

Abstract:

Little information is available about changes in starch content in pear fruit during postharvest storage. In the present study, starch content was determined in 'La France' pears during storage. Fruit were harvested at commercial maturity, and ripened at 20 °C or stored at 1 °C. Starch content was determined daily for 30 days during ripening at 20 °C or storage at 1 °C. Ethylene production and flesh firmness of fruit ripened at 20 °C, and content of 1-aminocyclopropane-1-carboxylic acid (ACC) and internal ethylene in fruit stored at 1 °C were also measured. Ethylene production rates were low for the first 12 days at 20 °C. Then an increase of ethylene production was detected. Flesh firmness tended to decrease with the increase in ethylene production rate. The starch content in fruit at 20 °C decreased rapidly before ethylene production increased, and starch had almost disappeared 6 days after harvest. In fruit stored at 1 °C, ACC content and internal ethylene concentration did not change until 16 days after harvest, and then increased. Starch content in fruit stored at 1 °C decreased immediately after harvest, reached a minimum level 13 days after harvest, and then did not change. The results are discussed in relation to the meaning of chilling following harvest to induce or synchronize ripening of individual fruit.