

Lessons in Food Safety: The 2008 Salmonella Outbreak

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In the summer of 2008, the largest ever outbreak of salmonella contaminated fresh produce in the United States generated over 1,400 illnesses. “Attack of the killer tomatoes” was the lead story on the national news for many evenings. In the end, the outbreak was linked to fresh peppers from Mexico. And, as one news organization concluded, “It was the attack of the tomato industry killers”.

The lessons we’ve learned from this unfortunate outbreak are many. But, nearly six months after the outbreak was first made public, we’re far from achieving closure. As an industry we’re forever changed. Recovery is a work in progress.

The financial toll on the fresh tomato industry has yet to be fully tallied. Some estimates suggest growers lost upwards of 300 million dollars during the outbreak. Initially, losses resulted from the short-term withdrawal of fresh tomatoes from supermarket shelves and at restaurants. But, the effects are far reaching and lasting: Japan, an export market for the California industry imported no California tomatoes during the outbreak and sales have not returned. In Canada, retail sales of California tomatoes have fallen more than 40%. In the first weeks of the outbreak, prices to growers fell by half, and remained under the costs of production for the entire summer and early fall.

Now months later, we know that in this post Salmonella environment retailers didn’t return field tomatoes to their store shelves. Consumers for weeks asked fast food chains to “hold” the tomatoes. California tomato sales that had topped 500 million dollars last year may only reach 250 million dollars this year. It is a paradigm shift that is the result of guilt by association. California growers were never associated with this Salmonella outbreak.

The irony for the California industry is that growers in this state were the first fresh tomato growers in the country to develop comprehensive food safety guidance, a project undertaken by Dr. Trevor Suslow at U.C. Davis. And, for most of the past decade, the California fresh tomato industry worked with the California Department of Food and Agriculture (CDFA) to develop the nation’s toughest regulations for the marketing of fresh tomatoes, including the requiring of mandatory trace back, so that in the event of a food safety crisis, there would be the ability to quickly determine product origin. In 2006, the California Tomato Farmers Cooperative, representing fifty-four growers who produce eight of ten fresh tomatoes in California raised the food safety standards for fresh tomato production and required all of its members be subject to announced and unannounced food safety audits by CDFA auditors under contract to the U.S. Department of Food and Agriculture. The only passing audit score is 100% compliance, meaning, no margin for error.

Looking back at the events of last summer, it's obvious that California's track record of food safety firsts was not sufficient to overcome the public perception that fresh tomatoes could make you ill. Because of our efforts, California tomatoes were excluded from FDA's investigation in the first days of the outbreak. Still, that was not enough to overcome the fear held by many consumers that was based upon media reports and not fact.

What happened? Why did California growers, in spite of their track record on food safety, incur losses into the tens if not hundreds of millions of dollars? There are any number of reasons, one being the actual analysis and resulting hypothesis by the Center for Disease Control that tomatoes were associated with the outbreak. But, above all, we would suggest that the inability to conclusively link tomatoes, any tomato, to the outbreak was the foremost challenge facing both industry and FDA. It was the inability to trace back from point of service to the farm, and do so rapidly and conclusively, that resulted in what was an isolated outbreak in New Mexico becoming a national event.

Consider if you will the media reports during the crisis and the perceptions held by industry and government. Everyone was caught up in the blame game. Our perception of FDA's handling of this crisis was:

“We can trace back product in a matter of minutes. We have everything you need if you'd only ask the right question.”

FDA's response was:

“You don't understand what we need. And we don't need it weeks late and in shoeboxes.”

And to a degree, each comment wasn't without some degree of merit.

California Tomato Farmers challenged FDA's handling of the crisis before the House Energy and Commerce Committee in Washington D.C. Congressional investigators meeting with our growers and customers learned first hand, that the industry indeed had state-of-the art food safety standards and could trace back product from store to field in a matter of minutes. What the investigators learned didn't sync with reports coming from the FDA and the news media, that the tomato industry is unable to properly trace tomatoes in the marketplace. The trace back challenge facing FDA was not so much with industry, meaning, the tomato grower and shipper, it was with end users such as restaurants and small produce vendors, who failed to keep good records.

Clearly, there is little time to communicate during a period of crisis. Everyone is looking out for his or her own interests. Success stories are not heard. The messaging to the consumer becomes more alarming as each day goes by. And, the damage continues to escalate. As Dr. David Acheson, FDA's Assistant Commissioner for Food Protection noted in one press conference, the trace back system was working – just slow. In a crisis, slow is simply not acceptable.

Now, months after the outbreak, the finger pointing has given way to the formation of a workgroup at Harvard University of senior FDA officials and senior industry officials who're working to ensure that we do not have a repeat of last summer's lengthy investigation.

Our challenge is to discover the weaknesses in the current system and not simply apply a quick fix to a system that all parties are frustrated with. We seek to design a system that brings industry and the government together at the earliest stages of an outbreak. Envision a solution that would require addressing inefficiencies in the current system, removing the adversarial relationship between FDA and industry, and reconsidering the protocol that exists between the Center for Disease Control and respective state and local agencies and their interaction with FDA once there's evidence of a problem.

As to how that might be accomplished, consider using models from other industries – pharmaceuticals for example – the foundation of such a system would focus on prevention, continuous protection, and fast and immediate resolution when problems are detected.

The goals of this workgroup are high. The goal is a comprehensive approach to addressing food safety outbreaks. There is no quick fix. The solution may begin at the farm with preventative measures, but does not end at the farm.

A number of interim solutions are being offered; one, from major trade associations, would require barcodes to be attached to all containers of fresh produce. The problem with such a system is that tomatoes and other produce are often subject to repacking. In theory, while a new barcode could be attached to the new package, it's not uncommon for a tomato to be handled multiple times before its final packaging. And, while it is illegal to reuse a tomato container in California, it's legal to reuse containers outside of California. There's no assurance that the tomatoes in a container outside of California are actually from the grower or shipper identified on the box. Therefore, the integrity of a barcode system is based upon the integrity of those who handle the product.

The challenge to the development of a comprehensive food safety program is made more complex by a segment of the industry that was defined by Dr. David Acheson as the "underbelly", those small vendors who market produce from pickup trucks and vans to small restaurants and those individuals who often sell produce at flea markets and swap meets. Some of these individuals have been found to export product to Mexico where it is packaged as product of California and re-exported to the United States. These vendors often operate on a cash basis and have no records. There is no trace back. Some estimates suggest upward of 20% of fresh produce handled in the United States is marketed through this "underbelly".

That the "underbelly" is allowed to market any fresh produce is a liability to the growers and shippers. Those individuals defeat the pro-active efforts of industry to develop preventative food safety programs from field to packinghouse and include provisions for rapid trace back.

Farmers by nature are generally wary of additional regulations. We're already regulated to the point of where recordkeeping alone is a major cost center. But, the fresh tomato industry recognizes that individual efforts, such as those we've undertaken in California, are limited in scope and best considered in the context of a preventative measure to minimize

risks associated with the production and marketing of fresh tomatoes. Such efforts, if mandatory across the country and imposed on imports, and most importantly – enforced – would level the playing field and would reduce the risk from the “underbelly”.

The State of Florida has recently enacted mandatory food safety standards for the production and marketing of all tomatoes within that state. Unlike the California Leafy Greens Marketing Agreement, the Florida program is mandatory for all growers. While the standards employed by Florida are based upon those of California Tomato Farmers, their standards apply on all producers, while those of California Tomato Farmers apply only to our membership. While we together represent about 75% of the tomatoes produced in the United States, a number of production regions do not employ the same high food safety standards and that’s a concern.

Before the House Energy and Commerce Committee, the Florida tomato industry and California Tomato Farmers called for the government regulation of the fresh tomato industry – mandatory standards based upon science – that would be applied on all producers throughout the United States. It’s an effort that would include mandatory government inspection starting at the farm based upon a single science-based standard. Further, the two industries called for the Bio-terrorism Act to be extended to include individual supermarkets and restaurants, those points of service that are now exempt from recordkeeping that must serve as the foundation for trace back by the end user.

A regulatory effort without adequate enforcement is not acceptable. Waiting for a crisis to trigger enforcement is not acceptable. The key to prevention and improving trace back performance is that there is continuous testing of the systems employed by any given sector of the production process or distribution chain.

Continuous monitoring of preventative efforts and traceability will provide FDA with a much better awareness of industry practices and processes so that their investigations are improved through the trust established between industry and government. Further, by testing systems in a non-crisis environment, government could be able to quickly exclude growing areas from investigations. In doing so, the scope of outbreaks, such as the Salmonella outbreak, could be narrowed to specific production regions quickly and by means of established risk-based protocol.

The Salmonella outbreak of 2008 illustrates the need to develop a more efficient and effective means of isolating the source of tainted food. The answer to limiting food safety outbreaks does not reside with only the actions of the grower and shipper. Food safety is not a problem just of the farm. Food safety is a responsibility shared by all who handle the product. It is a responsibility of Federal, State, and local government. And, all must be held responsible. As we stated to Congress, FDA, and our membership, this cannot happen again.