Poraya Saowalak 2009: Product Development of Vacuum Fried Jackfruit Seeds. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development. Thesis Advisor: Associate Professor Thongchai Suwonsichon, Ph.D. 233 pages.

The purpose of this research was to develop value added product from jackfruit seed. Consumer survey of 200 respondents in Bangkok was done and its result indicated that 92% of consumers agreed with the idea of developing the vacuum fried jackfruit seed chips. There were five factors affecting consumer buying decision which were 1) flavor and cleanness 2) nutrition and package 3) overall quality 4) price and 5) appearance. The process development and its optimization were also studied. The Plackett and Burman design experiment was applied to screen significant process variables of vacuum fried jackfruit seed chips. These variables were thickness of sample, drying time, frying temperature, frying time, vacuum pressure, centrifuged time and centrifuged pressure. Statistical analysis results showed that thickness of sample, frying temperature, vacuum pressure and frying time were significant variables ($p \leq 0.05$) affecting the quality of jackfruit seed chips. To optimize these three process conditions which were frying temperatures (100, 120 and 140 ^{o}C), vacuum pressures (600, 650 and 700 mm.Hg) and frying times (9, 12 and 15 min.) for vacuum fried jackfruit seed chips, the central composite design, a response surface methodology was employed. Based on the superimposed contour plots of sensory attributes, the optimum process conditions were frying temperature of 120 ^{o}C, a vacuum pressure of 650 mm.Hg and a frying time of 9 min. The proximate analysis of this developed vacuum fried jackfruit seed chips seasoned with 2.0% seaweed flavor were 4.42% moisture, 6.27% protein, 25.38% fat, 1.31% ash, 2.34% crude fiber and 60.35% carbohydrate in dry basis. The CIELAB color system values of this product were L*, a* and b* equaled to 78.90, 7.09 and 26.80, respectively. The a_w and hardness were 0.23 and 5.85 N, respectively. Consumer acceptance test, 9-point hedonic scale, of this product with 200 respondents was conducted. Results showed that they liked this developed product moderately (6.56). The 89.0% of consumers accepted this product and 63.5% of them decided to buy this product when it is sold in the market.

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