S-102 is a very early-maturing, semidwarf, short-grain cultivar. The floret hulm (lemma and palea) and leaves are pubescent. Leaves are erect and dark green in color. The spikelet and apiculus are straw colored and have partial tip awns. S-102 has a colorless, non- aromatic, and nonwaxy endosperm with a light brown pericarp. It was tested under the experimental designation 91-Y-171 in the University of California Cooperative Extension (UCCE) Statewide Yield Tests from 1992 to 1995. Comparisons for quality were made to S-201 (2), the current California short-grain cultivar, and for maturity to the medium-grain cultivar M-103 (3). S-102 headed an average of 17 d earlier than S-201 and 1 d earlier than M-103. Average plant height and lodging rating for S-102, S-201, and M-103 were 88, 90, and 86 cm and 9, 13, and 20%, respectively. Visual seedling vigor ratings (where 1 = poor and 5 = best) in water-seeded rice were 4.3, 4.6, and 4.1 for S-102, S-201, and M-103, respectively. S-102 appears to have better resistance to cool-temperature-induced sterility than S-201, as indicated by less floret sterility in greenhouse and cold-tolerance nurseries, and significantly higher grain yield at the cool-temperature-test location. S-102 should be suitable for all rice growing regions of California because of its very early maturity and apparent tolerance to cool-temperature-induced sterility. S-102 has shown significantly higher grain yield potential than S-201 and was the top-yielding entry in the very early maturity group of the UCCE Statewide Yield Tests in 1993 and 1994, and ranked high in 1995. Average yields of S-102, S-201, and M-103 in the 16 replicated yield tests from 1992 to 1995 were 11 160, 10 040, and 10 210 kg ha\(^{-1}\) (140 g kg\(^{-1}\) moisture, respectively). Test results from inoculated disease nurseries indicate that S-102 is more susceptible to stem rot (Sclerotium oryzae Cattaneo) and aggregate sheath spot [Rhizoctonia oryzae-sativae (Sawada) Mordue] diseases than S-201 and M-103. Stem rot resistance visual ratings (where 0 = no damage and 10 = plant killed), averaged 7.3, 6.4, and 6.5 for S-102, S-201, and M-103, respectively (4). The number of the top four leaves killed by aggregate sheath spot were 3.0, 2.7, and 2.8 for S-102, S-201, and M-103, respectively. Reaction to diseases not prevalent in California is unknown. S-102 has a larger kernel than S-201 (Table 1). Milled rice of S-102 has a lower level of chalkiness (4.8%) than S-201 (9.4%). Its grain shape is in the range of Federal Grain Inspection Service standards for U.S. short-grain rice. Its kernel is heavier than any current U.S. short-, medium-, or long-grain cultivar. S-102 has shown high alkali value and total milled rice yield potential in 16 of 19 milling tests, which is often not the case with very early-maturing lines. Average S-102 head and total milled rice yield of 91 milling samples harvested above 170 g kg\(^{-1}\) moisture were 628 and 695 g kg\(^{-1}\), respectively. Comparison of milling yield of S-102 with S-201 is difficult because of the great difference in maturity. S-102 exhibits much more synchronous heading than S-201. The variable kernel maturity and moisture content resulting from asynchronous heading are believed to contribute to the lower head rice yield of S-201.)

Quality evaluations indicate that S-102 has physicochemical characteristics similar to S-201 and typical of the U.S. short-grain market type (5). Apparent amylose and protein content for milled S-102 and S-201 determined by the USDA-ARS Rice Quality Research Laboratory at Beaumont, TX, were 169 and 171 g kg\(^{-1}\) and 68.5 and 68.2 g kg\(^{-1}\), respectively. S-102 and S-201 are low-gelatinization-temperature types, giving average alkali spreading values of 6.2 and 6.8, respectively. Rice flour viscosity curves measured on a rapid visco analyzer were very similar for both cultivars. Some textural differences between S-102 and S-201 were noted in cooking tests, and these differences may be associated with the large kernel size of S-102. The larger, more translucent kernel is generally considered a desirable attribute, and subtle differences in quality characteristics are observed among cultivars in the same market type. Quality evaluations received from rice marketing organizations were positive and included some large- scale quality evaluations for industrial applications (rice cakes and puffing). S-102 was approved for certification by the California Crop Improvement Association in 1995. Variants and offtype plants (0.003%) were rogued from the foundation seed field; these included heavily awned short-grain plants, pubescent medium-grain plants, tetraploids, and elongated-upper-internode plants. Classes of seed will be breeder, foundation, registered, and certified seed. Foundation seed can be used to produce foundation seed if necessary and headrow and breeder seed will be produced in foundation fields as necessary to maintain cultivar purity. Variety protection of S-102 is pending (no. 96090305) under the U.S. Plant Variety Protection Act, Title V option of the Federal Seed Act. Breeder and foundation seed will be maintained by the California Cooperative Rice Research Foundation, Rice Experiment Station, P.O. Box 306, Biggs, CA 95917.


References and Notes


Registration of 'TCP 87-3388' Sugarcane

‘TCP 87-3388’ sugarcane (a complex hybrid of Saccharum officinarum L., S. spontaneum L., and S. barberi Jessw) (Reg. no. CV-104, PI 595084) was selected in Louisiana from progeny of a poly-cross with ‘CP 70-321’ (1) as the female parent (the male is unknown) that was made in 1982 at Canal Point, Florida. The seed was germinated at the USDA-ARS-SRRC Sugarcane Research Unit at Houma, LA, and seedling selection and early testing was done there. TCP 87-3388 was introduced into Texas in 1985 and developed and tested through cooperative research by Texas A&M University, Rio Grande Valley Sugar Growers, Inc., and Rio Farms, Inc. TCP 87-3388 was released in the summer of 1995.

The primary advantage of TCP 87-3388 is precocious ripening that permits processing to begin earlier and minimizes exposure of the crop to freezes. Superior cane quality (high sugar and low ash) makes TCP 87-3388 suitable for the early initiation of the Texas harvest season. It is suitable for milling in Texas in September before the dominant cultivar, CP 70-321, and is three months ahead of the late-season cultivars CP 72-1210 (2) and NCO 310 (3). When TCP 87-3388 is harvested early, yields of both sugar per tonne of cane (kg Mg\(^{-1}\)) and sugar per hectare (Mg ha\(^{-1}\)) are superior to the latter cultivars. TCP 87-3388 is a semierect cultivar that develops a moderately erect canopy. Leaves are moderate in length and width, with a reddish-brown collar and a moderate auricle. Stalks are of moderate height and diameter; stalk weights average 1.22 kg. Pith and pipe are absent. The conoidal internode has a waxy bloom like the parent, CP 70-321. Unlike CP 70-321, the internode has corky cracks and the bud groove is reduced or absent. The leaf scar on the lower internodes has a characteristic

scale quality evaluations for industrial applications (rice cakes and puffing).