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Produce Transportation Enters the Digital Age



Ideal for School Lunches
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POSTED BY: BARRY SPARKS MARCH 1, 2017

Where is your produce, and how is it doing?



rolling down the highway with a precious cargo of strawberries, leafy greens and other highly perishable crops.

Produce transportation has entered the information age, and although only a minority of fruits and vegetables are closely

monitored in transit now, that is the future.

Telephone calls have become an antiquated method of transmitting the story of fruits and vegetables as they are trucked across the country. “The days of talking to the driver in the morning and again in the afternoon about the temperature are over,” says Jimmy DeMatteis, president of **Des Moines Truck Brokers**, Norwalk, IA. “We still do that, too, but we’re using temperature devices on a growing number of our loads.”

The most modern technology lets you know where produce is on the road, how cool it is and how cool it has been in transit. “We’re pretty passionate about this; 100 percent of our trucks are tracked,” says Paul Kazan, president of **Target Interstate Systems**, Bronx, NY. “All of our trucks are GPS tracked, and 30 percent are temperature tracked. Within a year we’re going to be 100 percent on both GPS and temperature tracking.”

Some companies are even offering to do all the heavy high-tech lifting involved in gathering, communicating and storing this information as part of relatively inexpensive packages.

“LocusTraxx and similar companies will transmit temperatures in transit via the internet, with email warnings,” says Fred Plotsky, owner of **Cool Runnings**, Kenosha, WI. “This is no more expensive than a regular recorder; this is worth its weight. I hate to say no produce is being moved in trucks that do not have temperature recorders, but, just about none. In a claim situation, it is hard to determine fault without this technology.”



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There is a definite trend toward investing in tracking both the location and temperature of produce as it rolls down the highway. “The majority of product is still being moved in trucks without GPS-style recording devices, but that is changing as new technology becomes more widespread,” says Marc Beasley, vice president of strategic marketing and business development-food division, for **Sensitech**, Beverly, MA. “A better term might be ‘real-time’ recording devices, because they do not always use GPS technology to determine position on a map. Real-time devices typically communicate via cell phone networks; those same networks can provide position information. We are seeing some customers transition all of their temperature monitoring from conventional recorders to real time.”

Track As It Rolls

The complete produce tracking package gives you the ability to know the location of the product and its temperature in real time as it moves from the field to the cooler on to the distribution center, and from there to the produce department.

“It’s a cool feature to track the load with a temperature recorder that has GPS,” says Plotsky. “In all my years, 30 of them, I have never needed it to find a load, and I hope my 30-year record does not change.”

Tracking in real time began with trucking companies wanting to know at all times where their vehicles were. “You have the big fleets with a couple hundred trucks they want to be able to track, and the cost for that has come down,” says Kazan. “When you come to the owner-operator with one to five trucks, the cell phones have a GPS that comes from the carrier, and as long as we have the driver’s permission, we can get their location from the cell provider.”

“At least 50 percent of the loads are temperature monitored, but it’s with what I call ‘passive devices,’ that tell you what happened after the fact, when you can’t do anything about it.”

— Ken Lund, Allen Lund Company



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complete. “Currently, many temperature-monitoring devices aren’t transmitting data in real time,” says Mark Petersen, director of global sourcing at **C.H. Robinson**, Spokane, WA. “They track data in real time; however, the data is mostly reviewed after the event. This most likely will change in the future with data consistently reviewed and analyzed in real time throughout the shipment.”

There are important benefits, however, to being able to monitor produce temperature remotely in real time. “I think the produce industry will do better with units in the back of the truck that they control,” says Ken Lund, vice president of **Allen Lund Company**, La Cañada, CA. “If there’s a problem, you can have a truck deliver the produce to a closer destination. The transportation management systems are gaining in popularity.”

Some transportation companies find it invaluable to know changes in the temperature in real time to avoid a problem. “We can set up an alarm where we get an alert if, say, the temperature gets above 38 degrees for two hours,” says Kazan. “LocusTraxx has a small box you put in the trailer that gives you location and temperature. Now we can be proactive.”

Real-time tracking lets you see a problem in time to do something about it, rather than document what happened after it is too late. “More shippers are increasingly seeing real-time visibility as important,” says Petersen. “GPS technology plays a direct role in being able to provide that level of visibility. Without it, there are few options to monitor in-transit locations in near real time.”

The trucking industry is highly decentralized, however, and that discourages investment and use of powerful, but somewhat pricey, tracking technology. “There are 540,000 motor carriers in the country,” says Diego Urrutia, chief commercial officer at **Loadsmart**, New York. “Ninety percent of them have fewer than six trucks, and 96 percent of them have fewer than 10 trucks.”

Only a relatively small percentage of the produce currently shipped in the country is in trucks using GPS and temperature recorders that are monitored in real time.

“With regard to the percentage of produce shipments being transported utilizing real-time monitoring technology, it depends on what classification of transit we are discussing,” says Roger Niebolt, sales manager at **Cargo Data**, Ventura, CA. “Among truckload shipments in excess of 500 miles going from

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Produce Gets Schooled in Lunch Programs

Niebolt, sales manager at **Cargo Data**, Ventura, CA. “Among truckload shipments in excess of 500 miles going from grower/shippers to receivers, at present, likely less than 10 percent of fresh produce is monitored in real time. Typically, real-time monitoring is used only for the most sensitive or most valuable commodities — berries, salad mix and avocados, for example.”

According to Sensitech’s Beasley, one reason not everyone uses the latest technology is because not everyone knows how powerful it is. “I would encourage anyone to take another look and see how they might benefit, not only for temperature and quality, but also for logistics and security. As with any new technology, there is an adoption curve and there will be leaders and followers.”

A Matter of Cost

The ability to use your smartphone to see where your produce is, and at what temperature, is, pardon the pun, so cool, it is worth asking why isn’t everyone using the technology.

Part of the answer is that even the most rudimentary GPS system, tracking through the driver’s cellphone, costs money. “If you’re doing a trip from the West Coast to the East Coast, using the GPS on the phone pulls a lot of data,” says Urrutia. “There’s a cost to it. Somebody’s going to have to step up and pay for it. Unless there is a requirement, I don’t see it widely used.”

Many shippers and receivers choose to save a few dollars by using economy tracking versions that do not give the information in time to make decisions.

“At least 50 percent of the loads are temperature monitored, but it’s with what I call ‘passive devices,’ that tell you what happened after the fact, when you can’t do anything about it,” says Allen Lund’s Lund. “They are cheap, from \$14 to \$20 each. The pricing is probably the biggest thing stopping people from using active temperature devices.”

Some transportation experts say the potential liability for spoiled produce is one reason truckers would rather provide less than more information.

“For many fresh produce handlers, temperature recorders have historically been used as a tool for assigning responsibility in the



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damaged, the receiver would review the temperature record and use its data to support a claim against the carrier. It is now becoming common for shipments of particularly sensitive commodities like berries or salad mix to be rejected on temperature data alone.”

Another reason to not use available tracking technology is a general aversion to investing in improved service. “Some people are not using temperature recorders because they are cheap skates,” says Plotsky.

Others point out, however, that it does not take much to make the difference between profit and loss in the highly competitive trucking business. “It’s not like we’re working on fat margins,” says Des Moines Truck Brokers’ DeMatteis. “With our app, the drivers can put in the time and temperature when they go to bed, and update it in the morning when they get up. It’s good stuff that lets the driver communicate what’s going on with the load. The drivers who are using it like it.”

The cost may be relatively modest when compared to the potential savings from avoiding claims over produce gone badly in transit. A device that lasts for one load and will transmit temperature in real time is around \$35, according to Lund, while a more permanent active temperature device is \$300 to \$400.

It only takes one incident to pay for either many times over.

“When there are temperature monitoring devices that transmit data as the trucks move, we see claims drop,” says Lund. “An active device can be as low as \$35 to \$50, and you get a significant decrease in claims. Nobody wants to pay the \$35 or \$40, but if you stop one \$30,000 claim, you pay for a lot of devices. One of our customers went from four claims per month to one or two a quarter by using active devices.”

“The Food Safety Modernization Act didn’t say you have to have a temperature device, but if you have one you need to keep a record of the data.”

— Ken Lund, Allen Lund Company

Some relatively short shipments are done with little or no tracking technology because it does not seem worth the trouble or cost.

“The most common explanation for why a temperature monitoring

Some relatively short shipments are done with little or no tracking technology because it does not seem worth the trouble or cost. “The most common explanation for why a temperature monitoring instrument is not used is the assumption that a journey is too short to justify its use,” says Niebolt. “Candid distribution operators will also admit that in a typical hot weather distribution scenario, in which the main cargo door is opened and closed many times during a delivery cycle, a temperature monitor will reveal inadequate temperature control, even when the driver uses ‘best practices.’”

The typical scenario for use of real-time GPS and temperature tracking is shipment of highly perishable high-value produce from major shippers to major retailers.

“Typical users of real-time monitoring technologies are grower/shippers who are delivering truckloads of valuable produce to major customers” says Niebolt. “Such shippers appreciate being able to confirm that a key shipment to a key customer is on schedule and at the correct temperature. Real-time technology enables shippers to put a replacement shipment in-transit promptly in the event of breakdown of either the truck or refrigeration system.”

Safety First

Implementation of certain sections of the Food Safety Modernization Act (FSMA) could affect the use of tracking devices for large companies this year and for smaller companies in 2018.

“The ‘Sanitary Transportation’ subsection of FSMA places requirements on shippers, carriers and receivers to monitor and review temperature data for all shipments of perishable food products,” says Niebolt. “As such, not using some sort of temperature monitoring instrument will move from being simply unwise to being out of compliance with FSMA.”

The new law will require everyone in the supply chain to monitor the condition of produce, without specifying the equipment that must be used.

“FSMA does not prescribe specific procedures or types of devices/systems to achieve its overall objective, which is to empower and equip each firm/individual in the supply chain to review and evaluate a product’s condition, and to remove that

At this stage, some in the transportation business find it not entirely clear what the FSMA will require in the way of temperature monitoring. “We’re getting mixed messages on temperature devices,” says Allen Lund’s Lund. “The Food Safety Modernization Act didn’t say you have to have a temperature device, but if you have one you need to keep a record of the data.”

According to Lund, the FSMA rules go into effect in April 2017 for larger companies, and in April 2018 for smaller ones. “Most shipments that require a temperature recording device have one,” says C.H. Robinson’s Petersen. “There are many available devices capable of capturing in-transit temperature. Two of the most common are mobile recording devices and trailers equipped with smart units. For the smart unit trailers, the unit itself is capable of capturing and retaining in-transit internal air temperature.”

Some truckers and transportation brokers are confident they are already doing more than the FSMA will require. “We like to get ahead of these things, so we are already doing what will be required,” says Loadsmart’s Urrutia.

Some retailers already require that produce shipments have a temperature sensor that records data that can be downloaded and stored after the trip. “Some of the customers require temperature devices now,” says DeMatteis. “It’s more a question of meeting the needs of the customers. There’s a perception you need it, so you have to have this stuff. LocusTraxx meets the demands I would want to see; it has the temperature and lets you follow the truck as it moves. Retail supermarket Hy-Vee is requiring that all the produce shipped to them have a transportation temperature sensor.”

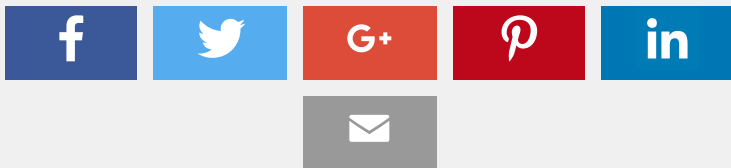
Although there are economical alternatives for meeting current food safety requirements, tomorrow’s regulations may require more sophisticated technology.

“In the future, you might have to dispose of produce if it fails to meet certain temperature requirements in transit,” says Target Interstate’s Kazan. “There’s going to be more pressure on shippers to show they lowered the temperature before they loaded the truck.”

Even when the product is not spoiled, a record of the temperature can help develop best practices in loading and carrying produce.

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“There is no independent temperature record that can be used to understand the environment surrounding your cargo, especially when there has been loss of quality,” says Beasley. “When recorders are placed near the doors of a trailer or container, they can detect when airflow does not reach the full length to the doors. This can happen, for instance, when product is loaded too high or when air chutes are damaged.”



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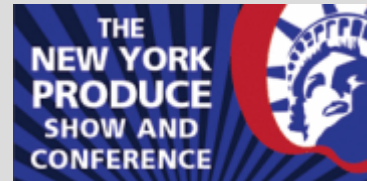
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