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Chemical, textural and sensory characteristic of milkfish galantine as effect of different liquid smoke application

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Diversification of milkfish processing has been done for increasing consumption of the fish. Galantine is one of the preferred products by consumers. Galantine that is widely circulated in the market is made from beef or chicken, while the galantine from fish meat is still rare. Fish galantine has an original flavor that can be modified using natural flavoring such as liquid smoke. The use of liquid smoke in different forms is estimated to give different effects. The purpose of this study was to examine the effect of the different liquid smoke addition to the nutritional, texture and sensory characteristics of fish galantine. The experimental design was completely randomized design factorial with two factors: Different types of liquid smoke (Redistillation (R), Filtration (F), Microencapsulation (M)) and liquid smoke concentration (1%, 2% and 3%). All treatments were performed in three replications. Analysis of parametric data was done using ANOVA, if the treatment gave significant effect; further testing was done using Tukey test. Nonparametric data was analyzed using Kruskal-Wallis test and continued with Mann-Whitney test. The result of variance analysis showed the interaction of liquid smoke type and concentration gave significant effect ($P < 0.05$) to water, protein, fat, carbohydrate, fiber, energy content, hardness and deformation, but no significant effect ($P > 0.05$) to ash, pH and gel strength. Water content varied from 69.82-72.75%; Protein content: 14.56-16.73%; Fat content: 4.03-6.14; Ash content: 1.62-2.84%; Energy 111.15-138.9 cal/100 gram with pH 5.9-6.1. Hardness values varied from 741.52 gf-1357.84 gf with deformations ranging from 0.9-1.63 cm. The dominant essential amino acid in milkfish galantine products was lysine amino acid. The lysine amino acid was highest in galantine products with the addition of 2% microencapsulated liquid smoke i.e. 18,319.85 mg/kg. The content of EPA galantine milkfish with additional liquid smoke varied from 90.8 mg/100 g-181.4 mg/100 g. The content of DHA in galantine of milkfish with different liquid smoke showed a varied value of 96.1 mg/100 g-165.9 mg/100 g. The addition of liquid smoke provided different responses to the panelist's preference for galantine appearance. The addition of 3% liquid smoke with redistillation made the galantine product darker colored so it was relatively less favored than other products. The addition of 1% liquid smoke with microencapsulation gave the highest value because the galantine appearance was brighter and more attractive to the panelist so that the value was close to 8 indicating galantine with 1% microencapsulated liquid smoke was a very favorable.

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