

Title: Evaluation of Handling and Storage Characteristics of an Intermediate Granulated Food Ingredient Using a Fabricated Screw Extruder

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A laboratory scale screw extrusion agglomeration equipment was developed to assess its effectiveness in the granulation of pre-formulated food powders in which bitter gourd "ampalaya" powder as the main ingredient. The handling and storage properties of the agglomerated products obtained from mixtures which have three components (bitter gourd power, cassava flour and water) were determined under two screw speeds (80 rpm and 120 rpm). The effectiveness of the equipment was based on the product properties such as Carr's Index, Hausner Ratio, Friability and Disintegration Time.

The Carr's index of the agglomerates ranged from 0.0333 to 0.07333 while the Hausner ratio ranged from 1.0346 to 1.0792. Thus, the handling property of the agglomerates produced by the equipment was excellent. The lowest friability measured was 0.096 indicative of a strong and stable agglomerate. The average disintegration time observed was 6.04 minutes. The maximum mass output efficiency and throughput of the agglomeration equipment was 96.15% and 0.3163 kg/kW, respectively.

Biography

Lynnel C. Olpot has completed both his Bachelor's and Master's degree in Chemical Engineering from University of the Philippines Los Baños. He worked as a Process Engineer in a manufacturing company that produces polymeric technical textiles and has a brief experience as a Process Control Engineer in a pharmaceutical company. After industry exposure, he decided to pursue a Master's degree in Chemical Engineering minor in Food Science, thus ending up in researching about agricultural food ingredient processing. His past experience in research and development as well as process control with his background in chemical engineering opened up his interest in the fields of food, pharmaceutics and propelled him to link his study related to agricultural bioprocessing and food science.

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