

**Title** A postharvest fruit rot in apple caused by *Phacidiopycnis washingtonensis*  
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#### **Abstract**

During a survey of postharvest diseases in Red Delicious apples (*Malus domestica*) conducted in 2003, a previously undescribed postharvest fruit rot was discovered in Washington State. The causal agent has been described as a new species, *Phacidiopycnis washingtonensis*. In this study, we described the symptomatology of this disease, determined its occurrence and prevalence in Washington State, tested pathogenicity, and determined infection courts on fruit of three apple varieties. Decayed fruit were sampled from 26, 72, and 81 grower lots during March to August in 2003, 2004, and 2005, respectively, during packing operations from commercial packinghouses. Symptoms of decayed fruit were recorded and isolations were made from decayed fruit to correlate causal agents with the disease symptoms observed. Fruit of Red Delicious, Golden Delicious, and Fuji apples were inoculated in the orchards with conidial suspensions of the fungus at 1 and 2 weeks before harvest. All fruit were harvested and stored at 0°C, and decay development on the fruit was monitored monthly for up to 9 months. The symptoms were primarily stem-end rot and calyx-end rot. Infection also occurred at lenticels on fruit skin, particularly on Golden Delicious. The decayed area was spongy to firm and appeared light brown to brown. On Red Delicious, brown to black specks at lenticels often appeared at the decayed area as the disease advanced. This disease occurred in 23, 26, and 17% of the total grower lots, accounting for approximately 1, 4, and 3% of the total decay in 2003, 2004, and 2005, respectively. In 2004 and 2005, severe losses of fruit were observed in three grower lots of Red Delicious, and their losses were as high as 24%. After 9 months in storage, 48, 48, and 24% of Red Delicious, Golden Delicious, and Fuji that were inoculated in the orchards, respectively, developed symptoms of this disease, and the fungus was reisolated from decayed fruit. Stem-end rot was common on Red Delicious and Golden Delicious, whereas calyx-end rot was common on Fuji. We propose “speck rot” as the name of this disease.