

Title Volatile and non-volatile chemical composition of the white guava fruit (*Psidium guajava*) at different stages of maturity

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### Abstract

The effect of the maturation stages on the chemical composition and volatile compounds of the white Guava (*Psidium guajava*) Cv. Cortibel was investigated during three different stages. The stages were characterized by evolution of color, pH, titratable acidity, sugars, soluble solids, vitamin C and volatile components. The fruits were stored at 24 °C and air humidity of 74% for 13 days. The volatile extracts were obtained using headspace technique and analyzed using gas chromatograph/mass spectrometry (GC/MS) system. The titratable acidity and sugars decreased. The pH level and amount of vitamin C increased throughout progress of maturation. The behavior of volatile compounds of fruits in the three stages of maturation was: in immature fruits and those in their intermediate stage of maturation, were predominantly the aldehydes such as (*E*)-2-hexenal and (*Z*)-3-hexenal. In mature fruits, esters like *Z*-3-hexenyl acetate and *E*-3-hexenyl acetate and sesquiterpenes caryophyllene,  $\alpha$ -humulene and  $\beta$ -bisabollene are present.