

# DVM Systems taking product, research to World Dairy Expo

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All it took was just a couple of years in operation for DVM Systems to make an impression on dairy producers around the world.

If all goes according to plan, the southwest Greeley business' product and its research will be the talk of the industry in numerous other corners of the globe by the week's end.

DVM Systems' wireless, battery-free, temperature-sensing bolus – a capsule that's 3 to 4 inches long – is currently helping dairy farmers with early detection of illness in livestock and keeping better health records in the U.S., Canada, Australia, New Zealand and the United Kingdom.

And there's no stopping there, as Rob Stanley, the chief operating officer of DVM Systems, and the company's other partners look to present their bolus and their plans for future developments at the five-day 2011 World Dairy Expo in Madison, Wisc., which starts Tuesday.

The expo serves as an international meeting place for dairy producers and experts, showcasing the newest in dairy genetics and technologies available to the industry. Stanley said he attended the expo a year ago as a spectator, and was amazed by the size of the event and the thousands of people who attended.

"We're really looking at this as an opportunity to reach more people," said Stanley, who started DVM Systems with his father, Bud. The two Greeley residents have about 80 combined years' experience in the electronics and communications industries.

DVM's temperature-sensing bolus – the first one that's battery-free – is given to a cow much like a pill. The bolus settles into the second chamber of the cow's stomach and, because of the bolus' weight, it stays in the stomach and is not digested.

Before the cow is milked or goes to the feed bunk, it walks through a panel system, which reads the data collected by the bolus.

In addition to the bolus, DVM developed all of the needed software.

As explained by Stanley and other partners in the company – including Kevin Wild of Denver, who is the CEO of the company, and Wade Webster, a Greeley native who's now a doctor in Seattle and serves as DVM's chief science officer – the temperature of a cow is critical because a rise in body temperature is an early indication of disease problems, such as mastitis and pneumonia. Mastitis involves the inflammation of a cow's udder, which results in an immediate reduction of milk production and can be fatal if not properly treated.

All three noted that catching illnesses and infections earlier with the bolus helps farmers by not only reducing the costs to treat the animal and lowering mortality rates, but also increasing the cow's milk production and improving the quality of the milk because of a lower somatic cell count.

Stanley said each bolus costs about \$50. A dairy of about 1,000 head can reach a return on its investment in about six months, according to research. Although he said those results could vary depending on the dairy operation.

He also said the bolus lasts the lifetime of the animal because no battery is required – the bolus is simply activated by the panel system the cow walks through – and is safe and environmentally friendly.

And early illness detection isn't where the bolus' benefits stop.

In addition to currently testing its product in about 5,000 dairy cows across the globe, the company is involved with research projects at the University of Northern Colorado, Colorado State University, the University of Kentucky, the Nova Scotia Agriculture College and Fonterra, which is a multinational dairy company based in New Zealand.

Those research efforts include finding ways to use the bolus to detect a dairy cows' ovulation, and also to better anticipate the time she'll calve – both of which will help dairies become more time- and money-efficient.

Stanley and Wild noted that because of the vast amount of research the company is doing, they believe they now have the largest temperature database in the world.

The company also has planned research projects with the University of Pennsylvania and the Western Australian College of Agriculture.

Those research endeavors – as well as the company's other recently developed electronic devices, such as its hand-held technologies that immediately recognize an animal that's been identified as ill – will also be part of DVM's presentation at the World Dairy Expo, Stanley said.

Bolus technology – originally invented years back by the Goodyear Tire and Rubber Company to signal warnings of hot temperatures and low air pressure in airplane and heavy construction tires – had been used in livestock the past few years, but dairy operations in many countries steered clear of the innovation because those versions of the technology required batteries. Producers worried about putting batteries in their livestock, fearing for the animal's health, and also worrying that the materials in the battery could contaminate the food going from the animal to the consumer.

Those who have used the new, battery-free product believe it will continue catching on with dairy producers everywhere, including those who will attend this week's World Dairy Expo in Wisconsin.

Dave Smith, the general manager at Shelton Dairy near La Salle, which has served as a 'guinea pig' for DVM's bolus product during the past 1 1/2 years, said the bolus has proven not only instrumental in detecting mastitis and pneumonia, but also lameness, which "was a surprise."

"Something like this, in my opinion, could revolutionize the industry," Smith said. "More dairies are going to need these kinds of technologies to be more efficient, but a lot of people are still in the dark to this technology. They need to be made aware it exists."