



GTIN Product Labeling Requirements for the Produce Distribution Industry

**Maximizing Your Bottom Line while Minimizing Your Risk
with Robocom's Warehouse Management System**

WHITE PAPER

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THE GROWING PRESSURE FOR TRACEABILITY

In 2008, 16 out of every 100,000 people in the United States had laboratory-confirmed cases of salmonella infections and, according to the Centers for Disease Control and Prevention (CDC), Produce is an increasingly significant contributor to the overall problem. Over the past few years, produce growers and distributors have suffered significant financial hardship due to the recalls of tomatoes, spinach and other produce items tainted with E. Coli, salmonella and other pathogens. In our growing global economy, supply chains are getting longer and consequently, the opportunity to introduce contaminants has increased. An organization's ability to immediately locate a given lot of product and initiate a lot-specific recall when a problem is reported is a critical element to managing its risk.

For over a decade, other sectors of the food industry—fresh meat, dairy, and baby food to name a few—have placed tremendous importance on the issues of traceability and recall tracking. To minimize their risk, many organizations have implemented automated warehouse management systems, and even gone as far as to run mock recalls with a stop watch to determine how long it takes to identify, locate and initiate the return of 100% of the recalled product.

Prior to putting this level of traceability in place, product recalls cost many organizations tens of millions of dollars, and even hundreds of millions if the tainted food reached the consumer. This year alone the Texas Department of State Health Services assessed a \$14.6 million fine against a Texas plant involved in a national salmonella outbreak that sickened nearly 700 people.

A report just released from the CDC asserts that U.S. food safety is no longer improving, and the organization recommends a thorough overhaul to regulate an increasingly global food industry. The Food and Drug Administration (FDA) appears to be acting more aggressively on food safety, sending U.S. Marshals to execute an inspection warrant at a New Jersey company that refused to recall peanut products tied to a nationwide salmonella outbreak.

The recent recalls and growing pressure from the CDC and FDA to implement changes to improve food safety have led to a call for action within the produce industry to improve traceability. The Produce Traceability Initiative (PTI), sponsored by the Produce Marketing Association (PMA), Canadian Produce Marketing Association (CPMA) and United Fresh, was developed to help organizations implement supply chain-wide adoption of electronic traceability of every case of produce by the year 2012. The goal of the initiative is to help the industry develop a standardized approach to improve its ability to trace produce throughout the entire supply chain today and in the future.

The Global Trade Identification Number¹ (GTIN) initiative undertaken by the produce industry in North America addresses a great deal of the PTI traceability requirements. GTIN is a globally unique, brand owner assigned 14-digit number used to identify goods sold, delivered, warehoused, and billed throughout the retail and commercial distribution channels. GTIN-14 is a subset of a product coding standard that has been around North America for thirty years—the UCC²/EAN³-128 standard. GTIN-14 uses the same data structures, data identifier approach and bar code symbology, with the expanded product identification standard that conforms to European standards. Since UCC/EAN-128 standards have been in use for many years in North America in the food and beverage distribution industry, most food retailers are well equipped to handle these bar codes.

The PTI recommends a GTIN approach in which growers or “first touch” processors or distributors label each case with a bar code that designates the company code, item code and lot number. The lot number must be unique for each grower lot.

Those companies that embrace this initiative and put new processes, procedures and tracking systems in place immediately will not only be minimizing their risk, but will also be at a competitive advantage as food retailers begin to demand such compliance. Those who are waiting to see how the initiative continues to unfold risk the future of their business, reputation and viability in the market.

BALANCING ACT: THE COST OF COMPLYING WITH REGULATIONS VS. MANAGING YOUR BOTTOM LINE

So what exactly does traceability mean? According to the PMA and CPMA: “Whole-chain food traceability is comprised of both ‘tracking’ and ‘tracing.’ ‘Tracking’ is the ability to follow the path of a traceable item through the supply chain as it moves between parties (GS1 Traceability Standard). ‘Tracing’ is the ability to identify the origin, attributes, or history of a particular traceable item located within the supply chain by reference to records held (GS1 Traceability Standard).”⁴ Most supply chains today do capture the information necessary for traceability, but they lack an efficient or standardized process for capturing and sharing that data, making traceability cumbersome, time-consuming, costly, and in some cases, impossible with any degree of certainty.

1 According to the “Fresh Produce Traceability Implementation Guide” published by the PMA, CPMA and United Fresh GTIN is: “...the umbrella term for several kinds of item numbers and a shorthand term for the GS1 Global Trade Item Number. A GTIN may use the GTIN-8, GTIN12-42, GTIN-13 or GTIN-14 Data Structure. This data structure comprises a 14-digit number that has four components: (1) an indicator, (2) a manufacturer prefix, (3) a unique number to that manufacturer, and (4) a check digit. The GTIN has gained a lot of traction in the consumer packaged goods (CPG) marketplace and has largely been the accepted standard for the packaged goods side of the business. The recommendation in this paper is to use the GTIN (GTIN-14 Data Structure) at the case level.”

2 Uniform Code Council

3 International or European Article Numbering

4 Fresh Produce Traceability: A Guide to Implementation, October 2006

The PMA and CPMA have been focused on developing information standards to enable a transition to whole-chain traceability in North America and internationally. The GTIN initiative undertaken by the produce industry in North America addresses a great deal of the traceability requirements.

While all organizations certainly want to reduce their exposure to risk, the challenge many produce company managers face, particularly in today's challenging economic climate, is the cost justification associated with traceability. Running a cost/benefit analysis for a capital investment made to avoid risk is a very difficult case to sell to senior managers, boards of directors and bankers who are most interested in improving the bottom line. How do produce companies cost-justify expenditures to support a Lot Traceability program when the potential cost savings are not cost reduction, but rather risk reduction?

The answer that other food sectors have discovered is that the automated systems they put in place to handle product tracking are more than just data collection systems—they are systems designed to maximize their business by improving the efficiency of their distribution operations and reducing their operating expenses, while also providing accurate, positive lot tracking capability.

OPTIONS FOR COMPLYING WITH GTIN REGULATIONS

Food retailers are beginning to align themselves with the PTI GTIN standard and are setting deadlines for compliance. This means that products sold into these markets will have to be labeled with GTIN standard case labels and the supplier will be required to maintain "one up one down" traceability. One up one down traceability means each company in the supply chain will be required to keep records on an item number and lot number basis regarding the company they received the product from and the customer to whom they shipped the product. Print on demand labeling may be required to print GTIN labels for previously unmarked cartons.

There are three ways today's organization can work to achieve compliance with the GTIN requirements:

1. Paper Trace

A Paper Trace system requires that an organization put in place procedures to achieve the required one up one down traceability using a paper trail. Implementing a paper trace approach typically involves the creation of two sets of files. The first file includes copies of the receiving records for every shipment received into the warehouse, filed by item code with the lot number and quantity received clearly marked on the record.

The second file includes copies of each shipment made to a customer, again filed by item number with the quantity and lot or lots shipped marked on the record. In the case of a recall, a company would have to first access the supplier file to find out when the lot was received, from whom and what quantity. They would then have to access the customer file to find out who received that lot.

Pros and cons: This approach may work for a grower or small distributor that handles only a few items and has limited employees and resources. However, tracking procedures will have to be well thought out, followed strictly and audited regularly, and without an automated tracking system there is no guarantee a company will be able to account for all of the cases that were received. For larger growers, processors and distributors, this process will prove to be far too cumbersome, slow and inaccurate. Reacting to a product recall will be difficult, costly and time consuming, and this process will add no additional value to your organization.

2. Data Collection with Bar Codes

The data collection approach involves the use of bar code scanners to scan GTIN labels at two points during the distribution process—at the time of receiving and during order selection. The bar code scanners are used to scan the GTIN label and record the lot numbers associated with each receipt and order. A database of the lot information is kept and reports are prepared that enable a company to call up all of the receipts and shipments for a specified item and lot number.

Pros and cons: This approach may work for a small distributor or a medium size grower, but it will not help with stock rotation, inventory tracking, quality assurance or operational productivity. In many cases, the data collection approach will require additional time, slowing down warehouse employees and causing a drop in productivity. And without an automated tracking system in place, there is no guarantee in the event of a recall that a company will be able to account for all of the cases that were received and/or shipped.

3. A Warehouse Management System

A warehouse management system approach involves implementing an automated system that provides sophisticated, accurate tracking of the products and associated lots during their lifespan in the warehouse and once shipped to the customer.

Pros and cons: A paperless warehouse management system designed specifically for the Food and Produce industry will provide the most sophisticated answer to the GTIN requirements, while actually helping reduce the cost of operating a produce warehouse.

The benefits of implementing a paper tracking system or data collection system are little more than risk avoidance—an organization will have done the minimum required to meet their customers' requirements for lot traceability and GTIN labeling. And in the case of a product recall, these systems may actually increase a company's costs, reduce its productivity and there is no guarantee they will be able to account for 100% of the recalled product. The benefits of implementing a warehouse management system are much greater, including:

- 100% compliance to food traceability requirements
- Ability to run instant recall tracking reports that account for 100% of the quantity received and/or shipped for a given item and lot
- 99%+ inventory accuracy
- Increased productivity
- Reduced labor costs
- Improved customer experience
- Agility to quickly respond to changing customer and market demands

MEETING REGULATIONS FOR TRACEABILITY WHILE DELIVERING ONGOING BENEFITS TO YOUR BUSINESS WITH ROBOCOM'S WAREHOUSE MANAGEMENT SYSTEM

A number of companies in the Produce, food and beverage industry are using Robocom's warehouse management system to both meet compliance regulations and achieve supply chain excellence. Unlike paper trace or data collection systems, Robocom is capable of handling all of the GTIN traceability requirements while simultaneously delivering substantial business benefits, including reduced costs, increased productivity, total inventory visibility, and improved customer satisfaction throughout the entire supply chain.

With Robocom your organization can:

Improve Inventory Accuracy and Productivity to Reduce Operating Costs

Most produce companies have problems with inventory accuracy due to a high turnover of inventory. Because manual inventory control processes require extra care, man power and attention, they tend to be cumbersome, time-consuming and prone to error. Robocom's software is state-of-the-art in produce and food distribution, providing robust tools to help you achieve a very high level of accuracy. Inventory records should quickly come up to 99.9% plus accuracy, and order fill accuracy should follow to a similar level. Increased accuracy will mean improved productivity, reduced order cycle time and reduced inventory. You will also realize a reduction in overall labor costs, particularly in overtime, as accuracy levels improve.

Eliminate the Labor Intensive Process of Handling Picking Documents

Picking with paper is a labor intensive process that requires printing pick sheets, distribution to the pickers, time spent searching for required products and wasted trips to discuss and correct errors. An estimated 30% of a warehouse worker's day is spent on these wasted trips. This process results in unproductive labor, many opportunities for mistakes, a work backlog in the office and additional administration and supervision costs. Robocom will eliminate the handling of picking documents by sending picking tasks directly to the RF device of every picker in the warehouse. Verification will be completed in real time, eliminating the wasted 30% of each workers day for productive tasks.

Pick the Right Product for the Customer

Produce companies face many challenges in the picking of products for customers. With the variety of products handled it is easy to make a mistake. Additional considerations such as freshness and grade make the job even tougher. The challenge is to satisfy the customer without shipping the wrong product or inadequate shelf life from what the customer ordered or, in the case of organics, shipping product from the wrong growing source. Robocom's system will correctly identify every type of product in the warehouse and ensure that customers receive exactly the product they order with the correct shelf life required. The process of picking will be standardized and non-productive tasks, mistakes and unintended picking of expired products will be eliminated. Your customers will be satisfied and benefit from a less costly process that picks the correct product for every order.

Institute Procedures to Track Lot and Country of Origin Information

Robocom's system tracks the details about product received dates, lot numbers, expiry dates and will comply with the new Country of Origin Label (COOL) requirements. Our inquiry and reporting capabilities will enable you to identify which customers received what quantities of individual items, lots and pallets, enabling a pin-point recall of problem stock if necessary. This ability to immediately locate and recall a specific quantity of specific items has helped our current customers avoid expensive broad/general recalls and comply with COOL regulations.

Robocom Success Stories

Food companies, including produce companies, report the following benefits using Robocom's Warehouse Management System:

- 100% compliance to food traceability requirements and the ability to run instant recall tracking reports that account for 100% of the quantity received for a given item and lot.
- Near perfect inventory control with real-time inventory records in excess of 99.99% accurate.
- Greatly reduced or even fully eliminated inventory write-offs due to old code dating and improper stock rotation.
- Reduced labor costs resulting from improved productivity. High inventory accuracy and extensive interaction with Robocom's system means warehouse employees are more efficient and spend less time on wasted activities, such as searching for required products, reading pick lists, recording pick information, deciding how to split orders into pallets, performing daily inventory counts and updating inventory records.

A world-class grower, packer, and distributor of vegetables has reduced its end-of-year inventory process from 30 hours to just seconds with the push of a button using Robocom's technology. Its streamlined loading process has resulted in the elimination of an entire shift as well as a reduction in shipping staff from 50 to 20 people. The company is currently enjoying a 99.5% accuracy rate on outbound loads.

A multi-billion dollar global processor and marketer of fresh pork and packaged meats uses Robocom's software in more than a dozen locations and has achieved inventory accuracy exceeding 99.9%. A Robocom user for more than eight years, the company has seen dramatic growth in its business while reducing overall distribution expense by 20%.

A multi-billion dollar global food producer and distributor uses Robocom's software in one large dry grocery warehouse and three ice cream facilities. The company has a worldwide mandate for 100% accurate lot traceability and Robocom meets that requirement with ease. Better yet, Robocom has helped the company achieve significant operating cost reductions through productivity gains and freight cost reductions.

GTIN BEST PRACTICES

There are a number of points to note and possible challenges with the implementation of this new standard. Here are some ideas that will help you get started and maximize the benefits you receive from GTIN tracking:

Convert to Product Coding

The produce industry has not traditionally assigned product codes to individual product/packaging combinations. With GTIN, this is required and it is highly recommended that Produce growers and distributors convert to product coding right away and imbed these product codes in their day-to-day business practices. This means a product that was once specified as “Grade A Large Red Tomatoes” must now be referenced by a numeric product number. Remember that an individual code must be assigned for each packaging configuration, so if these same tomatoes are used in a number of packaging configurations, there will be multiple product codes that refer to the same tomato. The advantage in converting to product coding is that the reference to a specific product and packaging combination throughout the supply chain will be unique. Ultimately, this simplifies ordering, receiving and product handling. But it also helps facilitate more accurate traceability.

Robocom’s system works best when the GTIN approach to item coding is followed. Interfaces between Robocom and other systems are more accurate, and Robocom’s ability to interface with your customers via EDI is strengthened.

Use Bar Code Labels

Bar coded labels will be required on each and every case. Once again, the application of these case labels is not the current standard procedure in the Produce industry, but it must become the standard in the future.

Robocom’s Warehouse Management System offers a function to print GTIN case labels. It is highly recommended that these labels be printed and affixed to each case at the time of receiving, not at the time of shipping.

Take Advantage of Encoding More Valuable Information

There are additional options available to encode a greater amount of data with the GTIN and related UCC case coding standards that may be useful to growers and distributors in some situations. For example, if a given product is more valuable or prone to problems than others, the addition of case serial numbers to positively track each and every case might be a good idea.

Date information can also be encoded—most companies will not wish to share this data, but we know of one potato company that makes harvest date and farm data available on the Internet to end users, and they are using this as a key competitive differentiator for a high-end product.

Robocom is capable of reading such added data if these labels are applied by your grower or other supplier. Robocom's GTIN Label printing function can add this data for specific items, and Robocom is also capable of tracking all such data.

Carefully Map Out the Process Flow for Moving Products into a Mixed Item/Lot Packaging or Cutting Operation

The processes for tracking lot numbers through a mixed item/lot packaging and/or cutting operation are critical, and processors must decide how they will link the input lots through to the output lot.

Robocom's process for picking and moving products into a kitting or cutting operation provides accurate information for tracking purposes. If packaged or cut products contain multiple input items or lots, then finished products should be "received" back into Robocom's system and the warehouse with the use of new lot numbers. These new lot numbers can be assigned by your ERP system or by Robocom's software, but they must be unique. On the other hand, if a specific product is packaged and the input item and lot number are directly related to the output, where items and lot are not mixed, then the original lot number should be retained. The process flow for this should be carefully mapped before implementation to make certain traceability is maintained.

Avoid Putting Too Much Information in the Bar Code

There is a practical limitation to the length that the bar code can reach. A good rule of thumb to use is to stick to the United Fresh GTIN specification for company code, item code and lot number and, if necessary, add one and only one more field if desired. Instead, try to link other data to the lot number identifier. For example, make certain that each grower uses a separate block of lot numbers so you can easily determine the grower and country of origin based on the lot number alone.

Always Use Pallet Serial Numbers in Conjunction with GTIN Labels

Pallet serial numbers can be very helpful in tracking additional information and should always be used in conjunction with the GTIN labels.

Here's how pallet numbers work with Robocom's Warehouse Management System:

- As each shipment is received into your warehouse the receiver must sort items and lots onto separate pallets so there is only one item/lot combination on a pallet.
- If GTIN labels are not already present on the cases, print and apply the labels.
- Apply a unique serial number label to the pallet. There are UCC standards for the format of these labels and the serial number must be human readable and bar coded.
- Scan the pallet number and GTIN label data (item and lot number) and enter the number of cases and any other data you need to track, such as harvest date, received date, QA status, country of origin, etc.—Robocom's system will link all of this data to the pallet serial number.
- When you pick customer orders, scan the pallet number as you pick. Once again, Robocom's software will link the data from the pallet number to the outbound order you are filling. This way you can send added data to your customer along with the shipment and retain data to quickly respond to any requests for this information.

CONCLUSION

Now more than ever it is important that you maximize the value obtained from your investments. Every dollar you spend should help move your business forward and contribute to your bottom line. While the use of the GTIN labels alone may satisfy your customers' requirements, it is important to realize that paper trace and data collection processes provide no internal benefits to your company. Only the use of a tier one automated warehouse management system, like Robocom's Warehouse Management System, in combination with the use of GTIN labels, can provide the accurate inventory control and traceability necessary to not only minimize your risk, but to also deliver substantial, ongoing benefits to your business to help you continue to grow and succeed in the Produce industry.



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