

Investigation of Ascochyta Blight Resistance in Registered Turkish Chickpea (Cicer arietinum L.) Varieties by Using Molecular Techniques

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Abstract : In this study, Ascochyta blight resistance was investigated in 34 registered chickpea varieties, which are widely planting in different regions of Turkey. For this aim, molecular marker techniques, such as STMS, RAPD and ISSR were used. Ta2, Ta146 and Ts54 primers were used for STMS, while UBC733 and UBC681 primers for RAPD, and UBC836 and UBC858 primers for ISSR. Ta2, Ts54 and Ta146 (STMS), and UBC733 (RAPD) primers demonstrated the distinctive feature for Ascochyta blight resistance. Ta2, Ts54 and Ta146 primers yielded the quite effective results in detection of resistant and sensitive varieties. Besides, UBC 733 primer distinguished all kinds of standard did not give any reliable results for other varieties since it demonstrated all as resistant. In addition, monomorphic bands were obtained from UBC681 (RAPD), and UBC836 and UBC858 (ISSR) primers, not demonstrating reliable results in detection of resistance against Ascochyta blight disease. Obtained results informed us about both disease resistance and genetic diversity in registered Turkish chickpea varieties. This project was funded through the Scientific Research Projects of Marmara University under Grant Number FEN-C-YLP-070617-0365 and The Scientific and Technological Research Council of Turkey (TUBITAK) under Grant Number 113O070.

Keywords : plant genetics, ISSR, RAPD, STMS

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