

Abstract

In order to determine the optimal concentration of extract and essential oil of ginger, was done three tests pH, melting rate and shelf life on slurry ice contains extract and essential oil of ginger, respectively, concentrations of %0/1, %0/2, %0/3, %0/4 for extract and , 500ppm, 1000ppm, 1500ppm and 2000ppm for essential oil and colorimetric test on Rainbow trout fillet. That according to the results of these tests, no significant difference was observed between control and treated samples. So, total and psychrophil bacterial count tests on fish minced was done, that according to the results of these tests, slurry ice contains extract with %0/2 concentration and essential oil with 1500ppm concentration were observed the highest antibacterial effect. After selecting the best concentration, to study the effect of slurry ice contains essential oil and extract of ginger, on the quality of short-term maintenance of rainbow trout on days 0, 4, 8, 12 and 16, were examined chemical parameters (pH, moisture, anisidine, Totox, TBA, conjugated diene and triene, browning non-enzymatic, PV, total fat, TVB-N and FFA), microbial tests (total and psychrophil bacteria) and sensory analysis (taste, gill smell, gill appearance, texture, general appearance and eye). The results showed that all the chemical and microbial parameters during the storage period has increased and the rate of changes in the treated samples was less than the control sample. but two TVB-N and anisidine index that only kept their acceptance in day of 12, other indicators showed the highest acceptance in day of 16. even TBA index was less than the limit in day of 16. Sensory evaluation showed that ginger extract and essential oils have positive effects on the organoleptic characteristics until day of 12 and was not significant differences between control and treated samples. The results of chemical, microbial and sensory tests, samples kept with slurry ice contain extract and essential oil of ginger increased shelf life for 4 days and so in preserving was effective the appearance and taste of rainbow trout compared with the control sample.

Key words: Shelf life, Rainbow trout, slurry ice, ginger extract, ginger essential oil.



University of Zabol
Graduate school
Faculty of Natural resources

**Sc.The Thesis Submitted for the Degree of M
Department Of Fisheries**

**Evaluation of the short-term storage quality of
rainbow trout by using slurry ice coverage with
extract and essential oil of *Zingiber officinale***

Supervisors:

Dr. M. Alipour Skandani
Dr. M. Naseri

Adviser:

Dr. E. Alizadeh Doughikalae

By:

M. Nasri

Janurey 2016