Breakthrough Freshness Management for AgTech
Improves Operational Efficiency for Suppliers, Product Margins for Retailers

Food Waste Challenge

Fixing Food Waste is a Huge Opportunity

Annual fresh food waste in the U.S alone

- >33% post-harvest waste** = >$85B

- >50% of waste in retail is pre-consumer

- *Zest Fresh* reduces pre-consumer waste by >50% - potentially saving >$15B*
  - *Zest Fresh* targets 70% of perishable market

The Industry is Facing a Perfect Storm

New low cost competitors

Dramatic increases in freight costs

More shopping options – More cost overhead

Customers demanding true transparency

Increasing margin pressures are forcing changes for retailers & suppliers

Preventing Food Waste Improves Product Margins

- **Pricing shrink into the product is a 30 year old approach**

- **Waste can no longer be accepted as "a cost of doing business"**

- **Zest Labs is the only AgTech company with a proven solution – Zest Fresh™ – that proactively reduces post-harvest waste**

- **Zest Fresh is a breakthrough approach, proven to pro-actively prevent waste at every step from field to store**

- **Zest Fresh immediately improves product margins**

What We Do

Without Changing Operations:

1. Improve Fresh Product Margin
2. Proactive Food Safety & Traceability
3. Increase Sustainability Performance
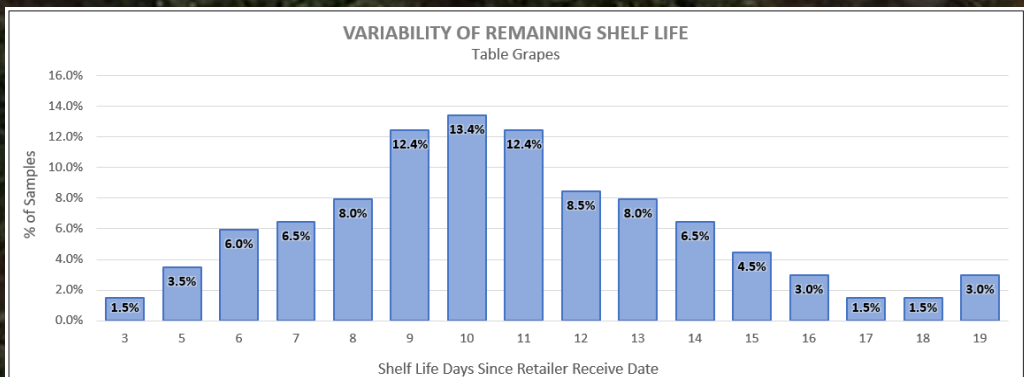

Produce   Meats & Poultry   Dairy   Seafood

Lack of Shelf-life Leads to Shrink

Shelf Life is Driven By Harvest Quality & Temperature Handling

Strawberries
After Harvest, 1 Hour at 85°
Reduces 1 Day of Shelf Life

VARIABILITY OF REMAINING SHELF LIFE
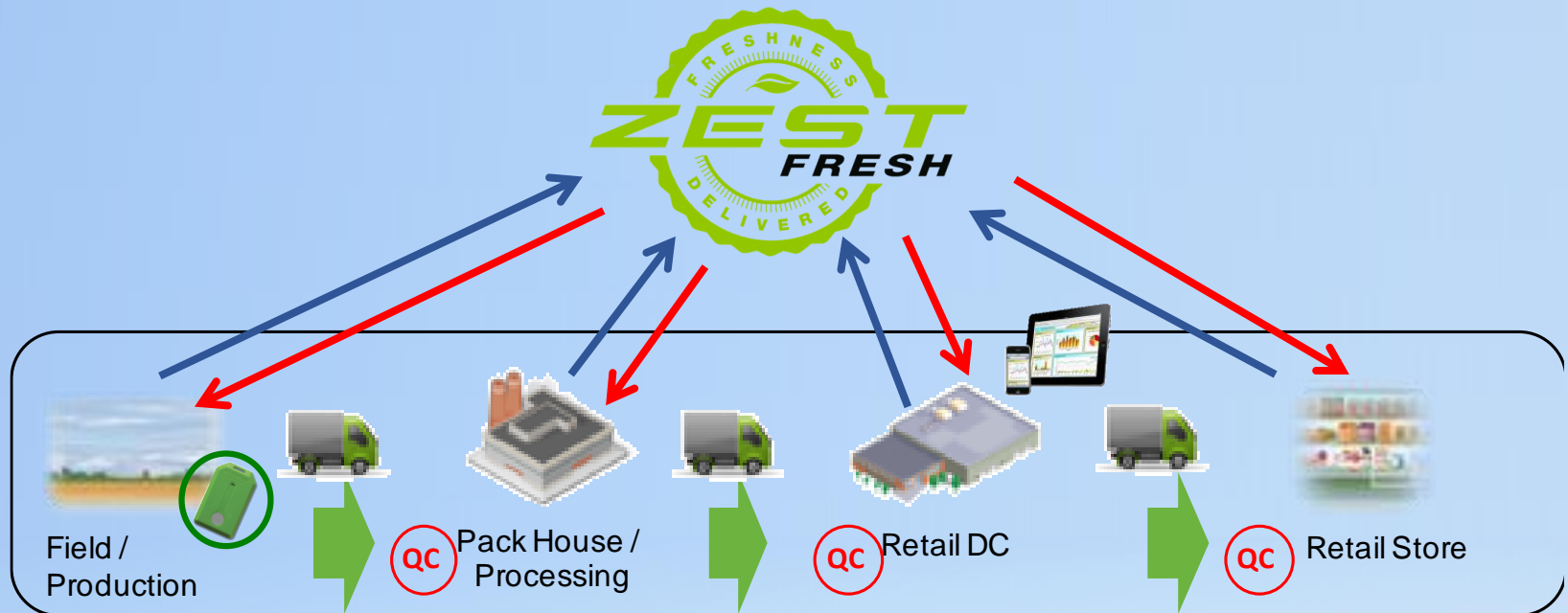#### Table Grapes

Summary: Sample remaining shelf life varied from 3 to 19 days across all shipments.

Significant variation in remaining freshness at retail delivery – as much as 16 days!

Zest Fresh Continually Measures Freshness Capacity and Accurately Calculates Remaining Shelf-life

- Prioritizes Routing & Inventory by Freshness Capacity
- Predictive Analytics Generates "Dynamic Use By Date"
- Blockchain-enabled for Transparency & Traceability

A Complete Solution for AgTech

A Grower-Centric Solution that Delivers Value to Retailers & Restaurants

- Food Freshness & Safety are based on grower execution
- Improving shelf life consistency is a grower responsibility

Zest Fresh Integrates Technologies that Deliver on Value

- Blockchain, IoT, Cloud analytics, machine learning all integrated
- Using technology to make it, "easy to do the right thing" every time

More Than Produce

Meat, Poultry, Pork and Seafood Represent Significant Waste

Same Challenges as in Produce

- Variable delivered shelf life
- No proactive product condition monitoring & feedback

Zest Fresh Delivers Value to Protein

- Supplier process monitoring & real-time alerts
- Predictive freshness modeling & intelligent routing
- Food safety and True Transparency

Zest Fresh – A Proven Value

Users Love *Zest Fresh*

- More than 2 years of broad use, with strong user endorsements
- Working with leading retailers and producers

Proven Value

- Freshness compliance improved from 30% to >85% (delivered remaining shelf life)

- Reduce retail shrink by >50% (waste & markdowns)

- Growers gain confidence through process visibility

"I've been working in the dark all along, and Zest turned on a light so I can now see freshness. I can never go back to working in the dark again."

- Blackberry Grower QA Manager

Why *Zest Fresh* is Unique in AgTech

Automated and reliable product data capture

Grower-centric with real-time operational value

Intelligent routing to ensure delivered freshness

Blockchain security and trust for suppliers to retailers

67 Issued US Patents

Value Throughout Supply Chain
Zest Fresh Delivers Real Value with an opportunity for revenue at each Node

Producers

DC/Logistics

Store

Consumer

Merchandising

35.5 — ZIPR CODE 17-231
STRAWBERRIES (1LB)
SHIPPED FROM: SALINAS, CA
⚠ TEMP EXCURSION DETECTED ⚠

33.3 — ZIPR CODE 17-233
STRAWBERRIES (1LB)
SHIPPED FROM: SALINAS, CA

Empowering Workers with Valuable Insights

True Transparency with Blockchain

Trusted, Accessible Records

- True Transparency comes from including the necessary data
- *Zest* analytics provide data to empower decisions
- Combine "Track & Trace" with *Zest* Freshness & Food Safety Data

Pro-active and Preventative

- Pro-active, automated recalls based on Blockchain technology and smart contracts
- Automatically connect post-shipment product data (i.e. test results, ingredient updates) to in-transit product

Zest Fresh + Blockchain Delivers Increased Value for Growers, Producers, Shippers and Retailers

Zest Fresh Delivers Blockchain

Turn-key Support for Zest Fresh users

Integration eliminates technical barriers

Sensor driven blockchain transactions

Data privacy and management built-in

BLOCKCHAIN

A Complete, Integrated Solution

Practical, Automated Wireless IoT Sensors

Wireless Pallet-level Sensors

Wireless Access

Cloud-based Predictive Analytics & Product Visibility

Freshness Capacity (# of days remaining)

15

Cut Time:
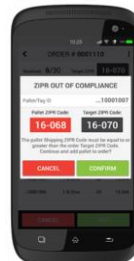7:00 AM @ 65˚

Entered Pre-Cooler:
8:15 AM @ 68˚

9

Cut Time:
9:30 AM @ 72˚

Entered Pre-Cooler:
5:20 PM @ 83˚

12

Cut Time:
2:30 PM @ 84˚

Entered Pre-Cooler:
7:05 PM @ 88˚

Mobile Access

Intelligent Routing

Shipping products based on remaining days of freshness

3 Days   4 Days   5 Days   7 Days
2 Days   3 Days   5 Days   6 Days

Live Dashboards

www.zestlabs.com

Freshness Management Solutions

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