Title Control of blue mold rot on mandarins with gaseous phase of essential oil

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Abstract

The efficacy of vapor of commercially available GRAS-registered essential oil (MO-1) against *Penicillium italicum*, the pathogen responsible for blue mold rot was evaluated. The best results in the control of *P. italicum* were obtained by exposing fruit for 24 h to MO-1 applied in a gas phase. The used fruit were inoculated with a suspension of pathogen at 10^6 conidia/ml. The trace quantities of the essential oil vapor reduced decay (Blue Mould Rot) evoked by *Penicillium italicum* on inoculated mandarins by 60-80% after storage at 20±1°C. The test period for non-treated with essential oil (control) fruit was determined as 9 days at 100% of rot development. Sensory tests demonstrated no effect of the treatment on the original taste, smell and appearance of the fruit. The results revealed that the MO-1 tested may be recommended as a natural alternative to chemical preservatives.