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Kiwifruit Transgenics for Osmotin Gene and Inoculation Tests with Botrytis cinerea and Cadophora luteo-Olivacea [2011]

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Botrytis cinerea is a cosmopolitan ascomycete causing gray mould of fruit in numerous crops including kiwifruit Actinidia deliciosa (A. Chev.) C.F. Liang et A.R. Ferguson, which shows a relatively high susceptibility to this pathogen. Recently, it has been observed that Cadophora luteo-olivacea also causes a post-harvest problem: skin pitting of kiwifruit. Osmotin is a pathogenesis-related (PR) protein, active against phytopathogenic fungi. The present research compared the resistance to both fungi of kiwifruit harvested from 10-years-old 'Hayward' transgenic plants for tobacco osmotin gene with that fruit from wildtype 'Hayward' plants. A first experiment was carried out to undertake pomological and qualitative evaluation of fruits and estimation of the grade of natural resistance to post-harvest damage after twelve months of storage. A second experiment was carried out to evaluate the resistance of stored fruits after separate artificial inoculation with B. cinerea and C. luteo-olivacea. A divergent degree of resistance to fungi was detected among the transgenic clones and between them and the wildtype plants. In particular the transgenic clones 120 and 122 fruits retained higher quality in shelf-life than those harvested from control plants, demonstrating a good resistance to post-harvest damage after a long period of storage. Concerning the artificial inoculations, the fruits from transgenic clones 171 and 182 showed higher resistance to B. cinerea than fruits harvested from wildtype plants, whereas transgenic clones 66 and 155 showed higher resistance to C. luteo-olivacea.

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- [Actinidia deliciosa](#)
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