

Harvesting Non-Obvious Benefits from Traceability

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In business, what you don't know almost always comes back to bite you. Surprise is rarely an executive's friend. How do you reduce surprises? Early warning systems and deeper visibility into what's really happening behind the scenes are good ways to begin.

Traceability systems are often implemented to solve a particular problem. Companies want to affordably generate compliance reporting, provide rapid recall, demonstrate an unbroken temperature, humidity or PH value log, determine the appropriate feed conversion rate, calculate the lowest cost animal feeding formula, or many other specific tasks. Few companies understand that the same "traceability highway" can also fuel these early warning and monitoring systems. Additionally, it can surface non-obvious connections about your supply chain – the "ahas" that are the key to unlocking new profitability. For once, the surprise can be pleasant.

What is a "traceability highway"? As we've discussed many previous times in this column, a "traceability highway" is an information system that collects information about distinct production units throughout part or all of its supply chain. Companies usually begin building their "traceability highway" by first focusing inwardly within their own company and its operations. Often they can build it by connecting existing data systems, but sometimes they will need to add additional automatic data collection equipment and software to "connect the dots".

The company can use the "traceability highway" to understand which of their suppliers enhance their profitability and which detract

- by collecting and storing data about each incoming shipment;
- by preserving identity as incoming product and ingredients are sorted, blended, mixed and combined;
- by collecting production events on work in progress, and
- by tying all of this information to each production unit shipped from the operation.

As the "traceability highway" is being built, companies are often startled to discover new relationships in a process that company executives thought they knew backwards and forwards. These discoveries spotlight the non-obvious opportunities for improving outgoing quality, reducing costs, and increasing product consistency.

For many companies, this internal traceability highway is sufficient. However, more and more downstream customers are demanding information about upstream activities, resulting in the need to connect different companies within a supply chain. How do you know the product meets its label claims, is not counterfeit, has passed the necessary food safety tests, and conforms to the customer's social marketing pitch? A "traceability highway" can be used to assure downstream customers in these areas and more. But that's not all it can do. In addition to helping meet these customer reporting requirements, a "traceability highway" can be one of the most powerful ways to surface non-obvious relationships by identifying which upstream genetics, environmental conditions and/or management practices help ensure downstream customer satisfaction.

A number of meat marketing companies have built their own "Traceability Highways" to request their suppliers provide upstream information on each incoming animal. This means that suppliers at the ranch of origin need to identify as near birth as possible all animals with some unique identifier and then collect information about that animal during its life prior to the animal leaving their property. Because the meat supply chain has a number of different, distinct owners from the ranch of origin to packing, this also means that the company that buys the animal from the ranch of origin must also use the identifier, or use another identifier for the animal and associate it back to the original identifier, and then collect data about

the animal during its tenure at their operations. This information must all be securely stored by a neutral third party and only the appropriate data provided to the packing plant upon arrival. This protects the anonymity of upstream producers and protects upstream proprietary information. The trick is to disclose only what is needed while protecting what is confidential.

Once in the plant, identity is maintained throughout the production process to the finished cut, and relevant upstream information is kept on each production unit. The upstream information is then correlated with downstream information such as shelf life and eating satisfaction. By correlating the upstream and downstream information, the companies are beginning to better understand how to best meet and exceed their customer expectations. They learn how to economically deliver to their downstream customers a product with special characteristics at a consistent quality level. Customers are willing to pay more for these traits, and this enhanced revenue provides a strong return on investment for the “traceability highways” these companies have built.

So, what non-obvious connections can be and have been found? In the meat marketing example above numerous non-obvious relationships have been found such as the relationship of antibiotic shots an animal can have in its life and meat tenderness. Generally, most of these discovered relationships quickly become trade secrets, closely held by the company to give them a competitive advantage. There are some findings, though, that we can discuss.

Business Rule Violations. Probably one of the first discoveries a company has when they implement an internal “traceability highway” is how many operational rules are violated in everyday operation. One company had a business rule that certain types of incoming product from suppliers with one type of certification were never co-mingled with the same type of incoming product from suppliers with a different type of certification. Within hours of looking at the “traceability highway dashboard”, company executives were shocked to find that this operational policy they assumed was inviolate was being routinely violated. Using “traceability highway” data to look more deeply into the issue, these executives found a non-obvious process problem, and proceeded to fix it. The “traceability highway” data was then used to ensure conformance to the rule on an on-going basis.

Re-Assessing Assumptions. Information from the “traceability highway” can often help challenge key assumptions. A recent example for one of our customers was understanding just how many transportation miles were embedded in his final, shipped product. The conventional wisdom in the food industry is that food travels, on average, 1,300 to 1,500 miles from farm to fork. Using data from multi-company “traceability highways”, company executives have realized that this assumption is obsolete because of increased agri-food consolidation. The data were showing real-world examples where a fresh steak sold from the grocer’s meat case had traveled 3,560 miles from ranch to grocery. Analysis of the embedded food miles for a cake mix showed a surprising 5,110 miles for just one ingredient prior to arriving in the consumer’s kitchen. When the food miles of all ingredients and packaging are included, the transportation total is substantially higher. With energy costs rising, possible supply disruptions or future carbon taxes, companies are beginning recognize the need to reduce food miles and reduce their direct and indirect energy costs. Once having identified this issue and having a company standard set for embedded food miles, the “traceability highway” can continually monitor future operations and report conformance with these new standards.

Uncovering Counterfeits. Another use of a “Traceability Highway” has been to authenticate product origin. One company who supplies a very high quality product to a packer, used a multi-company “traceability highway” to discover at retail that an inferior product from another supplier had been labeled as theirs. Providing the downstream ability to authenticate a product helps reduce counterfeiting, improves consumer safety, and protects brand identity.

Reducing Insurance Premiums. Full value chain traceability reduces the exposure on both product liability and recall risk, by enabling “surgical” selective recall instead of full market withdrawal. Furthermore, product liability claims may be limited in scope and/or prevented from occurring in the first place. Both of these advantages reduce insurance premium costs to food companies.

Following an independent assessment, two major international insurance groups have committed to premium reductions for clients who have installed approved traceability platforms to track production throughout their value chain. Currently, it is estimated that thirty percent of produce companies have product recall insurance and could lower their premiums by installing a “traceability highway”.

Improved Supply / Cold Chain Monitoring. A growing number of companies have begun to realize savings that can be achieved by monitoring the temperature of their products in the entire value chain. A significant percentage of fresh produce (tomatoes are an actual client example) spoil in the course of transportation and distribution. By monitoring changes in temperature as the product goes through “transformations” between refrigerated transport and warehouse facilities, significant inventory loss in the form of spoilage is prevented. In addition, there have been unintended benefits which were discovered as the cold chain application was implemented. Usually products go through several distribution centers and different freight companies before they arrive at the final destination. One company realized they could reduce their inventory considerably because they had much better control of the status of the different shipments. Another company discovered that it was much easier to place responsibility if a shipment arrived in poor condition, because they could pinpoint exactly when the products had been exposed to a temperature outside the acceptable range.

It’s clear to us that building a “traceability highway” for your operation will help you monitor and control your business more deeply than ever before. It will also help surface new opportunities that are hiding beneath the surface. What hidden gold do you have in your operations that a “traceability highway” might help find?

Further information can be found at www.aginfolink.com or www.tracetracker.com.