Edible coating for seabass preservation
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Figure (A) shows a schematic of the process involved in the treatment of fish gelatin and grape seed extract on seabass fillets for the study. (B) The plots show (left) the bacteria population and (right) the biogenic amine content of the treated fish fillet kept at 4 °C over a 12-day chilled storage period. The fish fillet using the combination treatment showed a better preservation effect. [Legend: Control (green): without any treatment; FG (pink): treated with only fish gelatin; GSE (blue): treated with only grape seed extract; FGG (orange): combination treatment.]. Credit: National University of Singapore

Analysis showed that the fish gelatin acted as a gas/water barrier on the seabass filet which inhibited the loss of moisture during chilled storage. In parallel, the grape seed extract reduced the growth of bacteria and accumulation of biogenic amines on it, resulting in a synergistic preservation effect.

Ms Zhao Xue, a Ph.D. student working on the project, said, "Fish gelatin is gaining in popularity and has been regarded as a promising replacement for mammalian gelatin because of its similarity in functional properties and wide acceptance by consumers who are halal and kosher. By combining it with grape seed extract, the treatment could lead to safer and more convenient, and cost-effective seafood products for consumers."

"The research findings provide valuable references for the seafood industry for the development of high-quality food products. Application of natural edible coating may one day become a trend to meet consumers’ growing preferences for safe, high-quality and clean-labeled foods," added Prof Yang.
