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Lipid oxidation kinetics of ozone-processed shrimp during iced storage using  
peroxide value measurements

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#### Abstract

In this research, in situ generated ozone exposure/wash cycles of 1, 3, and 5 min applied to shrimp samples either before (BIS) or during iced storage (DIS) has been used to study the lipid oxidation kinetics using the peroxide values (PV). The induction period (IP) as well as PV at end of the IP ( $PV_{IP}$ ) have been obtained. The rate constants ( $k$ ) as well as half-lives ( $t_{1/2}$ ) of hydroperoxides formation for different oxidation stages were calculated. The results showed that both IP and  $PV_{IP}$  were lower with BIS (IP between  $4.35 \pm 0.09$  and  $5.08 \pm 0.23$  days;  $PV_{IP}$  between  $2.92 \pm 0.06$  and  $3.40 \pm 0.18$  mEq  $kg^{-1}$ ) compared with DIS (IP between  $5.92 \pm 0.12$  and  $6.14 \pm 0.09$  days;  $PV_{IP}$  between  $4.49 \pm 0.17$

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<sup>1</sup> These authors participated equally in this study.

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