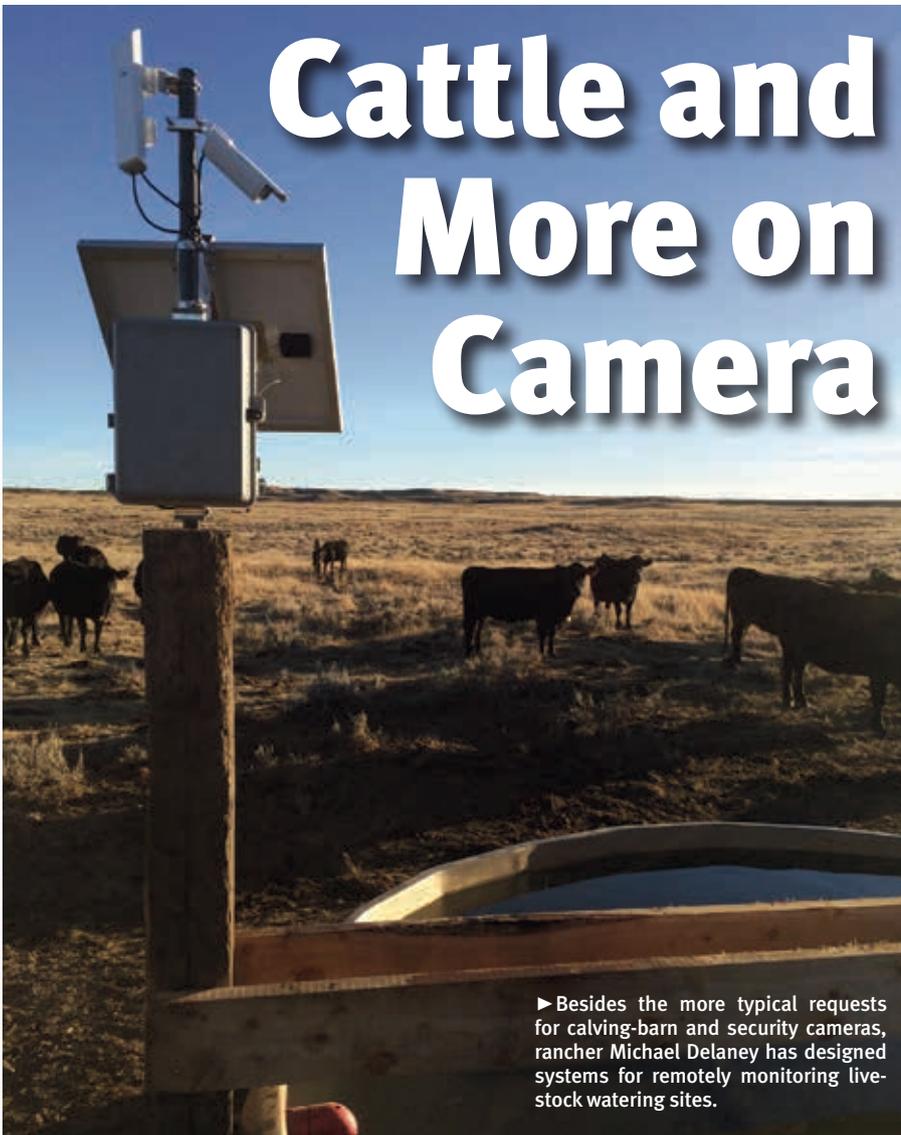


Cattle and More on Camera



► Besides the more typical requests for calving-barn and security cameras, rancher Michael Delaney has designed systems for remotely monitoring livestock watering sites.

PHOTOS COURTESY OF MIKE DELANEY

Wireless technology helps monitor cattle and makes remote areas accessible.

by **Troy Smith**, field editor

When cattle folk share opinions about technologies that have enhanced the profitability of their beef cattle operations, they might talk about estrous synchronization and artificial insemination (AI), or expected progeny difference (EPD) values and genomics. They might talk about improved protocols for disease immunization and treatment, or how electric fence technology aids application of rotational-grazing systems. Some producers count gooseneck trailers and portable panels among the industry's

most valuable innovations. Some producers say video cameras pay real returns to their operations.

To better manage their resources, increasing numbers of cattle producers use video cameras for monitoring or surveillance of livestock and premises. Probably the most common application of camera technology is in the calving barn.

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TO BE
different

Calving monitor

Commercial cow-calf producer Michael Thomas' ranch is located northwest of Ogallala, Neb., where the calving barn is equipped with a fairly sophisticated remote

monitoring system. Sixteen cameras allow members of the ranch's crew to keep an eye on each of the barn's calving stalls from the office. One camera is motorized and can be directed with a computer mouse.

"The camera system is invaluable. It saves so many steps," says Thomas, who has additional business interests requiring extensive travel. "The system is hooked up to the Internet. When I'm traveling I can access it from anywhere there is Internet service."

Experienced producers generally agree that on-camera monitoring of calving helps eliminate the need for repeated trips to check on the progress of heifers or cows in labor. That's a convenience factor, especially at night or when the weather is cold. An additional benefit is no one will interrupt the process of normal delivery. The person on duty can avoid unnecessary interference, but he or she can see when intervention is needed.

Detecting dystocia and saving a calf (and maybe its dam, too) will go a long way toward paying for a basic camera monitoring system.

Security

Calves are seldom born indoors at Windmill Angus Ranch, near Haigler, Neb. Still, Alex Peterson has a high-definition camera trained on a pen in front of his barn. That's where he sometimes puts heifers close to calving that he wants to monitor. Even at night, a nearby yard light provides enough illumination for Peterson to see clear images on an office computer screen.

However, the mischief that once plagued the ranch was the primary reason security cameras were installed.

"We're located close to a highway, and we had a lot of people snooping around. Then we started losing fuel to thieves," says Peterson. "We placed four video cameras so they would cover the ranch yard, including the shop and fuel storage area, and we caught two parties in the act of stealing fuel. Word got around, so having the surveillance system is now a deterrent. Nobody comes messing around anymore."

Security is one of the reasons that Stockmen's Livestock Exchange, Dickinson, N.D., decided to install a surveillance camera system. According to operator Larry Schnell, a second reason is to have a video record of livestock delivered to the auction market, as well as the animals loaded out.

"A video should help settle occasional disputes over headcounts or livestock injuries. We have cattle loading out at all hours, so the video date and time stamp also serve as a backup to documentation," explains Schnell.

"A third reason for video cameras is to record each sale while it's in progress, and

have a way to settle any disputes. That alone will pay for the cost of the camera system.”

Specializing surveillance

For Grass Range, Mont., rancher Michael Delaney, designing cost-effective monitoring and surveillance systems for his family's operation blossomed into a sideline business called CowCams. Delaney's practical applications of the technology caught the attention of other producers for whom he has installed customized camera systems. Besides the more typical requests for calving-barn and security cameras, he has designed systems for remotely monitoring livestock watering sites.

A good example is the setup Delaney installed for a producer who had leased a distant ranch for summer grazing. The rented place had a stock well in every pasture, but no electrical service and limited water storage capacity. Renter Rodney Becker decided to use a self-starting, propane-fueled generator to pump water. To make sure both generator and well were working, and that the cattle did not run out of water, Becker felt compelled to check things every couple of days. By country road and two-track trail, it took a good half-day to make the round-trip of more than 100 miles.

To avoid logging so much mileage, Delaney came up with a solar-powered system. A camera mounted on a post near a stock tank sent a video feed by directional antenna to an omnidirectional antenna located at the rented ranch's building site. From that “hub,” video images were transmitted to Becker's home ranch.

Since most of the stock wells were located in coulees or low-lying areas, the camera antenna was not always in line-of-sight with the hub. A repeater antenna was mounted on a small trailer, which was parked on a ridge near the stock well. The video feed could then go from the camera to the repeater, then to the hub and on to Becker's receiver. When rotating cattle to another pasture, Becker also moved the generator, camera and trailer-mounted repeater.

“It was neat,” says Becker. “I could see the generator, the float on the tank and the water coming in. I could see the salt blocks placed near the tank. I could even read ear tags on the cattle. It cut the number of trips to that place way down. Besides the time and fuel saved, it gave me some peace of mind.”

Delaney credits wireless technology for greatly broadening the application of monitoring and surveillance cameras. In many situations, video feeds can be viewed from computers, electronic tablets and smartphones. The video can be watched on any Internet-capable device, in any location where an Internet connection is available.



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Users can also remotely control motorized pan-and-tilt cameras.

“Tying it to the Internet adds a lot of flexibility, but video monitoring systems can work without Internet access,” explains Delaney. “Systems can be configured so users can view video images from their home or office.”

Calving barn cameras are becoming increasingly popular, but Delaney thinks applications for remote monitoring of distant sites may offer even more growth potential. Wireless technology allows users to view watering sites and supplement feeders. They may also be able to monitor grazed forage utilization and animal health status. However, camera applications could expand even more when going beyond today's wireless technology.

“Drones. That's the next step,” offers Delaney. “I'm in the process of testing out two drones right now — a plane with a one- to two-hour flight time and a camera for a live video feed several miles away, and also a quadcopter with eight motors and a flight time of 20 to 30 minutes. Both will have autopilot functions, allowing them to fly predefined waypoints, record video, then return home and land on their own. I think these will be great for locating cattle in rough terrain, monitoring fires and determining crop health. Yeah, I think that's coming next.”



Editor's Note: Troy Smith is a freelance writer and cattleman from Sargent, Neb.