

Impact of Edible Coatings Made of Chitosan and Spray Dried Propolis in the Shell Life of White Cachama (*Piaractus brachypomus*)

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Abstract : There is a need to preserve aquaculture matrices due to their high nutritional value, and its broad consumption, one of those species is the white cachama (*Piaractus brachypomus*), this fish is located in the rivers of eastern Colombia, and the previously mentioned species needs more study. Therefore, in a paper the effects of an alternative method of preservation of shell life were investigated, the method used is the application of an edible coating made from chitosan and ethanolic extract of propolis (EEP) encapsulated in maltodextrin. The coating was applied by immersion, and after that, we investigated the post mortem quality changes of the fish performing physicochemical and microbiological analysis. pH, volatile bases, test thiobarbituric acid and peroxide value were tested; finally, we studied the effect of the coating on mesophilic strains, coliforms and other microorganisms such as *Staphylococcus*, and *Salmonella*. Finally, we concluded that the coating prolongs the shelf life because it acts as a barrier to oxygen and moisture, the bioactive compounds trap free radicals and the coatings changes the metabolism and cause the cell lysis of the microorganisms. It was determined that the concentration of malonaldehyde, the volatile basic nitrogen content and pH are the variables that distinguish more clearly between the samples with the treatment and the control samples.

Keywords : antimicrobial activity, lipid oxidation, texture profile analysis (TPA), sensorial analysis, peroxide value, thiobarbituric acid assay (TBA), total volatile basic nitrogen (TVB-N)

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