

## **SUITABILITY OF PRAWN BY-PRODUCTS FOR PRODUCTION OF PRAWN SAUCE**

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One of the biggest problems in prawn processing industry is the disposal of large amount of waste materials. A wise method to minimize these environmental threats from prawn processing waste is to convert them in to useful products. In this context, production of fermented prawn sauce is one of the options. Therefore, this study was conducted to produce prawn sauce using by-products from prawn processing plant. Prawn by-products were obtained from a local prawn processing plant and prawn sauce was prepared according to the accelerated fermentation method using two types of plant extracts, pineapple juice and papaya juice.

The effect of different juice concentrations (10, 15, 20, 25, 30, 35, 40 % v/w) of pineapple, papaya and their combination for fermentation were studied by measuring residue weight of hydrolyzed mixtures. The best temperature (40, 45, 50, 55 and 60 °C) and the most suitable time period on fermentation (2, 4, 6, 8, 10 days) were studied by measuring total nitrogen content in the filtrate of hydrolyzed mixtures. Then, sensory evaluation was done for prawn sauce. The data (except sensory evaluation) were analyzed using ANOVA procedure of SAS computer software package. The data on sensory evaluation were analyzed according to the Friedman non-parametric method using MINITAB computer package.

Results of the study revealed that the 25% (v/w) of papaya juice was the best juice concentration and 4 days of fermentation at 50 °C was enough for complete fermentation of prawn by-products. Prawn sauce prepared with 15% (w/w) of salt and 0.5g cinnamon obtained higher median values for overall acceptability. It can be concluded that prawn by-products can effectively utilize to produce prawn sauce using papaya juice (25% v/w) according to the accelerated fermentation (4 days) technique.

**Key words:** By-products, Prawn sauce, Total nitrogen