



Zest Fresh for Retail Grocers

Reduce Shrink, Improve Profitability and Quality for Fresh Foods

Solution Benefits:

- Reduce shrink due to spoilage by 50% or more to maximize profitability and margins on fresh foods
- Proactively manage the quality and condition of fresh, frozen and processed foods from field or manufacturer to the retail grocer
- Freshness metrics, real-time alerts and notifications enable proactive, exception-based fresh food supply chain management
- Helps to improve food safety, FSMA, HACCP and traceability requirements with integrated blockchain support
- Improves shopper satisfaction and loyalty and builds brand equity



Zest Fresh™ is the freshness management solution for today's retail grocery industry. It improves profit margins and maximizes product quality and delivered freshness by reducing shrink and spoilage due to temperature, processing and distribution issues by 50% or more. Zest Fresh provides end-to-end fresh food supply chain visibility with freshness metrics, real-time alerts and notifications, enabling proactive, exception-based decision making. It ensures food safety and addresses traceability requirements, automates receiving and operations, and streamlines quality control and merchandising.

The Need for Freshness Management

Competition in the grocery industry is intense. Grocers need to increase margins and attract and retain customers. FMI studies show that the quality and consistency of produce, meat and other fresh products is the main reason shoppers select their grocery store. These products are also the leading sources of brand differentiation, competitive advantage and profits for grocers, yet maintaining quality is increasingly an issue. Due to improper handling, \$35 billion of fresh produce goes to waste each year – half due to temperature issues — squeezing profits. While this waste is manifested at the store, it starts at the beginning of the fresh food supply chain. Pallets can be mishandled at any step by being left on loading docks, misrouted or subjected to extreme temperatures, any of which negatively impact the food's quality, safety, shelf life, and shopper satisfaction. Visual sampling and trailer-level monitoring provide limited visibility about a product's freshness and safety and force retailers to accept or reject produce and fresh product shipments with little knowledge of their condition, quality and remaining shelf life. To ensure high quality, maximize shelf life and reduce shrink, and improve margins, proactive pallet-level freshness management is essential. Shrink no longer needs to be a cost of doing business.

The Challenge

Up to half of product shrink is due to temperature variations experienced from the field or producer to the grocer where even a 4° F variance in storage temperature reduces shelf life by 30%, impacting quality and profitability. To maximize delivered freshness, each pallet's temperature and condition needs to be consistently and accurately managed for every leg in the fresh food supply chain. Monitoring the

ambient temperature in a trailer or warehouse with USB- or paper-based loggers is inadequate as pallet-level temperatures fluctuate significantly based on handling. Visual inspection and ambient loggers provide data only after a problem has occurred, leaving grocers to accept or reject entire shipments. Even when product is delivered at the proper temperature, without pallet-level condition monitoring it's difficult to confirm that the product was handled properly, its quality and remaining shelf life, or its traceability history. Grocers need end-to-end visibility to proactively manage their cold chain and ensure compliance to established processes. Pallet-level condition monitoring delivers the ability to automatically assess the product's quality and freshness, proactively take corrective actions, reduce waste, address traceability and food safety, and improve profitability.

The Solution

Zest Fresh improves delivered quality and reduces shrink due to temperature handling and processing by 50% or more, improving margins and food safety, and enhancing brand equity and shopper loyalty. It provides grocers with the ability to proactively manage for fresh food supply chain variability. Time, temperature, location and other data is autonomously monitored using wireless IoT sensors for each pallet of product from harvest or processing to the retail DC to the store shelf, providing complete visibility to the pallet's adherence to grocer's requirements to ensure food freshness and safety.

Zest Fresh uses cloud-based artificial intelligence algorithms to dynamically calculate the remaining shelf life for each pallet of product, generating a Zest Intelligent Pallet Routing Code (ZIPR Code) freshness metric for each pallet. The ZIPR Code is matched to pending orders to ensure each pallet has sufficient remaining freshness to meet the retailer's needs. Retailers can implement FEFO (First Expiry, First Out) inventory utilizing the ZIPR Code, ensuring shipments are loaded correctly and providing the ability to quickly reroute products with a shorter shelf life to nearby locations and products with a longer shelf life to more distant locations for better product quality, reduced shrink and higher revenues.

Zest Fresh helps manage to pre-defined processes and focus only on pallets requiring special attention by providing alerts when out-of-process activities impact shelf life to proactively respond and maximize value and freshness. It is easy to integrate with your existing applications and networks or can be used as a standalone solution. Zest Fresh, with integrated blockchain technology, also provides complete traceability records for improving food safety and regulatory compliance.

Zest Fresh Solution

- Enables seamless matching of the retailers' freshness needs with the actual product freshness
- Utilizes autonomous, wireless IoT sensors that don't require changes to processes or increase labor costs
- Utilizes AI and machine learning to calculate a freshness metric of the dynamic remaining shelf life for each pallet to facilitate FEFO inventory management
- Can be used for most types of vegetables, fruits, meats, poultry, seafood and dairy
- Exception-driven management with real-time notifications sent for line and warehouse staff to initiate corrective action
- Complete track-and-trace data stored in the Zest Fresh Cloud to address food safety and recalls
- Real-time dashboards for computer and mobile applications for easy management and use
- Open APIs for integration into enterprise systems including ERP and WMS
- Integrated blockchain support

For More Information

To learn more, please visit our website or contact us directly. We look forward to hearing from you.

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