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Formulation optimization of protein enriched nami (*Dioscorea hispida* Dennst.) cookies using soybean [*Glycine max* (L.) Merr.], Mung bean [*Vigna radiata* (L.) R. Wilczek] and White beans (*Phaseolus vulgaris* L.) Flour

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Nami (*Dioscorea hispida* Dennst) is an underutilized tuber because of its inherent high alkaloids and hydrogen cyanide composition, and low

protein content. Due to the drawbacks and limitations of this tuber, this study aims to utilize detoxified nami flour in cookie processing and fortify it with protein using different types of legume flour. A 3,2 Simplex Lattice Design was used to determine the optimum combination of composite flour of soybean, mung bean, and white bean that would enrich the protein content of nami cookies. The optimum protein enriched nami cookie has a level of 61.7% soybean flour, 25.53% white bean flour and 12.77% mung bean flour providing at least 12.1% protein at the price of ₱6.9/ 40g pack. Each 40gram serving also provides 13.2% of the total recommended energy

intake (RENI) and 51% of the recommended nutrient intake for protein of children aged 4-6 years. Consumer preference test also showed that the optimum product can fairly compete in the market as compared to non-altered ingredient cookies.

Biography

Ma Carisse Merin Compendio has just recently completed her Master's Degree in Food Science minor in Applied Nutrition at the University of the Philippines- Los Banos, Laguna, Philippines last June 2018. At the present time, she also has another publication which also focuses on further utilization of Nami (*Dioscorea hispida* Dennst). Her interest really focuses on the study of this tuber since it is abundant in her country (Philippines) but was quite forgotten due to its hassle preparation and presence of neurotoxic substance if improperly detoxified.

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