

BOOK OF ABSTRACTS



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Food-12: Extraction and characterization of *Ipomoea Batatas* leaf polysaccharides for their potential use as functional ingredients in aquafeed

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Abstract

Ipomoea batatas leaves are common agricultural by-products in Vietnam but are not fully used. As aquaculture feed costs continue to rise, there is a need for local and sustainable raw materials. This study focused on extracting and characterizing polysaccharides from *Ipomoea batatas* leaves to evaluate their potential as a functional carbohydrate source for aquaculture feed. Polysaccharides were extracted using a mild alkaline method, followed by ethanol precipitation and freeze-drying. The average extraction yield was 4.90%, with consistent results across three experiments. Thermal properties were analyzed using thermogravimetric analysis (TGA). The main degradation occurred at 247.55 ± 0.66 °C. The material remained stable below 200 °C, showing that it can withstand common feed processing temperatures. Molecular weight distribution was determined by high-performance size exclusion chromatography (HPSEC). Seven peaks were observed, showing a heterogeneous molecular structure. High and medium molecular weight fractions (>20 kDa) represented about 73.7% of the total area, indicating that the extract mainly consists of polymer chains. In summary, *Ipomoea batatas* leaf polysaccharides show good thermal stability and a polymer-rich molecular profile. These results support the potential use of *Ipomoea batatas* leaf biomass as a functional ingredient for sustainable aquaculture feed development.