

Title            Spraying of 4-hexylresorcinol based formulations to prevent enzymatic browning in Norway lobsters (*Nephrops norvegicus*) during chilled storage

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### **Abstract**

A comparison was made of the effects on melanosis development in Norway lobsters (*Nephrops norvegicus*) of treatment by dusting with a commercial sulphite-based product and of spraying with a formulation containing 4-hexylresorcinol (0.1% and 0.05%), in combination with organic acids and chelating agents. The following tests were performed during chilled storage: polyphenol oxidase (PPO) activity, melanosis score, colour parameters, tyrosine and tyramine content, as the main substrate of PPO. Differences among treatments were evaluated by means of statistical analyses (ANOVA, principal components and discriminant analyses). All formulations diminished PPO activity during storage successfully. The melanosis score was higher in sulphite-treated Norway lobsters, and a formulation with 0.05% 4-hexylresorcinol was enough to prevent the appearance of melanosis for 12 days. The tyrosine content decreased during storage, but the tyramine content was insignificant. Formulations with 4-hexylresorcinol improved the appearance of Norway lobsters, in comparison with the commercial sulphite-based product.