

Breakthrough lifts hopes for biodegradable, shelf-life-extending food packaging

By **Rebecca Coons** - January 4, 2022

In Singapore, [scientists at Nanyang Technological University and the Harvard T.H. Chan School of Public Health](#) have jointly developed biodegradable food packaging that also [extends the shelf life of fruit](#). The material is made by electrospinning cellulose, natural antimicrobial compounds, acetic acid and zein—a waste product of converting corn into ethanol.

By releasing tiny amounts of antimicrobials under certain conditions, the packaging can help extend the shelf life of produce by a couple of days. “The smart release of antimicrobials only when bacteria or high humidity is present, provides protection only when needed thus minimizing the use of chemicals and preserving the natural composition of foods packaged,” says Mary Chan, Director of NTU’s Centre of Antimicrobial Bioengineering. “It could serve as an environmentally friendly alternative to petroleum-based polymers used in commercial food packaging, such as plastic, which have a significant negative environmental impact.”

Rebecca Coons
