet is straw-colored and awnless; the apiculus is purple at maturity. Plants have erect tillers, and the leaves, lemma, and palea are glabrous. Average number of days to 50% flowering (88 d) and days to harvest (113 d) are very similar to 'Cypress'. Seedling vigor is similar to Lemont, but less vigorous than ‘Kaybonnet’ and Cypress.

In 30 statewide and regional tests conducted during 1993 to 1997, average grain yield (120 g kg⁻¹ moisture) of Madison was 7403 kg ha⁻¹, compared with 7430, 7442, 7786, and 7567 kg ha⁻¹ for ‘Jefferson’, ‘Gulfmont’, Cypress, and Kaybonnet, respectively. Compared with other commercial cultivars in these trials, the milling yield (mg g⁻¹ whole milled kernels: mg g⁻¹ total milled rice) of Madison (598:702) was similar to Gulfmont (596:705) and Kaybonnet (599:694), but less than Cypress (623:704).

Madison is considered a typical long-grain variety, but the grain length is shorter than most other commercial long-grain types (Table 1). The endosperm of Madison is nonglutinous, non-amylopectin, and covered by a light brown pericarp. Like its parents, Madison is characterized as a conventional cooking and processing U.S. long-grain rice having an intermediate apparent amylose content of 21% and an intermediate gelatinization temperature (70–75°C), as indicated by alkali spreading values of 3 to 5 in 1.7% KOH solution.

The unique feature of Madison is its combination of the superior blast resistance of Katy with an early-maturing, semidwarf plant type.