



Research Title	Fortified Chitosan Beans Paste
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ABSTRACT

The aim of this research was to study the appreciate ratio of the beans used for developing the product, to study the amount of Protease enzyme and the right conditions in Fortified Chitosan Beans Paste, and compare the differences between the Fortified Chitosan Beans Paste with the shrimp paste several market. The processes for the experiments are: 1) Experiment 1: study the appreciate ratio 3 types of beans: Red Kidney beans, Soybeans and Mung beans depend on the ratio 7:2:1, 6:2:2, and 5:3:2. Then wash soak for 1 night and boil for cooked drain and wrep with banana leaves at room temperature for 3 nights. Mix 3 type of beans together put the salt on ratio of 10:1 and pound until smooth. Record the ratio-Observe about the color, smell and texture for choosing the best ratio for developing and sensory evaluation by using Ranking test. 2) Experiment 2: study of the amount of enzyme protease for 5 and 10 milliliters and then fermented at two condition are temperature room and incubator oven at 40 degree Celsius, and its record the data by observe about the color, smell and texture every weeks within one month. Experiment 3 : Compare difference between Fortified Chitosan Beans Paste with Shrimp paste in the several market, and tested by the panelists with Sample pair difference test, analysis statistic by using Chi-square test (χ^2). The result of experiment 1 has been selected to be the ratio 7:2:1 because, the Red Kidney beans has the similar color of the shrimp paste, soybeans given smell same shrimp paste and Mung beans have affect to the texture of smooth product. Experiment 2, added 5% of enzyme protease and fermented at temperature room for 7 day. it have color, smell, and texture better than every treatment, and it have appearance similar natural shrimp paste for soybeans used contained a smell compound, composition of shrimp paste such as indole, S-containing compound and N-containing compounds. However, the optimum condition for enzymatic hydrolyzes by *Bacillus licheniformis*, it has peptile, amino acids and good smell in this product. Experiment 3, overall of physical feature of two products non-significant of statistic and found that the panelist not separated difference between Fortified Chitosan Beans Paste with Shrimp paste at $\alpha = 0.01$.