Gibberellic acid, ozone and 1-methylcyclopropene on the gray mold control in 'Avant Garde' rose

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Abstract

Gray mold caused by *Botrytis cinerea* is considered the major disease of greenhouse grown flowers. The goal of this study was to evaluate the effects of gibberellic acid (GA_3), ozone, and 1-MCP, applied on postharvest, on the gray mold control in 'Avant Garde' rose. Rose flowers were artificially inoculated with *B. cinerea* (10^4 conidia ml^{-1}) and non-inoculated. After treatments, roses were stored under room conditions (20±2°C/80±5% RH) and checked for gray mold incidence and severity. Spraying of GA3 at 25, 50, and 75 mg L^{-1} on non-inoculated roses reduced the area under the disease progress curve (AUDPC) of gray mold incidence in 41, 40 and 54%, respectively. Continuous application of ozone at 2.7 ppm reduced 14-folds *B. cinerea* sporulation. On the other hand, 1-MCP did not control gray mould in rose. These results showed that GA_3 sprays and ozone contribute to postharvest control of gray mold in cut rose and can be utilized on integrated disease management.