

Abstract

The increased demand for fishery product without chemical additive motivates many researchers to investigate the antioxidant and antimicrobial effects of medicinal herbs such as Fenugreek (*Trigonella foenum-graecum*). The aim of this study was investigated the effect of *Trigonella foenum-graecum* seed aqueous and ethanolic extracts on *Staphylococcus aureus* (10^3 CFU/g) inoculated in *Cyprinus carpio* fillets. The seed extraction was done using water and ethanol as solvents. Fresh fillets were injected with different concentrations of extracts at concentrations of 1, 2.5 and 4%. Microbial (enumeration of *Staphylococcus aureus*, TVC and PTC) and chemical (pH, TVB-N and TBA) parameters were determined during storage at 4 °C for 12 days. The addition of aqueous and ethanolic extracts (2.5%) into fillets had positive effects on sensory properties (color, flavor, texture, smell and general acceptability). All concentrations had antibacterial activity against *Staphylococcus aureus* inoculated in *Cyprinus carpio* fillets during storage. Bacterial growth was completely inhibited by 4% ethanolic and aqueous extracts after 9 and 12 days respectively. Moreover, the extracts caused reduction in TVC and PTC of *Cyprinus carpio* fillets. The pH, TVB-N and TBA values increased gradually with the storage time and the lowest changes were measured in treatments containing 4% extracts. As results, it is concluded that the *Trigonella foenum-graecum* seed ethanolic extract have more anti-microbial properties than aqueous extract.

Key words : *Staphylococcus aureus*, Antimicrobial, Extract, *Cyprinus carpio*.



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Title:

**Effect of *Trigonella Foenum-graecum* Linn Seed
Extract on the growth of *Staphylococcus aureus*
contimi noted in *Cyprinus carpio* fillet**

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