A STUDY ON THE EFFECT OF DIFFERENT LEVELS OF HEAT ON THE QUALITY OF DARK AND LIGHT MUSCLES OF YELLOW FIN TUNA (*Thunnusalbacares*)

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ABSTRACT

Yellow fin Tuna (*Thunnus albacares*) belongs to the family Scombridae is a highly demanded fish in all over the world. It is composed of both dark and light muscles that are different in physical and chemical quality. Dark muscle portion is removed at the fish processing operations as a by-product. It is important to add value to these by-products to make optimum use of the harvested fishes. These muscles may show different quality changes with exposure to heat. Therefore it is very important to know the quality changes of YFT muscles when undergo thermal preservation techniques prior to make further decisions on value addition. Scope of this study was to evaluate the effect of different levels of heat treatments on the physical, chemical and organoleptic properties of YFT Dark and Light muscles. Fresh dark and light muscles were significantly different ($p<0.05$) in protein content, pH, water holding capacity and lightness (L*). Water holding capacity, lightness (L*), moisture and protein contents of both muscles are affected by different levels of heat ($p<0.05$). pH, water soluble protein and fat contents are affected by heat depending on the muscle type. Frying caused a greater water loss compared to other heat treatments (approximately 30% in dark muscle and 25% in light muscle). Frying treatment is recommended for dark and light muscles according to organoleptic properties. It can be concluded that light muscle is more susceptible to heat than dark muscle. Further improvements have to be made to dark muscle to develop a value added product.

Key words

Dark muscle, Heat treatments, Light muscle, Yellow fin Tuna (*Thunnus albacares*)