Contribution ID: **11** Type: **Poster**

CREATING NEW MUTANTS OF CHICKPEA RESISTANT TO ASCOCHYTA RABIEI USING GAMMA RADIATION.

Chickpea (Cicer arietinum L.) is one of the most popular vegetables in many regions of the world. Chickpea is an important pulse crop and a major source of protein in human diet. In Tunisia, because of biotic and abiotic constraints, the cultivated area and production is unstable and is decreasing. The presence of fungi including Ascochyta blight, Fusarium wilt, black collar and root rot, dry root rot, Phytophthora root rot and Pythium damping-off in some chickpea growing areas are considered limiting factors to the expansion of the crop. Due to ineffective control methods and the lack of resistant varieties, induced mutation is used as an alternative for the improvement of chickpea for resistance to Ascochyta blight. This study was conducted to determine the lethal dose of 50% of chickpea seeds (LD50) to determine the optimum mutation induction dose and select chickpea mutant lines resistant to Ascochyta rabiei. Irradiation of chickpea seeds with a range gamma ray doses allowed to determine the LD50 (150 Gy). Genetic variability among M2 plants derived by mutagenesis was verified by the ISSR technique. Among 34 studied mutant lines we selected three mutants resistant to Ascochyta rabiei in M2 and M3 generations.

Country or International Organization

Tunisia

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Track Classification: Mutation breeding for adaptation to climate change in seed propagated crops