

Title Internal browning disorders in stored pip fruit
Author J. Streif
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Abstract

Low-oxygen and/or high-carbon dioxide injury results from holding apples and pears in atmospheres below/above their tolerance for oxygen/carbon dioxide levels. Besides the storage conditions, the incidence and extent of these browning disorders are influenced by a number of pre and post-harvest factors such as: seasonal weather conditions; mineral nutrition; harvest date; 1-MCP; and delay of CA-storage. Different varieties or individual fruit within a variety vary in their susceptibility to injury because of anatomical differences (amount of intercellular space, rate of gas diffusion in the tissue and through the skin) and biochemical differences. External injuries of the fruit skin or internal disorders and cavities in the fruit tissue finally become visible as brown discoloured spots caused by oxidation of phenolic compounds. This is possibly the last step in a reaction chain beginning with the impairment of the cell membrane viability by fermentative metabolites resulting from a shortage of energy or from an exhausted defence mechanism against free radicals.