Registration of Parental Lines

REGISTRATION OF RTx432 SORGHUM

'RTx432' is a nonsenescing, tropically adapted, three-dwarf sorghum [Sorghum bicolor (L.) Moench] (Reg. no. PL102) with exceptional foliar disease resistance, food quality grain, and high yield potential. It was developed and released at the Texas Agricultural Experiment Station, Department of Soil & Crop Science, Texas A&M University, College Station, Tex. 

RTx432 was an F₈ selection from progeny of the cross (SC0599-6-sel × SC0110-9-sel.). SC0599-6-sel. was a BC₁F₃ selection from 'Rio' and SC0110-9-sel. was a BC₂F₃ selection from IS12610. The cultivar was alternately selected by the pedigree method in nurseries at College Station and Beeville, Texas, and Mayaguez, Puerto Rico. RTx432 was evaluated as 74CS5388.

RTx432 is genetically Dw₁Dw₂Dw₃Dw₄ and is approximately 112 to 114 cm tall. Anthesis occurs 3 to 5 days earlier than 'RTx430' and 2 to 3 days earlier than 'RTAM428'. The panicle of RTx432 is slightly rhomboid, and is approximately 112 to 114 cm tall. Anthesis occurs 3 to 5 days earlier than 'RTx430' and 2 to 3 days earlier than 'RTAM428'. The panicle of RTx432 is slightly rhomboid, slightly shorter than 'Tyler' and slightly shorter than Potomac under Maryland conditions. Although tall, RTx432 has excellent straw strength, averaging 8% lodging in tests conducted over 4 years in Maryland. The spike is apically awnletted and medium in length (8.4 cm, range 5.5 to 10.8 cm). Glumes are white, and the kernels are midsize, soft and ovate. Winter survival in the Middle Atlantic region is excellent.

Yield performance from 14 tests conducted from 1979 to 1982 in Maryland showed MD 286 to average 3219 kg/ha, which was 128 kg/ha more than Potomac and 94 kg/ha more than Severn in the same tests. In the Uniform Southern Soft Red Winter Wheat Nursery (1981), grown at 31 locations in the southeastern United States, MD 286 yielded an average of 356 kg/ha less than 'Omega 78', the check cultivar in that test. In the Uniform Eastern Soft Red Winter Wheat Nursery (1982), MD 286 yielded an average of 820 kg/ha more than 'Oasis', the check cultivar in that test, over a total of 28 locations in the eastern United States.

MD 286 is a late selection equivalent to 'Potomac' and about 5 days later than 'Severn' and 'Arthur' in Maryland. It is a medium tall wheat (107 cm), slightly taller than 'Tyler' and slightly shorter than Potomac under Maryland conditions. Although tall, MD 286 has excellent straw strength, averaging 8% lodging in tests conducted over 4 years in Maryland. The spike is apically awnletted and medium in length (8.4 cm, range 5.5 to 10.8 cm). Glumes are white, and the kernels are midsize, soft and ovate. Winter survival in the Middle Atlantic region is excellent.

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MD 286 produces grain of moderately low test weight (72.2 kg/hi), comparable to that of Tyler. It has a somewhat high flour protein level (12.9%) for a soft wheat, but has good milling and baking quality characteristics (1), comparable to that of Omega 78.

MD 286 is resistant to the population of powdery mildew (caused by Erysiphe graminis DC. f. sp. tritici) present in the Middle Atlantic region. It has resistance to the races of leaf rust (caused by Puccinia recondita Rob. ex Desm. f. sp. tritici) present.

MD 286 wheat germplasm combines high yield potential, stiff straw, excellent winterhardiness, good food quality, and resistance to powdery mildew in a cultivar adapted to the eastern soft red winter wheat zone. This unique combination of agronomic traits should be of value to breeders throughout the region.

The Maryland Agricultural Experiment Station (College Park, MD 20742) will maintain seed of MD 286. Small quantities will be available to interested persons in amounts up to 100 g per request.

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References and Notes
