

Pattraporn Sukkhown 2014: Development of Crispy Dried-Seasoned Squid Roll Product from Surimi and Dried Squid Head in Seasoning Sauce. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development. Thesis Advisor: Assistant Professor Tantawan Pirak, Ph.D. 173 pages.

This research was aimed to produce crispy dried-seasoned squid roll product from surimi and squid trim by surveying the needs of target consumer (age 12-18 years old). It was found that the target consumer liked to eat crispy squid snack because it was the healthy product without chemical preservatives or additives and should be clean and safe. The results from focus group discussion and consumer survey showed that the product A had the highest squid content and overall liking score. Product A possessed high protein and low fat. Hence, the product A was selected as prototyped product. The selected basic formulation consisted of 74% surimi, 15% tapioca flour, 6.0% sugar, 2.0% salt and 3% soy sauce. When substituted surimi with squid paste in basic formulation, product with dried and hard texture was received. The process was then adjusted by steaming (100°C, 1 minute) batter after forming. When using this improved process for producing developed product with surimi and squid paste (0, 10, 20 and 30%) followed by selected the appropriate ice concentration (0, 10 and 20%), the process was suited for producing the product with the appropriate squid paste at 20% and ice concentration at 20%, respectively. The resulted squid product was almost similar to prototyped product (product A) and fit the target consumer needs. In conclusion, appropriate process was chopping, steaming for 1 minute before drying, toasting at 114°C, 35 minute, drying at 80°C, 10 minute, dipping sauce at 3 sec and drying at 80°C, 170 minute. The developed product had light brown color (L^* at 41.63, a^* at 10.67, b^* at 18.97), water activity (a_w) at 0.430, fracturability at 6.52N, thickness at 1 mm, moisture content at 2.97% and protein at 35.50%, respectively. The overall liking score of the developed product was 7.44. The consumer acceptance and purchase intense of the developed product was 100% and 96%, respectively. For shelf life study, the calculation of order reaction revealed that the occurred reaction correlated with the first order reaction. The action energy (E_a) values of L^* was highest vary all factors (44.43 KJ/mol), hence, L^* was the critical factor in the storage of this product.

Student's signature

Thesis Advisor's signature