

Title Factors affecting sensitivity of 'Abate Fetel' pears to friction discoloration
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Abstract

Friction discoloration (FD) is one of the main postharvest problems of 'Abate Fetel' pears. During 2009 and 2010, the effect of maturity, 1-methylcyclopropene (1-MCP), temperature and degree of dehydration of fruits on their susceptibility to FD were evaluated in 'Abate Fetel' pears grown in the Alto Valle of Rio Negro, Argentina. Three replicates of 40 fruits were used in each treatment, and they were exposed to 120 s of rotation on rollers with synthetic bristle brushes at a constant speed. After 24 hours at 20°C, the incidence and severity of FD was visually assessed. Fruit maturity at harvest did not affect fruit susceptibility. 1-MCP treatment significantly reduced sensitivity to FD after 60 and 120 days in storage. When fruit treated with 1-MCP showed a weight loss higher than 2%, FD incidence was similar to control. Fruits with low water loss were less sensitive to FD. When weight loss was close to 1%, fruits were less sensitive than when weight loss was higher than 2%. The lowest sensitivity temperature range was found between 7-10°C, with greater sensitivity at temperatures near 0°C and above 15°C. The results demonstrated the importance of minimizing the time between harvest and packing, as this reduces water loss. The adoption of storage practices that reduce weight loss and fruit ripening should be considered to reduce sensitivity to FD.