resistance similar to that of Nortai, and may not experience significant damage from natural occurrences of the disease under field conditions. Pecos is resistant to the physiological straightleaf disease whereas other southern U.S. medium-grain cultivars are only moderately resistant. It is resistant to white tip and brown leaf spot (caused by Bipolaris oryzae), and moderately susceptible to sheath blight (caused by Rhizoctonia solani). It is highly resistant to hoja blanca, though susceptible to direct damage by the vector Sogatodes oryzae.

The 1983 Foundation seed field of Pecos contained a low frequency of variants (less than 1 per 50,000 plants) that included straw-colored hulls, long-purple awns, and pubescent plants. Occasional highly sterile panicles that remained upright at maturity were noted but these appear to be due to environmental rather than genetic factors.

Application is not being made for protection of Pecos under the Plant Variety Protection Act. Breeder and Foundation seed of Pecos will be maintained by the Texas A&M Univ. Agric. Research and Extension Center at Beaumont, TX.

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References and Notes


REGISTRATION OF ‘SKYBONNET’ RICE

‘Skybonnet’ (Oryza sativa L.), (Reg. no. 69) PI 476819, is an early maturing, long-grain cultivar developed at the Texas A&M Univ. Agric. Research and Extension Center at Beaumont, TX by the ARS-USDA, in cooperation with the Texas Agric. Exp. Stn., the Texas Rice Improvement Association, the Texas Rice Research Foundation, the Louisiana Agric. Exp. Stn., and the Mississippi Agric. and Forestry Exp. Stn. It was officially released 1 March 1983.

Skybonnet was developed from the cross ‘Bluebelle’// ’Belle Patna’//’Dawn’, the same cross from which ‘Lebonnet’ was derived. Skybonnet is an F2 bulk of a single-row plot in the Beaumont breeding nursery in 1972, Selection B6616A3-26-Bk-17-8-9-2-3. It was entered in the Uniform Regional Rice Nurseries in 1976 with the designation RU7603015. Skybonnet is indistinguishable morphologically from other southern USA long-grain non-semidwarf cultivars in the seedling stage. In the reproductive stage it most closely resembles Lebonnet, but the upper leaves are shorter than those of Lebonnet so that Skybonnet appears less “leafy” in the field than Lebonnet. At heading, the flag leaves of Skybonnet are erect but as grain filling progresses they tend to assume an ascending or horizontal position. In the Uniform Regional Rice Nurseries in Texas, Louisiana, Arkansas, and Mississippi in 1977–1981, the average plant height for Skybonnet was 97 cm, compared with 101, 102, and 105 for Lebonnet, 'Labelle', and 'Starbonnet', respectively. Plant height in the Texas tests was greater than in the other states, 3-year average height of Skybonnet being 109 cm, Lebonnet 116, Labelle 118, and Starbonnet 116 cm. Skybonnet is more resistant to lodging than Lebonnet or Labelle. The period from seeding to harvest averages about 3 days longer than Labelle and 3 days shorter than Lebonnet.

Skybonnet has a yellowish stigma. The outer surface of the leaf sheath is green and the inner surface is colorless but with a purple tinge near the base. This purple coloration distinguishes Skybonnet from Lebonnet, which possesses no purple coloration in any plant parts. The pulvinus of Skybonnet is green and the leaves glabrous. The spikelet is straw-colored, glabrous, and awnless. The apiculus is purple.

Grains of Skybonnet are similar in size but slightly shorter than those of Lebonnet. The average brown rice kernel length and width measurements for Skybonnet samples from tests at Beaumont in 1981–1983 were 7.26 and 2.19 mm, compared with 7.70 and 2.17, 6.91 and 2.06, and 7.02 and 2.09 for Lebonnet, Labelle, and Starbonnet, respectively. Brown kernel weights for the same cultivars were 20.9, 22.4, 17.9, and 17.5 mg/kernel, respectively.

Whole grain milled kernel length and width measurements from samples grown at Beaumont, TX and Stuttgart, AR in 1981 averaged 7.03 and 2.10 for Skybonnet, 7.19 and 2.08 for Lebonnet, 6.64 and 1.93 for Labelle, and 6.78 and 1.97 for Starbonnet. Milled kernel weight averages were 19.6, 19.5, 15.6, and 16.4 for Skybonnet, Lebonnet, Labelle, and Starbonnet, respectively.

Skybonnet has a higher milling ability superior to that of Labelle and Starbonnet and under intensive management higher than that of Lebonnet. In the Uniform Regional Rice Nurseries, grown in Texas, Louisiana, Arkansas, and Mississippi, in the 8-year period 1978–1984 the average yield of Skybonnet was 6176 kg/ha compared with 5881, 5787, and 5467 for Lebonnet, Labelle, and Starbonnet, respectively. In 1984 Skybonnet was tested extensively at higher nitrogen levels at five locations across the Texas rice area and, in a total of 16 tests produced an overall average of 7684 kg/ha compared with 6795 and 6813 for Lebonnet and Labelle, respectively. In these tests only 'Lemont' produced a higher average yield (8306 kg/ha) than Skybonnet.

Characteristically, whole-grain milling yields vary considerably among years and locations because they are strongly influenced by environmental factors during grain maturation, by grain moisture content at harvest, and by drying procedures after harvest that affect the mill quality. The overall average percent whole grain milling yield for samples from the Regional Uniform Rice Nurseries in Texas, Louisiana, Arkansas, and Mississippi in 1976–1983 was 60.6, 55.6, 59.1, and 59.9 for Skybonnet, Lebonnet, Labelle, and Starbonnet, respectively. It is primarily on the basis of its better milling than Lebonnet that Skybonnet is being released as a new cultivar.

The cooking and processing qualities of Skybonnet are comparable to those of present long-grain cultivars grown in the southern USA, as determined by numerous evaluation tests conducted at the Regional Rice Quality Laboratory. Specific tests used in these evaluations included determinations of amylose content, reaction of whole kernels in dilute alkali (indicative of gelatinization temperature type), protein content, water uptake at 77°C, and parboil cooking stability. The data indicate that Skybonnet possesses the cooking and processing behavior required of U.S. long-grain rice. Skybonnet, like other high-quality long-grain cultivars, is characterized as a relatively high amylose (23 to 25%)—intermediate gelatinizing (70 to 75°C) type.

Skybonnet is identical to Lebonnet and Labelle in its resistance to blast, being susceptible only to races IB-49