compared with 2.3 for Lemont and 3.3 for Cocodrie under light natural disease pressure in the plots from 2001 to 2003.

With general agronomic characteristics similar to Lemont and improved disease resistance to sheath blight, bacterial panicle blight, and narrow brown leaf spot, these mutants will become useful parental lines for rice improvement programs. They were released 8 Sept. 2006 by the Louisiana Agricultural Experiment Station of the Louisiana State University Agricultural Center. Amounts of germplasm seed <10 g of the above lines may be obtained by writing to the authors or the USDA-ARS National Small Grains Collection, P.O. Box 307, Aberdeen, ID 83210. If these germplasm lines contribute to the advancement of rice genetics or development of new germplasm lines, it is requested that appropriate recognition be given.

References

Registration of N585, N586, N589, N590, and N591, Tan Plants Large-Seeded Grain Sorghum Germplasm

I. M. Dweikat,* J. F. Rajewski, and J. D. Eastin

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585 (Reg. No. GP-640, PI 642390), N586 (Reg. No. GP-641, PI 642391), N589 (Reg. No. GP-642, PI 642392), N590 (Reg. No. GP-643, PI 642393), and N591 (Reg. No. GP-644, PI 642394) sorghum [Sorghum bicolor (L.) Moench] germplasm lines are large-seeded, photoperiod-insensitive germplasm lines that provide genetic diversity for developing large-seeded food-grade sorghum hybrids. Seed size, as weight per given kernel number, can be genetically manipulated and is of particular importance in this regard. Size of seed in sorghum contributes to yield through enhanced germination, establishment, seedling growth and vigor, and plant performance (Amthor, 1983; Singh and Makne, 1985; Swanson and Hunter, 1936; Trabanino et al., 1989). Additionally, the production of large, uniform seed is desirable for cleaning and marketing. Components of grain yield are generally quantitative in their inheritance with a high degree of genetic variation. The gene action controlling grain weight appears to be additive (Biradar et al., 1996) so that selection for this character is effective. In a study of 585 sorghum lines from the world collection, Miller (1968) reported seed weight of 0.7 to 6.1 g per 100 seed. The mean seed weight of 2.5 to 3.0 g per 100 seed for hybrids in the Great Plains ranges from 2.5 to 3.0 g per 100 seed, which suggests opportunity for significant gains.

These germplasm lines were developed in a large-seeded food-grade hybrid parent lines adapted to the Midwestern region of the USA. These germplasm lines were derived through the mating program at the University of Nebraska–Lincoln Small Grains Collection, P.O. Box 307, Aberdeen, ID 83210. If these germplasm lines contribute to the advancement of rice genetics or development of new germplasm lines, it is requested that appropriate recognition be given.

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