

Title Relevance of season and nucleotide catabolism on changes in fillet quality during chilled storage of raw Atlantic salmon (*Salmo salar* L.)

Author Turid Mørkøre, Marit Rødbotten, Gjermund Vogt, Svein Olav Fjæra, Inger Ø. Kristiansen and Even Manseth

Citation Food Chemistry, Volume 119, Issue 4, 15 April 2010, Pages 1417-1425

Keywords Sensory quality; Texture; Shelf-life; ATP; IMP; Inosine; Hypoxanthine

Abstract

Farmed 5–6 kg Atlantic salmon were pre-rigor filleted, vacuum packed and subsequently analysed after 1, 9 and 13 days of storage at 4 °C. The study was repeated in February, April, August and October. The conversion of hypoxanthine (Hx) showed the highest seasonal variation among the nucleotide metabolites, with an inverse relationship with sea temperature at harvesting ($R^2 = 0.95–0.96$). The Hx content was inversely related to fresh odour and flavour ($R^2 = 0.81–0.83$), but positively to tenderness ($R^2 = 0.87$). Hence, these results suggest that salmon reared in seawater of 11–15 °C (August–October) maintain a superior sensory quality for a longer period post-mortem than salmon reared at 6–8 °C (February–April). The colour intensity increased from days 1 to 9 post-mortem, probably due to rigor contraction. The highest increase in drip loss was observed in October and the lowest in April. It is proposed that seawater temperature significantly influences the storage life of raw salmon, and that Hx is a valuable biomarker for sensory quality.