Enhanced tolerance of T1 transgenic melon plants expressing antifungal chitinase gene to *Rhizoctonia solani*

İsmail BEZİRGANOĞLU

Department of Molecular Biology and Genetics Erzurum Technical University

e-posta: i.bezirganoglu@hotmail.com

Production of melon is limited by soil-borne fungal pathogens, such as *Rhizoctonia solani* and *Fusarium wilt*. In order to engineer melon resistant to these diseases, cotyledonary explants of *Cucumis melo* silver light genotype were transformed with *Agrobacterium tumefaciens* strain LBA4404 harbouring antifungal protein-chitinase gene in a binary vector pBI121. The putative transgenic lines had been confirmed by integration and expression analysis in our previous study. T1 generation was obtained by selfing AFP-CHI transgenic primary plant, in which introduction of only one copy of transgene had been identified by Southern blot analysis. Bioassay for transgenic plant was performed on the transgenic T1 young seedlings and non-transgenic controls by challenging to assay for the resistance against *Rhizoctonia solani* disease among individuals. Transgenic melon plants had reduced disease incidence compared to with non-transgenic plants.

Anahtar kelimeler: transgenic melon, antifungal protein, chitinase, *Rhizoctonia solani*