Registration of ‘Spring’ Rice

‘Spring’ rice (Oryza sativa L.) (Reg. no. CV-128, PI 643121), is a very early, long-grain cultivar with blast resistance to the common races in Arkansas, developed by the University of Arkansas Division of Agriculture, Arkansas Experiment Station. Spring was released to qualified seed growers in February of 2005. It originated from the cross RU9101001/‘Tebonnet’/‘Katy’/3/‘LaGrue’ (cross no. 19941023), made at the Rice Research and Extension Center, Stuttgart, AR, in 1994. RU9101001 is an extremely early line from the cross ‘Bonnet73’/‘Pyr’/‘Cypress’/‘Spring’/‘Cypress’ (Linscombe et al., 1993) (VS) and ‘Katy’ (Moldenhauer et al., 2007a), (sacc.) Arx & D. Olivier var. graminis (sacc.) Arx & D. Olivier var. graminis), and ‘Kaybonnet’ (Gravois et al., 1993) (MS). Spring is rated S to stem rot (Sclerotium oryzae Catt.), MR to leaf smut (Entyloma oryzae Syd. & P. Syd.), MR to brown leaf spot (Cochliobolus miyabeanus (Ito & Kuribayashi in Ito) Drechs. ex Dastur), and MS to false smut (Ustilaginoidea virens (Cooke) Takah). Spring, like LaGrue, is MS for discolored kernels caused by the rice stink bug (Oebalus pugnax). Spring is rated S to crown (black) sheath rot [(Gaeumannomyces graminis (sacc.) Arx & D. Olivier var. graminis), and bacterial panicule blight. Spring, like ‘Cybonnet’ (Gibbons et al., 2006), is MS to straighthead unlike Cordodie which is rated VS. Spring should be drained on the most severe straighthead soils.

Plants of Spring have erect culms, green erect leaves, and glabrouslemma, palea, and leaf blades. The lemma and palea are straw colored with straw to brown colored apiculi, and some short tip awns are present on the lemma at maturity under high fertility. Kernels are similar in size to those of Maybelle and Ahrent. In the ARPT (2001–2004) individual milled kernel weights of Spring, Maybelle, Jefferson, Ahrent, and Cordodie, averaged 16.7, 16.6, 19.7, 16.2, and 17.9 mg, respectively. The endosperm of Spring is nonglutinous, nonaromatic, and covered by a light brown pericarp. Rice quality parameters indicate that Spring has typical southern U.S. long-grain rice cooking quality characteristics as described by Webb et al. (1985). Spring has an average apparent starch amylose content of 216 g kg⁻¹ and an intermediate gelatinization temperature (70–75°C), as indicated by an average alkali (17 g kg⁻¹ KOH) spreading reaction of 3 to 5.

The foundation seed field of Spring was rogued several times throughout the season. The variants that may be found in the release include any combination of the following: taller, shorter, earlier, later, glabrous or pubescent plants, as well as intermediate or very long slender grains and grains with long awns. Other atypical plants may still be encountered in the cultivar. The total variants and/or off-types numbered less than 1 per 5000 plants.

Application for a utility patent for this cultivar has been made to the United States patent office (Serial number 11/336,470; filed January 19, 2006). Breeder and foundation seed of Spring will be maintained by the University of Arkansas Division of Agriculture, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, AR 72160. Requests for seeds must be made to the corresponding author until 20 years from the date of patent application filing by the University of Arkansas Division of Agriculture, Agricultural Experiment Station (2006), at which time seeds will also be available from the NPGS.


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