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Costa View Farms Milks Savings From RFID

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Thanks to handheld interrogators and in-ear tags, the 6,800-cow dairy can more quickly find and treat animals, update records and boost milk production.

By Beth Bacheldor

Nov. 12, 2007—At Costa View Farms in Madera, Calif., more than 6,000 dairy cows have been tagged with passive RFID transponders encoded with unique ID numbers. The identification system has saved the farm's workers countless hours previously spent searching for and treating cows, while also improving its animal records and even boosting milk production.

The farm is utilizing an animal identification system (AES) from Valley Agriculture Software that incorporates three handheld RFID interrogators, headsets worn by workers to hear audible beeps when specific animals are located, associated software, desktop computers and Allflex USA half-duplex RFID transponders embedded in small plastic discs. The transponders operate at 134.2 kHz, comply with the ISO 11784 tag data standard and ISO 11785 tag air-interface standard, and can be read from up to a distance of 100 cm (39.4 in.). The tags are designed for insertion in the middle of a cow's ear, between the two cartilage ribs close to the head.

Costa View Farms first started employing RFID about four years ago, when the U.S. Department of Agriculture (USDA) began investigating the technology to monitor U.S. poultry and livestock populations so it could more quickly and effectively trace animal disease to the source in the event of a breakout. At the time, many expected the USDA to mandate the use of an animal identification system. That has not yet happened, but Costa View and many other farmers decided to start implementing RFID technology anyway, so they could more easily track individual animals.

"We decided if legislation was coming, we should take advantage of the [RFID] program and use it as a management tool," says Larry Pietrowski, co-owner of Costa View Farms. "And, if it ever becomes mandatory, we will have already fulfilled the requirements."

Using RFID to identify and track livestock is one of the fastest growing, and largest, RFID sectors to date, according to British research and analysis firm IDTechEx. In fact, the firm expects worldwide sales of RFID tags to rise from $233 million in 2007 to $2.93 billion in 2017, with livestock and food applications accounting for 90 percent of that total. IDTechEx further predicts that sales of RFID systems (including tags) used for farming, food and animals will rise from $531 million in 2007 worldwide to $6.53 billion in 2017 (see Food and Livestock Tagging Expected to See Bumper Gains).

Costa View Farms has tagged about 95 percent of its 6,800 cattle in order to more easily identify cows requiring a regiment of shots, and then document which cows have been treated. As part of a synchronized breeding program, the farm gives shots to approximately 250 cows every Tuesday and Wednesday, to force ovulation; the cows are then bred three days later. Using the handheld interrogators, workers can walk among cows locked in their stanchions (the metal stalls in dairy barns that hold the animals in place while they are milked) and quickly identify which ones are due for their

shots.

Here's how it works: Software running on the handhelds is regularly synchronized with Valley Agriculture herd-management software running on desktop computers, which tracks each animal's shot schedule, veterinarian visits and pregnancies. When shots are given, an electronic list is compiled and downloaded to the handheld. As a worker passes the animals, the interrogator scans the ear tags; it takes about 1.5 seconds for the device to scan a tag and correlate it with the software. Once the reader discovers a tag that is on the electronic list, the handheld emits an audible beep and displays instructions.

In addition, during veterinarian visits, the system is used to determine if any cows are pregnant; in such a case, that information is entered into the handheld and correlated with the cow's unique ID number. Every evening, information from the handhelds is downloaded into desktop computers. Using the Valley Agriculture program, Pietrowski can run reports at any given time to determine which cows have been given shots, and which are pregnant.

The RFID system has replaced a manual, paper-based system requiring workers to visually search for numbers printed on ear tags. According to Pietrowski , it has been a huge timesaver. "When I used a paper list, it would take me about 45 minutes to walk one pen [containing about 280 animals]," he says. "Now, it takes us about 15 minutes to walk one pen. And everything is much more accurate. When you are looking at a long list of animals, your eyes play tricks on you, and chances are you are going to miss an animal that is due shots."

More important, Pietrowski adds, the RFID system is boosting productivity. "The reason we got this system was to save time," he explains, "and to get them through the process as quickly as possible so they can get out of the stanchions, get water and lie down so they can be more comfortable."

According to Pietrowski, more comfortable cows means more milk. "I would say within the year and a half, we recouped what we spent, which was probably about $15,000. That's because of our added milk product, because the cows are lying down a lot more, and on labor, because now workers can do other things."