

Abstract

Botrytis cinerea causes significant levels of postharvest decay in the winter pear cultivar d'Anjou. The objectives of this study were to determine the timing of *B. cinerea* infection of pear stems and calyxes in the orchard during the growing season, to investigate the development of gray mold in storage, and to determine whether preharvest levels of *B. cinerea* in pear stems and calyxes can be used as predictors of gray mold levels observed in storage. Very low levels of *B. cinerea* were isolated from stem tissue prior to harvest. In a single year repeat experiment, stems sampled at harvest had higher levels of infection than those sampled earlier in the season. Little or no stem end gray mold was detected in fruit after 3 months in air-storage; however, incidence increased between 6 and 8 months. Calyx end gray mold was detected at low levels in fruit stored for up to 8 months. The mean incidence of stem end gray mold was 3.6 and 2.0%, and incidence of calyx end gray mold was 1.2 and 0.2%, in 1996 and 1997, respectively. Calyxes were susceptible to infection soon after full bloom; however, inoculation of calyxes in April or May did not result in higher levels of calyx end gray mold in storage. Therefore, preharvest level of calyx infection is a poor predictor of calyx end gray mold in storage. In addition, application of benomyl in the orchard reduced the level of *B. cinerea* in blossoms but had no effect on levels of calyx end gray mold of fruit in storage. Packing and shipping fruit within 3 to 6 months of harvest may mitigate economic losses due to gray mold.