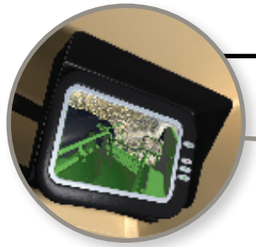

The places farmers can put video cameras (yellow dots) are limited only by imagination and the desire to see into otherwise invisible areas.

THE EYES HAVE IT

Versatile video cameras see where farmers cannot.

BY RUSS QUINN

Derek Watters has the ability to see behind grain wagons from the driver's seat of his tractor. No, the Murray, Ky., farmer does not have an elaborate series of mirrors or superhero X-ray vision. But he does have a video camera system, which allows him to see places he could not see before.

The system, manufactured by Ag Cam—complete with a magnet-mounted camera, cable and cab-mounted monitor—permits him to safely monitor traffic behind his tall grain cart as he moves from field to field during harvest. It also allows him to have another vantage point as his corn, soybean and wheat crops are moved during harvest.

Harvest isn't the only time Watters uses this easy-to-move video camera system. He also mounted it on the boom of his sprayer to monitor spray tips to ensure they are functioning correctly. He uses the system on the tobacco setter as well to see and hear (thanks to an audio/video cable) workers as they feed plants into the setter for planting.

"The camera works very well, especially when we use it on the tobacco setter," says Watters. "The workers can get my attention in 20 feet instead of 20 yards, so we save time and labor by eliminating mistakes in planting the tobacco."

Watters first purchased a video camera system about three years ago. He had seen a system at the National Farm Machinery Show in Louisville, and after a few months of research decided which brand to purchase.

Since then, he has added an extra cable so moving the system is even easier. Now the camera and monitor are all that have to be reset on the next piece of equipment. In addition, he also bought another camera to get a second view of the operation.

"It really is a great product and I use it a lot," he says.

Charissa Rubey is vice president of sales and marketing for Dakota Micro Inc., makers of Ag Cam, one of the first camera systems built for agriculture. Rubey founded the North Dakota company with her husband, Dave, who had cervical fusion surgery and had to wear a full neck brace. They developed a camera system, which would allow him to see all around during wheat harvest.

She says farmers have gotten more comfortable with newer technologies such as cameras.

"I think there is an education peak when it comes to using the newer technology," Rubey says. "Farmers are becoming more tech savvy as they purchase and use this type of technology on their equipment."

Among the most popular uses of the Ag Cam system is monitoring various sections of the combine, according to Rubey. With the system, users can watch different aspects of the machine's inner workings all from the comfort of the cab. Users also can use multiple cameras to keep an eye on what is happening behind and around the combine.

Since May 2009, Ag Cam and farm equipment manufacturer AGCO have partnered to place Ag Cam's video cameras display on AGCO's monitors. Ag Cam and AGCO engineers collaborated to ensure components worked together to display a video feed on AGCO monitors, says Clancey McCray, product manager with AGCO parts located in Batavia, Ill.

"The option of having a camera with display on a tractor or combine is popular," McCray says. "I think it has been well received. We have farmers asking dealers more and more questions about cameras today than in the past."

A camera system that will display on AGCO monitors can be ordered as an option on new tractors and combines, McCray says. The monitor will have the capability to toggle between the camera display and normal monitoring mode. Existing equipment with the AGCO monitors also can be fitted with camera systems.

Camera systems have spread quickly in the past 12 months. John Deere recently announced that displays on some of its new equipment are camera-ready. Claas' new Lexion combines also can accommodate video cameras. So do CNH displays and AgLeader's INTEGRA displays.

Early this year Teejet unveiled the Matrix monitor, which features the Realview Guidance Over Video. This system blends animated guidance information with real-time video imaging from the field on a single display.

"The Matrix has two functions. One would be to have the guidance line 'painted on' over the video. It can also act as just a [video] camera as well," says Tim Stuenkel, precision farming specialist with Teejet.

Derek Watters places a video camera on his combine's auger. It helps him see what is behind him as he works.
PHOTO: MIKE BOYATT

The Matrix aims to improve accuracy in spraying and can be used with both a light bar or autosteer technology along with auto boom section control. It can display up to eight cameras to be utilized for various views during spraying or other operations.

"This really is the next generation of technology," Stuenkel says. "People willing to use this type of monitoring and guidance over video want to be proactive and do not want to wait for potential problems to develop. They want to catch a plugged nozzle immediately, which will save both time and money."

Camera prices vary significantly depending on features. Ag Cam cameras range from $250 to $500. NUPIXX Vision Systems cameras range from $340 to $1,000. Cables are separate and run about $20.