GULFROSE RICE
(Reg. No. 28)
C. N. Bollich, J. E. Scott, and H. M. Beachell

'GULFROSE' (Oryzae sativa L.), C.I. 9416, FAO Genetic Stock No. 1339, is a smooth-hulled, early-maturing, medium-grain rice variety developed cooperatively by the Texas Agricultural Experiment Station, the Texas Rice Improvement Association, and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Approximately 16,000 cwt. of foundation seed were released to growers in the Southern rice area in the spring of 1960. Gulfrose was developed from the cross 'Brunnmissie Selection' X 'Zenith' made by H. M. Beachell at Beaumont, Texas, in 1945. Brunnmissie Selection is a smooth-hulled, midseason, medium-grain line that traces back to an off-type plant found in a plot of 'Brunnmissie', C.I. 1497. The description of Zenith has been published (5). Gulfrose was selected from a seventh-generation row in 1953, and it was entered in the Uniform Yield Nursery in 1958 as selection B4564A2-12-2. An 8-crop increase of breeder seed was grown in 1958 and 650 acres of foundation seed in 1959.

Gulfrose was released primarily on the basis of its high level of resistance to hoja blanca, a virus disease (4). This disease was a threat to the Southern rice area of the United States after it was found extensively in Louisiana in 1959; and tests indicated that all important Southern commercial varieties were susceptible (2).

The grain of Gulfrose is larger than 'Nato' and similar to Zenith and 'Blue Rose' in size and shape. The spikelet is straw-colored, nonpubescent, and awnless. The apiculus is straw-colored. The seeds germinate rapidly and seedlings are vigorous in growth. Gulfrose has relatively wide, drooping leaves. It is about the same height as Nato but the straw is weaker and lodges more readily. Maturity is approximately one week earlier than Nato. Rough rice and milling yields of Gulfrose generally are slightly lower than those of Nato (1). Gulfrose has a very clear, translucent grain superior in appearance to that of Nato. Cooking and processing qualities of the two varieties are similar.

Gulfrose is moderately susceptible to straighthead. It is resistant to Race 6 of the blast fungus (Piricularia oryzae) and susceptible to Race 1 (3).

The acreage of Gulfrose in Texas has never been high, ranging from 10,868 acres in 1960 to 1,638 in 1964. In Louisiana, 39,213 acres were seeded to Gulfrose in 1964.

Literature Cited

SATURN RICE
(Reg. No. 29)
Nelson E. Jodon

'SATURN' (Oryzae sativa L.) C.I. 9540, FAO Genetic Stock No. 1415, an early maturing (120-day), smooth-hulled, medium-grain rice variety, resistant to prevalent races of blast (Piricularia oryzae Cav.), was developed cooperatively by the Louisiana Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture at the Rice Experiment Station, Crowley, Louisiana. Some 250 bags (cwt.) of foundation seed were released to Louisiana rice growers in 1964. Seed increases were produced as a function of the foundation seed program of the station.

Saturn was obtained from cross number 4G561, 'Lacrosse' X 'Magnolia'. The parental varieties have been described (8) and given FAO G. S. Numbers 1017 and 216, respectively. The cross was made by the writer at Crowley, Louisiana, in 1944.

Numerous selections from Lacrosse X Magnolia, and crosses with closely related parents, were tested during the period 1953-58 and discarded in favor of Nato. Saturn was obtained by selection of Fp strains grown in 1954 from a single F3 progeny row. Variability in maturity and grain type was noted. The variability possibly resulted from a natural cross with a related strain in the Fp; if so, the 1954 row block represented an Fp population of a narrow cross rather than advanced, generation heterozygosity. Reselections were grown in progeny rows in 1955, 1957, and 1958. A 1959 head-row-block increase grown from a single progeny was of uniform, short-straw plant type and was resistant to neck blast. The selection was advanced to the drill-plot variety test in 1960, and to the date-of-planting test and the uniform regional nursery Group 1 in 1962.

Higher average yields were obtained from Saturn than from 'Nato' in 19 out of 22 tests, including those conducted at Stuttgart, Ark., Stoneville, Miss., and Beaumont, Texas. The averages from the 22 tests were 4970 and 4300 pounds per acre, respectively. Averages from 12 tests were 5170 4930, and 4550 pounds for 'Saturn', 'Nato', and 'Nato', respectively. Nato, at present the leading medium-grain variety, has been described in detail (9). A description of Nova has also been published (1).

Saturn usually headed and matured with Nato, but sometimes matured more slowly. It averaged 2 to 4 inches shorter than Nato in height, but showed no more resistance to lodging than Nato and possibly less resistance than Nova (6).

Laboratory tests indicated higher milling; percentages from Saturn than from Nova. However, Nato was superior to Saturn with respect to percentage of head rice, the averages from 22 tests being 67 and 65%, respectively. Both varieties averaged 71% in total milled rice. Milled grains of Saturn were about the same width as Nato but slightly longer. There are no characteristics by which Saturn rough rice may be clearly distinguished from Nato or Nova; the three varieties have straw colored hulls, are essentially free of pubescence, lack a leaf color, and are similar, outline (4).

Tests conducted at the Regional Rice Quality Laboratory, Beaumont, Texas, indicated that the cooking and processing qualities of Saturn do not differ appreciably from those of Nato (1).

Saturn is resistant to the prevalent races 1 and 6 of Piricularia, whereas Nato is susceptible and Nova moderately resistant to race 6. Saturn is also resistant to races 2, 3, 4, 8, and 16, as determined by the Regional Rice Disease Laboratory, Beaumont, Texas. Saturn is also resistant to straighthead, a physiologic disease. It is susceptible to hoja blanca (white leaf, a virus disease not now of importance in the southern rice growing area) (1).

7 Registered under a memorandum of understanding between the Crops Research Division, ARS, USDA, and the American Society of Agronomy. Cooperative investigations, Crops Research Division, ARS, USDA; Rice-Pasture Research and Extension Center, Texas Agricultural Experiment Station; and Texas Rice Improvement Association. Received Feb. 27, 1965.

8 Agronomist, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture, Rice Experiment Station, Crowley, Louisiana.


