

**Title** Effects of 1-MCP and hexanal on decay of d'Anjou pear fruit in long-term cold storage  
**Author** Robert A. Spotts, Peter L. Sholberg, Paul Randall, Maryna Serdani and Paul M. Chen  
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### Abstract

The objectives of this study were to examine the effect of several rates of 1-MCP from 10 to 100 nL L<sup>-1</sup> on stem end decay caused by *Botrytis cinerea* and to evaluate the effects of prestorage treatment with 1-MCP, hexanal, and 1-MCP + hexanal on decay of d'Anjou pear (*Pyrus communis* L.) fruit in long-term cold storage. 1-MCP at 300 nL L<sup>-1</sup> reduced bull's-eye rot and Phacidiopycnis rot. Stem end gray mold also was reduced by 1-MCP at 300 nL L<sup>-1</sup>, and reduction at rates from 10 to 100 nL L<sup>-1</sup> was significant in one of two trials. Snow-mold rot was reduced by 1-MCP at 30 nL L<sup>-1</sup>. Hexanal alone reduced snow mold but increased blue mold caused by *Penicillium expansum*. The combination of 1-MCP and hexanal affected decay similar to 1-MCP. However, hexanal in combination with 1-MCP negated the effect of 30 nL L<sup>-1</sup> 1-MCP on firmness but did not counteract the effect of 300 nL L<sup>-1</sup> 1-MCP. Thus, a combination of 1-MCP and hexanal at optimized rates may reduce storage decay, control superficial scald, and allow normal ripening of d'Anjou pear fruit.