

Thesis Title	The Development of Vegetarian-Nham	
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Abstract

Vegetarian-Nham is the product made by using plant protein for meat substitutes. Isolated Soy Protein (ISP) and wheat gluten, for examples, are both mainly raw materials for making vegetarian-Nham with konjac flour gel product and other ingredients in order to form characteristics of Nham analog.

The study of the optimal formulation and process of vegetarian-Nham showed that the developed vegetarian-Nham formulation contained 65% gluten, 5% ISP and 30% konjac flour gel product. Other ingredients were 0.22% sodium tripolyphosphate, 2.23% salt, 1.53% meat pork flavour, 6.12 ml of 1% Ponceau 4R solution per 500 grams of main system, 0.5% glucono delta lactone, 1.0% glucose, 0.15% pepper powder, 6.0% cooked rice, 1.0% minced bird chilli and 6.0% minced garlic and using mixed bacterial starter cultures; *Lactobacillus plantarum* 10^5 cfu/g and *Pediococcus cerevisiae* 10^6 cfu/g. In addition, the optimal process of the product was cooked by sterilization at 116°C for 20 minutes, after 48 hours of fermentation at 30°C . The total quality of the final product was good and also accepted by panelists.

The final product which was produced by suitable formulation and process had colour in Hunter values; colour L, a^* and b^* were 55.24, 13.91 and 14.71 respectively, shear force 7.55 newtons, compression force 16.10 newtons and 6.25% weight loss. The product had 61.62% water content, 68.68% protein, 5.86% carbohydrate, 0.02% fat, 0.43% fiber, 2.70% ash, 4.16 pH, 0.96% total acidity as lactic acid and 1.11% reducing sugar. Total aerobic plate count was 1.1×10^2 cfu/g, yeast and mold was less than 25 cfu/g. The panelists accepted the final product with mean ideal ratio scores of colour, gel distribution, smoothness, spiciness, off flavour, firmness, chewiness, sourness and overall acceptability were 0.86, 0.87, 0.86, 0.94, 0.82, 0.95, 1.03, 0.91, 1.00 and 0.81 respectively.