

A PROCESS TECHNOLOGICAL INNOVATION FOR THE GROWTH OF INTERNATIONALIZED VCO EXTRACTING FIRMS AND THE ECONOMY: A FEASIBILITY STUDY OF A TECH-IMPROVED FERMENTATION METHOD FOR INTERNATIONALIZED VCO EXTRACTING TSMES

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Abstract

Virgin Coconut Oil (VCO) can be extracted using different methods, of which tech-improved fermentation method can be denoted as the best method to obtain VCO of high quality at a low cost of production. Currently, the physical extraction method is used as the main method of extracting VCO in Sri Lanka which carries a great deal of negative quality effects, higher cost of production and an increased amount of wastage. This study was carried out to explore the feasibility of new technically and genetically improved more efficient bacterial fermentation (*Lactobacillus bulgaricus*) method as to provide the best VCO in quality at a cost effective manner. The oil obtained was assessed for the physicochemical parameters and microbiological requirements were studied using standard methods. Fatty acid composition was determined using Gas Liquid Chromatography. The optimum yield with the best quality VCO was extracted after 24 hours at a 37 °C of fermentation. The Free Fatty Acid Content, moisture, specific gravity and iodine value of VCO produced were measured. All the physicochemical parameters, microbiological parameters and fatty acid composition were acceptable to quality standard values. More importantly the cost of production of VCO through this technically and genetically improved fermentative bacteria is comparatively low when it compares with the conventional fermentation method. Analysis revealed that there is a positive relationship between technically improved fermentation method usage extent with internationalized Firm's Growth. Besides, the coefficient for 'Firm's Growth Extent' represents 46.95 oct_intn. Inference that there is a positive relationship between Firm's Growth Extent with Economic Growth where the P- value is significant at 0.1 confidence level.

Keywords : Internationalized VCO Extracting Technology based Small & Medium Enterprises, Process Technological Innovation, Enterprise Growth, Economic Growth