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DEVELOPMENT OF FIRST KABULI TYPE CHICKPEA MUTANT VARIETY IN BANGLADESH

Chickpea has a high yield potential, is nutritious importance and has diversified uses compared to other pulse crops. Mutation breeding program was undertaken at BINA with the aim to develop early maturing, large-seeded and high yielding variety(ies) of chickpea. Seeds of a popular chickpea variety, Binasola-2 were treated with different doses of gamma-rays- 200, 300 and 400 Gy. The treated seeds were grown in dose-wise for raising M1 generation. M2 seeds were collected from individual M1 plants and subsequently grown in plant-progeny-rows in M2 generation and onwards and made selections from M2 generations. Five selected M5 mutants including 'CPM-kabuli'mutant along with check varieties were entered in preliminary yield trials. Finally, the mutants were evaluated in advanced, zonal yield, and on-farm and on-station trials in the successive generations along with two check varieties. All the selected mutants were grown at different locations in Bangladesh to observe the yield and other potentiality. Performances of the mutants were evaluated under two management practices i.e., Research management and Farmers'management practices. The mutant, 'CPM-kabuli'was found to be tolerant to root rot, botrytis gray-mold and showed also higher tolerance to pod borer insect infestation than other mutants and check varieties. Main improved attributes of these mutants are cream seed coat colour which refers to 'kabuli'type, larger seed size and higher grain yield. The mutant 'CPM-kabuli'matures g between 115 and 125 days, and is high yielding (1.7 t/ha). Considering all these results, the bold Kabuli type chickpea mutant (CPM-kabuli) variety has been registered as 'Binasola-9'for commercial cultivation during 2017 for the farmers in dry prone areas in Bangladesh.

Country or International Organization

Bangladesh

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