

Title Control of grey mould rot of loquat with chitinase expressed in *Pichia pastoris*
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Abstract

The major objectives of the present work were to express, purify and investigate the antifungal activity of the recombinant rice chitinase in controlling grey mould onset after loquat harvest. Rice class I chitinase gene was inserted into the vector pPIC9 to construct pPIC9/Chi, and then expressed in *Pichia pastoris* strain GS115. The expression level and antifungal activity of the recombinant chitinase against *Botrytis cinerea* on loquat were analysed. As a result, the chitinase was successfully expressed at a high level in the host yeasts and was enzymatically active. In addition, the chitinase significantly inhibited the spread of the grey mould on the rot region of loquat. Taken together, the present study demonstrates that the chitinase has antifungal activities against grey mould and may be developed for an effective biocontrol agent for fruit storage.