

New Technology Allows Continuous Harvesting

Farm Progress got an exclusive look at software that will allow farmers to link combines and grain carts in the field for top efficiency.

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Alden, Iowa corn grower Randy Madden says high fertility and variety selection are the primary keys to high yields on his 2,000 acres of continuous corn. But he quickly adds that adopting and managing the latest technology for his equipment helps make him more efficient.

Farmers like Madden who deploy new technology in their operations are constantly looking to the "next big thing". A key part of their challenge is managing both equipment and personnel in the most efficient way. Farm Progress got a look at new software technology that will someday give farmers a way to link machines in-field for top efficiency.



VIEW IN THE CAB: New software technology enables combine and grain cart tractor operators to see where each are located in the field. Grain cart tractor operators can also see how full the grain tank is on the combine.

The technology, developed by John Deere, will help eliminate those problems. With the new technology, the combine and tractor pulling the grain cart communicate with each other. On the monitor in the combine the operator can always know the grain cart's location in the field and the grain cart operator knows the combine's location and direction of travel. But even more important, he can see the level of grain in the tank. This allows the tractor operator to better know when the combine will need unloading, and prioritize which one to go to in operations using multiple combines.



Patrick Sikora

During our look at the technology during harvest last fall, we got a ride in both the combine and in the tractor pulling the grain cart. The system is designed to work with the newest combine and tractor models. A key feature happens during on-the-go unloading. Units in the tractor and combine "lock on" to each other. The combine is able to maintain harvesting speed while the tractor's speed varies to evenly fill the grain cart. The system controls tractor speed and lateral side-to-side movement to keep in the right position with the combine for on-the-go unloading. At the end of the row, the operator simply takes over the steering wheel to regain control of the unit. That breaks the communication link between the two units.



LINKED TOGETHER: The tractor pulling the grain cart and the combine "lock on" to each other so they travel at the same speed for efficient on-the-go unloading.

This also applies during a common situation in which the combine operator has to slow down for an obstruction, for example, and the cart would normally keep moving. With this technology the tractor speed would slow down, too, ensuring grain lands in the cart and not on the ground. The communication link is also broken if the combine comes to a complete stop. The tractor operator would see the link is broken and stop the tractor.

"It's live, high-band communication between machines," says Patrick Sikora, product manager, John Deere AMS. "It's simply a software solution," he adds. Some additional hardware would be needed, too, Sikora notes. "If you already have AutoTrac installed in your machines, it's pretty simple to add the software."

Advantage with multiple machines

"The real value comes in when you have multiple machines to keep track of," notes Sikora.

It's an interactive system that provides alerts to all operators. "Information is shared among multiple machines. Cart operators can see the fill status of many machines on their monitor and combine operators can see the location of the other combines and carts in the field. It allows the whole operation to be much more efficient. Combine and tractor operators can coordinate travel in the field better to reduce compaction."

"The ultimate goal is continuous harvesting. The idea is to eliminate combines sitting waiting for carts and it reduces stress during on-the-go unloading. The system is designed to work on contours as well as straight rows," adds Sikora.

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