Title Pre- and postharvest strategies for control of *Phacidiopycnis* rot in D'anjou pears

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Abstract

Phacidiopycnis rot caused by Potebniamyces pyri (anamorph Phacidiopycnis pyri) is a common postharvest fruit rot disease in d'Anjou pears grown in Washington State, USA. P. pyri is associated with dead bark and twig dieback of pear trees in the orchards. Infection of pear fruit by the fungus occurs in the orchards, but symptoms develop in storage. In this study, selected pre- and postharvest fungicide programs were evaluated in 2005 and 2006 for control of Phacidiopycnis rot. Fruit was inoculated in the orchard with a conidial suspension of the fungus at 3 weeks before harvest. Part of the fruit was sprayed with a premixed formulation of pyraclostrobin and boscalid (Pristine) or thiophanate-methyl at 7 days before harvest, and the remaining fruit was either not treated as controls or dipped in fludioxonil, pyrimethanil or thiabendazole solutions after harvest. Fruit was stored at 0°C for 7 months and Phacidiopycnis rot (stem-end and calyx-end rot) was monitored periodically. Pristine and thiophanate-methyl reduced Phacidiopycnis rot by 41-44% and 77-86%, respectively, in comparison with the nontreated control. Thiophanate-methyl was significantly more effective than Pristine. Fludioxonil, pyrimethanil and thiabendazole alone provided similar levels of control and reduced Phacidiopycnis rot by 88-100%. The results indicate that although infection of pear fruit by P. pyri occurs before harvest, a preharvest fungicide applied within 7 days before harvest or a postharvest fungicide applied prior to storage can be effective for control of Phacidiopycnis rot in d'Anjou pears.