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Innovative sustainable and smart packaging

As part of the ZeroW efforts to reduce food waste, an innovative packaging solution to extend the shelf life of an oily fish and to facilitate stock management at consumer and retail levels has been developed.

Both the tray and the lid are made of bio-based and compostable material. Also, the tray has an improved fish's exudate drainage geometry, eliminating the need for absorbent pads and avoiding direct contact between the fish and the exudates, helping to extend the shelf life and improving the sustainability of the packaging. The lid has high transparency, good touch sensation, and good mechanical properties and incorporates a transparent coating to improve the barrier properties of the bio-based compostable lid material, reaching OTR levels in the range of 2.0-2.6 (50%HR, 23°C), as a strategy to extend the shelf life of the oily fish.

Additionally, the smart packaging integrates a freshness colorimetric label that reads the concentration of the oily fish degradation metabolites within the packaging and interacts with the consumer/retailer, indicating the freshness state of the salmon and facilitating its stock management.

In addition, a mobile app is able to read the colour shown by the label, providing real-time quality data to both retailers and consumers ■