

**Title** Enhanced quality and safety during on-board chilled storage of fish species captured in the Grand Sole North Atlantic fishing bank

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#### **Abstract**

The Grand Sole North Atlantic fishing bank is exploited by several European countries, although time lapsed between catch and destiny arrival can attain 15 days. In the present work, the use of slurry ice (SI) system was investigated for the on-board storage of chilled fish and carried out in parallel to traditional flake icing (FI). Three species (hake, *Merluccius merluccius*; angler, *Lophius piscatorius*; ray, *Raja clavata*) widely present in the mentioned bank were studied. A lower ( $p < 0.05$ ) microbial (aerobes, psychrotrophes, proteolytics) development was observed in fishes subjected to SI system than in their counterpart specimens stored under FI. This correlated with lower ( $p < 0.05$ ) productions of trimethylamine (hake and angler) and total volatile bases (ray) and extended shelf-life for fish species kept under SI conditions. In summary, on-board employment of SI can provide higher quality and safety products to consumer and allow increased commercial values while unloading and sale.