ABSTRACT

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THE EFFECT OF GELLING AGENT TYPE AND CONCENTRATIONS AGAINST CHARACTERISTIC OF LOW-CALORIE SOY PUDDING
(xvi + 125 pages; 8 tables; 21 figures; 35 appendixes)

Soybean has been recognized as one of potential beans which have high nutritional content and be used as raw materials for processed food product. However, soybean aroma is less accepted by most customers. This research was aimed to make of soy-pudding with the addition of selected natural ingredients (ginger-pandanus, cinnamon, green tea, and soursop) to mask the unpleasant smell in soybeans and determine the best gelling agent for soy pudding. The result of Focus Group Discussion (FGD) and hedonic test for taste, flavor, texture, and overall acceptance showed that ginger-pandanus was the most suitable material combined with soymilk in soy-pudding. Five types of gelling agent used were combination of kappa and iota carrageenan, kappa carrageenan and konjac gum, iota carrageenan and konjac gum (0.25, 0.5, and 0.75% with ratios 1:1, 1:2, 1:3, 2:1, and 3:1); gelatine (1, 1.5, and 2%); and Glucono Delta Lactone (GDL) (0.25, 0.5, and 0.75%). The selection for best formulations of each gelling agent was based on texture characteristic (gel strength and syneresis). The best formulation for each combination of gelling agent were kappa-iota carrageenan (0.25%, 3:1); kappa carrageenan-konjac gum (0.25%, 1:1); iota carrageenan-konjac gum (0.75%, 1:1); gelatine 1.5%; and GDL 0.25%. Organoleptic, gel strength, and syneresis results showed combination of kappa and iota carrageenan as the best gelling agent for soy-pudding. Combination of soymilk and ginger-pandanus (70:30) based pudding had 90.91% moisture, 3.25% fat, 2.84% protein, 2.57% carbohydrate, 0.43% ash, 245.375 (mg/ml) antioxidant activity, and 7.96% fiber contents. This soy-pudding was also claimed as low calorie food product.

Keyword: soybean, carrageenan, konjac gum, gelatine, GDL, pudding

References: (76) 1989-2011