GPS Improves Profits And Quality Of Life

URBANA, ILL.

Global Positioning System equipment on the farm is not new. Many farmers have been using some aspect of the technology for over 15 years. Since the beginning, there has always been a concern about whether farmers would actually see an increase in yield or profits after investing in the technology. Initially the return on this technology was considered marginal by many farmers and researchers, however recent technology and research has indicated a more positive outcome.

Ohio surveys on precision agricultural technologies indicated that in 1999, over 80 percent of farmers said precision agricultural technologies were a breakeven proposition or that costs exceeded benefits. In 2007 almost 60 percent thought the benefits exceeded the costs and only 20 percent thought the costs exceeded the benefits.

The initial uses of GPS technology on the farm focused on soil testing, variable rate applications and yield monitors. These applications are information intensive and results proved very complicated to track. Many farmers adopted the yield monitor package partially because of the instant feedback it provided on how their crop was yielding. Many farmers even used the yield monitor without the GPS and data recording. In the last published survey I could find, about one third of grain farms were using yield monitors.

The availability of GPS guidance systems has greatly altered many people's perceptions. In the 1999 Ohio survey GPS guidance wasn't even an option; by 2007 its adoption rate had equaled yield monitors and has continued to climb.

Farm equipment has grown as farm size has grown. Driving a large tractor pulling an even wider farm implement, such as a field cultivator or sprayer, requires skill and focus for safe and efficient operation. Even the best farm operators have an amount of overlap with each pass across the field. GPS Guidance systems can greatly cut down on the average amount of overlap. A recent research project reported a 4 foot average overlap when pulling a 42 foot field cultivator and an operating efficiency of 28 acres per hour. A relatively low cost GPS guidance system utilizing a lightbar, that indicates if the driver is on track, cut the overlap down to 1 foot. A full auto-guidance system that actually steers the tractor, except on the ends, cut the overlap down to 2 inches when paired with a high end RTK GPS receiver. This increased the operational efficiency to over 31 acres per hour. This reduces fuel use and completes operations faster.

Additionally, utilizing this technology on operations that involve inputs like fertilizers and pesticides can reduce costs, as well as increasing operational efficiency.

A side benefit to the technology is that many farmers report feeling less tired at the end of the day. Instead of constantly trying to keep the equipment aligned they can focus on monitors that indicate the equipment is operating optimally and catch problems quicker. This can also free-up some of the operator's attention, allowing them to monitor news and markets as well as communicating with family, suppliers and others. Δ