Title	A new technology for fish preservation by combined treatment with electrolyzed NaCl solutions and essential oil compounds
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Abstract

This study was undertaken to establish a new technology, using pre-treatment with electrolyzed NaCl solutions and essential oil compounds, to extend the shelf-life of carp fillets. Samples of skinless carp fillets were treated with 100-fold (by weight) of electrolyzed NaCl solutions [cathodic solution, EW(−) and/or anodic solution, EW(+)] and 1% oil (0.5% carvacrol + 0.5% thymol) [1%(C + T)]. Then chemical [pH, volatile basic nitrogen, peroxide value, and thiobarbituric acid], microbiological (total viable count) and sensory analyses were used to evaluate the preservative effect of this new technology during storage at 5 and 25 °C. Our results from the chemical assays indicated that EW(−), followed by EW(+) and subsequently 1%(C + T) [EW(−)/EW(+)/1%(C + T)], significantly suppressed the lipid oxidation compared with other treatments. Data from sensory evaluation and microbiological assay showed that treatment with EW(−)/EW(+)/1%(C + T) extended the shelf-life of carp fillets to 16 and 1.3 days compared with 4 and 0.3 days for the control samples during storage at 5 and 25 °C, respectively.