



A Novel Product Development of Rice Bran Oil Derived from Organic Farm Contracting in Pichit Province

Komkrit Kanjoo^{1,2}, Nuengruethai Timyaingam¹, Suriyan Cha-um¹ and Veeraphat Kritthanathip^{1*}

¹*Innovation and Free-trade Business Institute, Kasem Bundit University, Bangkok, 10250 Thailand*

²*Department of Agricultural Business, Faculty of Management Sciences, Kasetsart University (Seeracha campus), Seeracha, Chonburi 20230 Thailand*

*Corresponding author. E-mail: v7july@gmail.com

Abstract

Rice is a staple food to serve as carbohydrate source for world population, especially in Asian countries. Bran oil derived from byproduct has been well established including crude oil and refined products. It is enriched with vitamin E, oryzanol, antioxidant compounds and enriched oleic and linoleic lipid, which are friendly to human health, especially in digestion system. Nongsano Small and Medium Enterprises (SMEs), Pichit province is a private sector, establishing for sustainable communities using organic farm contracting in rice crop, especially premium cultivars as “KDML105 aromatic rice”, “Homnil Fe-enrichment” and “Riceberry flavone fortification”, which is calling “Three King of Rice”. Organic rice seed stock of three cultivars is a major product of Nongsano SMEs to serve in several region of Thailand. In addition, the grain product in vacuum seal packaging is an alternative product. Oil derived from rice bran or byproduct of three rice cultivars was separately extracted (cool extracted process) and then mixed in one gradient of equal volume. However, the relative water content (RWC) in the raw bran was identified as large barrier to be oxidized and reproduced a rancid smell flavor. A reduction of relative water content in raw bran into <5% was established for long shelf-life and rancid preventing after Screw Press Cold Process. Moreover, soft-gel capsule sealing product, branding “ORYZANÉ” and novel packaging design were investigated as premium product as friendly health bran oil as nutraceutical product.

Keywords: Antioxidant, Soft-gel capsule sealing, Oryzanol, Relative water content, Vitamine E