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HIGH YIELDING NERICA MUTANT RICE FOR UPLAND AREAS AND HOPE FOR BANGLADESHI FARMERS

Drought is an important stress phenomenon in Bangladesh which greatly hampers in crop production. So, it is imperative to develop drought tolerant rice variety. Low yielding, un-uniform flowering and late maturity Africa rice New Rice for Africa (NERICA) viz., NERICA-1, NERICA-4 and NERICA-10 rice varieties were irradiated with different doses of gamma rays (250, 300 and 350 Gy) in 2010. M1 plants were grown and M2 plants were selected based on earliness and higher grain yield. The desired mutants along with other mutants were grown in M3 during 2011. A total of 37 mutants from NERICA-1, NERICA-4 and NERICA-10 were selected on the basis of plant height, short duration, drought tolerance and high yielding from M4 generation. In M5 generation, six mutants were selected for drought tolerance, earliness, grain quality and higher yield. With respect to days to maturity and grain yield (tha⁻¹) the mutant N1/250/P-2-6-1 of NERICA-1 performed earlier (108 days) and higher grain yield (5.1 tha⁻¹) than the parent and other mutants. The mutant N4/350/P-4(5) of NERICA-4 showed higher grain yield (6.2 tha⁻¹) from the parent and other mutants. On the other hand, NERICA-10 mutant N10/350/P-5-4 performed earlier and higher yield (4.5 tha⁻¹) than its parent. Finally, based on agronomic performances and drought tolerance, the two mutants viz., N4/350/P-4(5) and N10/350/P-5-4 were selected which were evaluated in drought prone and upland areas during 2016 and 2017. These two mutants performed also higher grain yield than the released upland rice varieties and will be released soon for commercial cultivation which will play vital role in food security in Bangladesh.

Country or International Organization

Bangladesh

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