

Research Article**Deciphering the Response of Putative Mutants against *Rhizoctonia bataticola* [(taub.) Butler] Causing Dry Root Rot of Chickpea****Devashish R Chobe^{1, 2}, Reeti Singh¹, Avijit Tarafdar², US Sharath Chandran², Raju Ghosh² and Mamta Sharma^{*2}**¹Department of Plant Pathology, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior-474 002 (MP), India;²International Crops Research Institute for the Semi-Arid Tropics, Patancheru Hyderabad-502 324, Telengana;

*E-mail: mamta.sharma@cgiar.org

Abstract

Dry root rot (DRR) of chickpea caused by *Rhizoctonia bataticola* has become a serious concern to chickpea production. Changing climatic elements like frequent low soil moisture stress and high temperature are being probable factors increasing DRR incidence in chickpea. Since the disease is soil borne, exploitation of host plant resistance is the most economical way to manage the disease. But unfortunately, there is lack of true resistance in chickpea against DRR. Hence, to enhance resistance in chickpea to DRR, the genetic mutations were carried out in present study using physical (gamma rays) and chemical [ethyl methane sulphonate (EMS)] mutagens. To develop desirable mutants imparting resistance against DRR, two popularly grown chickpea cultivars JG11 and BG212 were mutated by gamma rays (100, 150, 200 and 400 GY) and EMS (0.2 and 0.3%) and screened for DRR. Results showed that EMS treatments had considerably reduced the DRR severity in both the cultivars. Also mutagenic treatments had generated some alterations in genetic level, which affect the biochemical activities of the plants such as chlorophyll and flavonoid content. Flavonoid content was recorded lower in BG 212 seedlings when compared to JG 11 seedlings generated from seeds treated with 0.2 per cent EMS and untreated control.

Key words: Chickpea, dry root rot, mutation**Citation:** Chobe Devashish R, Singh Reeti, Tarafdar Avijit, Sharath Chandran US, Ghosh Raju and Sharma Mamta. 2019. Deciphering the response of putative mutants against *Rhizoctonia bataticola* [(taub.) Butler] causing dry root rot of chickpea. *J Mycol Pl Pathol* 49 (4): 358-367