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Characterization of modified starches from adlay *(Coix lacryma-jobi-L.)*

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Adlay (*Coix lacryma jobi L.*) is an underutilized cereal crop that shows potential as a source of starch. In the form of starch, its utilization can be enhanced by modification. However, there are limited studies on the modification of adlay starch and its properties. The study aimed to characterize adlay starches modified by heat-moisture treatment in terms of nutrient composition, physical and functional properties. Nutrient composition, physical and functional properties were analyzed using standard methods and compared with modified cornstarch and modified tapioca starch. Modification caused a decrease in moisture and increase in protein, ash and resistant starch content. Modified starch produced is white with lightness (L) values ranging from 95.70-93.98. Scanning electron microscopy (SEM) studies showed that the shape and surface characteristics of the starches were oval to polygonal with various cracks, fissures and indentations on the surface. Water absorption capacity increased while swelling and solubility decreased. Significant changes in pasting and gelatinization properties were also observed. Pasting curves were similar to the control. In conclusion, modified starches that were produced from adlay through heat-moisture treatment showed properties that may have potential application in canned food products, sauces, noodles and bread.

Biography

Alfee B Capule is a recipient of the DOST-HRDP Graduate Scholarship program, completed her Master's degree in Food Science at University of Santo Tomas and BS in Food Technology at University of Philippines-Diliman. Her first professional experience as a Food Technologist was at Philippine Nutri-Foods Corporation, later at National Meat Inspection Commission and at University of the Philippines Pilot Food Plant. Currently, she is the Science Research Specialist II at Food and Nutrition Research Institute. Her accomplishments include: 2015 FNRI Scholastic Achievement Award and FNRI Innovator's Award for Utility Mode Registration. She has been a resource speaker on "Sensory evaluation, food packaging, shelf life determination in food and several technology forums" in different regions. She has also written and published four original research articles in international peer-reviewed scientific journals.

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