

Coated fabric helps researchers determine freshness of fruit

June 13 2017, by Chrystian Tejedor



Researchers have shown that a coated strip of fabric developed at FIU can detect the freshness of an orange. Credit: Florida International University

Scientists have found a quick and reliable way to test the freshness of the fruit in your grocer's produce section. It all starts with a small strip of coated fabric developed at Florida International University.

The research, published recently in the "Journal of Chromatography A," showed the coated [fabric](#) can soak up the chemical compounds in the [juice](#) of an orange that show the ripeness – or freshness – of the [fruit](#).

The coating used on the fabric was invented by FIU Provost and Executive Vice President, Kenneth G. Furton and chemistry researcher Abuzar Kabir who are co-authors of the study.

Analytical chemists by trade, Furton and Kabir initially pioneered the coated fabric to test blood, urine and environmental samples. They became curious about fruit because they wanted to see whether their coated fabric could provide the sensitivity required to pick up changes in the compounds that are used to detect the ripening cycle of fruits.

"Everyone likes to advertise that they have the freshest fruit, but how long has that orange been sitting there?" Kabir said. "We used the orange as a model, and now, we can use this method to test the freshness of other fruit or any food that has a potential to degrade."

After immersing the coated fabric into a small amount of the [fruit juice](#), researchers quickly isolated the three main compounds within the fruit that are markers for freshness. Over a two-month period, they found these chemicals lost their intensity, indicating the ability to track the degradation of the fruit.

"Because oranges have high juice content," Furton said, "they are more prone to spoiling and changes in its freshness impacts the quality and taste of their juices."

The product could be an ideal solution for government inspectors, grocers, and even restaurants who order large quantities of produce. Determining the [freshness](#) of a batch of fruit quickly could be a long-term cost saver.

"Growers may also use this method to decide how quickly they need to get their crop to market or to use packaging that might slow the ripening process in order to keep fruit from reaching their peak before you buy them," Kabir said.

Provided by Florida International University

Citation: Coated fabric helps researchers determine freshness of fruit (2017, June 13) retrieved 27 April 2024 from <https://phys.org/news/2017-06-coated-fabric-freshness-fruit.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.