Abstract

The purposes of this research were to evaluate the appropriate preparation methods of soybean oil, type and the amount of hydrocolloids for using in the production of skipjack tuna emulsion sausage. Firstly, the five methods of prepare soybean oil were studies such as 1) Frozen at –18°C 2) Pre-emulsion of soybean oil by mixing with water and soy bean isolated (SPI) 3) Pre-emulsion of soybean oil by mixing with water, SPI, and microbial tranglutaminase (MTGase) 4) Pre-emulsion of soybean oil by mixing water with sodium caseinate (SC) 5) Pre-emulsion of soybean oil by mixing with water, SC, and MTGase. The result was found that pre-emulsion of soybean oil with compose of soybean oil, water, SC, and MTGase in ratio of 10 : 8 : 1 : 0.07 w/w, respectively was added 8%w/w of final product, made the sausage was good emulsion stability and low cooking loss and storage loss. Moreover, the sausages were highest texture quality and slightly to moderate overall liking scores. After that the type and ratio of hydrocolloids were studied. Inulin was varied at 3, 6 and 9 %w/w of final product and carcoxymethylcellulose (CMC) was varied at 0.4, 0.6 and 0.8 % w/w of final product to improved the quality of the sausage that used pre-emulsion of soybean oil by mixing with water, SC and MTGase. The results indicated that 0.6 %w/w CMC showed the best emulsion stability, highest hardness (6743.45 g), gumminess (4480.80 g) and chewiness (4070.69 g) and highest acceptance in hardness score. For the consumer and the purchase decisions test, the results revealed that consumers accepted and decided to buy the product at 99.17% and 81.67%, respectively. Finally, the proximate and microbiological of the sausages were analyzed. The results indicated that the sausage contained moisture, protein, fat, ash, and carbohydrate at 72.44, 15.52, 4.55, 1.92, and 5.57 %wet basis, respectively and the amount of microbial were not over than the Thai community product standard of fish sausage (TCPS 143/2546).