Improving Traceability and Food Safety with GS1 Standards in FRESH FOODS

THE GLOBAL LANGUAGE OF BUSINESS
Together, we’re making it possible to trace and track the food we eat, improve efficiency, and enhance safety for consumers.
Challenges Facing the Industry Today

The fresh foods industry—including the produce, meat and poultry, seafood, deli, dairy, and bakery sectors—is approaching a new frontier in the use of standards and technology to support operations. Faced with increasing demands for efficiency and supply chain visibility, as well as the requirements set by the 2011 Food Safety Modernization Act, companies are utilizing GS1 Standards to ensure product traceability and food safety, while also streamlining business processes.

“When the fruit gets packed, this is where the PTI-recommended barcode comes into play. The GTIN® combined with the lot number enables us to track back to the field and improves our ability to trace forward to the retailer or operator. If there is a recall, we can very quickly access this information to minimize the impact to customers and consumers.”

Rick Burnes, Vice President of Supply Chain, Paramount Citrus

THE PRODUCE TRACEABILITY INITIATIVE (PTI)

GS1 US™, the Produce Marketing Association (PMA), the United Fresh Produce Association (UFPA), and the Canadian Produce Marketing Association (CPMA) recommend supply chain-wide adoption of electronic traceability for every case of produce by the year 2012 in this voluntary, wide-reaching industry initiative. The PTI is designed to help the industry maximize the effectiveness of current trace-back procedures, while developing a standardized approach to enhancing the speed and efficiency of traceability systems for the future. At the core of the initiative? GS1 Standards.
GS1 STANDARDS IN FRESH FOODS

Moving Forward Together in Fresh Foods

To improve traceability in the industry, companies are moving from commodity identification to product identification and linking Critical Tracking Events to Key Data Elements as recommended by the Institute of Food Technologists. Using GS1 Standards, the fresh foods industry is tackling consumer confidence and food safety with the use of:

- Location identification using GS1 Global Location Numbers (GLNs)
- Product identification using GS1 Global Trade Item Numbers (GTINs)
- Identification of logistics units using GS1 Serial Shipping Container Codes (SSCCs)
- Product master data through the electronic transfer of information in the Global Data Synchronization Network™ (GDSN™)

Get involved! Go to www.gs1us.org/freshfoods

KEY BENEFITS

- Improving product traceability
- Enabling supply chain visibility
- Streamlining business processes
- Increasing efficiency
- Enhancing food safety
- Facilitating effective product recalls
GS1 Standards for identifying, capturing, and sharing information—about products, business locations, and more—make it possible for companies to speak the same language, connect with each other, and move their business forward.
GS1 Standards begin with GS1 Identification Numbers used to uniquely distinguish all products (trade items), logistic units, locations, assets, and relationships across the supply chain from manufacturer to consumer.

These numbers provide the linkages between the product and the information pertaining to the product.
GS1 System Data Carriers are capable of holding varying amounts of data to accommodate different supply chain process needs for different products.

EAN/UPC barcodes are examples of barcodes scanned at retail point of sale. ITF-14 and GS1-128 barcodes are used to uniquely identify units of product at the case and pallet level to help access product information and track movement of product in the supply chain. GS1 DataBar™ barcodes can carry the same, and in some cases more, information in less space than U.P.C. barcodes. They were created to identify small and hard-to-mark products, like fresh produce.

The data encoded in the GS1 System Data Carriers not only uniquely identifies products (and units of products), but also allows trading partners to share extended data, such as Batch/Lot Numbers, production date, packaging information, and more.

**ITEM**

**EAN/UPC**
Carries a Global Trade Item Number (GTIN)

**GS1 DATABAR STACKED OMNIDIRECTIONAL**
Carries a GTIN

**CASE**

**ITF-14**
Carries a GTIN

**GS1-128**
Carries a GTIN with extended data, such as Batch/Lot Number

**PALLETT**

**ITF-14**
Carries a GTIN

**GS1-128**
Carries a GTIN or a Serial Shipping Container Code (SSCC)
SHARE
GS1 INTERFACE STANDARDS FOR ELECTRONIC COMMERCE

PRODUCT MASTER DATA

GDSN
Global Data Synchronization Network

The GDSN connects trading partners to the GS1 Global Registry® via GS1-certified Data Pools, enabling the immediate electronic sharing of standardized, up-to-date, accurate information.

GTINs
Brand Owner Identification
Product Descriptions
Product Classification

WHAT GOES INTO IT

TRANSACTIONAL DATA

EDI
Electronic Data Interchange

EDI enables the computer-to-computer exchange of business documents between companies using a standardized format.

PHYSICAL EVENT DATA

EPCIS
Electronic Product Code Information Services

EPCIS is the standard for sharing information about Critical Tracking Events in the physical world.

WHAT GOES INTO IT

GS1 STANDARDS IN FRESH FOODS

WHAT GOES INTO IT

GTIN
GLN
SSCC
Purchase Order
Delivery Notification
Invoice
Payment

GTIN
GLN
Date & Time Stamp
Business Step

INTEROPERABILITY

PRODUCT DATA
PRICE AND PROMOTION DATA
PURCHASE ORDER
PLANNING SCHEDULE
ADVANCE SHIP NOTICE
INVOICE
PRODUCT VISIBILITY
Across the supply chain, trading partners are connecting with each other and leveraging the power of information by using GS1 Standards as the foundation of their business processes.
IDENTIFY
• GTINs are created for each product and case
• SSCCs are created for each pallet packed in the field
• Product data is defined, created, and managed
• Grower GLNs are assigned and managed

CAPTURE
• Batch/Lot Numbers are captured for each case of product packed
• GTINs and production data (Batch/Lot Number, Date, etc.) are printed on cases (barcode and human readable)
• Pallet tags are created and printed using the SSCC

SHARE
• Product data is shared through the GDSN

BENEFITS

Enables consumer brand recognition
Establishes the foundation for product traceability and recall
Optimizes business processes based on accurate product identification for real-time harvest updates and efficient logistics operations
IDENTIFY
• Validated customer GLNs are collected and stored

CAPTURE
• Barcodes are used to track product as it moves from the field, to the cooler, to storage, to shipping
• GTINs and SSCCs are used to track contents of shipments

SHARE
• Harvesting data is stored in Enterprise Resource Planning (ERP) system
• Inventory and delivery information is stored in ERP system
• Advance Ship Notices (ASNs) containing SSCCs, GTINs and their corresponding Batch/Lot Numbers, and GLNs are sent to customers

BENEFITS
Improves visibility into product movement
Provides operational efficiencies in receiving, inventory management, and shipping processes
IDENTIFY
• Validated customer GLNs are collected and stored
• GTINs and Batch/Lot Numbers are created for repacked and commingled products and cases
• SSCCs are created for new pallets

CAPTURE
• GTINs and SSCCs are used for receipt verification
• GTINs are used to assure accuracy of picked products for re-packing and commingling
• GTINs and Batch/Lot Numbers are used to create and track shipments
• Shipping unit content is barcoded with SSCCs

SHARE
• ASNs containing SSCCs, GTINs, and their corresponding Batch/Lot Numbers and GLNs are sent to customers
• Inventory and delivery information is stored in WMS system
• EDI processes are synchronized
• Orders are managed

BENEFITS
Reduces costs and time spent on manual processes
Enhances traceability to support safe handling processes
Improves order accuracy
IDENTIFY
• Validated customer GLNs are collected and stored

CAPTURE
• GTINs and SSCCs are used for receipt verification
• GTINs and SSCCs are used to put products into inventory
• GTINs and SSCCs are used to pick products and create shipments
• GTINs and Batch/Lot Numbers are used to rotate inventory and for quality control processes

SHARE
• ASNs containing SSCCs, GTINs and their corresponding Batch/Lot Numbers, and GLNs are sent to customers
• Inventory and delivery information is stored in WMS system
• EDI processes are synchronized
• Orders are managed
• Data is stored in WMS system

Wholesaler

IDENTIFY

CAPTURE

SHARE

BENEFITS

Optimizes receiving productivity
Improves inventory management
Reduces errors in mispicks and shorts
Increases pick rates
**Distribution Center**

**IDENTIFY**
- Validated customer GLNs are captured and shared

**CAPTURE**
- GTINs and SSCCs are used for receipt verification
- GTINs and SSCCs are used to put products into inventory
- GTINs and Voice Pick Code are used to pick products and create shipments
- GTINs and their corresponding Batch/Lot Numbers and Voice Pick Codes are used to rotate inventory and for quality control processes

**SHARE**
- Inventory and delivery information is stored in WMS system
- EDI processes are synchronized
- Orders are managed

**BENEFITS**
- Optimizes receiving productivity
- Improves inventory management
- REDuces errors in mispicks and shorts
- Increases pick rates
IDENTIFY
• Validated customer GLNs are captured and stored

CAPTURE
• Cases are identified during picking/shipping processes at the distribution channel and tracked to validate delivery to correct location with GLN completing transfer of ownership
• GTINs and corresponding Batch/Lot Numbers are used to drive inventory replenishment

SHARE
• PO with GTINs and corresponding Batch/Lot Numbers for each case are sent by the distribution channel
• EDI processes are synchronized
• Orders are managed
• Inventory and delivery information is stored in ERP system
• In time, industry supported recall notifications for specific GTINs and associated production data could trigger automatic reports alerting store and restaurant operations of potential issues

BENEFITS
Increases operational efficiencies across various business processes
Improves preparedness for fast and precise recalls
Provides additional product information to enhance operations for traceability
Enables consumer protection
GS1 STANDARDS IN FRESH FOODS

Find out how you can improve traceability and enhance food safety.

Visit www.gs1us.org/freshfoods to access:

- Information on Fresh Foods programs and guidelines
- Information on relevant GS1 Standards
- Tools and Resources
  - Implementation Guides
  - “How To” Documents
  - White Papers
  - Case Studies
  - Data Driver®
  - Rapid Recall Exchange™
- Education
- Advocates and Partners

Contact us

Jeff Cowan
jcowan@gs1us.org

Angela Fernandez
afernandez@gs1us.org

Michael Potochar
mpotochar@gs1us.org

Michele Southall
msouthall@gs1us.org
CONTACT US TO FIND OUT HOW GS1 US CAN HELP MOVE YOUR BUSINESS FORWARD.

THE GLOBAL LANGUAGE OF BUSINESS

CORPORATE HEADQUARTERS
Princeton Pike Corporate Center
1009 Lenox Drive, Suite 202
Lawrenceville, NJ 08648 USA
T +1 937.435.3870  E www.GS1US.org

© 2012 GS1 US