REGISTRATION OF CROP CULTIVARS

Toalson was derived from a cross made in 1965 between breeding line TPL 673-A and 'Starr'. Line TPL 673-A was developed from the cross PI 221057 (a small seeded Spanish) × Selection 26 (a sister line of 'Spantex'). Generation advance of the F₁, F₂ and F₃ from TPL 673-A × Starr was by individual plant selection in the greenhouse. Toalson was selected from a large group of field-planted F₁ sister lines. Toalson was first tested for yield in 1969 as an F₁. In 1974, 202 plants were selected from a spaced F₁ nursery; these were grown as plant rows in 1975 and progeny blocks in 1976. Eleven lines were discarded in each of the plant row and progeny block generations; the remaining 180 selections were bulk harvested and blended to make up the breeder seed reserve of Toalson.

Pod rot evaluations (3, 4) have indicated that Toalson is more resistant to Pythium myriotylum Dreschler and Rhizoctonia solani Kuhn than the other commercial cultivars tested. Toalson has returned more dollars gross income than 'Tamnut 74' under pod disease stress, but it seldom overcomes the greater yield potential of 'Florunner'. Without pod rot stress Toalson has averaged about the same gross return as Starr.

The pegs of Toalson are stronger than most other cultivars, resulting in a higher percentage of pod recovery, especially under adverse harvest conditions. Toalson will usually grade lower in percentage of damaged kernels than other cultivars when pod disease is a problem. The pods of Toalson dig clean from most soils. Pod sizes average about 5% larger in diameter and 11% longer than Tamnut 74. Seed size is essentially the same as Starr.

In shelling tests, Toalson had a lower shelling percent than most other cultivars, but it shells out as high in sound, mature kernels as other Spanish cultivars because of a lower percentage of split kernels. Toalson requires about 10 to 15 days longer to mature than Starr under most conditions. Organoleptic and chemical tests indicate no major difference between Toalson and other Spanish cultivars. Breeder seed will be maintained at the Texas Agricultural Experiment Station, Texas A&M University, Stephenville, TX 76401.

REGISTRATION OF NOVA 76 RICE¹
(Reg. No. 48)

T. H. Johnston, B. R. Wells, M. A. Marchetti, and S. E. Henry²

'NOVA 76' rice (Oryza sativa L.), CI 9948, is a short-season medium-grain cultivar developed cooperatively by the Arkansas Agricultural Experiment Station and AR, SEA, USDA, at Stuttgart, Ark. It was selected from Cross No. 65S10 between CI 9580 and 'Nova 66' made at Stuttgart in 1965 and was designated Sng 69M6113 in early testing.

CI 9580 is a true-breeding, disease-resistant, experimental variety selected at Stuttgart from the cross 'Northrose'/‘Zenith’. It was derived from an inheritance study by Atkins and Johnston (1965). Zenith has been described by Johnston (1958) and Northrose by Johnston and Henry (1965). Nova 66 was described by Johnston et al. (1968). Nova 76 was designated CI 9948 in extensive regional testing.

Plants of Nova 76 have moderately wide leaves and are similar in appearance to those of Nova 66 but average 5 cm shorter and are less susceptible to lodging. Plants of Nova 76 show more vegetative growth than desired when excessive rates of N fertilizer are applied. The spikelet of Nova 76 is straw-colored, are translucent and there usually are fewer damaged kernels in milled samples of Nato or 'Brazos'.

Nova 76 was released in Arkansas as a blast-resistant cultivar for the high yielding Nova 66. The absence of the blast disease, were about equal in 22 replicated tests in Arkansas commercial cultivars. However, Nova 76 showed a much higher degree of resistance to the prevailing pathogenic races (incited by Pyricularia oryzae Cav.) in Arkansas than the other medium-grain cultivars CI 9945 and 'Brazos'. Each of the latter cultivars suffered from blast disease in commercial Arkansas environment. Nova 76 also showed more resistance to blast disease than 'Tamnut 74' and 1.5% longer than Tamnut 74.

Nova 76 has returned more dollars gross income than 'Tamnut 74' under pod disease stress, but it seldom overcomes the greater yield potential of 'Florunner'. Without pod rot stress Nova 76 has averaged about the same gross return as Starr.

The pegs of Toalson are stronger than most other cultivars, resulting in a higher percentage of pod recovery, especially under adverse harvest conditions. Toalson will usually grade lower in percentage of damaged kernels than other cultivars when pod disease is a problem. The pods of Toalson dig clean from most soils. Pod sizes average about 5% larger in diameter and 11% longer than Tamnut 74. Seed size is essentially the same as Starr.

In shelling tests, Toalson had a lower shelling percent than most other cultivars, but it shells out as high in sound, mature kernels as other Spanish cultivars because of a lower percentage of split kernels. Toalson requires about 10 to 15 days longer to mature than Starr under most conditions. Organoleptic and chemical tests indicate no major difference between Toalson and other Spanish cultivars. Breeder seed will be maintained at the Texas Agricultural Experiment Station, Texas A&M University, Stephenville, TX 76401.

REFERENCE


REGISTRATION OF MARS RICE²
(Reg. No. 49)

T. H. Johnston, B. R. Wells, M. A. Marchetti, and S. E. Henry²

'MARS' rice (Oryza sativa L.), CI 9945, is a short-season medium-grain cultivar developed cooperatively by the Arkansas Agricultural Experiment Station and AR, SEA, USDA, at Stuttgart, Ark. It was selected from Cross No. 65S10 between CI 9580 and 'Nova 66' made at Stuttgart in 1965 and was designated Sng 69M6113 in early testing.

CI 9580 is a true-breeding, disease-resistant, experimental variety selected at Stuttgart from the cross 'Northrose'/‘Zenith’. It was derived from an inheritance study by Atkins and Johnston (1965). Zenith has been described by Johnston (1958) and Northrose by Johnston and Henry (1965). Nova 66 was described by Johnston et al. (1968). Nova 76 was designated CI 9948 in extensive regional testing.

Plants of Nova 76 have moderately wide leaves and are similar in appearance to those of Nova 66 but average 5 cm shorter and are less susceptible to lodging. Plants of Nova 76 show more vegetative growth than desired when excessive rates of N fertilizer are applied. The spikelet of Nova 76 is straw-colored, are translucent and there usually are fewer damaged kernels in milled samples of Nato or 'Brazos'.

Nova 76 was released in Arkansas as a blast-resistant cultivar for the high yielding Nova 66. The absence of the blast disease, were about equal in 22 replicated tests in Arkansas commercial cultivars. However, Nova 76 showed a much higher degree of resistance to the prevailing pathogenic races (incited by Pyricularia oryzae Cav.) in Arkansas than the other medium-grain cultivars CI 9945 and 'Brazos'. Each of the latter cultivars suffered from blast disease in commercial Arkansas environment. Nova 76 also showed more resistance to blast disease than 'Tamnut 74' and 1.5% longer than Tamnut 74.

Nova 76 has returned more dollars gross income than 'Tamnut 74' under pod disease stress, but it seldom overcomes the greater yield potential of 'Florunner'. Without pod rot stress Nova 76 has averaged about the same gross return as Starr.

The pegs of Toalson are stronger than most other cultivars, resulting in a higher percentage of pod recovery, especially under adverse harvest conditions. Toalson will usually grade lower in percentage of damaged kernels than other cultivars when pod disease is a problem. The pods of Toalson dig clean from most soils. Pod sizes average about 5% larger in diameter and 11% longer than Tamnut 74. Seed size is essentially the same as Starr.

In shelling tests, Toalson had a lower shelling percent than most other cultivars, but it shells out as high in sound, mature kernels as other Spanish cultivars because of a lower percentage of split kernels. Toalson requires about 10 to 15 days longer to mature than Starr under most conditions. Organoleptic and chemical tests indicate no major difference between Toalson and other Spanish cultivars. Breeder seed will be maintained at the Texas Agricultural Experiment Station, Texas A&M University, Stephenville, TX 76401.

REFERENCE


