

## **What Is PTI... and Why Should I Care?**

*BY ED TREACY*

In June 2008, the U.S. Centers for Disease Control & Prevention (CDC) announced that an ongoing outbreak of illnesses caused by *Salmonella saintpaul* had been linked to tomatoes. The impact was immediate and chilling: despite soon narrowing the product description to Romas and exempting some growing regions, national sales of all tomatoes plummeted.

By the time the outbreak was declared over, 1,499 people were sickened, two died, and the produce industry lost likely hundreds of millions in tomato sales.

### **Experience illustrates need for enhanced traceability**

In February 2011, CDC and state public health officials reported in the *New England Journal of Medicine* that tomatoes had simply been guilty by association. Weeks after identifying tomatoes, federal officials turned their attention to Serrano and jalapeno peppers.

Addressing the longevity of CDC's initial epidemiological investigation of the outbreak's source, the authors blasted the produce supply chain's spotty recordkeeping as a factor. Specifically, they cited commingling, repacking, differing degrees of documentation throughout the supply chain, difficulty tracking incoming and outgoing shipments, and the complexity of produce distribution as some of the problems that kept investigators on the wrong trail for weeks.

The tomato industry's experience in 2008 was just the latest example of a category-killing foodborne illness outbreak. In 2006, an outbreak of *E. coli* O157:H7 sickened hundreds, killed four and similarly shut down the fresh spinach market. The cost to the produce industry of this outbreak is estimated to be in excess of \$175 million.

"Virtually every member of our industry can cite an example of a food safety situation that has threatened their consumers and shut down their market at one time or another," said Ed Treacy, PMA vice president of supply chain efficiencies. "That on its own makes the case all of the members of our industry as to why we need to enhance our traceability capability, for the good of our consumers and our bottom lines."

### **Crisis highlights opportunity**

The 2006 spinach crisis in particular caused industry leaders to realize that the industry's current traceability capability wasn't enough. Further, consumer confidence was shaken – and the industry had earned the attention of food safety-minded lawmakers.

The produce industry wasn't new to traceability at the time. The industry has been required to keep information on produce sales since passage of the Perishable Agricultural Commodities Act in 1930. The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (aka the "bioterrorism

act”), enacted after the terrorist attacks on the United States of Sept. 11, 2001, further required that all food companies – including fresh produce – must be able to trace food shipments one step forward and one step back. Meanwhile, Produce Marketing Association (PMA) and its Canadian counterpart CPMA issued their first best practices for traceability in the late 1990s.

Existing requirements aside, the spinach crisis of 2006 highlighted opportunities for enhanced traceability. Trace-backs by the Food and Drug Administration (FDA) proved slow and frustrating due to the lack of a common identifier throughout the entire supply chain and the lack of electronic storage and retrieval of the traceability information. What the produce industry lacked was the ability to track product, as it moves through the supply chain.

# National Spinach Demand Plummetts

## National Spinach Unit Volume Sales (Source: AC Neilson)



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## **Can you comply with the bioterrorism act?**

The Public Health Security and Bioterrorism Preparedness Act of 2002 (commonly known as the “bioterrorism act”) currently requires all food companies – including fresh produce handlers – to maintain “one step forward, one step back” records. A study completed by the Department of Health and Human Services’ Office of Inspector General (OIG) published in March 2009 (see resources at the end of this article) indicates that many food companies can’t comply with the law, thereby endangering the nation’s ability to trace back problem foods.

Of the 40 products purchased at different retail stores, OIG investigators were able to trace only five through each stage of the food supply chain. For most but not all of the other products, they were able to at least identify the facilities that likely handled them.

Several factors prevented OIG from tracing products completely through the supply chain, affecting the speed with which FDA can trace food products. Specifically, OIG cited the failure of some companies to maintain the required lot-specific information, and product commingling. Fifty-nine percent of the facilities contacted did not meet FDA’s requirements to maintain records; one-fourth of the food facilities were not aware of FDA’s record keeping requirements, particularly at retail.

Can your company comply with the bioterrorism act? For assistance, visit [PMA.com’s Food Security website page](#), or contact any staff on our government relations and public affairs or food safety teams. (See Resources at the end of the article for links.)

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## **From the supply chain, PTI vision emerges**

The year after the spinach outbreak, at the request of their members, PMA, CPMA and United Fresh Produce Association assembled a group of members interested in identifying a solution to enhance the industry’s traceability capability. By early 2008, the Produce Traceability Initiative’s (PTI) Steering Committee had grown to more than 50 companies, including growers, packer/shippers, marketers, distributors and wholesalers, foodservice and retail.

The group spent 10 months framing a traceability solution. Members drafted a proposed plan that was vetted with their operations experts, revised based on feedback received, and vetted it again. The result: a real-world solution that members felt could be reasonably implemented by produce companies large and small alike, across the entire supply chain, operating within the U.S. market and those exporting to the United States.

In the fall of 2008, the Steering Committee announced its vision for achieving electronic, external, chain-wide traceability in seven milestones (or steps) by 2012:

- **Milestone 1: Obtain a GSI-issued company prefix.** Target completion date: 1st Quarter 2009
- **Milestone 2: Assign Global Trade Item Numbers (GTINs).** Brand owners will assign 14-digit GTINS to every case configuration. Target completion date: 1st Quarter 2009.
- **Milestone 3: Provide GTIN information to buyers.** Brand owners will provide their GTINs and corresponding data to their buyers. Target completion date: 3rd Quarter 2009.
- **Milestone 4: Show human-readable information on cases.** Packers are responsible for providing human-readable information on each case. Target completion date: 2011.
- **Milestone 5: Encode information in a barcode.** Packers are responsible for encoding the GTIN and lot number. Target completion date: 2011.
- **Milestone 6: Read and store information on in-bound cases.** Each subsequent handler of the case will have the systems and capability to read and store the GTIN and lot number from each case of produce received. Target completion date: 2011.
- **Milestone 7: Read and store information on out-bound cases.** Target completion date: 2012.

The Produce Traceability Initiative was heralded by committee members as a win-win scenario, seeking to reduce human risk and business risk. “This will help our industry and food safety officials to narrow the impact of recalls, protecting both consumers and industry members who aren’t directly involved,” said Tanimura & Antle’s Tom Casas.

Recognizing that each handler in the supply chain already has its own internal traceability system, the initiative’s solution calls for adapting those existing systems to achieve external, chain-wide, computerized traceability. The premise: track at minimum two pieces of information – the GTIN, and that particular production batch’s lot number – on every case of produce as the case moves through each link in the supply chain.

The GTIN is the case level equivalent of the well-recognized retail unit UPC. Based on market-proven, globally recognized standards for product identification from the worldwide GSI organization, the GTIN identifies both the owner of the brand that appears on the product on the case and the product that is inside the case. The GTIN and lot number are applied at time of packing to each case via a human-readable label or directly applied to the carton along with a machine-readable barcode that can be scanned and stored in computer systems.

Consider this analogy: Absent the PTI, each company in the produce industry is speaking a different traceability language. Without a common language, trace-backs can be slow, tedious and labor intensive.

Under the PTI vision, all companies speak a common traceability language. In the event of a trace-back investigation, once a handler is given the GTINs and lot numbers involved, they can search their internal traceability system to retrieve the necessary information about the path of those cases, one step back (i.e., its source) and one step forward (i.e., its receiver). Trace-backs should now be able to be conducted more quickly, with greater confidence in the outcome.

A PTI website was launched to provide information and resources. The three administering associations conducted extensive educational sessions across the country, including at their respective annual conventions. Other fresh food industries quickly took note, looking to the PTI as the model to follow as they worked to develop their own traceability solutions.

### **2010: Mid-Course Update**

Fast forward to 2010. Surveys conducted and published in March by PMA and United Fresh of produce suppliers, and by GS1 US of retailers indicated both good news and bad news.

The small industry survey revealed that awareness of the PTI was already high at that time, over 80 percent; 70 percent of respondents reported they are working toward implementing the PTI, and 58 percent are on target to meet the seven milestones by 2012.

However, when asked about barriers preventing their implementation, buyers and sellers alike cited prohibitive costs, lack of information, issues with trading partners and concerns about the traceability component of then-looming food safety regulations (the Food Safety Modernization Act was signed into law in January 2011).

More work would be needed to encourage broader industry adoption. In May, the administering associations re-committed to the need for the initiative, its action plan and timeline, while laying the groundwork for expanded industry leadership.

“While this will be a challenging, multi-year transition toward standardization for our industry, we believe the entire food industry is moving in this direction, and that the produce industry will accrue benefits in traceability, efficiency and operations similar to past standardization initiatives such as Price Look-Up (PLU) coding and pallet size standardization,” CPMA, PMA and United Fresh wrote in May.

In August 2010, a new Leadership Council of volunteer leaders was formed with broader supply chain representation. To reduce barriers to and encourage broader implementation, new working groups were formed to guide PTI’s work in the areas of implementation, technology, master data and industry communications.

Meanwhile, GS1 US joined CPMA, PMA and United Fresh as an administering organization. These groups lend expert and administrative support to the Leadership Council, working groups and short-term, topic-specific task forces.

“This new leadership structure... will ensure a more inclusive process moving forward that will benefit the entire industry,” said Food Lion’s Cathy Green Burns, chair of the new council, after the group’s first meeting in October 2010. “Now we look forward to advancing the work by providing the tools and information the industry needs to be able to achieve the full benefits and value of chain-wide, electronic traceability.”

### Today’s PTI

Today’s PTI is led by a 37-member Leadership Council whose members hail from across the supply chain, and include more buyer representation than the original Steering Committee. The council sets the overall strategic direction for the initiative, and is charged with addressing barriers to implementation. The council assigns issues to working groups, provides them with project oversight, monitors their execution and performance, and reviews and decides on all resulting recommendations.

The council meets on a bimonthly basis. A 10-member Executive Committee manages work in between council meetings, including previewing working group proposals to make recommendations to the Leadership Council.

Four working groups were established at the same time:

- The **Implementation Working Group** (IWG) monitors, guides and promotes industry’s voluntary adoption of GSI standards and achievement of the PTI milestones. This includes developing best practices, addressing implementation issues, and guiding related pilot projects.
- The **Master Data Working Group** addresses issues related to identifying product attributes, and communicating data between trading partners.
- The **Technology Working Group** provides a forum for technology providers to interact, collaborate and help accelerate industry’s voluntary adoption of the PTI.
- The **Industry Communications Working Group** facilitates communications between the PTI including its volunteer leadership groups, and the produce supply chain.

An Association Interest Group allows industry associations to provide their input and perspective to the Leadership Council.

The new leadership hit the ground running. Right after being formed, the Technology and Implementation Working Groups identified a so-called “voice pick solution” to overcome a significant barrier to implementation of Milestone 7. The solution eliminates the need to scan outbound cases in operations that utilize a voice-directed picking system.

The Implementation Working Group is scheduled to launch numerous pilot projects in spring 2011, to identify and document additional best practices, costs and benefits of implementation, and time required to execute a complete trace.

### Why you should care about the PTI

While much has changed since the PTI's action plan was first announced in 2008, the rationale for the initiative has remained very current. The PTI remains necessary primarily:

- **To limit the scope and impact of recalls.** Once the PTI vision is fully implemented, recalls should be conducted with surgical precision, identifying suspect product and clearing other product to remain on shelves. The days of shelf-clearing recalls should be over. This protects and reassures consumers, minimizes the impact on sellers and buyers, and safeguards the larger industry by putting an end to category-busting recalls. (See sidebar: "Frontera limits recall after implementing PTI")
- **To direct our industry's future.** In business, it's typically better to lead rather than be led. FDA is now charged with implementing the Food Safety Modernization Act, including its traceability component and related produce-specific direction. That direction includes looking at existing models, and the PTI offers a model of a working, market-proven traceability solution. PMA's food safety and government relations teams plan to provide FDA with input early and often, as part of our strategy to inform and influence government so that we get the best governance possible. (For more information on what the FSMA means for PTI, view the PMA article outlining FSMA's traceability components. See Resources at the end of this article for that link.)
- **Because traceability is coming to all fresh foods.** Traceability isn't just relevant to the fresh produce industry – it is for *all* fresh foods. The meat and poultry industries issued guidelines last year, and plan to implement standardized product identification with electronic barcoding by 2014. The seafood industry has also released traceability guidelines and the deli, dairy and bakery industry are developing their guidelines. All fresh food traceability initiatives have common requirements for case level traceability, a scannable GTIN and Lot Number. This was a requirement for success as the receivers' investment to accommodate PTI will be able to be amortized over all of the fresh categories.

At the same time, major retailers are looking to achieve traceability and related supply chain efficiencies for all fresh food categories, not just fresh produce. Meanwhile, the foodservice industry is undertaking a GSI US-administered industry-wide initiative of its own to achieve chain-wide efficiencies, including standardizing product identification and traceability.

Storewide traceability is coming; it is now just a matter of when. As with implementation of the FSMA's traceability component, here too it is in our industry's best interest to drive that process, rather than be dictated to by others.

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### Frontera limits recall after implementing PTI

It's hard to believe that Frontera Produce Ltd. once used very little electronic communications or automated processes. Previously reliant on telephones and facsimile machines, Frontera moved deliberately and quickly to accomplish its goal of traceability as part of an infrastructure overhaul.

Frontera Executive Vice President Amy Gates, a member of the PTI Leadership Council, readily admits that traceability is not easy. She can also readily point to its necessity and value, using an actual recall of Frontera cilantro as proof. Within 36 hours of initiating the recall, all cases of product had been accounted for and suspect product had been removed from store shelves.

“With traceability, we were able to limit the scope of the recall to just 12 percent of the total cilantro cases we had in stores. Before traceability, we would have had no choice but to pull 100 percent of all cases,” said Gates.

(A white paper documenting Frontera's implementation experiences is available on the PTI website; see Resources at the end of this article for that link.)

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### What the PTI is – and what it isn't

More than two years after its launch, misperceptions still remain about the PTI – what it really is, and what it isn't. To clarify:

- PTI **is** a voluntary initiative – whether an individual company chooses to participate is a market decision.
- PTI **is not** about replacing companies' current traceability system – rather, it cost effectively augments those systems.
- PTI **is** about labeling the case, not the items in the case – everyone handles the case, not so for the item.
- PTI **is not** about making buyers more efficient at the expense of sellers.
- PTI **is** about more than just fresh produce – traceability is coming for all fresh foods.
- PTI **is not** buyer vs. seller, or large vs. small.
- PTI **is** about industry leading the government.

- PTI **is not** lot number serialization.
- PTI **is** decentralized recordkeeping; a central records repository is not needed, nor is it efficient.
- PTI **is not** DataBar – DataBar aids with product category management.
- PTI **is** about reducing the impact of recalls on the entire produce industry, and restoring consumer confidence in the safety of fresh produce.

And what about supply chain efficiencies? The goal of the PTI is to enhance traceability, to reduce risk to consumers and industry alike. That companies might also achieve other business efficiencies, such as reducing hold times and related shrink, is considered icing on the cake.

### **Now what? How to get started**

If your company hasn't already starting implementing the PTI, don't worry. Numerous factors influence whether or when an individual company gets started; some companies will be early adopters, others will be late adopters.

The first step is to get educated. There are many misperceptions about the PTI, so do find out for yourself exactly what is involved. The PTI website offers one-stop education, including best practices to guide implementation; more tools are coming in 2011 and 2012. You'll also find staff contacts listed there to reach out to for further assistance.

Pilot studies getting underway in spring 2011 will offer considerably more insight into best practices and how to overcome remaining implementation hurdles, so stay tuned for those reports. Better yet, contact any of the administering association staff contacts to volunteer to participate in a pilot project with your trading partner(s).

Advice: Keep it simple, don't over-think it. Form a project team to plan for and guide the process. Involve your information technology/system providers early, as they will be instrumental. Engage your customers, to ensure you know what their implementation plans are, and what they expect from your company. Network with industry colleagues who are already implementing PTI to learn from their experiences. And don't wait until the 2012 sunrise date to start working on implementation.

If you are waiting for FDA's FSMA implementing regulations, please reconsider. It will be years before those rules are finalized. In the meantime, industry will have numerous opportunities to make the case that PTI is the cost-effective, working model to follow.

Most importantly, the human and economic costs of another foodborne illness outbreak are too high and consumer confidence in the safety of fresh produce has already suffered too much to wait any longer. We must move now to restore consumer confidence in the safety of our products, every bite, every time.

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### Implementation: What does it cost?

The single most frequently asked question about the PTI has always been: How much does it cost? The answer to that question: Well, that depends.

Most companies should already be tracking all the information needed by the PTI Action Plan, to comply with the bioterrorism act. So the costs to move to electronic recordkeeping, if a company isn't already doing so, are incremental.

Here's what we know: Each company must apply for a GS1 company prefix, which is part of the product GTIN. GS1 Company prefix fees are based on a company's annual sales and the number of products sold (i.e, how many GTINs are needed). On the low end, a company with annual sales revenue of less than \$5 million and up to 100 GTINs will incur an initial fee of \$760, and an annual renewal fee of approximately 20 percent or less of the initial fee. On the high end, a company with annual revenue of more than \$50 billion will incur an estimated one-time cost of \$50,000 to acquire its prefix, and approximately 20 percent (or \$10,000) per year to maintain it.

Beyond that, implementation costs will vary from company to company, depending upon how sophisticated the company's systems already are. If, for example, companies are already putting a label on their cases, or reading barcodes in their warehouses, then they won't incur incremental costs of printing and applying labels, or acquiring barcode scanners and related software.

By summer of 2011, pilot projects will be underway to more specifically identify costs. Watch the PTI website for updates.

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Resources: The following links are cited in this article:

- PTI website, [www.productraceability.org](http://www.productraceability.org)
- "Traceability in the Food Supply Chain." Department of Health and Human Services Office of Inspector General report, March 2009
- PMA.com Food Security website page
- "Food Traceability and FSMA," PMA.com
- "Frontera produce traceability case study," January 2011, PTI website case study