

BJRI Tossa Pat-7 (MG-1): A high yielding Tossa jute (*Corchorus olitorius* L.) variety in Bangladesh

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Abstract

Bangladesh Jute Research Institute (BJRI) released an improved high yielding tossa jute variety namely “BJRI Tossa Pat-7 (MG-1)” in 2017 for commercial production of golden fiber contributing to national economy. It was evaluated for high yielding capacity during 2013 to 2018 with two pre-released varieties i.e. OM-1 for phenological and BJRI Tossa Pat-5 or O-795 for yield comparisons through field evaluation and lab study. The newly developed tossa jute variety i.e. BJRI Tossa Pat-7 (MG-1) was expected to perform better than existing varieties or controls in respect of fiber yield and quality. MG-1 was developed from OM-1 through pure line selection, where both plants were full green but OM-1 has glossy ovate leaves, greyish brown seeds; and MG-1 has ovate lanceolate leaves, bluish green seeds. MG-1 showed lower leaf angle (67.50°), higher leaf length breadth ratio (2.33), lower green leaf biomass (0.97g), higher inter-nodal length (5.0cm) than OM-1 & O-795 indicating the possibility of maximum photosynthesis and fiber production in MG-1 than controls. MG-1 gave higher and increased plant height (5.52%, 4.94%), base diameter (8.68%, 9.40) %, fiber yield (7.51%, 6.21%) than O-795 at research stations and farmers’ fields, respectively. The higher fiber yield for MG-1 (3.92 t ha⁻¹) and O-795 (3.67 t ha⁻¹) were found at farmer’s field of Monirampur and Rangpur. MG-1 gave higher fiber content than O-795 at 20 & 30 March sowing times. Significant associations were found for plant height, base diameter ($r=0.86^*$); plant population, fiber yield ($r=0.60^*$). The fiber strength, lusture, fineness, brightness and breaking twist for quality fiber were accounted for MG-1 than O-795. The stem anatomy of MG-1 gave maximum fiber bundle than O-795 & OM-1. MG-1 will be recommended for fiber production commercially in all agro-ecological zones of Bangladesh to benefit the farmers and national economy.



Biography:

Md. Mukul Mia (B/D: 19-05-1991; Gaibandha; $25^\circ 30' 32.1''$ N $89^\circ 28' 38.7''$ E), Scientific Officer, Breeding Division, Bangladesh Jute Research Institute (www.bau.edu.bd), Ministry of Agriculture, Manik Mia Avenue, Dhaka, Bangladesh

working on Jute (*Corchorus* spp. L.) breeding to develop biotic-abiotic stress tolerant climate smart high yielding varieties since 19 January, 2017. He is expert on breeding of Jute, Rice and other crops to develop high yielding varieties. He has completed MS (2014) on Genetics and Plant Breeding with CGPA 3.84 (4.00) and B. Sc. Agril. Honours (2012) with CGPA 3.76 (4.00) from Bangladesh Agricultural University (www.bau.edu.bd), Mymensingh-2202, Bangladesh. He has awarded National Science and Technology Fellowship (2013-14), Govt. of Bangladesh for his valuable Research on Food & Agriculture: ‘Characterization of Rice Genotypes for Nutrient Content’. He also worked as Scientific Officer (Transformed Rice Breeding), Breeding Division, Bangladesh Rice Research Institute (www.brrri.gov.bd), Joydebpur, Gazipur, Bangladesh, collaborated by IRRI, Philippines during April-Nov, 2016.



Speaker Publications:

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3. Khatun, R., M. Mahbulul Islam, Mahmud Al Hussain, N. Parvin and Kishwar Sultana (2009). Performance study of newly developed jute variety BJRI Deshi-7 (BJC-2142). Int. J. Sustain. Agril. Tech., 5(4): 12-18.

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