

Title Soluble phenols and antioxidant activity in mamey sapote (*Pouteria sapota*) fruits in postharvest

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Abstract

Mamey sapote (*Pouteria sapota* (Jacq.) H. E. Moore & Stearn) is a tropical species from the Sapotaceae family native to Mexico and Central America. Its tree produces an edible climacteric fruit, whose weight can range from 250 to 900 g. The flesh is soft, comprises about 78% of the fruit, and has high sugars to acidity ratio, which gives it a sweet taste when ripe. Because of current public interest to consume products that promote health, the aim of the work was to characterize soluble phenolic content and antioxidant activity in mamey sapote fruits from Chiapas, Mexico, at different maturity stages. Storage at 12 (\pm 1) °C was conducted for 18 d. When fruits ripened firmness flesh varied, in average, from 41.8 to 3.0 N, soluble solids content from 17.7 to 28.1 °Brix, hue angle from 56.4 to 46.3°, and lightness from 67.3 to 42.0. Phenolic content was affected by ripening since average values of 2563 and 234 $\mu\text{g/g}$ were found in unripe and consumption maturities, respectively. In a soluble phenolics extract from flesh, gallic acid (GA), gallocatechin-3-gallate (G3G), epicatechin (ECT), and catechin (C) were found, being the latter the most abundant compound, which increased with ripening from 9.9 to 113.1 $\mu\text{g/g}$, while GA, G3G, and ECT had average values of 4.7, 11.9, and 5.8 $\mu\text{g/g}$, respectively, without significant variation. Antioxidant activity, expressed through the IC_{50} parameter, remained practically unchanged and showed an average value of 12.9 $\mu\text{g/mL}$. Based on phenolic composition the mamey sapote fruit may constitute a good source of antioxidant compounds.