

## Effect of Coconut Shell Extracted Carbon Monoxide on the Fatty Acid Oxidation of Frozen Yellowfin Tuna (*Thunnus albacares*) Products

J.M.P. Jayasinghe<sup>1\*</sup>, N.P.P. Liyanage<sup>1</sup> and G.K.C.P.K. Wijesena<sup>2</sup>

Carbon monoxide (CO) which has various origin are used either alone or as part of a filtered process to variety of seafood in an effort to maintain the desirable colour and several other quality attributes at the frozen storage (-18<sup>0</sup>C). The core objective of this study was to determine the effect of coconut shell extracted filtered CO for fatty acid oxidation of grade-A frozen yellowfin tuna (*Thunnus albacares*) product. Frozen yellowfin tuna steaks were processed from the same lot of grade A tuna fish from 57 FAO. Referred to process of making super purified smoke using organic material, coconut shell was crushed into small particles and used for the extraction of filtered coconut shell smoke containing CO. Produced smoke then passed through a precipitation filtering tower comprised of filters of ice, cloth, and activated carbon particles. Processed CO was injected to steaks and stored at 4<sup>0</sup>C for 48 hrs after injection and subsequently freeze (-18<sup>0</sup>C) and analyzed the fatty acid oxidation. Coconut shell extracted filtered CO smoke treated steaks recorded reduced oxidation with significant modification with increasing concentration of CO (p<0.05). It may preserve the important omega-3- polyunsaturated fatty acids which are rich in fish muscles.

*Keywords: carbon monoxide, coconut shell, fatty acid oxidation, yellow fin tuna*

<sup>1</sup>Department of Animal Science, Uva Wellassa University, Badulla, Sri Lanka.  
j.priyanath@gmail.com

<sup>2</sup>Global Sea Foods (Pvt) Ltd, Sri Lanka.