

Identification of a high yielding golden fiber crop (*Tossa Jute-Corchorus olitorius L.*) in Bangladesh: BJRI Tossa pat-7 (MG-1)

Md. Mukul Mia, Nargis Akter, Mohammad Moinul Islam, Md. Golam Mostofa, Ranjit Kumar Ghosh, and Chandan Kumar Saha

Bangladesh Jute Research Institute, Ministry of Agriculture, Bangladesh

Abstract

The breeding of tossa jute plant is the main way to develop its qualitative and quantitative traits like higher fiber yield with good qualities, but it is problematic due to narrow genetic base and high photosensitivity of jute plant. Bangladesh Jute Research Institute developed a new high yielding tossa jute (*Corchorus olitorius L.*) variety (MG-1) through pure line selection method during 2015-17. The tossa jute experimental materials were collected from Uganda used with control variety BJRI Tossa pat-5 (O-795). A variety (OM-1) with ovate glossy leaves, gray seeds was developed by hybridization from these genotypes. A segregated genotype (MG-1) with ovate lanceolate glossy leaves, bluish green seeds was isolated from OM-1 by pure line selection (PLS) from OM-1 through evaluation of yield and yield attributing traits. Then it was released as BJRI tossa pat-7 or MG-1 based on its fiber yield performance in fields. The MG-1 gave 3.36 t ha⁻¹ fiber yield than control variety O-795 (3.22 t ha⁻¹) by maintaining 3.50-4.00 lac ha⁻¹ plant population in farmer's field which is 5.41% higher comparatively. MG-1 gave average 3.40 t ha⁻¹ fiber yields and showed good results for anatomical features. This high yielding variety will be used for quality fiber production in future.



Biography:

Md. Mukul Mia has completed B.Sc. in Agriculture (Hons.), MS in Genetics and Plant Breeding, Bangladesh Agricultural University, Mymensingh, Bangladesh. He currently working Scientific Officer, Breeding Division, Bangladesh Rice Research Institute, Gazipur-1701, Dhaka/2016; and Scientific Officer, Breeding Division, Bangladesh Jute Research Institute, Manik Mia Avenue, Dhaka-1207, Jan/2017-present. No. of published papers: 8. Award: National Science and Technology Fellowship, Govt. of Bangladesh.

Speaker Publications:

1. DNA fingerprinting and chemical analysis of rice genotypes for iron content. Asian-Australasian Journal of Bioscience and Biotechnology. (Vol-1, Issue-1, 2016: 1-14)
2. Phenotypic diversity analysis of iron rich rice landraces. Asian-Australasian Journal of Bioscience and Biotechnology. (Vol-1, Issue-1, 2016: 15-22).
3. Molecular characterization of rice genotypes for Zinc biosynthetic gene(s) using microsatellite simple sequence repeat (SSR) markers. Asian Journal of Medical and Biological Research. (Vol-1, Issue-2, 2015: 187-197; DOI: 10.3329/ajmbr.v1i2.25611).
4. Assessing genetic diversity of Maize (*Zea mays L.*) genotypes for agronomic traits. Journal of Research in Agriculture, Livestock and Fisheries. (Vol. 2, No. 1, April 2015: 53-61).
5. Long-term fertilization effect of organic carbon and total nitrogen on floodplain soil. International Journal of Advanced Geosciences, 7 (2) (2019), 139-141. DOI: 10.14419/ijag.v7i2.29703.



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