

The Effects of *Zataria multiflora* Boiss Essential Oil and Nisin on Chemical Characteristics of Rainbow Trout Fillet Stored at 4 °C

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Abstract

This study evaluated the effects of *Zataria multiflora* essential oil (EO) and nisin on fresh rainbow trout fillets during storage at 4 °C. Treatments included the following: A (control samples without EO and nisin), E₁ (treated samples with 0.1% EO), E₂ (treated samples with 0.2% EO), N (treated samples with 100 IU nisin/g), E₁N (treated samples with 0.1% EO and nisin) and E₂N (treated samples with 0.2% EO and nisin). Chemical and oxidation changes were investigated in this study as the functions of treatment and storage time. E₁N and E₂N had better effects on oxidation changes and maintaining values of peroxide value and thiobarbituric acid than A, E₁, E₂ and N treatments. Lower total volatile base nitrogen was found in E₂N than in other treatments during storage time.