

Title Regulation of stony hard peach softening with ACC treatment
Author Hiroko Hayama, Miho Tatsuki, Hirohito Yoshioka and Yuri Nakamura
Citation Postharvest Biology and Technology, Volume 50, Issues 2-3, November 2008, Pages 231-232
Keywords ACC; Ethylene; Softening; Peach

Abstract

Controlling the rate of fruit softening in melting-flesh peaches is a primary goal of the fruit industry. Stony hard (SH) peach varieties lack the ability to synthesize 1-aminocyclopropane-1-carboxylic acid (ACC), the precursor of ethylene, which is required for fruit maturation. SH peaches thus have crisp flesh that remains firm during ripening. In this study, we developed a simple technique to stimulate fruit softening by a single spray application of ACC at a concentration of 10–20 mM, which was sufficient to allow ethylene synthesis and fruit softening. Higher concentrations of ACC increased ethylene production, and made the fruit softer. Ethylene synthesis was limited to the first 2–3 d after ACC treatment, after which fruit ceased softening and retained its remaining firmness. These results indicate that a single application of ACC solution can be used to regulate the process of fruit softening in SH peaches.