

EDIBLE PROTEIN-BASED FOIL FOR PROLONGED FRESHNESS OF FRUITS AND VEGETABLES



1.

Protein films based on biopolymers for prolonged freshness of slices of fruits (pear) and vegetables (zucchini): edible, biodegradable, vegetarian and eco-friendly material.

2.

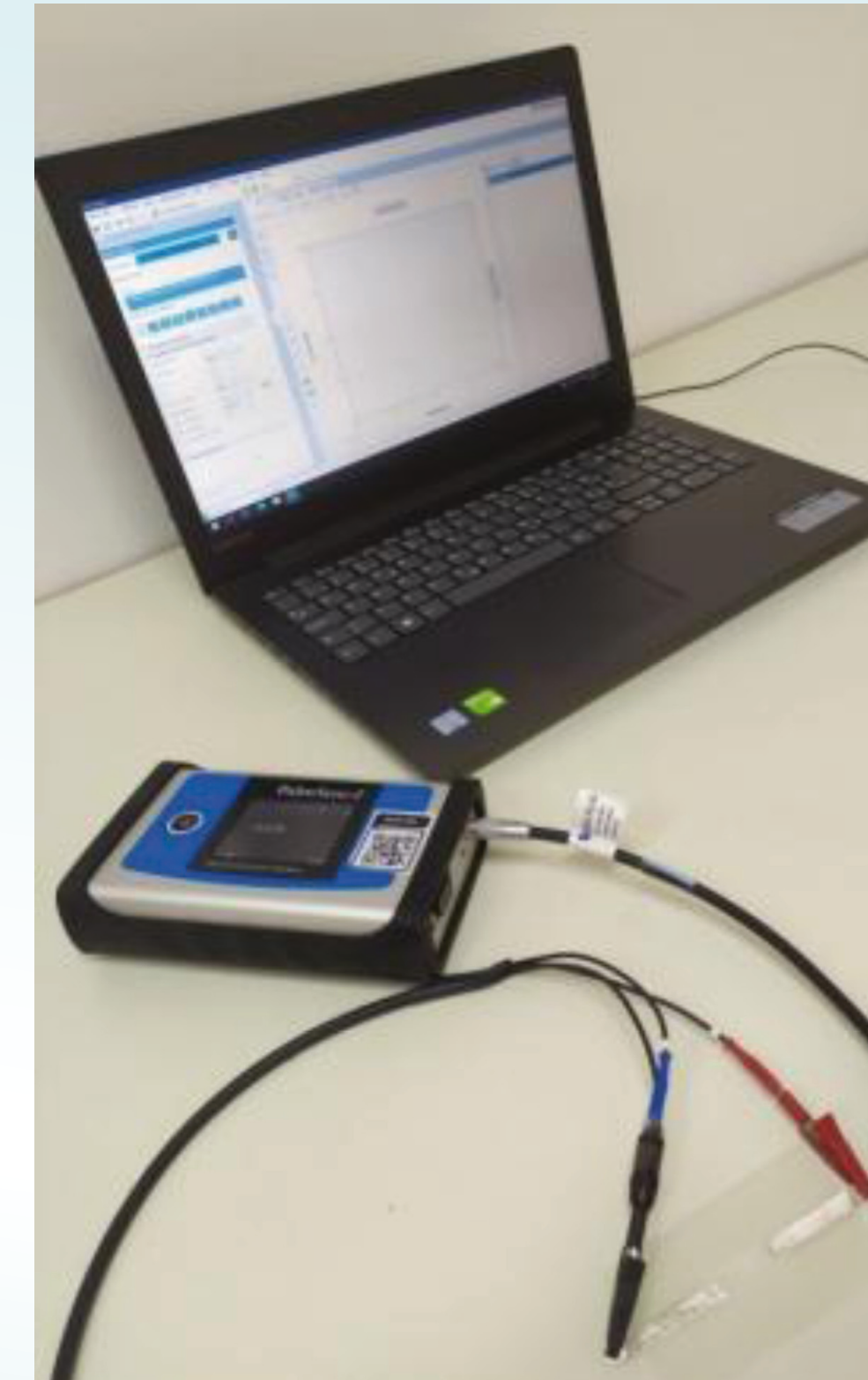
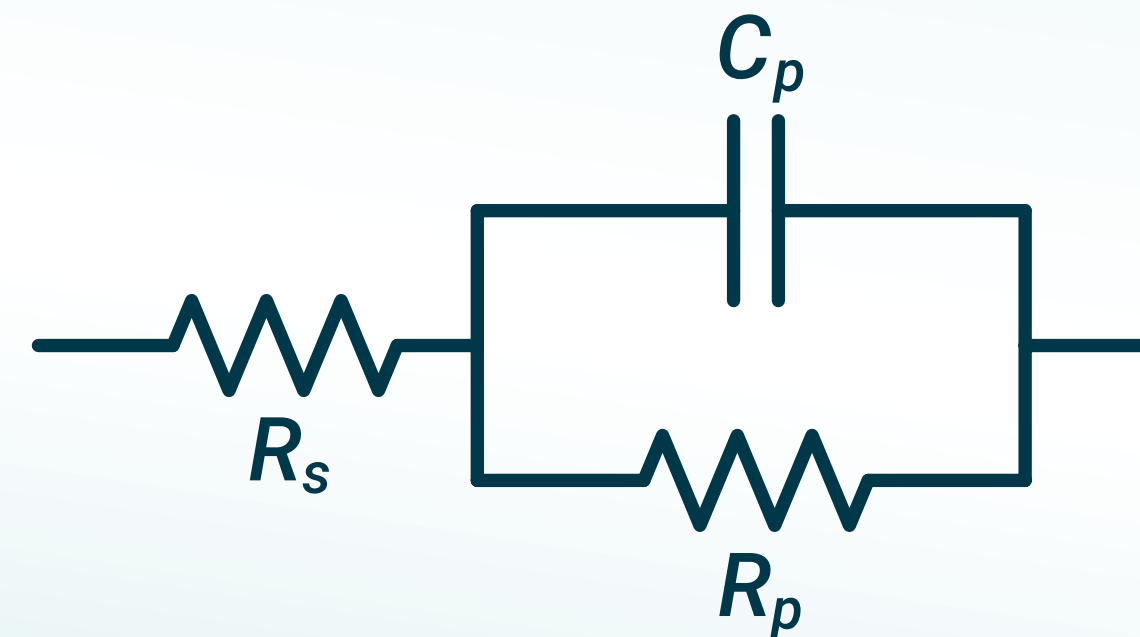
Gold and silver electrodes were compared.

3.

Non-destructive method (Electrical impedance spectroscopy) used for characterization of freshness over time (3 hours).

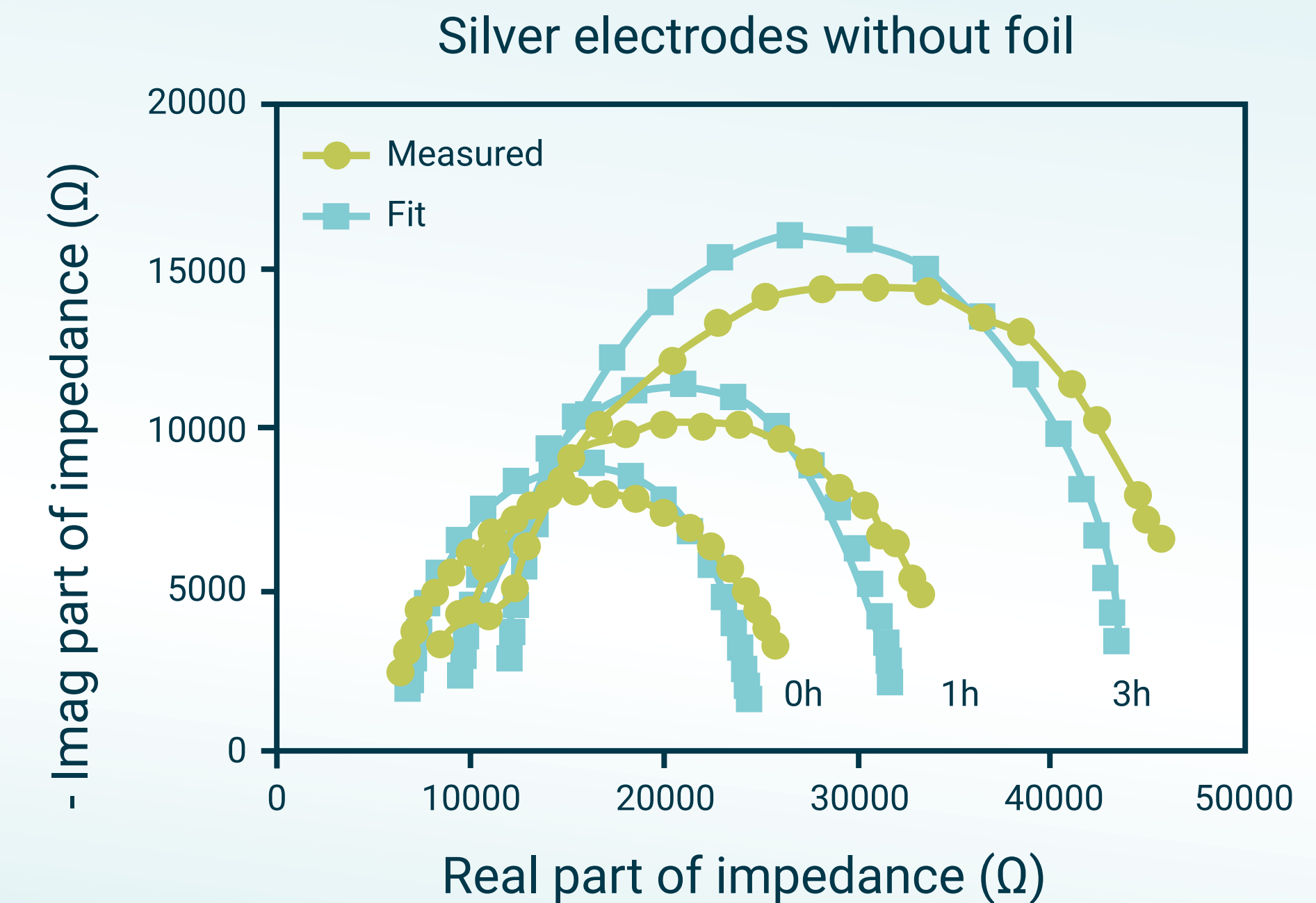
4.

An equivalent electrical circuit with physical interpretation of circuit elements was proposed and values of model parameters were correlated with fruits and vegetable ripening.



Performance testing

- RMSE fitting errors lower than 7%



The use of our protein films reduced water evaporation recognized by smaller values of R_p and R_s when compared to the structure without film, while C_p was higher when the film was used.