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Title: Polyphenol Uses in Seafood Conservation

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Abstract: Oxidative reactions are the main culprits in color alterations associated with seafood spoilage. Black spot formation or melanosis is a natural post-mortem oxidative mechanism, which cause crustaceans rejection by consumers because of their appearance. The use of phenolic compounds, such as 4-hexylresorcinol, appears to be a good alternative to the conventional sulphites, allowing longer conservation periods. Lipidic oxidation is also one of the main restrictive factors in the preservation of fish products. The application of natural plant extracts to prevent oxidative rancidity has been studied in a number of fish products. However, polyphenol-protein interactions may have a masking effect on the free radical scavenging activity of polyphenols and may also have a detrimental effect on the *in vivo* bioavailability of both phenolics and proteins. Polyphenolic plant extracts may be included into fish gelatin-based films in order to obtain an edible film with antioxidant properties. These films applied on the surface of raw or mild processed salted or smoked fish may increase the shelf life of fish products by reduction the lipid oxidation during the chilled storage.

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