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**Development of crackers supplemented with Chitosan extracted from
Portunus pelagicus shells**

T.M.H.D. Tennakoon and K.D.P.P.Gunathilake

*Department of Food Science and Technology, Faculty of Livestock Fisheries and Nutrition, Wayamba University
of Sri Lanka, Makandura, Gonawila, Sri Lanka*

Chitosan has been of interest in the past few decades due to its potential broad range of food industrial applications as edible films, antimicrobial agents, preservative agents, acidification and clarification agents. However only limited attention has been paid to bakery industry applications of these versatile biopolymers. So utilization of by-products of seafood processing industry for the development of crackers is of utmost important due to their health benefits. So use of chitosan as a food additive was evaluated. Crackers were prepared with incorporation of levels of chitosan of 5%, 10%, 15% and 20%. Sensory evaluation was conducted using 30 untrained sensory panelists to select the best proportion that could be incorporated using six attributes, viz., appearance, color, odor, crispiness, hardness, taste and overall acceptability, with the four supplemented samples and the control. Water activity, microbial counts, and moisture content of the samples were measured weekly to determine the shelf life of the crackers. Laboratory sensory evaluation showed that overall acceptability of the four samples were 3.28, 3.63, 2.32, 2.15 respectively. 10% Chitosan gave the best quality crackers in terms of taste, crispiness and appearance with compared to the control. It has the mean rank for the attributes appearance (3.23), color (3.52), odor (3.38), crispiness (3.63), hardness (3.37), and taste (3.33). The moisture content was slightly increased after the third week of storage, but all values were below 15%. The water activity values of all samples also remained below 0.6. These results show that chitosan can be incorporated into a cracker at a level of more than 5% and closer to 10%.

Key words : Chitosan, Crab shells , Crackers, Sensory evaluation

hishari92@gmail.com

Tel: +94778587050