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New material extends strawberry shelf-life



Canadian researchers create packaging film capable of keeping strawberries fresh for up to 12 days

Strawberries could be set for a shelf-life boost thanks to a new packaging film developed by Canadian researchers.

A team from Québec's Institut national de la recherche scientifique (INRS) – led by Monique Lacroix - has created the innovative film out of chitosan, a natural molecule found in shellfish shells.

The food industry by-product contains key antifungal properties that curb mould growth. The packaging film also contains essential oils and nanoparticles, both of which possess antimicrobial properties.

"Essential oil vapours protect strawberries and if the film comes into contact with strawberries, the chitosan and nanoparticles prevent mould and pathogens from reaching the fruit's surface," said Lacroix.

The material could potentially be added to the blotting paper already used by the industry for strawberries and is effective against multiple types of pathogens.

"Our work has shown the film's effectiveness against *Aspergillus niger*, a highly resistant mould that causes substantial losses during strawberry production," said Lacroix.

The film also proved to be more effective when combined with irradiation, cutting the level of loss in half compared to the control group, that is strawberries without film or irradiation.

After 12 days the team recorded a 55 per cent loss rate for the control group of strawberries, 38 per cent for the group with the film, and 25 per cent when irradiation was added to the film.