MASTER SEMESTER PROJECT

Improving Color Responsiveness in Intelligent Packaging by Nanoencapsulation

Description

The stage of food freshness can be determined by the change in pH values, which is caused by the release of volatile gases in the food product. This change can be indicated by the use of intelligent packaging. The main mechanism of the food freshness indicator is based on the color response of the pH-sensitive dye in the intelligent packaging films. The measurements of the degree of color change when exposing the intelligent films to different pH conditions are essential to correlate between the observed color and the food quality during storage. In this project, fabrication of the intelligent packaging films using polylactic acid (PLA) and pH-sensitive anthocyanins from red cabbage extract (RCE) at different concentrations will be performed.
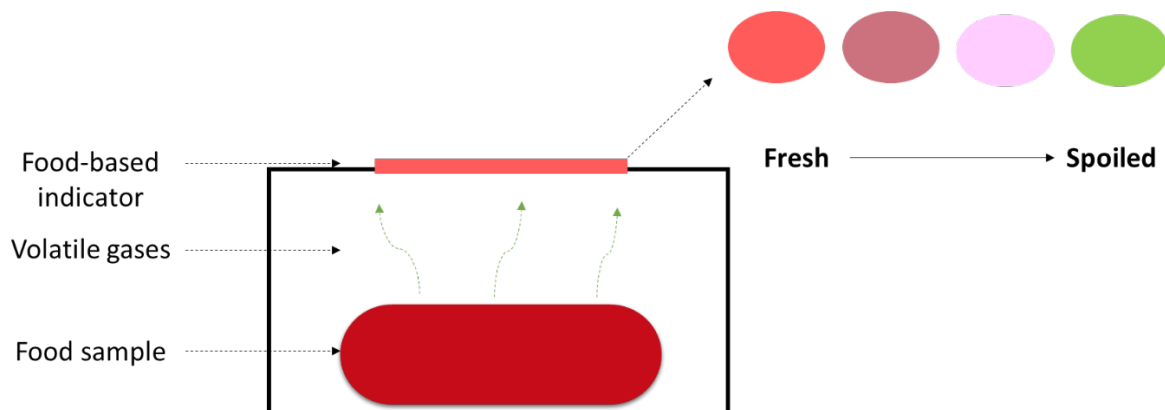

Figure 1. Color indicator for food freshness monitoring

Methodology

Our investigation will focus on studying the stability of the polymer nanoparticles designed to encapsulate color indicators. This research aims to enhance the color responsiveness in intelligent packaging.

Remarks

Students will have the opportunity to carry out the experimental works in the Polymers Laboratory (LP) labs.

Contact

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