Registration of ‘Wells’ Rice

‘Wells’ rice (Oryza sativa L.) (Reg. no. CV-129, PI 612439), is a very high yielding, short-season, long-grain cultivar developed by the University of Arkansas Division of Agriculture Arkansas Agricultural Experiment Station. It was released to qualified seed growers in February 1999.

Wells originated from the cross ‘Newbonnet’/3/‘Lebonnet’/CI 9902/‘Labelle’ (cross no.890048) made at the University of Arkansas Division of Agriculture, Rice Research and Extension Center, Stuttgart, AR, in 1989. Newbonnet (Johnston et al., 1984) is a high yielding, excellent milling cultivar which is susceptible to rice blast. Lebonnet (Bollich et al., 1975) is a large kernel, long-grain rice cultivar. CI 9902 is a short stature, lodging resistant, rice blast resistant, long-grain selection developed at Crowley, LA, and has the pedigree ‘Dawn’/245717/3/13-D’/Rexoro’/Unknown. Dawn was described by Bollich et al. (1968) and Rexoro was described by Johnston (1958). Labelle (Bollich et al., 1973) is a long-grain cultivar. The experimental designation for early evaluation of Wells was STG93L08–93, starting with a bulk of F2 seed from the 1993 panicle row L08–93. Wells was tested in the Arkansas Rice Performance Trials (ARPT) during 1996–1998 and the Cooperative Uniform Regional Rice Nursery (URRN) during 1996–1998 as entry RU9601053 (RU number indicates Cooperative Uniform Regional Rice Nursery; 96 indicates year entered was 1996; 01 indicates Stuttgart, AR; and 053 indicates entry number).

Wells is similar in maturity to ‘LaGrue’ (Moldenhauer et al., 1994). Wells, like LaGrue and Newbonnet, has greater straw strength, an indicator of lodging resistance, than ‘Katy’ (Moldenhauer et al., 1990), and ‘Kaybonnet’ (Gravois et al., 1995). On a relative straw strength scale (0 = very strong straw, 9 = very weak straw) Wells, ‘Drew’ (Moldenhauer et al., 1998), Newbonnet, Katy, Kaybonnet, and ‘Lemont’ (Bollich et al., 1985) rated 3, 4, 3, 5, and 1, respectively. Wells is approximately 100 cm tall which is 8 to 10 cm shorter than LaGrue.

Rough rice grain yields of Wells have been consistently ranked among the highest in the ARPT being comparable to LaGrue and greater than Kaybonnet, ‘Cypress’ (Linscombe et al., 1993), and Newbonnet in all three years and Drew in two of the three years. In 15 ARPT tests (1996–1998), Wells, LaGrue, Kaybonnet, Drew, Cypress, and Newbonnet averaged yields of 8467, 8518, 7207, 8013, 7459, and 6415 kg ha⁻¹ in two of the three years. In 15 ARPT tests (1996–1998), Wells, LaGrue, Kaybonnet, and Drew, Kaybonnet, and ‘Cypress’ (Linscombe et al., 1985) rated 1, 3, 4, 3, 5, and 1, respectively. Wells has an average apparent starch amylose content of 212 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 3.8.

The foundation seed field of Wells 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.

U.S. Plant Variety Protection under the Plant Variety Act, Public Law 91–577 was awarded to Wells in 2000 (PVP no.200000077). Wells has also been granted U.S. Utility Patent No. 6,281,416 B1 (filed February 14, 2000; issued August 28, 2001). Breeder and foundation seeds of Wells 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 (2000), at which time seed will also be available from the NPGS.


References


