



An Operational Framework for Expiry-Aware Omnichannel Inventory in Food & Beverage

How food manufacturers, distributors, and multi-location operators can bring shelf life, lot traceability, and channel inventory under one operational system.

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Introduction

In most food and beverage businesses, inventory is counted by units. Cases in. Cases out. The system balances on paper. But units do not expire. Lots do. Batches do. Individual pallets sitting in the wrong warehouse, assigned to the wrong channel, approaching the end of their shelf life, do. And when that reality is not visible inside the inventory system, the cost does not show up as a line item. It shows up as a write-off.

A frozen food distributor allocates stock on FIFO without checking the remaining shelf life. A dairy processor ships product to a retail customer that requires 60% remaining shelf life on receipt, and the shipment fails the retailer's check on arrival. A multi-location bakery has ingredient inventory sitting in one warehouse past its use-by date while another location runs short of the same item. These are not edge cases. They are the operational reality of running inventory across multiple channels and locations without expiry-aware systems.



The problem has grown more complicated because food businesses no longer operate through a single channel. The same finished goods now move through retail, wholesale, direct-to-consumer, and foodservice, each with different shelf life requirements,

different minimum remaining shelf life thresholds, and different lot documentation standards. Managing that complexity across disconnected spreadsheets, siloed warehouse systems, and channel-level ERP workarounds is how businesses end up shipping product that fails on arrival, absorbing retailer chargebacks, and writing off inventory that was visible in the system but unusable in practice.

Units do not expire. Lots do. And when lot-level expiry is not visible inside the inventory system, the cost shows up as a write-off, not a data gap.

This whitepaper defines an operational framework for managing inventory in a way that accounts for shelf life, lot traceability, and channel-level requirements together. It examines where current inventory systems break down, how the framework addresses those failures across each layer of operations, and what the business impact looks like when expiry is built into the system rather than managed around it.

How Omnichannel Operations Exposed the Limits of Traditional Inventory Management

Food and beverage businesses have always managed perishable inventory. What has changed is the complexity of where that inventory goes and what each channel demands before it gets there.

A decade ago, most food manufacturers and distributors operated through a relatively defined channel structure. The product left the plant or warehouse and moved through a distributor or directly to retail. Shelf life requirements were set by the retailer, and as long as stock rotated reasonably well, most businesses could manage expiry risk through manual stock checks and basic FIFO discipline.

That model no longer reflects how food businesses actually operate. Today, a mid-sized food company might be fulfilling retail orders with strict minimum remaining shelf life

(RSL) requirements, processing direct-to-consumer shipments that go out within days of production, supplying foodservice customers with different lot documentation standards, and replenishing inventory across four or five warehouse locations. Each of those channels operates differently. Each has its own lead times, its own compliance expectations, and its own tolerance for short-dated product.

The inventory system holding all of this together was, in most cases, designed for a simpler time. It tracks quantity. It may track location. But it rarely tracks expiry at the lot level across every channel and movement simultaneously. The gap between what the system shows and what the warehouse actually contains in usable, compliant stock is where losses accumulate.

Why Omnichannel Expiry Management Has Become a Priority

- Retailer minimum remaining shelf life (RSL) requirements have become stricter and more widely enforced, with chargebacks and refused shipments for non-compliance.
- Direct-to-consumer food businesses must ship products with adequate shelf life for customers to receive, inspect, and use them, raising the bar on freshness at the time of dispatch.
- Regulatory traceability requirements in the U.S. (FDA FSMA Rule 204) and international markets now require lot-level records from production through the point of sale.
- Multi-warehouse operations mean that the same SKU may exist across locations with different remaining shelf life, and stock rebalancing decisions need to account for that.
- Expiry-related write-offs represent a direct margin loss that scales with revenue. For a distributor moving \$50M in perishable goods, a 2% write-off rate is \$1M in annual waste.

The Language of Expiry-Aware Inventory: Terms Every Operator Should Know

Before examining where current systems fail and how a proper framework addresses those failures, it is useful to establish the terminology. These are not technical abstractions. They are the operational concepts that define how a product should move through a food business once shelf life is built into inventory management.

Term	Definition
Shelf Life	The total period from production or packaging during which a product remains safe and fit for use. Shelf life is usually expressed in days and is set at the manufacturing stage.
Remaining Shelf Life (RSL)	The number of days left before a product reaches its expiry date at any given point in time. RSL is what customers and retailers care about at the point of receipt. A product with a 90-day shelf life shipped on day 40 has 50 days RSL on arrival.
Minimum RSL Requirement	The minimum number of days RSL a customer, retailer, or distributor will accept on receipt. These thresholds vary widely. A grocery retailer may require 60% RSL on delivery, while a foodservice customer may accept 30%. Managing minimum RSL requirements per customer is one of the most common sources of compliance failure.
Lot / Batch	A defined production run or group of units produced under the same conditions and assigned a shared identifier (lot number). Lot tracking allows every unit to be traced back to its origin and linked to its specific expiry date.
FEFO (First Expiry First Out)	A fulfillment discipline where stock with the earliest expiry date is picked and shipped first, regardless of when it was received. FEFO is the correct rotation logic for perishable goods. Businesses relying on FIFO alone ship stock in the order it arrived, which does not account for variation in remaining shelf life across lots.
FIFO (First In First Out)	A rotation method based on receipt date rather than expiry date. For products with consistent shelf life and predictable lead times, FIFO and FEFO often produce the same result. But for variable-shelf-life products or those arriving from different production runs, FIFO alone creates expiry risk.
Channel Inventory Allocation	The process of assigning inventory to a specific sales channel (retail, DTC, foodservice, wholesale) based on that channel's requirements. In expiry-aware systems, allocation logic considers RSL requirements per channel so that short-dated products are directed toward channels that can accept it.
Expiry-Driven Allocation Logic	A system rule that assigns available lots to orders based on a combination of FEFO, customer RSL requirements, and channel constraints. It ensures that stock is not just shipped in the right order, but that it meets the specific compliance requirements of the receiving party.

Term	Definition
Lot Traceability	The ability to track a specific lot or batch from goods receipt through production, warehousing, and outbound shipment. Full lot traceability is required for regulatory compliance (FSMA, GFSI, and others) and is essential for efficient recall management.

Where Inventory Systems Break Down When Shelf Life Enters the Equation

Most inventory management systems used in food businesses today were not designed with expiry as a first-class data point. They were built around quantity, location, and cost. Expiry dates, where they exist in the system at all, are often stored as a field on the item master, not as a dynamic attribute tracked at the lot level across every movement and channel.

The result is a category of failures that are predictable and repeatable. They show up in different forms depending on the business, but the underlying cause is consistent: the system does not know what it has in usable terms, only in quantity terms.

No Lot-Level Expiry Visibility Across Channels The system shows total available units but cannot tell you how many of those units meet the RSL requirement for a specific customer or channel. Fulfillment teams rely on warehouse staff to manually check dates before picking, which does not scale and introduces human error.	FIFO Logic Applied Where FEFO Is Required When inventory is rotated strictly by receipt date, lots with earlier expiry but later receipt dates accumulate in the warehouse. By the time they surface in the pick queue, their remaining shelf life may be insufficient for the order being fulfilled. The loss is invisible until the write-off.
Manual Lot Tracking Across Locations In multi-warehouse operations, lot records are often maintained in separate systems or spreadsheets per location. There is no consolidated view of how much stock exists across locations at each remaining shelf life tier. Rebalancing decisions are made on gut feel rather than data.	Channel Mismatch and Stranded Stock Product allocated to one channel may not be compliant for another. When retail orders are canceled or reduced, the reallocated stock may no longer meet the RSL requirements of alternative channels. Without expiry-aware reallocation logic, it sits until it is written off.

No Early Warning Before Losses Materialize

Traditional systems generate alerts when stock hits zero, not when the stock is at risk. Expiry losses are only visible after the fact, in the form of write-offs or reconciliation adjustments. There is no proactive signal that allows operations teams to act before the loss occurs.

Retailer Compliance Failures and Chargebacks

When RSL requirements are not enforced during fulfillment, shipments arrive at the customer's dock with insufficient shelf life. The retailer rejects the delivery or applies a chargeback. The cost is borne by the supplier, and the reputational damage compounds over time.

The system does not know what it has in usable terms. It knows quantity. And in perishable food, quantity without remaining shelf life is not inventory. It is a liability with a date attached.

Beyond these six structural failures, businesses operating across multiple channels consistently encounter a second tier of operational gaps. Demand forecasting systems that do not account for RSL constraints plan replenishment based on total on-hand, not usable on-hand. Procurement teams over-order because they cannot see that existing stock will still be compliant when the new delivery arrives. Customer service teams field complaints about short-dated products because the fulfillment system did not enforce the order's RSL requirement at pick time.

Together, these failures reveal a system ecosystem that was built for a different operating reality. Solving for expiry-aware omnichannel inventory is not a configuration change. It requires building expiry into the logic of how inventory is tracked, allocated, fulfilled, and reported across every channel and location.



A Five-Layer Operational Framework for Expiry-Aware Omnichannel Inventory

An expiry-aware inventory system is structured as a set of connected operational layers. Each layer addresses a specific part of the problem: how expiry data is captured, how fulfillment logic uses it, how inventory is allocated across channels, how risk is surfaced before losses occur, and how visibility is maintained across locations. When these layers operate together, inventory management reflects what the warehouse actually contains in compliant, usable terms, not just total quantity.

The framework below defines each layer and what it must do to support reliable, expiry-aware omnichannel operations.

LAYER

1

Lot and Expiry Data Foundation

Every movement of perishable inventory begins with a lot record that includes production date, expiry date, and quantity. This record follows the lot from goods receipt through production, warehousing, and outbound shipment. Without it, every subsequent layer operates on incomplete data. The foundation layer ensures that expiry is captured at the source and maintained throughout the product's life in the system.

LAYER

2

FEFO Fulfillment Logic

Picking and fulfillment are driven by remaining shelf life, not receipt date. The system evaluates available lots against the RSL requirement of the order being fulfilled and sequences picks to ship the earliest-expiring compliant stock first. FEFO logic is enforced at the system level, not left to warehouse staff discretion. For orders with specific RSL thresholds, the system will not allow lots that do not meet the requirement to be assigned to that order.

LAYER

3

Channel-Level Inventory Allocation

Different channels have different shelf life requirements. Retail customers may require 60 days RSL on delivery. Foodservice may accept 20. Direct-to-consumer may require that the product ships with at least 30 days remaining. The allocation layer maps available lots to channels based on these requirements, ensuring that short-dated stock is directed toward channels that can accept it rather than accumulating as stranded inventory.

LAYER

4

Expiry Risk Monitoring and Alerts

The system generates proactive alerts based on lot-level expiry data. When stock is approaching a defined risk threshold (for example, lots dropping 45 days RSL below with no allocated orders), operations teams receive a signal before the loss occurs. Alerts can trigger reallocation, markdown, or transfer decisions while the stock still has commercial value.

LAYER**5****Cross-Location Visibility and Rebalancing**

In multi-warehouse or multi-site operations, the system maintains a consolidated view of inventory by lot, location, and remaining shelf life. Operations teams can see that Location A holds 200 cases of a product with 18 days RSL while Location B has the same SKU with 55 days RSL, and make rebalancing or fulfillment decisions accordingly. Transfers between locations are tracked with lot integrity maintained.

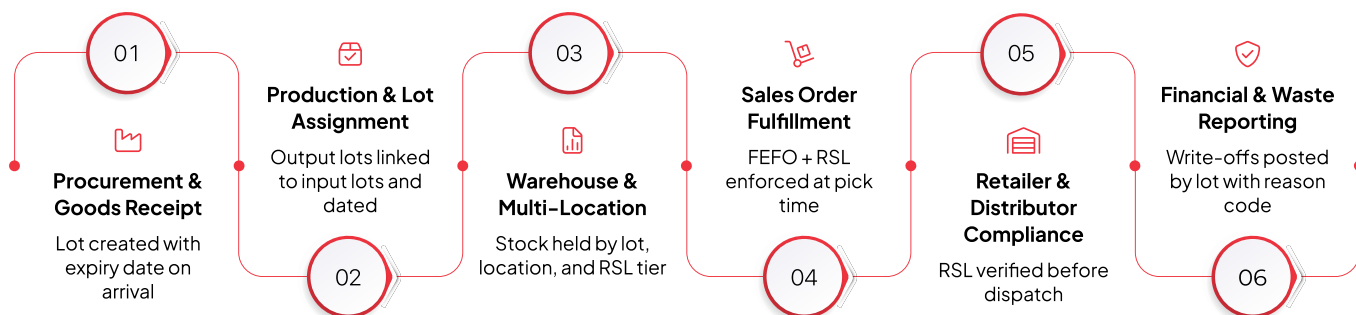
What Makes This Framework Different from Standard Inventory Management?

- Expiry is tracked at the lot level, not as a static field on the item master.
- Fulfillment logic uses RSL as a fulfillment constraint, not just a reference field.
- Channel requirements are enforced at the allocation stage, before picking begins.
- Risk signals are generated before losses occur, not after write-offs are posted.
- Multi-location visibility is consolidated into a single operational view with lot integrity.

How Expiry-Aware Inventory Flows Across Operations

Expiry data only delivers value when it moves freely through the business. In a connected system, every transaction from purchasing raw material to closing a customer invoice draws on the same lot-level expiry record. This digital flow replaces the isolated spreadsheets and manual date checks that separate production from fulfillment, and fulfillment from the customer's dock.

The following sections trace how expiry-aware inventory logic operates at each stage of the food business value chain.



Procurement and Goods Receipt

When raw materials or finished goods arrive, each delivery is received against a purchase order and assigned a lot record. The lot record captures the supplier's production date, the expiry date on the label, and the quantity received. The system validates the received RSL against the minimum



acceptable threshold defined for that supplier or product category. Deliveries that fall below the threshold are flagged for review before they enter usable inventory. This prevents short-dated stock from entering the supply chain undetected.

Production and Lot Assignment



In manufacturing environments, input lots are consumed, and output lots are created. Each finished goods lot is linked to the raw material lots used in its production, creating a complete traceability record from ingredient to finished product. The system assigns an expiry date to the finished goods lot based on the production date and the

product's defined shelf life. Where multiple input lots of the same ingredient are used in a single production run, the system applies the earliest expiry date from the input lots to the output lot to ensure conservative shelf life management.

| Warehouse and Multi-Location Inventory

Inventory is held in the warehouse management layer by lot, with the remaining shelf life recalculated dynamically as time passes. Stock is visible not just as total quantity but as quantity by RSL tier: for example, 400 cases with more than 60 days RSL, 150 cases with 30 to 60 days RSL, and 80



cases with fewer than 30 days RSL. In multi-warehouse operations, this view is consolidated across all locations so that fulfillment and operations teams can see the full picture without logging into separate systems.

| Sales Order Fulfillment Across Channels



When a sales order is created, the system applies the RSL requirement associated with that customer or channel before allocating inventory. If a retail customer requires 60 days RSL, the system will only allocate lots that meet or exceed that threshold. The pick is generated in FEFO order within

the qualifying lots, ensuring that the earliest-expiring compliant stock ships first. If no qualifying lots exist, the order is flagged for review rather than fulfilled with non-compliant stock.

Retailer and Distributor Compliance

Before a shipment is confirmed, the system generates a compliance check against the receiving party's minimum RSL requirement. Packing slips and delivery documentation include lot numbers and expiry dates for every line item, giving the customer's receiving team the information they need to



confirm compliance on arrival. Where electronic advance ship notices (ASNs) are required, lot and expiry data are included in the transmission. This removes the manual step of adding expiry information after the fact and reduces the risk of disputes on delivery.

Financial and Waste Reporting



When stock is written off due to expiry, the adjustment is posted against the specific lot, capturing the quantity, cost, and reason. Over time, this creates a historical record of expiry losses by product, location, channel, and supplier, which is the data foundation for systematic waste

reduction. Management reporting can show the actual cost of expiry losses as a percentage of inventory value, and trend analysis can identify whether specific products, suppliers, or channels generate disproportionate losses.

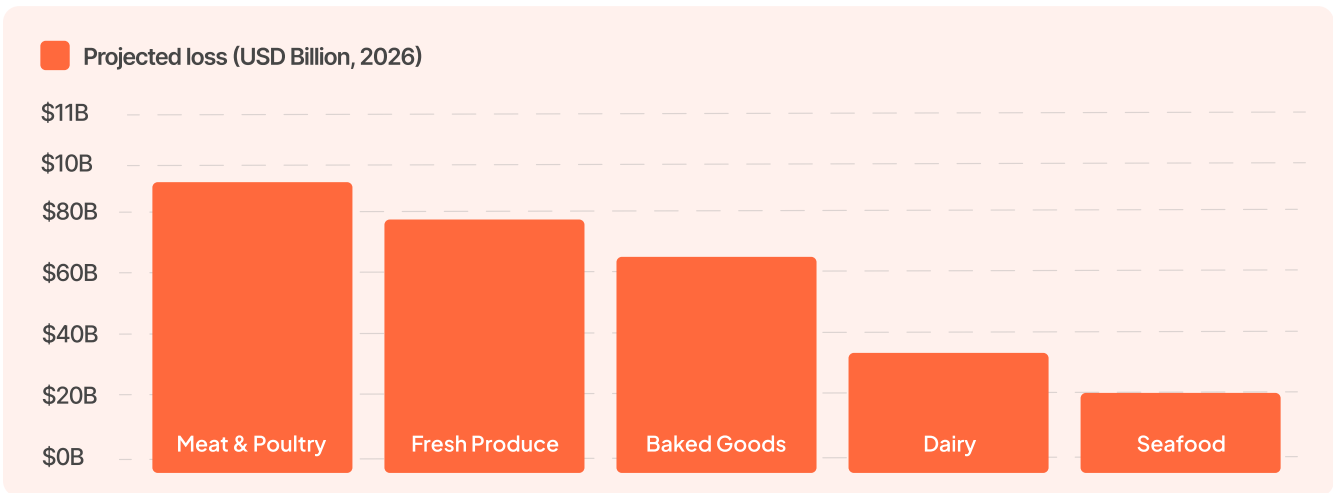
The Business Case for Getting This Right: Margin, Compliance, and Operational Control

When expiry management moves from a manual, exception-driven process to a system-enforced operational standard, the business impact is measurable across three areas: waste reduction, compliance reliability, and operational efficiency. The following reflects the range of outcomes observed in food businesses that have implemented expiry-aware inventory systems.



Reduced Waste and Expiry Write-Offs

The most direct financial impact of expiry-aware inventory management is the reduction in product written off due to expiry. When the system proactively signals at-risk stock and enforces FEFO fulfillment, inventory is deployed before it loses commercial value rather than being discovered after the expiry date has passed. For a food distributor carrying \$20M in perishable inventory, reducing write-offs from 3% to 1% of inventory value is a \$400,000 annual improvement in margin.



In 2026, meat waste alone is forecast to account for \$94 billion in lost value globally, with fresh produce adding \$88 billion and baked goods \$67 billion. Research by Avery Dennison found that food waste costs across the supply chain are equivalent to 33% of revenue for food retailers surveyed. – Source: World Economic Forum / Avery Dennison, 2026

Retailer Compliance and Chargeback Reduction

Chargebacks from RSL-non-compliant shipments represent one of the most controllable costs in food distribution, yet they remain common in businesses that rely on manual shelf life checks during fulfillment. When RSL requirements are enforced at the system level, non-compliant lots are never assigned to orders that cannot accept them. Shipments arrive with the documented shelf life the customer requires, disputes are reduced, and the administrative overhead of resolving chargebacks drops significantly.

A company shipping \$80 million in goods annually could face deductions of up to \$4 million due to retailer chargebacks. Major retailers, including Walmart, enforce penalties of 1% to 5% of a supplier's gross invoice amount for non-compliant shipments. – Source: Weber Logistics

Better Inventory Turns Across Channels

Short-dated inventory does not have to become a loss. When the system provides visibility into RSL tiers across all stock, operations teams can proactively redirect product toward channels with lower RSL requirements, create promotional pricing for stock approaching risk thresholds, or execute inter-warehouse transfers to locations with higher demand. These decisions require visibility that manual processes cannot provide at the speed and scale needed to act before the window closes.

The U.S. Department of Agriculture estimates that 30 to 40% of the domestic food supply ends up wasted, at a cost of more than \$160 billion annually. A significant share of that loss occurs in distribution, where inventory is held past its usable date due to poor rotation discipline. – Source: USDA

Traceability for Recalls and Regulatory Audits

Lot-level expiry tracking is the foundation of an effective recall process. When a quality issue requires withdrawal of a specific production run, the system can immediately identify where every affected lot was shipped, to which customer, in which channel, and when. The same record supports regulatory audit responses under FSMA Rule 204, GFSI requirements, and customer-mandated traceability programs. The difference between a four-hour recall response and a four-day manual trace is the difference between a controlled quality event and a public incident.

Under FSMA Rule 204, traceability records must be provided to the FDA within 24 hours of a request. Searching through paper records for specific food safety information when the FDA gives you just 24 hours becomes significantly more stressful without digital traceability logs. - Source: FDA



Where This Framework Applies: Industry Scenarios Across Food & Beverage Operations

Expiry-aware omnichannel inventory management applies differently depending on the category, production cycle, and channel structure of the business. The following use cases illustrate how the framework addresses real operational challenges across the food and beverage industry.



| Frozen Food Distributor

Scenario:

A distributor supplying frozen meals to grocery retail across three warehouse locations was experiencing write-offs of approximately 3.2% of inventory value annually. Lot expiry dates were tracked in a spreadsheet per warehouse. Retail customers were receiving products with less than the required RSL, generating chargebacks and damaged relationships with two major retail accounts. Fulfillment was based on FIFO, with no visibility into which lots were approaching risk thresholds.

Outcome:

With lot-level expiry data consolidated across all three warehouses and FEFO logic

enforced at pick time, the distributor gained visibility into at-risk stock 30 days in advance. Short-dated inventory was proactively reallocated to foodservice accounts with lower RSL requirements. Retail chargebacks dropped significantly within the first two quarters, and annual write-offs declined from 3.2% to below 1% of inventory value.



| Meat Processor

Scenario:

A beef and pork processor supplying retail, foodservice, and a direct-to-consumer channel was managing lot traceability through production batch records stored separately from the warehouse management system. Catch-weight products had variable remaining shelf life across lots due to differences in production timing. Fulfilling DTC orders from lots with the highest remaining shelf life while clearing older stock through foodservice was a manual decision made by the warehouse supervisor.

Outcome:

Linking production lot records to the warehouse system allowed the processor to apply FEFO across all three channels with channel-specific RSL rules. DTC orders were automatically fulfilled from the highest-RSL qualifying lots. Older stock within compliant RSL was directed toward foodservice. Lot traceability was maintained from carcass to customer shipment, supporting both retailer compliance documentation and a faster recall response process.



| Bakery

Scenario:

A commercial bakery supplying retail and wholesale accounts was managing ingredient inventory across two production facilities. Flour, dairy inputs, and specialty fats were tracked by quantity but not by lot expiry. Ingredient shelf life was managed manually by the production team, who checked dates on physical labels before use. Short-dated ingredients were sometimes used in the wrong production runs, resulting in finished goods with insufficient shelf life for retail compliance.

Outcome:

Ingredient inventory tracked by lot and expiry date allowed the production scheduling system to enforce FEFO at the ingredient level. The system flagged at-risk ingredient lots before production runs were scheduled, giving the purchasing team time to deploy existing stock or adjust procurement. Finished goods lots inherited the limiting expiry date from their input ingredients, giving the distribution team accurate RSL data before orders were picked.



| Dairy Processor

Scenario:

A dairy processor producing cheese and cultured products for retail and foodservice was managing cold chain inventory across a primary warehouse and two cold storage facilities. Aging products gained value over time, but also had maximum shelf dates that varied by product line. Retail customers required precise RSL documentation on delivery. The processor's team was manually compiling expiry information from three location-level systems before each week's shipments.

Outcome:

A consolidated inventory view by lot, location, remaining shelf life, and aging status allowed the processor to plan weekly shipments with accurate RSL documentation generated automatically. Cold chain transfers between the aging facility and the dispatch warehouse were tracked with lot integrity, maintaining a complete audit trail. Retail compliance documentation was produced directly from the system rather than assembled manually, reducing preparation time and eliminating transcription errors.



| Beverage Company

Scenario:

A beverage company producing juices and functional drinks was managing raw material inventory (fruit concentrates, vitamins, and preservatives) separately from finished goods inventory. Raw materials had varying shelf lives, and some inputs were approaching expiry while still holding significant value. The production planning team had no visibility into which raw material lots were at risk when scheduling production runs, and occasionally expired inputs made it into production batches.

Outcome:

Expiry-aware inventory management applied to both raw material and finished goods inventory gave the production planning team visibility into input lot RSL before scheduling. At-risk raw material lots were flagged and prioritized in the production schedule so they were consumed before expiry. Finished goods lot expiry was set based on production date, and channel RSL requirements were applied during order allocation, ensuring that retail customers received product with the documented shelf life they required.



| Multi-Location Food Business

Scenario:

A food business operating distribution from five warehouse locations was struggling with inventory imbalances across sites. One location held 300 cases of a product with a 12-day RSL, while a second location, servicing higher-demand accounts, had zero stock of the same SKU. The operations team had no single view across all five locations, and inter-location transfers were organized through email and phone. By the time the transfer was arranged, the short-dated stock at the first location had been written off.

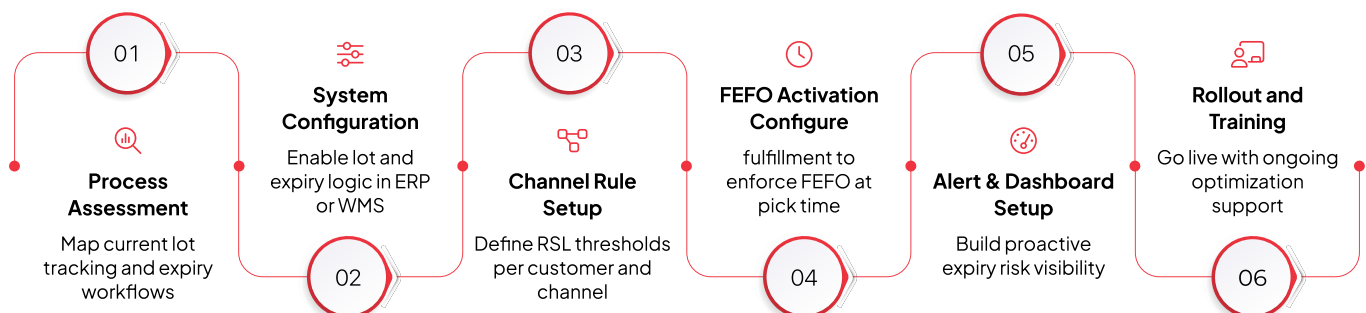
Outcome:

A consolidated cross-location inventory view, including lot numbers, quantities, and remaining shelf life, allowed the operations team to identify imbalances before stock reached risk thresholds. Rebalancing decisions were made from a single dashboard, and transfer orders were generated in the system with lot integrity maintained. Stock arrived at the destination with its original lot record intact, allowing it to be fulfilled against qualifying orders without re-inspection.

Folio3 FoodTech's Approach to Expiry-Aware Omnichannel Inventory

Most food businesses already have ERP or WMS systems capable of tracking lots and expiry dates. The gap is rarely in the software's theoretical capability. It is in how that capability has been configured, connected, and actually used across the business. Folio3 FoodTech works with food manufacturers, distributors, and multi-location operators to close that gap, making lot-level expiry management operational rather than aspirational.

The approach is structured and practical. It begins with how the business currently manages inventory, what data exists, where it lives, and how it moves between systems. From there, the engagement focuses on making expiry-aware logic work in the specific operating environment, whether that is a NetSuite or Dynamics 365 ERP, a standalone WMS, or a combination of systems across multiple sites.



1

Process Assessment

Before any configuration begins, the existing inventory workflows are mapped end-to-end. This covers how lot numbers are currently assigned, where expiry dates are recorded, how stock moves between locations, and where the data breaks down or gets reconciled manually. The goal is to identify exactly where the system is managing quantity but not shelf life, and where manual steps are filling gaps that the system should be handling. This assessment determines the scope and sequence of everything that follows.

2

System Configuration

With the workflow map in place, lot-level expiry functionality is activated within the existing ERP or WMS environment. This includes defining how lot records are structured, how expiry dates are captured at goods receipt, and how remaining shelf life is calculated and updated dynamically as time passes. For businesses running NetSuite or Dynamics 365, this stage uses native platform capabilities rather than custom development, reducing implementation risk and keeping the system maintainable after go-live.

3

Channel Rule Setup

Each customer and sales channel is assigned its minimum RSL requirement within the system. A retail account requiring 60 days RSL on delivery is configured differently from a foodservice account that accepts 20. These rules sit at the customer or channel record level, meaning the fulfillment logic references them automatically at the point of order allocation without requiring manual checks or supervisor intervention at pick time.

4

FEFO Activation

Fulfillment sequencing is switched from receipt-date-based to expiry-date-based picking. The system evaluates available lots against the RSL requirement of each order and generates pick instructions in FEFO order within the qualifying lot pool. Lots that do not meet the receiving party's minimum RSL threshold are excluded from allocation for that order. This removes shelf life compliance from individual warehouse staff discretion and enforces it at the system level across every order.

5

Alert and Dashboard Setup

Proactive expiry risk visibility is configured based on the business's product portfolio and operational lead times. Threshold alerts are set per product category, for example, flagging lots that drop below 45 days RSL with no active order allocation, giving operations teams a meaningful window to act. A consolidated dashboard displays inventory by lot, location, and RSL tier across all warehouses, replacing the need to log into multiple systems or compile location-level reports manually.

6

Rollout and Training

The configuration is rolled out across locations in phases, prioritizing the highest-volume or highest-risk product lines first. Warehouse teams are trained on exception handling, specifically how to respond when the system flags a lot as non-compliant for a given order, and how transfer or reallocation decisions are initiated within the system. Post-go-live support covers data accuracy monitoring, tolerance calibration, and dashboard refinement as the team builds confidence in the new workflow.

Is Your Inventory System Telling You What You Actually Have in Usable Terms?

- If your team checks expiry dates manually before picking, FEFO is not enforced at the system level.
- If you cannot see the remaining shelf life by lot across all locations in one view, stock rebalancing decisions are being made on incomplete information.

- If chargebacks or retailer rejections due to RSL compliance are a recurring cost, the fulfillment logic is not enforcing channel requirements.
- Folio3 FoodTech helps food businesses close these gaps using the systems they already have.

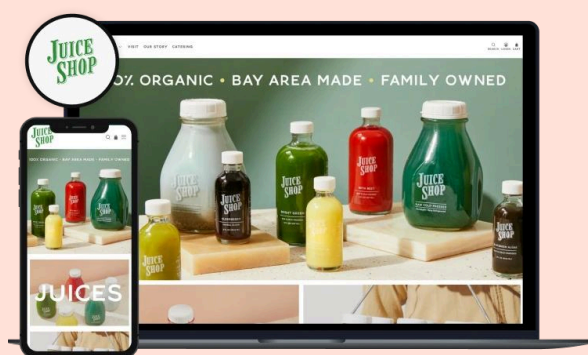
Folio3's framework becomes more useful when viewed through real implementation examples.

These case studies show how food and beverage businesses have improved visibility, traceability, and operational control by connecting systems and enforcing better inventory logic.

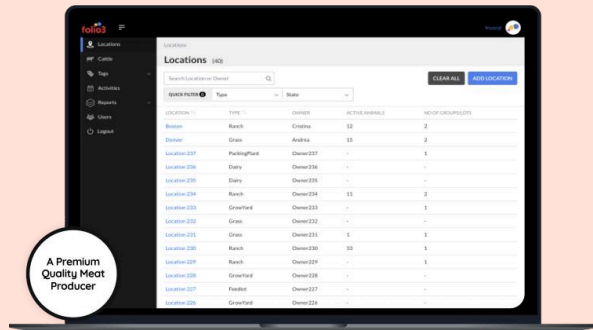
Juice Shop: Unifying Inventory, Operations, and Lot Tracking in a Growing Beverage Business

Juice Shop struggled with fragmented financial, inventory, and operational data as the business expanded. Folio3 implemented NetSuite as a unified system and added custom purchase order workflows and lot tracking, making this a strong example of how connected data and inventory control support scalable food and beverage operations.

[Read Juice Shop Case Study](#)



A Premium Quality Meat Producer: Extending Traceability from Ranch to Retail



This meat producer relied on manual processes and spreadsheets for cattle tracking, which created gaps in traceability and health records. Folio3 built a web-based traceability solution with RFID management and end-to-end visibility across the ranch-to-table process, making it the strongest case study for the traceability side of your white paper.

[Read Meat Producers Case Study](#)

Brothers International: Automating Inventory and Order Sync Across Amazon and NetSuite

Brothers International was dealing with manual inefficiencies across order fulfillment, inventory management, and Amazon to NetSuite synchronization. Folio3 implemented its NetSuite Amazon Connector to automate order, inventory, and payment syncing, which makes this a useful example of omnichannel control and cleaner inventory visibility across connected systems.

[Brothers International Case Study](#)



Conclusion: Inventory That Reflects What You Actually Have

The cost of poor expiry management in food and beverage is not abstract. It is a product written off after it could no longer be sold. It is shipments rejected at the customer's dock because the shelf life documentation did not match the minimum requirement. It is inventory that shows available in the system but is unusable in the warehouse. These costs are common, and in most cases, they are preventable.

Managing expiry-aware inventory across multiple channels and locations requires more than tracking total quantity. It requires knowing how much stock is available at each remaining shelf life tier, which lots meet the specific requirements of each channel, and where in the business product is approaching risk before the loss becomes unavoidable. When that information is in the system, operations teams can act on it. When it is not, they are managing the consequences instead.

The framework described in this whitepaper is not a theoretical model. It reflects how food businesses that have moved beyond manual expiry management operate their inventory in practice. Lot-level expiry tracking, FEFO fulfillment, channel-level allocation rules, proactive alerts, and consolidated cross-location visibility are the operational infrastructure of a food business that controls its expiry losses rather than absorbing them.

The difference between a food business that controls expiry losses and one that absorbs them is not the size of the operation. It is whether expiry is built into the inventory system or managed around it.

For food manufacturers, distributors, and multi-location operators looking to address this, the starting point is understanding where the current system manages quantity but not shelf life, where FIFO is used where FEFO is required, and where channel RSL requirements are checked manually rather than enforced automatically. Those are the gaps where expiry losses are generated, and they are the gaps that a properly configured system closes.



FoodTech

About Folio3 FoodTech

Folio3 FoodTech works with food and beverage companies to solve the technology challenges that emerge as operations become more complex. From inventory and traceability management to production systems and supply chain visibility, the team develops solutions designed specifically for the realities of food businesses.

With deep experience across meat processing, food distribution, dairy, produce, and frozen food categories, Folio3 FoodTech helps companies configure and connect their ERP and WMS systems so that operations run on accurate, actionable data. The team has worked with food manufacturers, distributors, and processors across the U.S. and internationally, supporting implementations on platforms including NetSuite, Microsoft Dynamics 365, and custom warehouse management systems.

[Explore Our F&B ERP Suite](#)

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