

DFA RFID-Enables Its Cheese-Processing Plants

Dairy Farmers of America, the U.S. dairy cooperative that produces and markets Borden, Breakstone's and other products, is running an RFID system to manage and track the tagging of cheese shipments and product promotions remotely.

By Claire Swedberg

Oct. 25, 2006—[Dairy Farmers of America](#) (DFA), the largest dairy cooperative in the United States, has implemented an automated, end-to-end RFID system at its two cheese-processing plants. DFA is using the system to apply RFID tags automatically to cases in compliance with [Wal-Mart's](#) mandate, as well as to prepare for an eventual larger-scale RFID implementation. Wal-Mart reaffirmed at [EPCglobal](#) late week that it will have 1,000 RFID-enabled stores and distribution centers by early next year (see [Launch and Learn. Say Early Adopters](#)).

"Because of the Wal-Mart initiative, we started evaluating RFID integrators and software providers," says, Bob Tiede, DFA's IS director. The cooperative was looking for a solution it could manage from a remote location. DFA's data center is located in Springfield, Mo., while the two cheese-processing plants are in Plymouth, Wisc., and Zumbrota, Minn.

DFA produces and markets dairy products made from milk supplied by 20,000 dairy farmers throughout the United States. Much of the farmers' output goes directly into bottled milk, while the rest is delivered to plants that manufacture cheese, butter or other dairy products. The cooperative accounts for 34 percent of U.S. milk production, supplying cheese, butter and other dairy products through such brands as Borden, Breakstone's and Hotel Bar.

Wal-Mart's request that DFA tag its shipments of cheese products prompted the company to deploy the RFID system. In December, Tiede says, the Plymouth plant installed the system on a limited basis. [Rush Tracking Systems](#) provided the solution, which utilizes [OATSystems](#) Tag@source software. Rush Tracking Systems selected and tested the hardware in its own laboratory. "We then brought in DFA's team for daylong training in our facility," says Toby Rush, president of Rush Tracking Systems. "They were looking for a strong system with low operating costs."

"OATSystems has a tremendous amount of experience doing this," says Marc Osofsky, VP of product management and marketing at OATSystems. The OAT Tag@source software system has been available for about two years, he says, and has processed more than 12 million RFID reads across the company's customer base in that time.

"Rush helped us decide what equipment we needed, trained us on the technology, built the initial scenarios and helped us all the way through," Tiede says. Until December 2005, when the RFID system became operational, the plants had used bar coding to track cases as they traveled through the supply chain.

The new implementation includes [Printronic](#) RFID label applicators, [Symbol Technology](#) readers and an [Opto 22](#) automation system that acts as the programmable logic controller (PLC). DFA keeps its servers and

support personnel in its Springfield office connected to the RFID reader data via a wide area network (WAN) connection.

When the cheese products are packed in crates, a line operator accesses a PC, logs into the system via the Web-based interface, inputs details about the product being packed and presses the "start" prompt. At that point, says Josh Drake, DFA's RFID analyst, the applicator begins applying Alien Technology Squiggle EPC Gen 2 UHF tags to each case, each with a unique EPC number linked with the product information inputted by the line operator.

As the crates continue down the assembly line, each crate's label is read. A green light indicates the read as being good, while a red light means the crate must be sent back down the assembly line past the reader for a second read attempt or a new tag. When all the crates have been tagged and read, the operator presses the "stop run" prompt.

At present, the cooperative has two RFID-enabled production lines in Plymouth, as well as another in Zumbrota. By the end of this year, Rush says, DFA expects to have six RFID-enabled lines in Plymouth.

Once the crates have been tagged, the company loads them onto pallets. At the Zumbrota plant, the system generates tags that are attached to the pallets manually; at the Plymouth plant, however, no pallet tags are in use. Once palletized, cases are either loaded into refrigerated storage to await shipping orders from Wal-Mart, or are directly loaded onto trucks (if the order has already come in).

The data—each pallet's and crate's EPC number and the product stored inside each crate, as well as the date, time and location of the read—is managed by the OAT Tag@source software system, enabling DFA to track its products by logging on to OATSystem's intranet. The solution also includes OATaxiom's analytics package to identify emerging trends and potential ROI opportunities. However, as of this week, that system has not yet been installed. "We expect to be able to track promotions, and also track the movement of our product through Wal-Mart's distribution chain," Tiede says, explaining DFA's plans to use OATaxiom.

In June, the cooperative switched from Gen 1 to Gen 2 tags. That transition signaled the only downtime the RFID system has had, Drake says. "We've been very pleased with the performance of Gen 2," he states, adding that the percentage of successful read attempts has been extremely high. "We were already in the upper 90s, and now it's very rare to have a miss."

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