

Evaluation on fungal diseases resistance of transgenic *eustoma grandiflorum* expressing foreign chitinase

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ABSTRACT

Lisianthus (*Eustoma grandiflorum*) is a cut or ornamental flower that is popular in the world. Fungal diseases often cause serious economic losses in *Lisianthus*. Thus, fungicides are generally used to protect against fungal diseases. In consideration of the harmful and dangerous effects of fungicides to the environmental ecosystem, a transgenic approach is a better and more convenient way to control fungal diseases. Eight transgenic *Lisianthus* lines carrying the chitinase gene (CP-CHI) from *Carica papaya* L were obtained via *Agrobacterium*-mediated transformation. The chitinase protein is encoded by the CP-CHI gene under the control of the cauliflower mosaic virus 35S promoter. Transgene was confirmed by genomic PCR. The resistances of independent transgenic lines against the soil-borne fungal pathogen *Rhizoctonia solani* were evaluated under in vitro and greenhouse conditions. Two lines (Lines 1 and 3) exhibited higher resistance against *R. solani* and expressed higher chitinase level of protein by western blotting. The transgenic line 3 showed resistant to *R. solani* also presented higher resistance against *Sclerotium rolfsii* under in vitro conditions.

Keywords : transgenic、fungal、inoculation

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