

Study of Integrated System Technology and Bioeconomy: Tropical Fruit Product Innovation and Bioenergy

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Abstract

The growth of the production of functional food in northeastern Brazil has an important position of the tropical fruit such as melon, papaya, pineapple and cashew, because it has good production managment and good acceptance in diverse climate and region. Production in the region of Mato Grande / RN is characterized by the production of tuberculos yam and cassava, fish, srimp and recently sorghum sugar, better productionsat national and international level. The processi developed of local production is an opportunity to create jobs, increase income and sustainable development. The marketing of fresh product derived from fruit is the most common form of marketing, due to lack of technological capacities of the producers on how to add value. The activity of fruit processing waste generated in the form of peels and bagasse which for human consumption, have good nutritional contents, with composition ranging from 15 to 20% protein, 25 to 40% pectin and 40 to 55% fibers and carbohydrates. Currently fruit waste presents a serious environmental problem, as is the case of shrimp shells that generate about 150 tons per day only on RN. The objective of this project is the application of technological innovation in the total use of fruits, transforming raw materials into nutritional products with high profitability, viability and also has sustainable development as objective. Good results were obtained in structured fruit product and the processes associated with the use of clean energy and alternatively from various waste. These processes based on the products and processes already developed together with some communities RN. The innovative integration system outlined in this work points to high economic prospects for sustainable development, aimed at the proper reuse of waste and the application of concepts of industrial ecology total utilization of fruits. The clean production technology was made possible in this work , but requires significant investment, but lower cost of production using solar energy and biogas.

Keywords: structured fruit, biogas, micro algae, bioenergy, innovation