

Title Use of acetic acid, peracetic acid and acetate salts for controlling green mold on tangerine cv. Sainampueng

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Abstract

The potential uses of acetic acid, peracetic acid, sodium acetate, potassium acetate and ammonium acetate in controlling the citrus postharvest pathogen, *Penicillium digitatum*, were investigated. Growth control of plant pathogenic fungi, *P. digitatum*, on Malt Extract Agar (MEA) using 5 species of acids and acid salts were studied. It was found that all tested acids and acid salts were capable of inhibiting this fungus in which the minimal concentrations were as follows: 0.5% (v/v) acetic acid, 0.1% (v/v) peracetic acid, 7% (w/v) sodium acetate, 7% (w/v) potassium acetate and 3% (w/v) ammonium acetate. Further experiments were then performed to determine the inhibitory effects of these acids and acid salts on *P. digitatum* when infected on the Tangerine cv. Sainampueng fruit by using the dipping method. It was shown that only acetic acid and peracetic acid exhibited the inhibitory effect on the pathogenic fungi. The physical and chemical qualities of the citrus fruit were not affected by the uses of these chemicals. The effective minimal concentration and dipping time were 4% (v/v) 5 min and 0.3% (v/v) 3 min for acetic acid and peracetic acid, respectively. On the other hand, the inhibitory effects were not found in treatment by the solution of sodium acetate, potassium acetate and ammonium acetate.