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CHEMICAL COMPOSITION AND POTENTIAL ADULTERANTS IN

COCONUT MILK SOLD IN KUALA LUMPUR

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ABSTRACT

The purpose of this study was to determine the chemical composition of six fresh coconut milk samples sold in Kuala Lumpur and to compare the results of chemical composition with pure coconut milk as reference using Malaysia Food Composition, USDA Fresh Coconut Milk Composition and USDA Canned Coconut Milk Composition. The possible source of adulterants that might present in coconut milk was also studied. Two fresh coconut milk samples from Pasar Imbi and Giant Cheras was anticipated to be adulterated with water and a source of carbohydrate in order to thicken the coconut milk.

The protein content of fresh coconut milk sample from Pasar Imbi and Giant Cheras was

79.05% and 80.95%, respectively, lower compared to the reference, while the fat content was 53.38% and 60.96% lower compared to the value of the reference. However, the carbohydrate was 16.37% and 5.75%, while the moisture content was 12.84% and 25.77% higher compared to the value of the reference. From these two potentially adulterated coconut milk samples, only coconut milk from Pasar Imbi shown carbohydrate (corn flour) and water peaks of Fourier transform infrared (FTIR) spectra. The spectra of fresh coconut milk adulterated with different concentration of corn flour were scanned and interpreted. Partial Least Square (PLS) regression was used to quantitatively determine the concentration of corn flour in the coconut milk. The linear equation of the validation obtained was $y = 0.9161x + 0.3334$ with $R^2 = 0.9982$ and $RMSEC = 0.688$. This can be suggested that FTIR could be a potential tool in determining the coconut milk adulteration with corn flour for future study.

Key words: Chemical composition, coconut milk, adulteration, corn flour