

*Innovation Demo Day:*  
Packaging Solutions

NOVEMBER 11 | 1.00PM ET

The ReFED Food Waste  
Action Network



Impact Metric:

- Net \$
- Tons
- Climate**
- Water
- Meals
- Jobs

Stakeholders:

- All Stakeholders ▾

Data View:

- Total ▾

Food Type:

- All Food Types ▾

States:

- All States ▾

ACTION AREA ▾	SOLUTION NAME ▾	EMISSIONS REDUCTION ▾	
	Portion Sizes	11.5M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Meal Kits	7.53M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Consumer Education Campaigns	7.41M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Centralized Composting	4.94M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Manufacturing Byproduct Utilization (Upcycling)	4.85M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Waste Tracking (Foodservice)	4.78M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	<b>Package Design</b>	3.57M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Markdown Alert Applications	2.85M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Enhanced Demand Planning	2.78M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Standardized Date Labels	2.73M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Manufacturing Line Optimization	2.51M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	<b>Active &amp; Intelligent Packaging</b>	2.43M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Intelligent Routing	2.28M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>
	Decreased Transit Time	2.24M Metric Tons CO2e	<a href="#">VIEW DETAILS &gt;</a>

Source: ReFED Insights Engine

# Package Design

## 650,000 Tons

of food waste can be cut each year by optimizing food packaging size and design to ensure complete consumption by consumers and avoid residual container waste.

### Annual Impact Potential \*

 Net Financial Benefit  
\$ 2.39 billion

 Food Waste Diversion  
650k Tons

 Emissions Reduction  
3.57M Tons CO<sub>2</sub>e

 Water Savings  
120B gallons

 Jobs Created  
985

*\* Incremental potential in addition to what is already happening currently*

# Learning from Customers

Many companies have started to understand how their customers use their product and have improved their packaging size and type as a result:

Warburton's learned some customers weren't finishing their loaves of bread, so they made a **"medium" loaf**



Instead of packing beans in cans, Heinz made a **resealable container**



Sour cream and tomato paste **squeeze packs** are more widely available



# Reducing Carbon Emissions with Portion Sizes

Pre-portioned packaging has been shown to reduce a product's overall carbon footprint:



President found that by portioning their camembert cheese from 300 grams to 6 sections required 3.3 grams more of composite paper, but **the reduction in carbon emissions from preventing food waste is ~4-5x higher** than the impacts of additional packaging

# Active & Intelligent Packaging – A 452,000 Ton Solution

Packaging to slow spoilage through technologies such as ethylene absorption, modified atmospheres, moisture absorption, etc., or adaptive materials that inform as to the quality/safety of the contents can reduce food waste by

## 452,000 Tons annually

### Annual Impact Potential \*

-  Net Financial Benefit  
\$ 1.74 billion
-  Food Waste Diversion  
452k Tons
-  Emissions Reduction  
2.43M Tons CO<sub>2</sub>e
-  Water Savings  
194B gallons
-  Jobs Created  
685

*\* Incremental potential in addition to what is already happening currently*

# Different Types of Active & Intelligent Packaging

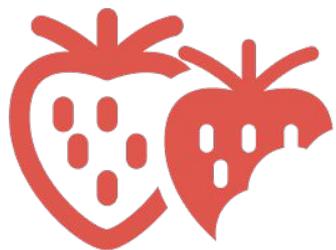


Freshness Indicators



**GREENPOD LABS**

Shelf-Life  
Extension



LEARNING • INNOVATION • MENTORSHIP

# Food Waste Repackaged



# Olga Kachook

Senior Manager

SUSTAINABLE PACKAGING COALITION





# ReFED Food Waste Action Network

*Innovation Demo Day: Packaging Solutions  
to Reduce Wasted Food*

November 10th | 1-2pm ET



**BILL BIRGEN**  
SAVRpak



**DEEPAK RAJMOHAN**  
Green Pod Labs



**ERIK MÅNSSON**  
Innoscentia



**MOODY SOLIMAN**  
Ryp Labs



**OLGA KACHOOK**  
Sustainable Packaging  
Coalition



**SOLVEIGA PAKŠTAITĖ**  
Mimica

# Bill Birgen

Co-Founder &  
Chief Technology Officer

SAVRpak



# Innovation Demo Day | Packaging Solutions



**Bill Birgen**  
CTO

# The Team



**Grant Stafford**  
Co-CEO, Founder



**Greg Maselli**  
Co-CEO, Founder



**Bill Birgen**  
CTO, Founder



**Lisa Vain**  
Sales Director



**Dr. Alejandro Cajellas**  
Advisor



**Mark Cuban**  
Advisor



**Dan Pereira**  
Operations Director

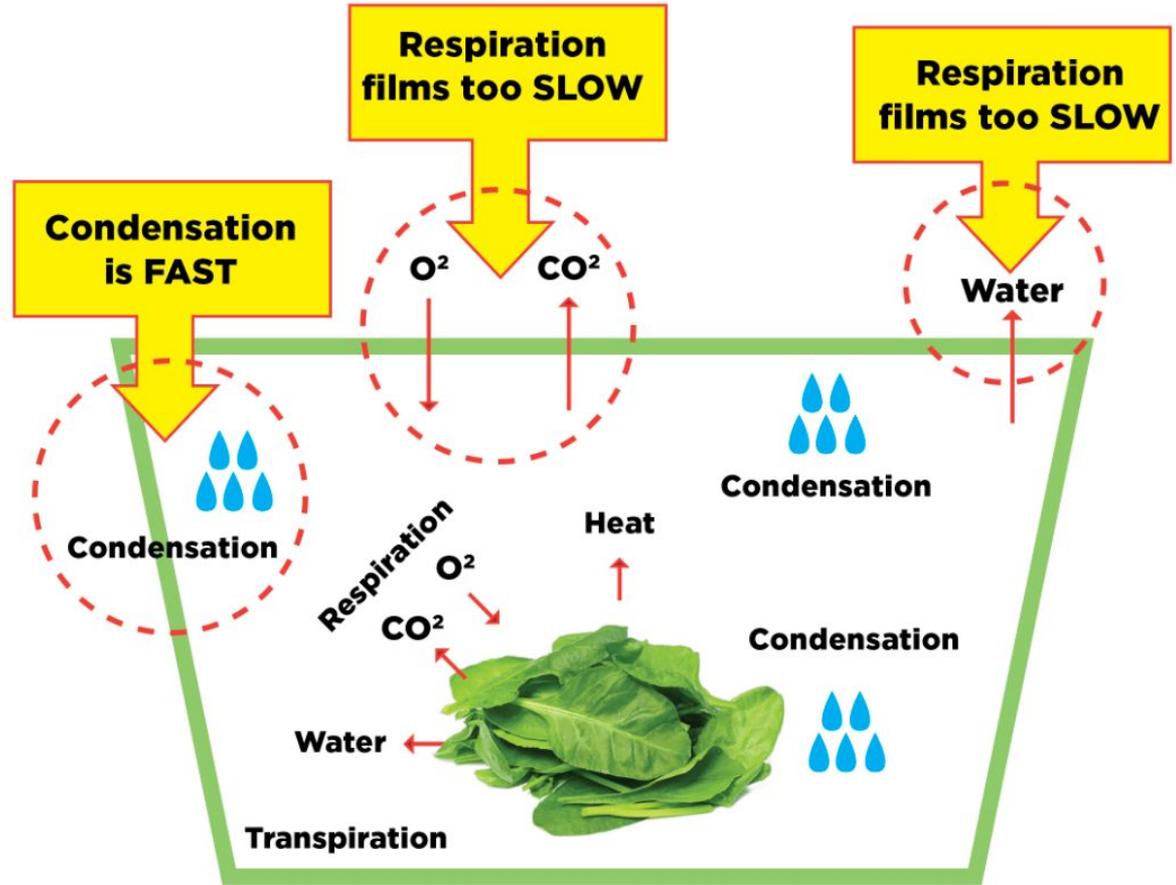
# The Team

- Bill Birgen is the inventor of SAVRpak and former rocket scientist. X-Prize winner, CES winner, & UN Sustainable AgTech winner
- Grant Stafford has 20 years of experience developing packaging. Developed “Flippy”, the Miso Robotics robot, and the PopID touchless restaurant payment hardware
- Greg Maselli has 20 years of experience managing international operations and sales for “117 Global”

# The Solution

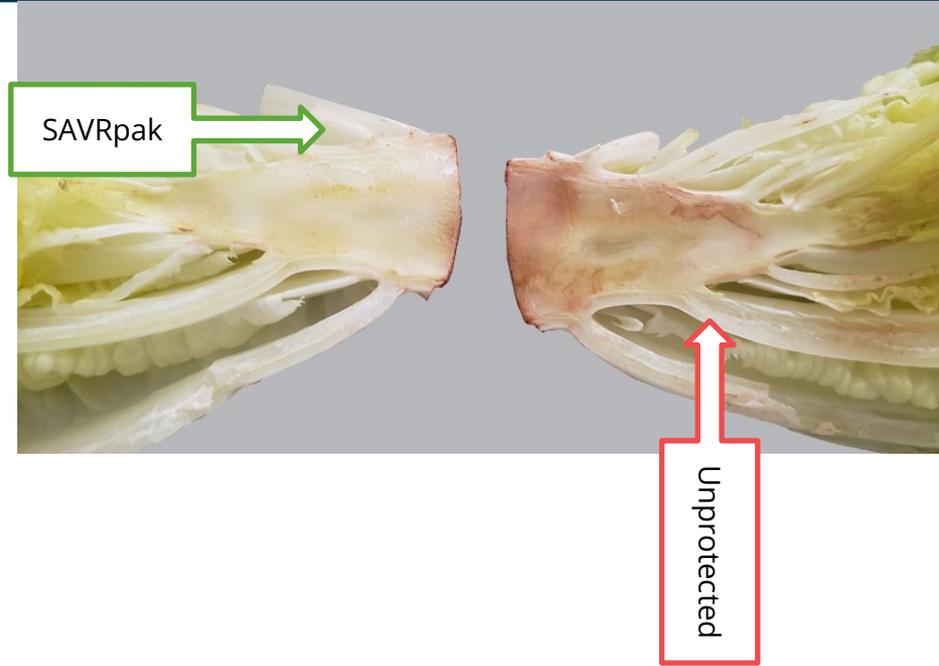


# The Solution



# The Solution

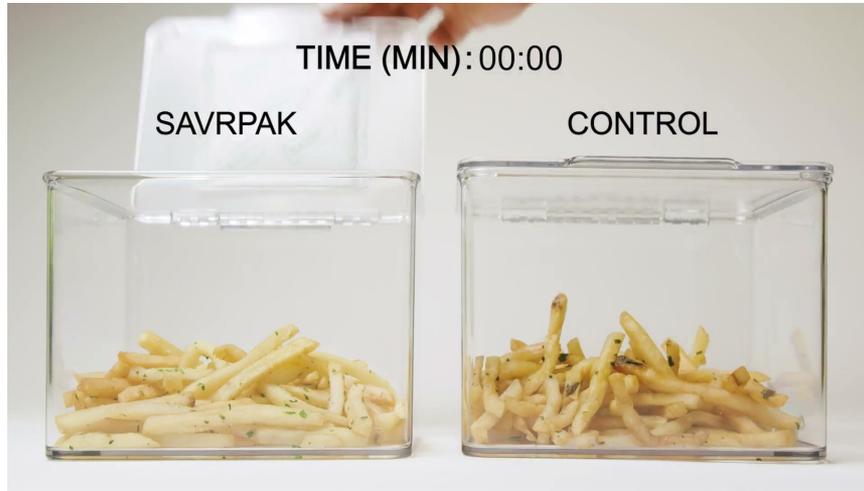
- SAVRpak extends shelf life of produce 50% to 100%, without chemicals
- Uses the dew point temperature to eliminate condensation, reducing microbial load
- SAVRpak is compostable & sustainable
- Hazel & Apeel are effective with thick peeled produce, which already has long shelf life. Proprietary chemical solutions are proprietary; no consumer transparency.
- SAVRpak adds nothing.



# The Solution



# The Solution



# The Solution

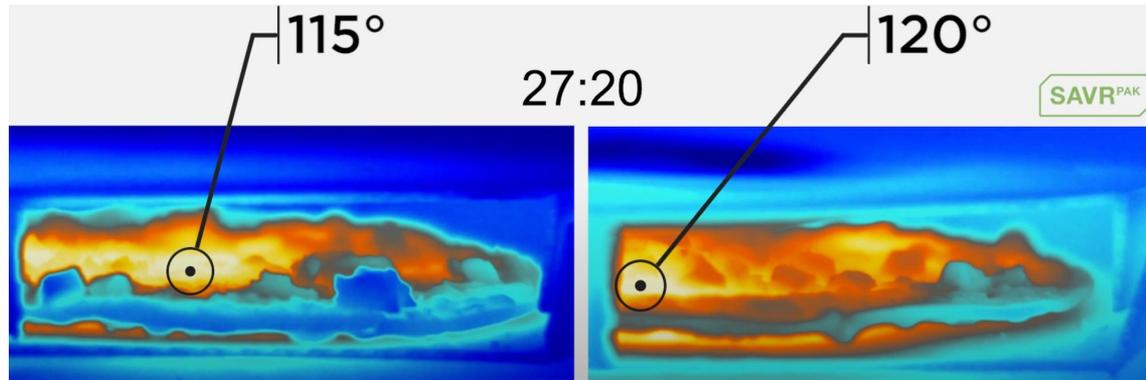
- French Fries delivered in a clamshell with SAVRpak measures up to 180% crisper ( measured 3<sup>rd</sup> party validation, McCain Foods )
- Uses the dew point temperature to eliminate condensation
- Exothermic Enthalpy of Condensation balances Endothermic Enthalpy of Melting
- Hot & Cold Food; Works with All Containers
- Vent holes do not work



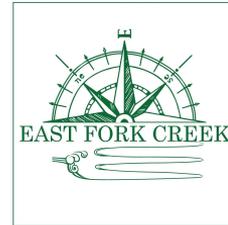
# The Solution



Temp=200°F @ Time=0



# Traction



# Traction

- Have long term purchase orders from Sysco Foods, East Fork Creek, Mr Lucky and San Jose Farms. We have customers in 21 countries.
- Entering into “A Round” of funding
- \$3.5 million raised in seed round, lead by Mark Cuban

Get Involved

SAVR<sup>PAK</sup>



# Get Involved

- Farmers Wanted- Let SAVRpak help you get your produce to market, fresher, with a longer shelf life
  - Airfreight
  - Semi-Truck
  - Train
- Restaurateurs Wanted- Let SAVRpak help you deliver
  - Crunchy Hot Food
  - Crisp Salads
  - Longer Delivery Window & difficult menu items

Thank you!



# Erik Månsson

CEO

INNOSCENTIA



# Innovation Demo Day | Packaging Solutions



**Erik Månsson**  
CEO

# The Team



# The Team

## BOARD



**KARIN WEHLIN**

Chairwoman

## MANAGEMENT



**ERIK MÅNSSON**

CEO



**PELLE EKEDAHL**

COO



**RAMBABU ATLURI, PhD**

CTO (Co-Founder)

-  Prof. Stein Kleppestö
-  Erik Lindberg (Co-Founder)
-  Robin Thiberg (Co-Founder)
-  PhD. Roger Eriksson

## TECH TEAM Elvikon Ltd

 Hyderabad, India

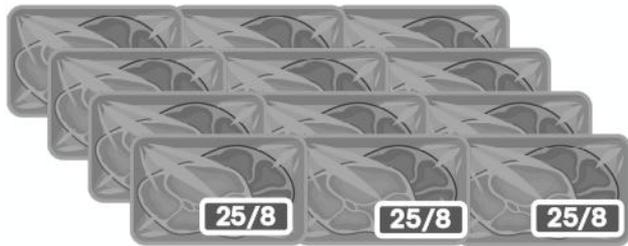


# The Solution



# The Problem

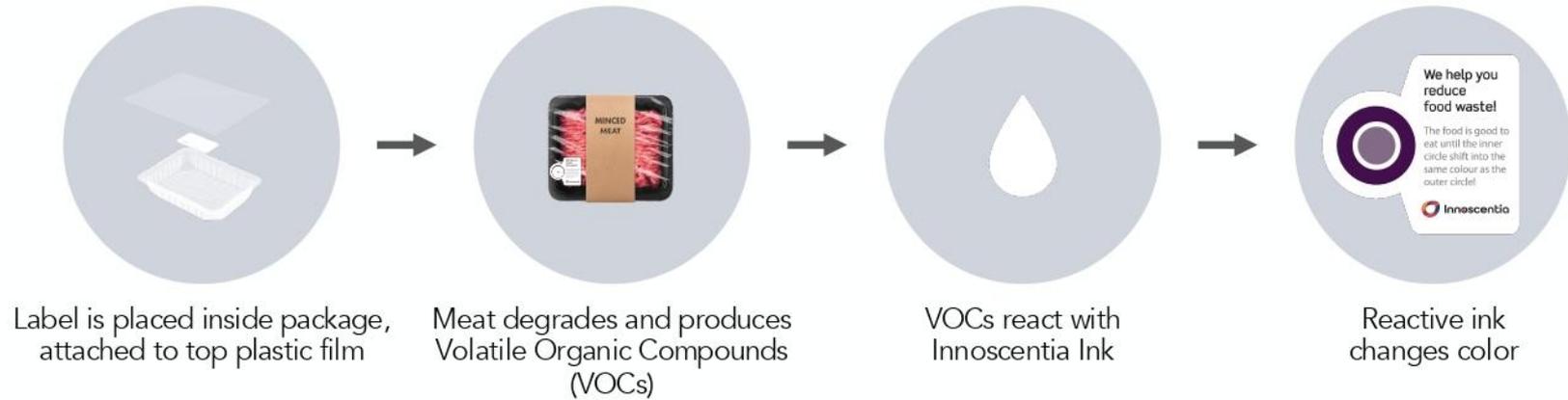
20-30%  
Shelf Life Lost



# The Solution



# How it works



# Values



Food Waste Reduction



Price Premium



Brand Value

# Traction



# Traction



Raised capital

Total: \$1,5 M



Grants

Total: \$0,5M

Pilot dialogues

HKSCAN



LOIs

COOP



Get Involved



# Get Involved

## SIZE & GROWTH



**2,8%**

NR 1 LARGEST MEAT  
MARKET WORLDWIDE

(Statista, 2021)

ESTIMATED GROWTH  
FRESH MEAT VOLUME

(Statista, 2021)

## FOOD WASTE IN AMERICA

**88%**

AMERICANS STRIVING TO  
REDUCE FOOD WASTE

(MSU, 2019)

**12,7%**

FOOD WASTE IN  
GROCERY STORES

(ReFED, 2016)

### WHAT ARE WE LOOKING FOR



PILOT PARTNERS



INVESTMENT  
*Seed round spring 2022*

Thank you!



# Moody Soliman

CEO & Co-Founder

RYP LABS



# Innovation Demo Day | Packaging Solutions

**typ LABS**

Makers of StixFresh™ 

**Moody Soliman**  
CEO & Co-Founder

# The Team



ryp LABS

# The Team



**Moody Soliman MS, MBA**  
Founder & CEO



**Steve Hulteng MME, PE**  
Co-Founder & COO



**Patrick Van-Dijck, PhD**  
Chief Scientific Officer



**Michelle Holtappels, PhD**  
R&D Manager



**Ben Jones, MS**  
Material Scientist



**Ozgur Yildirim, PhD**  
Interim CTO



**Nuria Buxons Vives, MS**  
Research Associate



**Francesca Caruccio, MS**  
Lab Technician



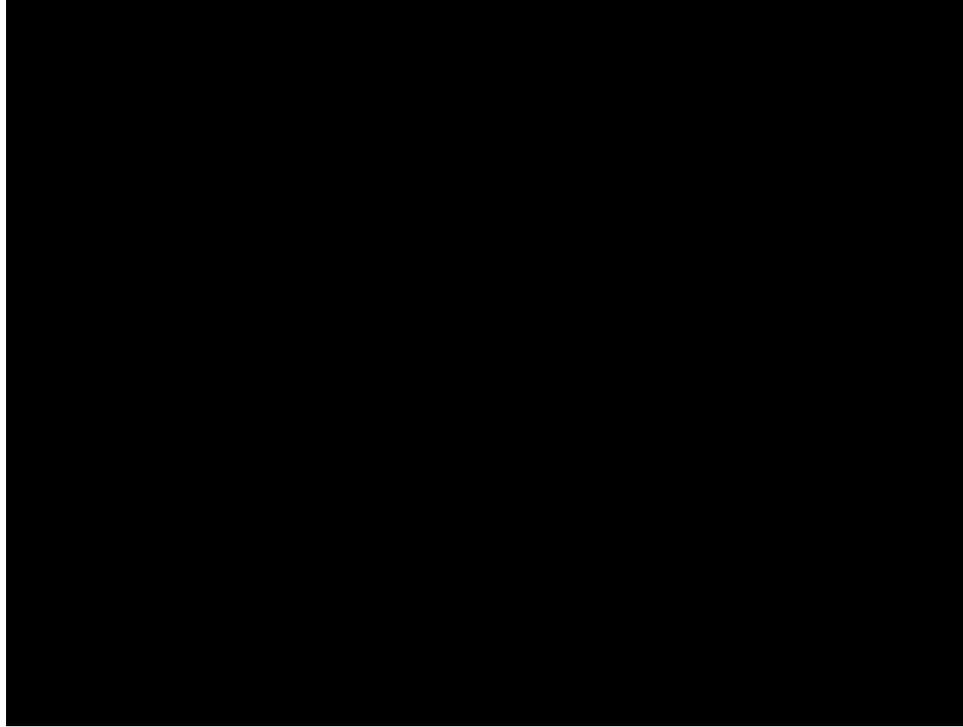
**Katie Benoit, BS**  
Quality Engineer

# The Solution



ryp LABS

# The Solution



Traction



ryp LABS

# Traction

We are working with a growing number of global customers on pilot studies and tailored solutions



PILOT STUDY CUSTOMERS HAVE SEEN 52 - 96% REDUCTION IN LOSSES WITH RYP LABS

Get Involved



ryp LABS

# Join us in the fight against food waste

For more information, please contact us to schedule a chat.

**Moody Soliman, Co-founder**

Email: [moody@StixFreshusa.com](mailto:moody@StixFreshusa.com)

Tel: +1 612.598.8889

Thank you!



# Solveiga Pakšaitė

## Founder & Director

MIMICA



# Innovation Demo Day | Packaging Solutions



**Solveiga Pakšaitė**  
Founder & Director

# The Team



**Laurence  
Kayson**  
Chief Executive Officer

**Solveiga Pakštaitė**  
Founder & Director

**Lawrie Matthews**  
Chief Technology Officer

# The Team

The problem  
we're solving





“If things are short-dated, I buy less of them”

\*TLF focus group research, 2018

**65%**

said they would **buy bigger packs** of food, if they were able to finish them by the expiry date

-Qualtrics, 2020

There is an opportunity to create brand loyalty by increasing consumer confidence & helping them waste less

For perishable products, overcaution leads to expiry dates being shortened by 2 or 3 days, sometimes more.

If we could add back just 2 of these days, there could be...

Cuts in home waste of\*

63%

\*Date-code led waste, WRAP 2013

Cuts in retail waste of\*

50%

\*As field-tested by leading global retailers on perishable products 2011/12

Increases in sales of\*

10%

\*As field-tested by leading global retailers on perishable products 2011/12



## Why does this drive profitability?

1. Longer time to sell before wasting
2. Extra days to consume makes people feel that they will waste less and encourages them buy more
3. Confidence in food freshness drives loyalty and return purchases

# The Solution



The breakthrough is Mimica Touch, dynamic food expiry labels.

**CAP  
FEELS SMOOTH**



**FRESH**

**CAP  
FEELS BUMPY**



**DON'T CONSUME**



# The Solution



Watch a short demo of our  
technology in action

# Traction



Innovate UK

R/GA Accelerator

unreasonable impact  
Created with BARCLAYS

University of Chester



SUPPORTED BY  
MAYOR OF LONDON

fp FOOD PROCESSING AWARDS  
RECOGNISING ENGINEERING EXCELLENCE



CANNES LIONS  
INTERNATIONAL FESTIVAL OF CREATIVITY

THE JAMES DYSON AWARD

MIT Technology Review  
INNOVATORS UNDER 35

The Engineers Trust  
Hawley Award



Shell  
liveWIRE  
Inspiring bright young leaders



Innovate  
UK

AMC

UNICAPS  
CLOSE TO YOU



fresh until bumpy



smooth for comparison



SMOOTH FOR  
COMPARISON  
minicalab.com

FRESH UNTIL  
BUMPY  
Use by  
**30 APR**

eit Food

Funded by the  
European Union



**FIORANI**

**HILTON**  
Food Group  
plc

AARHUS  
UNIVERSITY

# Get Involved

## Join our Mission

To radically reduce  
unnecessary waste



Thank you!



# Deepak Rajmohan

## CEO

GREENPOD LABS



# Innovation Demo Day | Packaging Solutions



**GREENPOD LABS**

**Deepak Rajmohan**  
CEO

# The Team



# The Team



Deepak Rajmohan,  
CEO



Vijay Anand,  
CBO



Shankar S,  
R&D Director



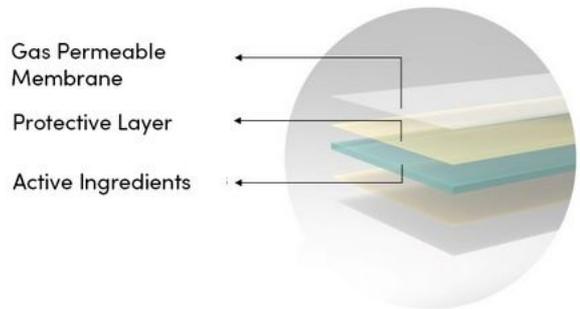
Subramani P,  
Operations Engineer



Ananya Payal,  
R&D Scientist



Keerthi Ranjith,  
Operations Engineer



# The Solution

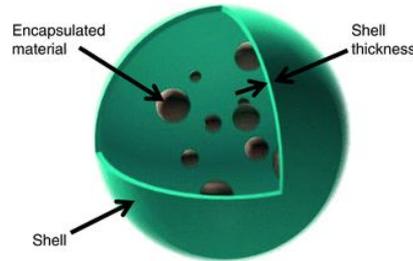


# The Solution

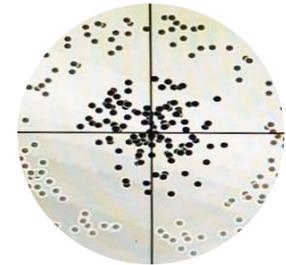
Active Packaging – The patented product activates the plant's defense mechanism to slow down the ripening rate and prevent any microbial growth



Identifying “Specific” Plant  
**Defense Mechanism**



Nano-encapsulating  
the **Plant Bioactive**



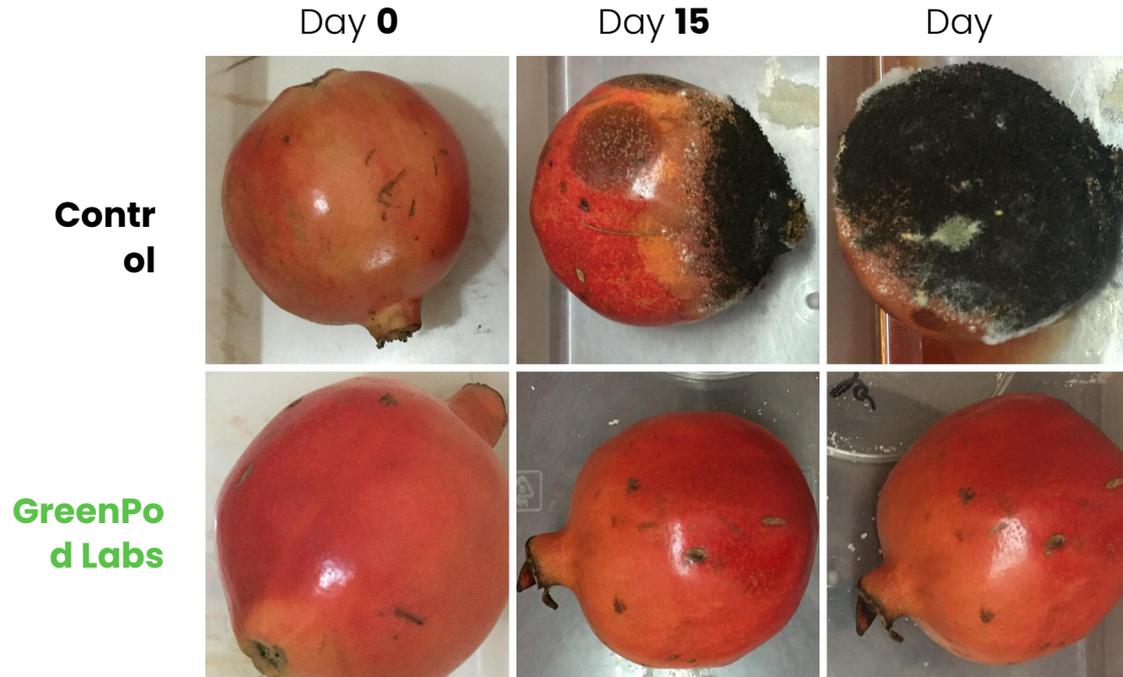
Using data to  
**customize formulation**

# The Solution

## ***Competitive advantage:***

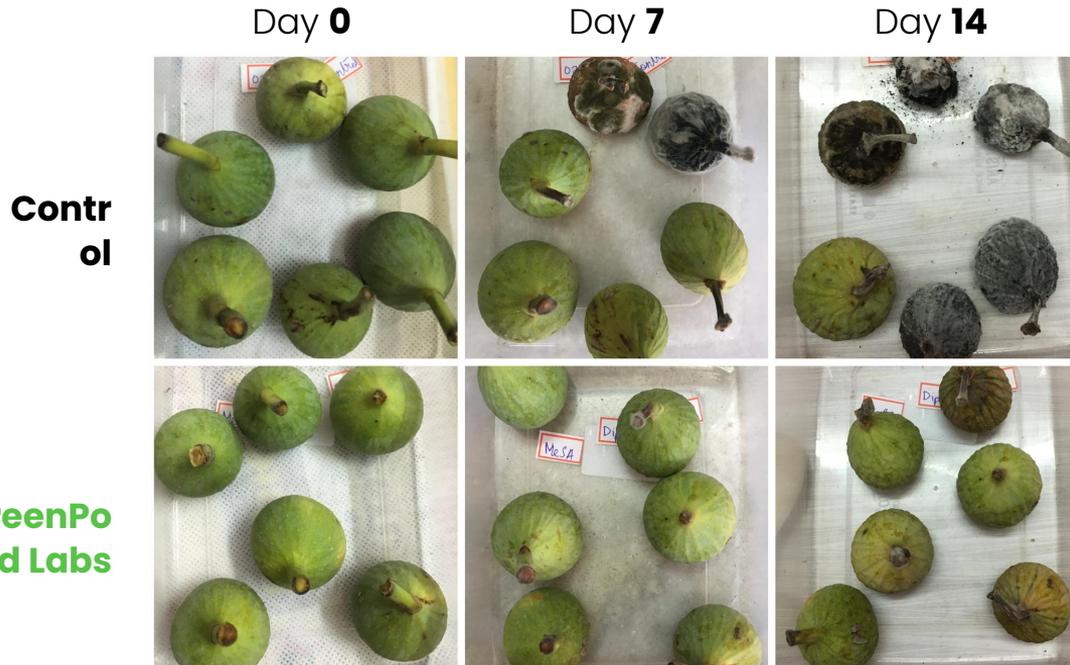
- A proprietary formulation and delivery model
- Use of all-natural bio-active compounds to activate the defense mechanism
- A cost-effective solution with easy adoption throughout the supply chain
- Customization based on volume, days, fruit/vegetable, and variety

# The Solution



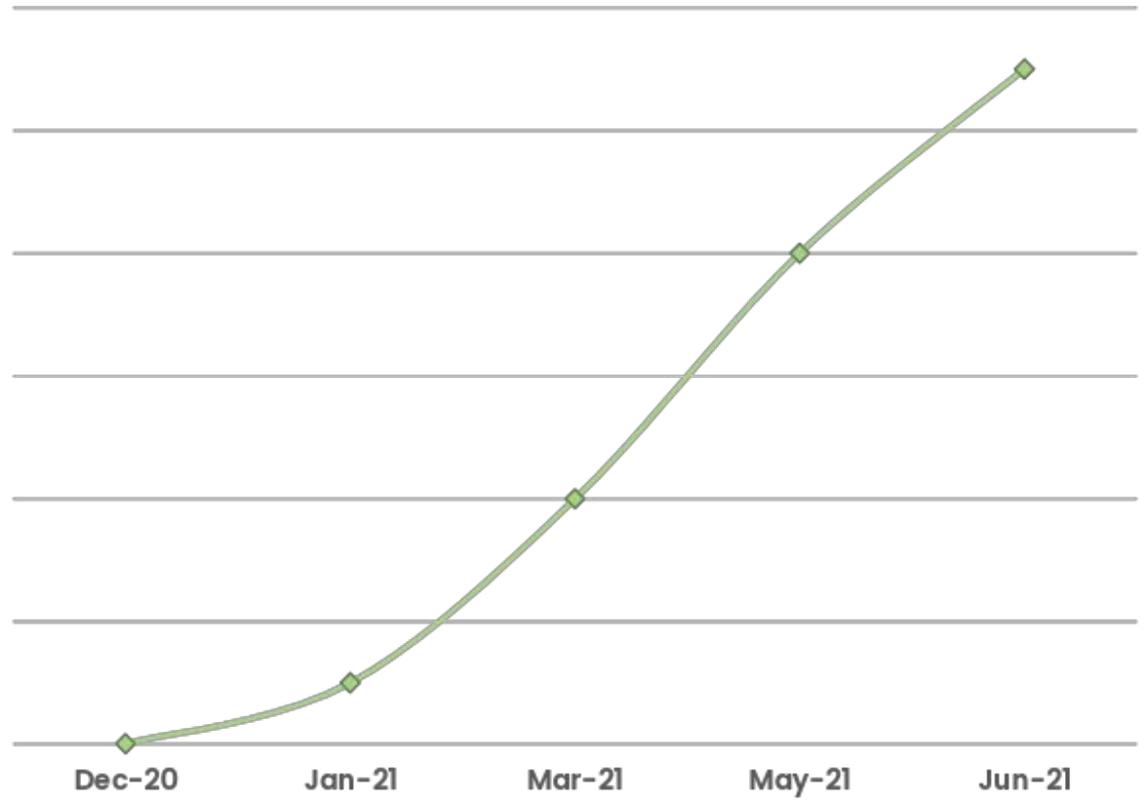
On an average 40% – 80% increase in shelf life at 35°C

# The Solution



On an average 30% – 60% increase in shelf life at 35°C

# Traction



# Traction

- Currently running pilots with 25+ customers
- Raised a pre-seed investment (\$120k) in May 2020, closing our seed round (\$600k)
- Completed product development for 3 new crops
- Established relationship with contract manufacturer for large scale production

Get Involved



**Food Waste is a Preventable  
Problem**

<https://greenpodlabs.com/>

# Get Involved

- We're here to offer our customizable solution to extend the fresh produce shelf life
- We're looking large farmers/ producers to conduct product pilots and commercialize
- We're looking for University partnership to conduct product validation studies (functionality and safety)

Thank you!



*Thank you for being a part of the*  
**ReFED Food Waste  
Action Network**





ReFED Food Waste

**Please answer the poll questions  
appearing on screen.**

**Your answers will be anonymous.**

**Thank you!**



**BILL BIRGEN**  
SAVRpak

**DEEPA KUMAR**  
Green Pod Labs

**ERIK WENSON**  
Innoscentia

**MOODY BOLMAN**  
Ryp Labs

**CELESTINE CHUCK**  
Sustainable Packaging  
Coalition



**SOLVEIGA PAKŠTAITĖ**  
Mimica

*Following the Roadmap to 2030 Discussion Series*  
**Recycle Anything Remaining**

NOVEMBER 17 | 1:00 P.M. ET



In partnership with **foodtank**  
THE THINK TANK FOR FOOD



*A Platform for Education, Collaboration, and Investment*

# THE FOOD WASTE FUNDER CIRCLE

Help Fund the Fight Against Food Waste

**DECEMBER 8 | 1:00 P.M. ET**

**REGISTER NOW**



Co-founders of the Food Waste Funder Circle



**ReFED**

**UPCYCLED™**  
FOOD ASSOCIATION

# Stay Connected



@refed

refed.org

insights.refed.org

**Questions/Feedback: [lily.herd@refed.org](mailto:lily.herd@refed.org)**

**Food Waste Action Network: [bit.ly/JoinReFEDFWAN](https://bit.ly/JoinReFEDFWAN)**