

Quality Enhancement of Chilled Fish by Including Alga *Bifurcaria bifurcata* Extract in the Icing Medium

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Resumen

Bifurcaria bifurcata is a widely extended brown macroalga, whose antimicrobial and antioxidant properties have previously been described. In this study, ethanolic extracts of *B. bifurcata* were included in the icing medium employed for the chilled storage of megrim (*Lepidorhombus whiffiagonis*). For it, two different concentrations of this brown macroalga extract (0.67 and 2.50 g lyophilized alga L-1 aqueous solution; B-1 and B-2 batches, respectively) were tested for a 14-day storage. The effect of the alga extract was compared with a counterpart batch stored in traditional ice prepared only from water (B-0 batch). Significant ($p < 0.05$) inhibitions of microbial activity (aerobes, psychrotrophs, lipolytic bacteria, proteolytic bacteria and Enterobacteriaceae) as well as of pH and trimethylamine formation were observed as a result of the incorporation of the alga extract in the icing medium, being this effect especially relevant in the B-2 batch. Concerning lipid damage development, a significantly ($p < 0.05$) lower formation of free fatty acids (lipid hydrolysis development) and of fluorescent compounds (tertiary lipid oxidation development) in samples corresponding to both alga-including batches could also be observed; this inhibitory effect was more intense in fish belonging to the B-2 batch. The icing medium proposed in this work constitutes a promising strategy in order to apply algae extracts to enhance fish quality retention during the different steps of storage and commercialization of marine species.

Palabras clave

Palabras clave de autor: [Lepidorhombus whiffiagonis](#); [Bifurcaria bifurcata](#); [Chilling](#); [Microbiological activity](#); [Lipid oxidation](#); [Quality](#)

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