Molecular Analysis of Transgenic Watermelon Expressing Antifungal Protein

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ABSTRACT

Watermelon is a Cucurbitaceae, dicotyledonous plant and it is one of the most economically important vegetables in the tropics and subtropics. Fungal diseases often cause serious economic losses and fungicides are generally control watermelon diseases. In consideration of the harmful and dangerous effects of fungicides to the environmental ecosystem, the transgenic resistant approach is a better and more convenient way to control fungal diseases. Transgenic watermelon plant lines carrying with anti-fungal protein (Cp-AFP3) or anti-fungal protein fusing chitinase(Cp-AFP3-CHI) gene form Carica papaya L. conferred resistance to Rhizoctonia solani in vitro was noticed in our previous work. The transcript levels of the AFP3 gene analyzed by RT-PCR and the various expression levels of chintanase determined by western blotting was showed in this investigation. The more expressing level of transgene was observed in the more resistant lines.

Keywords : anti-fungal protein、chitinase、transgenic resistance

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