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Utilization of mango peels as source of pectin

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The potential of carabao mango (*Mangifera indica*) peels as source of pectin was investigated in line with the Philippines' total dependence on imported pectin. This research successfully established an extraction process that produced pectin from carabao mango peels which conformed to United States Pharmacopeia (USP) standard. Results showed that dried carabao mango peels yielded 21.65% pharmaceutical grade pectin. The product was characterized as high methoxyl pectin because of its high galacturonic acid content (92.82% - 98.65%). It is applicable for food formulation because of its high degree of esterification (76-79). The total dietary fiber and sugar contents were 77.4% and 4.8%, respectively, indicating usefulness for better digestive functions. Its gelling properties were comparable with the analytical grade pectin. The produced pectin was also free from chemical and microbial contaminants. Cost analysis revealed that the production cost for pectin from mango peels under laboratory scale amounting to Php5,667.51/kg was cheaper than the average landed cost of imported pectin (Php27,122.56/kg). Hence, local production of pectin from mango peels has great potential. It will create business and job opportunities, help in saving the country's dollar reserves through less or non-importation of pectin, and in saving the environment from depletion through solid wastes utilization.

Biography

Ma Cristina B Gragasin is a Supervising Science Research Specialist at the Philippine Center for Postharvest and Mechanization, a research agency under the Department of Agriculture in the Philippines. She has 29 years of work experience in research and development on postharvest technologies to preserve the quality and safety of food products. She finished her doctorate degree at Chiba University in Japan specializing on pesticide toxicology. As researcher, she has worked on aflatoxin contamination in peanuts, kinetics of decay of pesticides used in the tropics, integrated use of insecticides to preserve the quality of stored grain, screening and evaluation of botanical plants for pesticidal activity, utilization of mango peels as source of pectin, enhancing the quality and safety of moringa products, etc. She has received various awards as a researcher, published several papers in scientific journals and attended international conferences to present the output of her research undertakings.

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