

EFFECT OF FERMENTATION TIME ON TEXTURE PROPERTIES OF
Coilia spp. AND *Nemipterus* spp. FERMENTED
USING ROASTED AND STEAM RICE

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Lihat sebelah

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RICE.**

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EFFECT OF FERMENTATION TIME ON TEXTURE PROPERTIES OF *Coilia* spp. AND *Nemipterus* spp. FERMENTED USING ROASTED AND STEAM RICE

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Institute of Tropical Aquaculture

Fish is important as a source of protein to human. Therefore, full utilization of fish would give best result of storing the fish during no season of fish. To prolong and maintain the quality, fermented is one of the methods to keep the shelf life lasting and good quality. Fermented fish was produced from two types of fish which is *Coilia* spp. and *Nemipterus* spp. The fish was fermented with roasted rice and steamed rice for 30 days. Formulation comprised fish, carbohydrate, salt and tamarind in a mass ratio of 1 (fish): 0.25: 0.15: 0.05, respectively. The effect of the rice on the texture hardness of the two fish was studied by using TA-XT Texture Analyser. The hardness of the fish was decreased significantly ($p < 0.05$) with fermentation time for fish fermented with steamed rice except for roasted rice whereas the hardness were initially increased for first 6 days and started to decrease after day 6 until day 30. The percentage of force penetration was higher for *Nemipterus* spp. as compared to *Coilia* spp. Nutritional analysis conducted based on standard procedure from AOAC (2000). Result showed that, there was no significant different ($p < 0.05$) for protein content and fat content in the fermented fish but significantly different in carbohydrate, energy and salt content due to the adding of rice and salt during fermentation process. Overall, we can conclude that the effect of rice is the same for both fishes even though there was significant different between the sizes of the fish.

Author Keywords: Rice, Fermentation, Texture Profile Analysis, Nutritional Analysis.

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**KESAN MASA PENAPAIAN TERHADAP TEKSTUR IKAN *Coilia* spp. DAN
Nemipterus spp. YANG DITAPAI MENGGUNAKAN BERAS GORENG DAN
NASI**

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*Ikan merupakan sumber protein yang penting kepada manusia. Oleh itu, apabila tiba musim tengkujuh, ikan sukar diperolehi. Untuk memanjangkan dan mengekalkan kualiti ikan tersebut, penapaian merupakan salah satu daripada proses untuk memanjangkan dan mengekalkan kualiti ikan di dalam keadaan yang baik. Kajian terhadap dua jenis ikan yang berlainan iaitu, dari spesies *Coilia* dan *Nemipterus* digunakan untuk menghasilkan ikan pekasam. Dua jenis beras digunakan untuk menapai ikan tersebut adalah nasi dan beras goreng tanpa minyak. Kedua-dua ikan ditapai selama 30 hari. Bahan-bahan yang digunakan adalah ikan, karbohidrat, garam dan asam jawa dalam nisbah 1 (ikan): 0.25: 0.15: 0.05. Kesan kedua-dua beras terhadap kelembutan tekstur ikan dikaji menggunakan mesin TA-XT Texture Analyser. Hasil mendapati, kelembutan isi ikan menurun dengan masa penapaian secara signifikan ($p < 0.05$) bagi ikan yang ditapai dengan nasi. Manakala, ikan yang ditapai dengan beras goreng, kelembutan isi semakin keras pada 6 hari pertama dan mulai menurun pada hari berikutnya sehingga pada hari ke 30. Peratus penembusan isi adalah tinggi bagi ikan spesies *Nemipterus* berbanding ikan spesies *Coilia*. Kajian kandungan nutrien dijalankan berdasarkan prosedur piawai AOAC (2000). Keputusan yang diperolehi menunjukkan, tiada perubahan yang ketara di dalam kandungan protein dan lemak ikan selepas ditapai berbanding dengan sebelum ditapai, namun demikian, perubahan yang ketara di dalam kandungan karbohidrat, tenaga dan garam di dalam ikan yang telah ditapai kerana adanya penambahan nasi dan garam semasa proses penapaian dijalankan. Secara keseluruhannya, kajian ini mendapati kesan nasi dan beras goreng tanpa minyak member kesan yang sama kepada kedua-dua jenis ikan yang berbeza.*

Kata kunci: Ikan, Penapaian, Analisis Tekstur, Analisis Nutrien.