

Abstract

Antioxidant activities and antioxidants of the tropical fruit guava (*Psidium guajava* L.), mango (*Mangifera indica* L.), banana (*Musa* spp.), rose apple (*Syzygium jambos* Alston), and papaya (*Carica papaya* L.) were investigated. Total phenolics and ascorbic acid (AsA) were analyzed as antioxidants. IC₅₀ values of superoxide (O₂⁻)- and 1-diphenyl-2-picrylhydrazyl (DPPH)-radical scavenging activity in fruit are generally linked with total phenolics, but the DPPH IC₅₀ in papaya was associated with AsA concentrations. We also examined the effect of low temperature on antioxidant activity and jasmonates in the skin of bananas and mangoes. The degree of chilling injury was higher at 6 °C compared to 12 °C, but *n*-propyl dihydrojasmonate (PDJ) treatment decreased chilling injury at 6 °C. Endogenous jasmonates, superoxide dismutase (SOD) activity, total phenolics, and AsA were each linked to the degree of chilling injury. In general, IC₅₀ values of O₂⁻ and DPPH-radical scavenging activity were also associated with the degree of chilling injury, although O₂⁻ IC₅₀ in mango showed no significant difference. These results suggest connections among jasmonates, AsA, and polyphenolics when tropical fruit are exposed to low temperatures.