Title Microbial interactions affecting stem-end blue mold decay of ‘d’Anjou’ pears

Author W.J. Janisiewicz

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Abstract

Stem-end decay of ‘d’Anjou’ pears caused by *Penicillium expansum* is the common decay of fruit kept in cold storage for extended periods of time. The succulent thick stems of ‘d’Anjou’ pear are prone to colonization by these fungi. We isolated bacteria and yeasts from surface of pear and apple fruits and evaluated them for their ability to colonize pear stem tissue. Populations of the best bacterial and yeasts colonizers increased by more than 2 log units within 3 d at 24 °C. They were then evaluated in cold storage at 1 °C for their ability to prevent infection of pear stems by a very aggressive strain of *P. expansum*, and a weakly pathogenic strain of a *Penicillium* sp. isolated from a pear stem. Only few isolates reduced stem-end decay. Two bacteria, *Pseudomonas chlororaphis* and *Enterobacter* sp. promoted fungal infection of the stem and subsequent fruit decay. The abundance of decay promoting bacteria in some years may be responsible for the high incidence of stem-end decay in those years.