

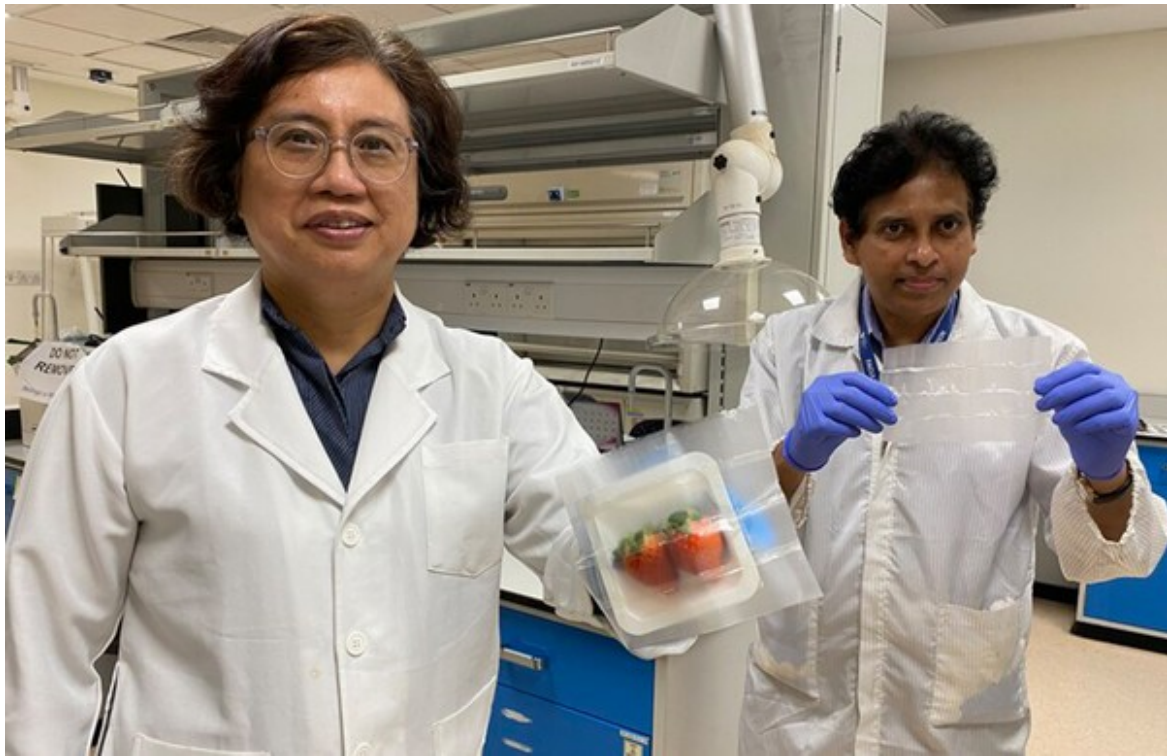


Scientists from Singapore and US develop bacteria-killing packaging

A team of scientists from NTU Singapore and Harvard T.H. Chan School of Public Health in the US, has developed a 'smart' food packaging material that is biodegradable, sustainable and kills microbes that are harmful to humans. It might also extend the shelf-life of fresh fruit by two to three days.

The natural packaging is made from a type of corn protein called zein, starch and other naturally derived biopolymers, infused with a cocktail of natural antimicrobial compounds. These include oil from thyme, a common herb used in cooking, and citric acid.

Experiments revealed that the fibres in the packaging, when exposed to an increase in humidity or enzymes from harmful bacteria, released natural antimicrobial compounds, killing common dangerous bacteria that contaminate food, such as E. coli and Listeria, as well as fungi.



The packaging is designed to release the necessary miniscule amounts of antimicrobial compounds only in response to the presence of additional humidity or bacteria. This ensures that the packaging can endure several exposures, and last for months.

Source: [ntu.edu.sg \(https://www.ntu.edu.sg/news/detail/bacteria-killing-food-packaging-that-keeps-food-fresh\)](https://www.ntu.edu.sg/news/detail/bacteria-killing-food-packaging-that-keeps-food-fresh)

Publication date: Mon 10 Jan 2022
