

Title The use of generally recognized as safe (GRAS) substances by fogging against postharvest diseases of strawberry

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Abstract

In this study, chlorine dioxide, sodium hypochlorite, hydrogen peroxide, citric acid, and ethanol were applied to strawberry by a fogger with an ultrasonic aerosol generator that can produce spheres 1.2 micron in diameter. Fruits were kept in room temperature for 30 minutes while ultrasonic aerosol generator run and 60 minutes in fog that contained these chemicals. After treatments microorganism population varied, fungi and bacteria in the fruit samples taken and atmosphere where experiment was conducted. The strawberry fruits were stored for 5 days and fig fruits 7 days at 1°C followed by 2 days shelf life at 20 °C. After the storage period, the percentage of decayed fruit was determined. The total number of microorganisms on the surface of strawberry was significantly reduced by all chemicals compared to the control. The decay incidence in fruit treated with chlorine dioxide at 2000 ppm was 21.2% after shelf life period while that of control was 91.1%. This study showed that use of generally recognized as safe (GRAS) substances applied by fogging was effective in reducing postharvest diseases of strawberry.