

Title Postharvest studies of nance (*Byrsonima crassifolia*) fruit

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Abstract

Mexico is a country with a wide biodiversity plants, particularly on northwestern region it is abundant and little studies. Research on nance (*Byrsonima crassifolia*) is limited to some ethnobotanic works, in which roots, bark, flower, leaf and fruit have indicated its biological activity versus dysentery and fever. Research on fatty acids is important because their potential benefic effect to prevent chronic disease. The goal of this research was to contribute basic knowledge about physical, chemical and physiological changes the occur during ripening of nance (nanchi in Sinaloa) fruit consumed in Mexico. Fruits were harvested from the tree at a green turning (GT) and yellow stage (YT), and collected from the soil at a yellow stage (YS). To evaluate ethylene and carbon dioxide production, the YT fruits were storage for seven days under 20 °C and 90% relative humidity (HR) conditions. GT and YS fruits were evaluated for firmness, external color, pH, total acidity, soluble solid (°Bx), and ascorbic acid by high performance liquid chromatographic. YS fruits showed firmness (3.5 ± 2.3 N) than VC fruits (13.4 ± 3.4 N). Color analysis of YS fruits showed te following value: $L^*=74.53$, $a^*=3.31$ and $b^*=61.51$, while the color values for GT fruits were $L^*=67.33$, $a^*=8.48$ and $b^*=50.85$. The pH was slightly higher in YS (3.47) than GT (3.35); acidity was 0.81% and 0.91% in YS and GT fruits, respectively. Soluble solids content in YS fruits was 10.8 while than in GT was 10.2. High ascorbic acid contents were found in both fruit samples; 140.82 mg/100 g in YS and 150.27 mg/ 100 g in GT. Fruits showed a non climacteric pattern of respiration. We propose that the edible portion should be included in the Mexican diet as a source of important nutrients and beneficial health compounds; consequently, preservation of this species might result in further research and other practical benefits.