

Title Postharvest control of blue mold rot of pear by microwave treatment and *Cryptococcus laurentii*  
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Citation Journal of Food Engineering, Volume 77, Issue 3 , December 2006, Pages 539-544  
Keywords Control; Postharvest; Blue mold rot; Microwave treatment; *C. laurentii*; Quality parameters

### Abstract

The potential of using microwave power alone or in combination with an antagonistic yeast for the control of blue mold rot of pear, and its effects on postharvest quality of fruit was investigated. In vitro test, growth of *Penicillium expansum* was completely inhibited by a 2450 MHz microwave heating for 2 or 3 min. The population density of *P. expansum* in surface wounds of fruit treated with microwave for 2–3 min was significantly lower than that of control. In vivo test, microwave power and antagonist yeast, as stand-alone treatments, were capable of reducing the percentage of infected wounds from 100% to 72.6% and 65.5%, and lesion diameter from 2.81 mm to 2.20 mm and 1.85 mm respectively. However, in fruit treated with combination of microwave power and *Cryptococcus laurentii*, the percentage of infected wounds and lesion diameter was only 20.2% and 1.1 mm respectively, incidence of natural decay on treated fruits were similar to that of inoculated fruit. None of the treatments did impair quality parameters of fruit. Thus, the combination of microwave and *C. laurentii* could be an alternative to chemicals for the control of postharvest blue mold rot on pear fruits.