

Abstract:

The inhibitory effect of ozonated water on conidial germination of postharvest pathogens of kiwifruits was investigated. In treatments with aqueous ozone solution for 5 min, LD95 values for spores of *Botryosphaeria dothidea*, *Botrytis cinerea* and *Diaporthe actinidiae* (*Phomopsis mali*) were calculated to be 0.81, 0.44, and 0.38 μg of ozone per milliliter of water, respectively. Spore inhibition was directly correlated with dissolved ozone concentration in 1- to 5-min exposure times; nine regressions of spore inhibition with concentration were significant at $P=0.01$. Kiwifruits naturally infected in the field were treated with the ozonated water of 0.5, 1.0 and 1.5 $\mu\text{g}/\text{ml}$ DOC for 5, 10 and 30 min and then ripened at 25 °C incubator for 2 weeks. Ozonated water treatment clearly retarded fruit decay. Compared with control treatment of distilled water, ozonated kiwifruits showed significant reduction in total number of lesions and average size of lesions. This result suggests that ozonated water treatment can be implemented to IPM for soft rot decay of kiwifruits during postharvest storage.