REGISTRATION OF PARENTAL LINES

Registration of Sorghum Parental Lines
ICS A/B 38, ICS A/B 39, ICSV 247, and ICSR 101

ICS A 38 and ICSB 38 (Reg. no. PL-256 and PL-256c/w, PI 602979 and PI 602989) and ICS A 39 and ICSB 39 (Reg. no. PL-257 and PL-257c/w, PI 602980 and PI 602990) are sorghum [Sorghum bicolor (L.) Moench] hybrid seed parents developed at the ICRISAT Asia Center (IAC), Patancheru (AP), 502 324, India, based on the A1 cytoplasmic genetic male sterility system (CMS). ICSV 247 (Reg. no. PL-258, PI 602982) and ICSR 101 (Reg. no. PL-259, PI 602981) are sorghum restorer lines for A1 CMS lines. ICS A/B 38 and ICS A/B 39 were derived from a three-way cross of maintainer and restorer parents, (BTx623 x MR 862) x B-Bulk, and have the selection numbers 5-1-3-5 and 5-1-3-3, respectively. BTx623 is an elite seed parent with tropical adaptation bred at the Texas A&M Experiment Stations while B-Bulk represents mixed bulk pollen collected from several maintainer parents of Indian origin and adaptation. MR 862 is a restorer line for A1 CMS lines. The crosses were made at Patancheru in 1982 and agronomically acceptable F2 plants were test-crossed to A1 CMS lines during the rainy season. Good maintainer progenies were advanced by backcrossing selected individual plants from the maintainer progenies to their male-sterile counterparts for four generations. Advanced backcrosses were tested for male sterility in the summer season at Bhavanisagar, South India, and in the rainy season at Patancheru. The final backcross progenies were designated as ICS A 38 and ICS A/B 38 and ICSV 247 and ICSR 101. Seed was distributed in 1985 globally through the B/A Line Observation Nursery (BON).

ICS A/B 38 and ICSV 247 and ICSR 39 were evaluated in Farako-Ba, Burkina Faso, and Sotuba, Mali, during 1985, 1986, and 1987 and at Bagauda and Ibadan, Nigeria, between 1988 and 1994 for local adaptation, stable male sterility, and disease resistance (1). ICS A/B 38 and ICSV 247 and ICSR 39 are photoinsensitive 3-dwarf parental lines (110-140 cm) that flower in 68 to 75 d and have an average grain yield of 3.8 and 3.4 t ha⁻¹, respectively, compared with 4.2 t ha⁻¹ for BTx623 (2). They possess tan plant color and white, lustrous grains (17-22 g 1000 seed⁻¹), with a thin pericarp, oval shape, medium-hard endosperm, and good food quality. Leaves are 70 to 85 cm long and 7 to 10 cm wide, with a white midrib. The leaf sheath partially covers the second internode. Stems are 15 to 22

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