

# Introduction of Ionic Wrap for Extending the Shelf Life of Fruits

Enhancing Freshness and Reducing Waste

Presented by: Gregory Cheng

**750 Billions USD  
fruit and  
vegetables  
decayed per year  
before they  
reach consumer.**

*Our Fabric can reduce fruit  
spoilage by minimum 10 percent.*

Ref: <https://www.sciencedirect.com/science/article/abs/pii/S0925521423004039>







**Who Here Enjoys  
Eating Strawberries?**

# The Challenge of Keeping Strawberries Fresh

**50%**  
of fruits are **spoiled**



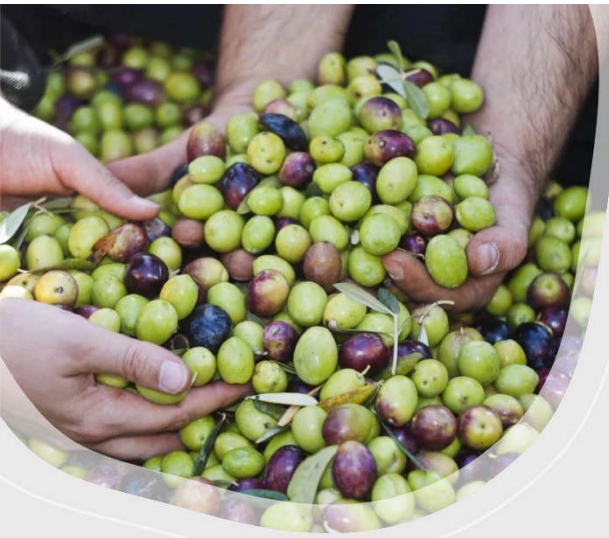
before  
reaching



consumers

E.g. Driscoll sells 6 Billions of Strawberries and Berries per year.  
Implied more than 6 Billions were throw away.





## Why Self-Picked Strawberries Taste Better?

- EU legislate to ban all plastics packaging phase by phase. Why it progress slower than they plan?



## Our Innovative Solution

- Edible plant-based fabric, biodegradable and eco-friendly.
- Plan to use rice paddy straw to reduce air pollution.





Test Report SL92109299773701FW Date: August 20, 2021

Test Item: Composition Analysis
Sample Description: Mask
Test Method:
Fourier Transform Infrared Spectrometer (FTIR)
Chromatography Mass Spectrometry (PGC-MS)
Dispersive X-ray fluorescence spectrometer (EDX)
Differential Scanning Calorimeter (DSC)
Thermogravimetric Analyzer (TGA)



Number: HKGT0535492

TEST REPORT

Tests Conducted (As Requested By The Applicant)

1 Test Method For Antibacterial Finishes On Textile Materials (Quantitative):

Test Method : American Association Of Textile Chemists And Colorists (AATCC) Technical Manual, Test Method 100-2019.

Ultraviolet Sterilization Of Sample Before Test.
Test Culture: Staphylococcus Aureus (ATCC 6538)
Klebsiella Pneumoniae (ATCC 4352)
Inoculum Suspension Medium: 1:20 Nutrient Broth With 0.05% Triton X-100
Inoculum Concentration: 1-3 x 10^5 CFU/mL
Test Specimen: 1.0 g (30 Pieces Of Circular Swatches 4.8 cm In Diameter) And Apply
Neutralizing Solution: Lathleen Broth
Contact Time: 24 hours
Incubation Temperature: 37°C
Incubation Period: 48 hours
Nutrient Agar

Table with 2 columns: Percent Reduction of Bacteria (%), 99.9, 99.9

Table with 4 rows (Front, Back, Top, Bottom) and 2 columns (After packing, Before Packing). Includes photos of lemons and weight measurements.

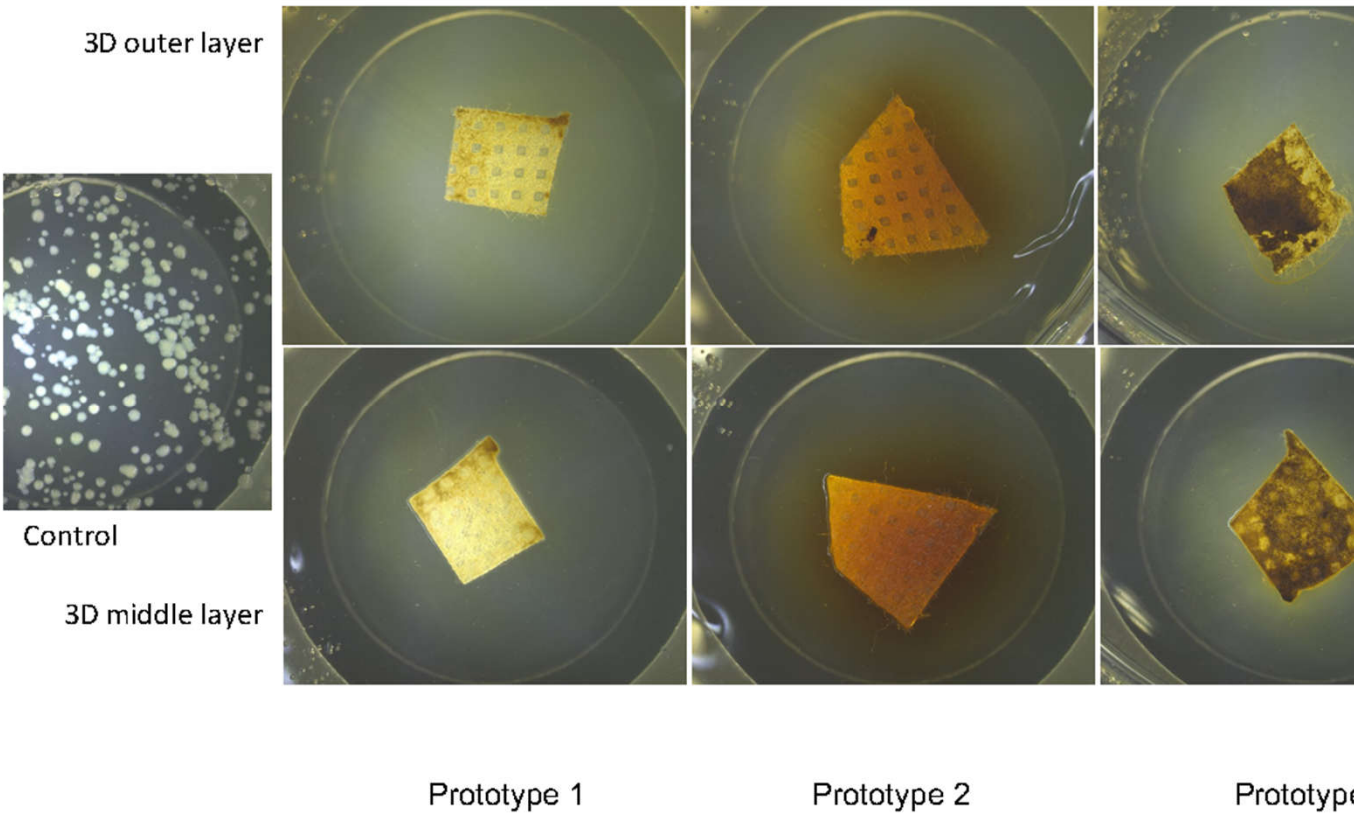
Proven and Patented Technology

- Test results from independent laboratories (ITS, SGS, Sanwa).
• Patented in China, grant from Hong Kong Productivity Council.

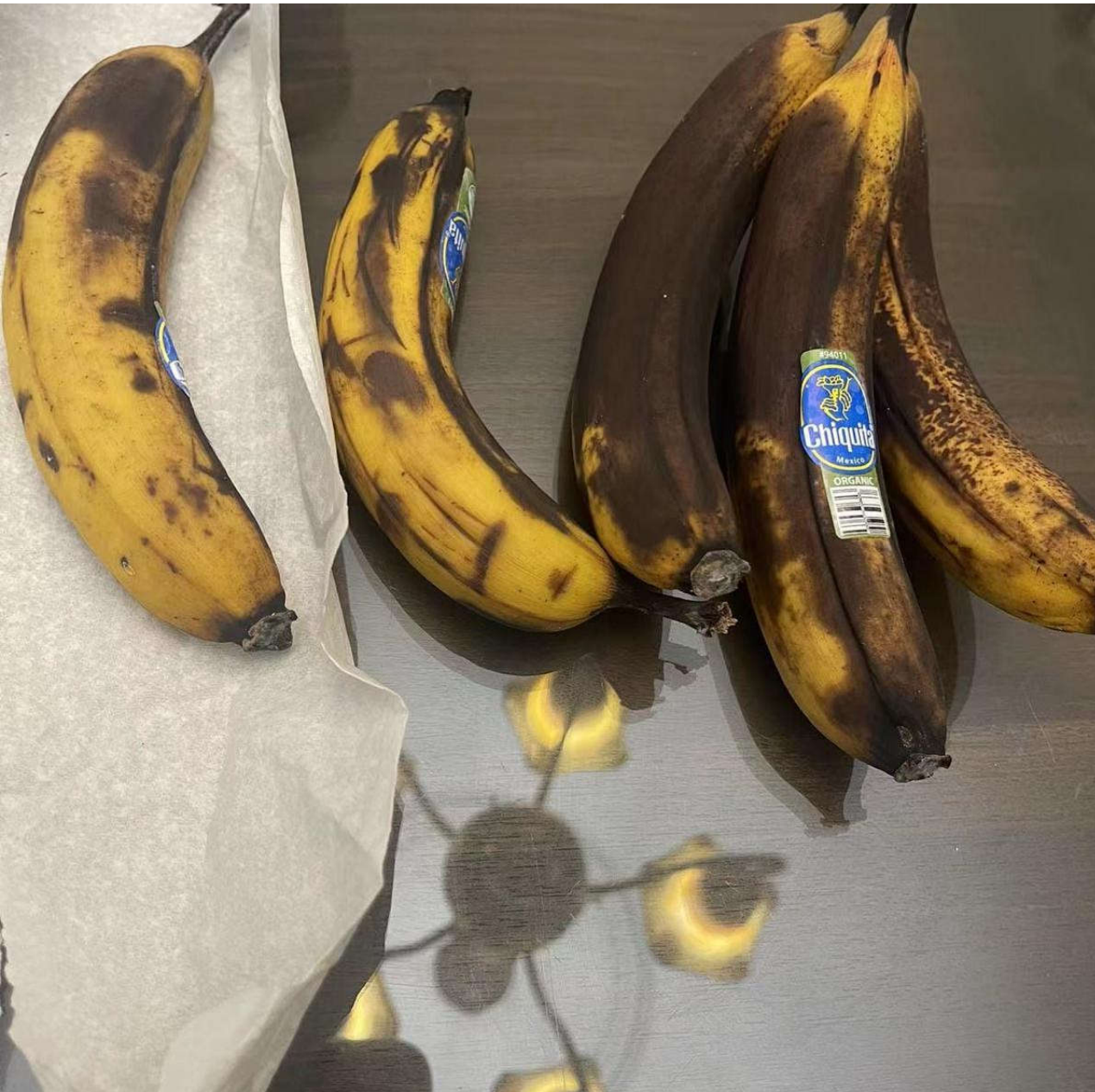


# University Collaboration

- Research with University of Technology Sydney.
- Confirmation of fabric's properties.







# Real-World Applications

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Testing on bananas in the US, mangoes in Thailand and Taiwan.

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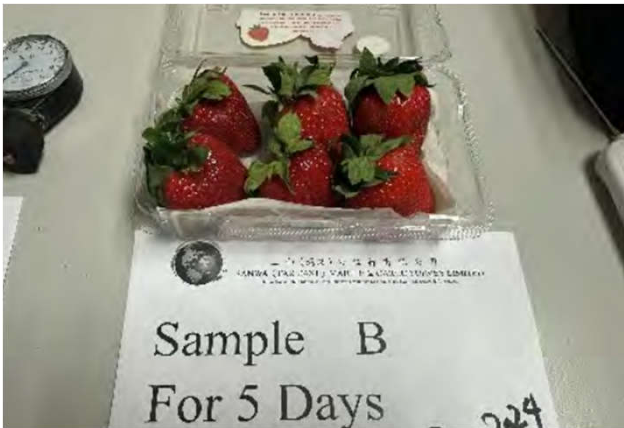
Strawberry case study with Driscoll's.

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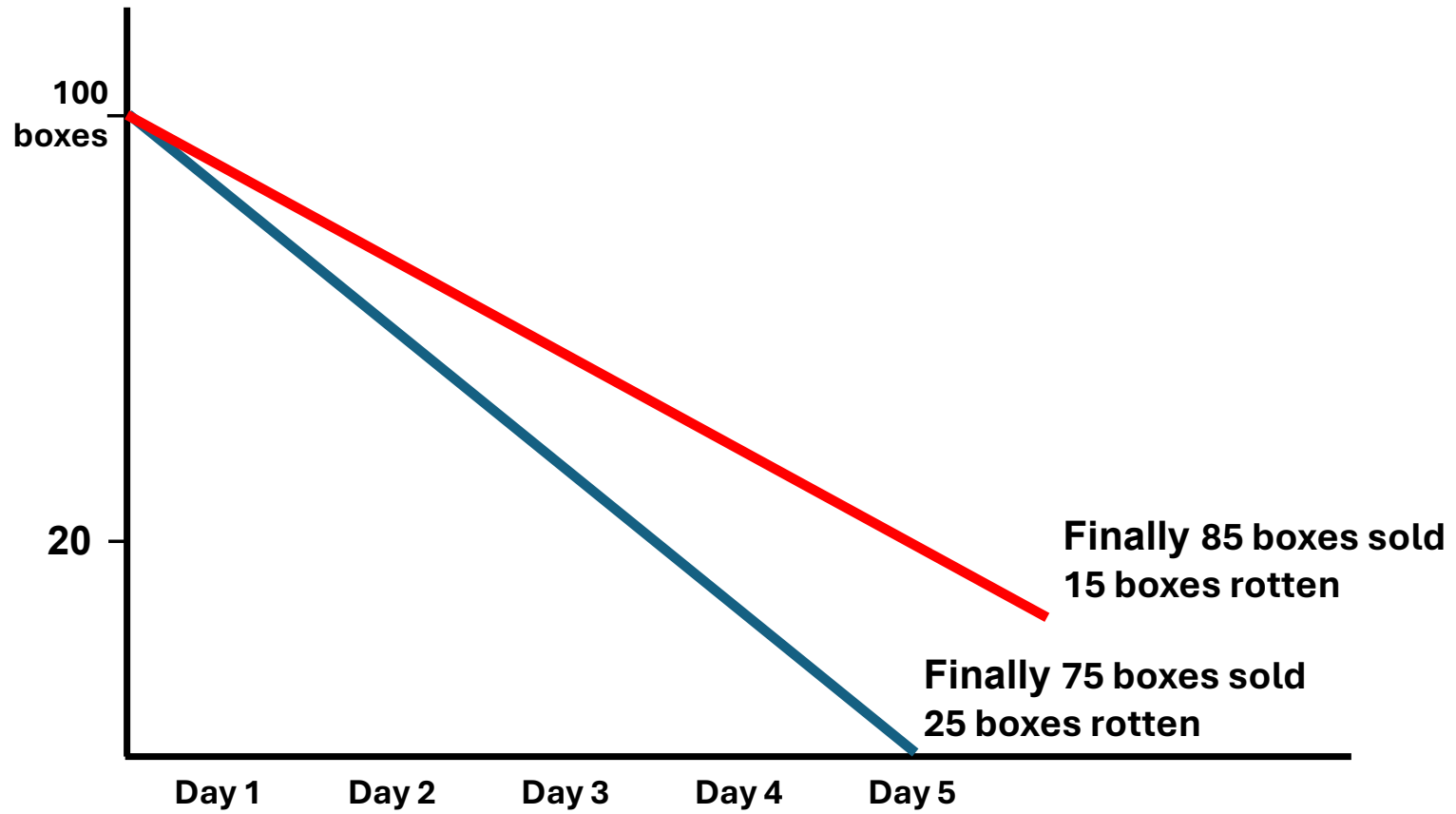
Original method



With Ionic Wrap







- Regular packing
- With Ionic Wrap

# Benefits and Return on Investment



It is estimated, the Fabric will **reduce post harvest loss by 10 percent.**



**Attractive return rate**



Production of **4MT** per day



Sign **NDA** for more information



# Conclusion

Ionic Wrap will slow down decay process of fruits and led to increase of income of all stake holders.

The side effect is reduction of air pollution and plastic waste.