

Extraction of Essential Oil and Pectin from Lime and Waste Technology Development

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Abstract : Lime is one of the economically important produced in Thailand. The objective of this research is to increase utilization in food and cosmetic. Extraction of essential oil and pectin from lime (*Citrus aurantifolia* (Christm & Panz) Swing) have been studied. Extraction of essential oil has been made by using hydro-distillation .The essential oil ranged from 1.72-2.20%. The chemical composition of essential oil composed of alpha-pinene , beta-pinene , D-limonene , comphene , a-phellandrene , g-terpinene , a-ocimene , O-cymene , 2-carene , Linalool , trans-ocimenol , Geraniol , Citral , Isogeraniol , Verbinol , and others when analyzed by using GC-MS method. Pectin extraction from lime waste , boiled water after essential oil extraction. Pectin extraction were found 40.11-65.81 g /100g of lime peel. The best extraction condition was found to be higher in yield by using ethanol extraction. The potential of this study had satisfactory results to improve lime processing system for value-added . The present study was also focused on Lime powder production as source of vitamin C or ascorbic acid and the potential of lime waste as a source of essential oil and pectin. Lime powder produced from Spray Dryer . Lime juice with 2 different level of maltodextrins DE 10 , 30 and 50% w/w was sprayed at 150 degrees celsius inlet air temperature and at 90-degree celsius outlet temperature. Lime powder with 50% maltodextrin gave the most desirable quality product. This product has vitamin C contents of 25 mg/100g (w/w).

Keywords : extraction, pectin, essential oil, lime

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