Registration of ‘Sureño’ Sorghum

‘SURENO’ SORGHUM [Sorghum bicolor (L.) Moench] (Reg. no. CV-129, PI 561472), is a dual-purpose food grain and forage variety with exceptional tortilla-quality grain, yield potential, and resistance to preharvest grain molds, maize weevil [Sitophilus zeamais (Motschulsky)] (1), and sorghum downy mildew caused by Pathotype 1 of Peronosclerospora sorghi (Weston & Uppal) C.G. Shaw. It was developed cooperatively by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Texas Agricultural Experiment Station (TAES), and Honduran Ministry of Natural Resources (MNR) and was jointly released in 1985 by MNR and the International Sorghum and Millet Program (INTSORMIL) of the Title XII Collaborative Research Support Program of the Agency for International Development of the United States of America.

Sureño was derived from the cross [(SC423 × CS3541) × E35-1]-2, which was made by ICRISAT. It then was distributed to the ICRISAT regional office in Mexico, and from there it was sent to TAES. The open-pollinated variety was introduced into Honduras in 1982 from TAES as an entry in the 1982 Grain Weathering Test. It was mass-selected for lodging resistance and tested for yield by scientists in the Honduran National Sorghum Program and designated 82GWT-210. Other institutions have selected in progeny of this cross and assigned different designations (M62650, ICSV110, and VG146) to their selections.

Sureño is photoperiod insensitive and flowers in \( \approx 72 \) d. It has a height of \( \approx 2.1 \) m and is genetically \( \text{dw}_1 \text{ Dw}_2 \text{ Dw}_3 \text{ dw}_* \). Sureño has tan plant color \((pp qq)\) and tan-colored glumes that cover half of the carypsis. The lemma is awnless. Panicle shape is elliptical and semicompact with pubescent rachis branches. The carypsis has a white translucent pericarp \((RR yy ZZ II b,b, B_2B_2 SS)\), a mass of \( \approx 28 \) mg, and normal endosperm texture and type. Sureño has excellent cereal quality properties for tortillas (2), an unleavened bread made using an alkali cooking process. Other traits that enhance its cereal quality are good levels of resistance to preharvest grain molds and moderate resistance to maize weevil, attributed to kernel hardness and small seed size. Sureño is resistant to Pathotype 1 of \( P. \) sorghi, the organism causing sorghum downy mildew. Sureño has juicy sweet culms and the leaf midrib appears dull or green. Its coleoptile color is green \((rs rs)\). Lodging may occur under high plant densities (>200,000 plants ha\(^{-1}\)), narrow row spacing (\( \leq 0.50 \) m between rows), or when grain yields are high. However, the application of N reduces lodging (3).

On-farm testing throughout sorghum production areas in Honduras during 1983 and 1984 indicated that Sureño was adapted to an array of environments and that grain yields were superior in both favorable and stressful environments. It also responds to N fertilizers, which, in contrast to local landrace sorghum populations, makes improved agronomical techniques economically feasible. Sureño is recommended for lowland and hillside subsistence farmers who have adopted soil conservation practices such as terracing. Sureño performs best in farms where crop diversity is maintained.

Rely was derived from the cross \((\text{SC}423 \times \text{CS}3541) \times \text{E}35-1\)-2, which was made by ICRISAT. It then was distributed to the ICRISAT regional office in Mexico, and from there it was sent to TAES. The open-pollinated variety was introduced into Honduras in 1982 from TAES as an entry in the 1982 Grain Weathering Test. It was mass-selected for lodging resistance and tested for yield by scientists in the Honduran National Sorghum Program and designated 82GWT-210. Other institutions have selected in progeny of this cross and assigned different designations (M62650, ICSV110, and VG146) to their selections.

Sureño is photoperiod insensitive and flowers in \( \approx 72 \) d. It has a height of \( \approx 2.1 \) m and is genetically \( \text{dw}_1 \text{ Dw}_2 \text{ Dw}_3 \text{ dw}_* \). Sureño has tan plant color \((pp qq)\) and tan-colored glumes that cover half of the carypsis. The lemma is awnless. Panicle shape is elliptical and semicompact with pubescent rachis branches. The carypsis has a white translucent pericarp \((RR yy ZZ II b,b, B_2B_2 SS)\), a mass of \( \approx 28 \) mg, and normal endosperm texture and type. Sureño has excellent cereal quality properties for tortillas (2), an unleavened bread made using an alkali cooking process. Other traits that enhance its cereal quality are good levels of resistance to preharvest grain molds and moderate resistance to maize weevil, attributed to kernel hardness and small seed size. Sureño is resistant to Pathotype 1 of \( P. \) sorghi, the organism causing sorghum downy mildew. Sureño has juicy sweet culms and the leaf midrib appears dull or green. Its coleoptile color is green \((rs rs)\). Lodging may occur under high plant densities (>200,000 plants ha\(^{-1}\)), narrow row spacing (\( \leq 0.50 \) m between rows), or when grain yields are high. However, the application of N reduces lodging (3).

On-farm testing throughout sorghum production areas in Honduras during 1983 and 1984 indicated that Sureño was adapted to an array of environments and that grain yields were superior in both favorable and stressful environments. It also responds to N fertilizers, which, in contrast to local landrace sorghum populations, makes improved agronomical techniques economically feasible. Sureño is recommended for lowland and hillside subsistence farmers who have adopted soil conservation practices such as terracing. Sureño performs best in farms where crop diversity is maintained.

Registration of ‘Rely’ Wheat

‘RELY’ (Reg. no. CV-777, PI 542401) is a semi-club wheat (Triticum aestivum L.) multiline intended to replace ‘Crew’ multiline. Developed by R.E. Allan, Rely was jointly released in July 1991 by the USDA-ARS, Research Center of Washington, and Agricultural Experiment Station of Oregon.

Rely is an awnless, semidwarf wheat compared to ‘Crew’, and has related and phenotypically similar lines, with lodging resistance to one or more races of stripe rust (Puccinia striiformis Westend.). The 10 component crosses were backcross derivatives whose recurrent parents were oat- and rye-derived lines of Omar parentage. The pedigrees are: ‘Tres’/‘Tyree’, PI 559707; Tres/Tyree, ‘Suwon 92/6/Omar/2629/2/Omar, PI 559712; Tres/Tyree, ‘Ministe’/‘Omar, PI 559712; Tres/Cl 131/1/2/2629/2/Omar, PI 559715; Tres/Suwon 92/6/2/Omar, PI 559709; Tres/Suwon 92/6/Omar, PI 559711; Tres/Suwon 92/6/Omar/‘Druchman’, PI 559713; and Tres/Cappelle’, PI 559716. The F_2-derived F_3 lines were selected from the F_3 families after high yielding segregates were identified. They were mass-selected in nearly equal kernel numbers, based on the different kernel weights of each line. All progeny were analyzed in trials to determine resistance to Pathotype 1 of stripe rust (Erysiphe graminis DC. f. sp. P. striiformis, Puccinia recondita), which is a major disease in sorghum production areas.

Published in Crop Sci. 33:213 (1993).

References and Notes

4. D.H. Meckенstock, Texas A&M Univ., Department of Plant Sciences, College Station, TX, Stationed at Panama P.O. Box 93, Tegucigalpa, Honduras. F. Gómex, Resources, Dep. of Agric. Res. Tegucigalpa, Honduras. E. Guisero, Texas A&M Agric. Exp. Stn., Route 3, Box 244, TX 79401; and V. Guiragossian, ICRISAT, Patancheru, India. Research conducted under the memorandum of understanding between the MNR and INTSORMIL, Acuerdo no. 132, D.C., 8 Feb. 1983. Research funded by the Government of the United States of America.
5. Meckенstock, D.H., and R. Nolasco. 1984. ‘RELY’ (Reg. no. CV-777, PI 542401) is a soft white winter wheat (Triticum aestivum L.) multiline intended to replace ‘Crew’ multiline. Developed by R.E. Allan, Rely was jointly released in July 1991 by the USDA-ARS, Research Center of Washington, and Agricultural Experiment Station of Oregon.

Published in Crop Sci. 33:213 (1993).