

Title The biogenic amines and bacterial changes of farmed rainbow trout (*Oncorhynchus mykiss*) stored in ice

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Citation Food Chemistry, Volume 103, Issue 1, 2007, Pages 150-154

Keywords Rainbow trout; Biogenic amines; Bacterial counts; Freshness indicator

Abstract

The biogenic amine content and related bacterial changes (*Pseudomonas* spp., psychrotrophic and mesophilic counts) in whole farmed rainbow trout (*Oncorhynchus mykiss*) were monitored during ice storage for 18 days (at 0, 3, 6, 9, 12, 15 and 18 days). Levels of putrescine, cadaverine and histamine, and bacterial loads, increased ($P < 0.05$) during storage, but tyramine was not detected in any of the tested samples. Concentration of putrescine ranged from 0.4 initially to 8.97 $\mu\text{g/g}$, and psychrotrophic microorganisms were dominant. The best linear regressions (correlations) were for putrescine and *Pseudomonas* spp. and psychrotrophs ($r = 0.98$), and for cadaverine with *Pseudomonas* spp. ($r = 0.82$). Putrescine content was a good quality marker. Histamine was detected only at later stages of storage and was therefore less suitable than the other biogenic amines as freshness indicator.