

Comparative Analysis of the Phytochemical Properties and Total Sugar Content of Three Local Varieties of Ripe Carica papaya L. Fruit.

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Abstract

Carica papaya L. is a perennial plant cultivated mostly in tropical and subtropical lands including the Philippines, India, South America, Sri Lanka, and East Africa. Of all its parts, it is usually the fruit that is utilized for human consumption. *Carica papaya* L. comes in different varieties, including the Solo, Sinta, and Red Lady papayas. This study aimed to analyze and compare the total phenolic and flavonoid content, antioxidant capacity, and alkaloid presence of these three varieties in contrast to their total sugar content. Tests such as the Folin-Ciocalteu method, analysis of total flavonoid content, DPPH-scavenging activity assay and the Anthrone method were done. Descriptive statistics such as Levene statistics, means, standard deviations, ANOVA, and Tukey's test were used for data analysis. Total phenolic and flavonoid content was superior for Red Lady papaya, while the differences found among the mean antioxidant capacities of the all tested varieties were not significant. The preliminary alkaloid screening came out positive for all varieties. Solo papaya was found to have the highest total sugar content among the three. The mean phenolic and flavonoid concentration of Red Lady was found to be significantly different from the mean concentrations of the other two variants ($p < 0.05$). The mean total sugar content of

Solo papaya was also found to be significantly different from the total sugar content of the other two varieties ($p < 0.05$). The F1 hybrid Red Lady papaya showed the relatively highest amount of total phenolic and flavonoid content and antioxidant capacity, closely following Sinta papaya for the variety with the lowest total sugar content.

Biography:

Rachelle Mae Valimento Cabigan is a senior Bachelor of Nutrition student from the Institute of Human Nutrition and Food, College of Human Ecology, University of the Philippines-Los Banos. She graduated salutatorian from Carmona Elementary School in 2011 and finished her secondary education level at the University of Perpetual Help System-JONELTA Binan Campus (3rd honorable mention) in 2015.

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