Interconnected equipment talks efficiency

BY PETER GREDIG

It can be hard to find skilled equipment operators. The basics required to drive a combine, sprayer or tractor with various implements aren't complicated, and auto-steer is a big help, but to really do a good job the operator needs to understand how the machine works and how it should be driven so it performs optimally.

Equipment manufacturers are starting to build machines that can communicate with each other. A good example is New Holland's IntelliCruise technology that will be optional on select baler models in 2016. An advanced ISOBUS III connection between baler and tractor lets sensors on the baler regulate tractor speed so the optimum amount of material is being fed into the baler at all times. This means the operator no longer has to speed up and slow down to accommodate variations in the windrow. It's easy to think of other examples where having the implement dictate tractor speed could be valuable.

Another good example of interconnected equipment is John Deere's Machine Sync, which uses radios in the combine and grain cart tractor to synchronize the speed and GPS location of both vehicles for unloading on the go. It also makes it easy to co-ordinate two or more machines working in the same field – planters or sprayers for example – so they're using the same guidance plan and working together efficiently to cover the field.

Grain cart manufacturer Kinze has also been working on technology they call the Autonomous Harvest System. It uses radar, cameras and GPS to remove the driver from the grain cart tractor: everything is controlled from the combine seat. Search YouTube for "Kinze Autonomous Harvest" to see it in action.

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Early indications are that these systems work. But for farmers considering the technology, the issues are cost, reliability and safety. We went through the same concerns with auto-steer, and it has become mainstream. It's likely that with greater uptake and field experience the costs will come down, and performance and payback will be less of a question mark.

At least one farmer is forging ahead on his own. Last harvest, Manitoba grain grower Matt Reimer experimented with existing guidance hardware used by remote control toys and drones, combined with a mobile app he partially programmed himself.

The end result was a driverless grain cart tractor that can be summoned to the combine for on-the-go loading. Matt invested a lot of time in the project, but out-of-pocket costs were less than $5,000. He sees great potential for efficiency and payback, and already has some ideas for improvements for next year.

Matt is a bleeding edge innovator, but the signal is clear for all of us that interconnected equipment is on the way. ■