

Title Synergic Effect of Cinnamaldehyde and Eugenol Against *Aspergillus niger* on Surface of Tomatoes

Author Narumol Matan

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Abstract

The inhibitory effect of the combination of *cinnamaldehyde* and *eugenol*, at a ratio 1:1 of against *Aspergillus niger*, was tested at different concentrations (10-100 µg/ml) on malt extract agar (MEA) and on the surface of tomatoes. The minimal inhibitory concentrations (MIC) for *A. niger* at 25 °C on MEA and on the surface of tomatoes were 30 µg/ml and 20 µg/ml, respectively. Combination of *cinnamaldehyde* and *eugenol* reduced the percentage of decayed tomatoes. Tomatoes treated with 20 µg/ml of *cinnamaldehyde* and *eugenol* at a ratio of 1:1 appeared to be free from any fungi on the surface, for at least 21 days under storage conditions of 20°C and 90%RH. Therefore, combination of *cinnamaldehyde* and *eugenol* could be an alternative to chemicals for control of postharvest spoilage fungi on fruits or vegetables.