Driverless farm tractors: A technological marvel, but are they “better?”

Even though it was inevitable, John Deere’s introduction of an autonomous (self-driving/no human needed in the cab) tractor at the annual Consumer Electronics Show (https://tinyurl.com/yt4sxjbf) caught us by surprise. If we had been asked to make a list of the most important ag policy issues facing farmers in 2022, the development of a self-driving tractor would not have made the top 10 or probably not even the top 50.

But our cluelessness did not deter John Deere from developing an electronic control system that would allow its popular 8R tractor to cultivate farm fields while the farmer monitors the tractor’s operations on a smart device as he attends to other farm chores.

While we take this development seriously, we do think their justification for the introduction of an autonomous tractor disingenuous. In the fourth sentence of the press release, Deere asserts “The autonomous tractor serves a specific purpose: feeding the world. The global population is expected to grow from about 8 billion to nearly 10 billion people by 2050, increasing the global food demand by 50 [percent].”

A decade ago, it was farm chemical/seed companies that were arguing that consumers needed to accept their seeds and chemicals in order for farmers to be able to feed the projected 2050 world population. Now Deere is using the same argument (feeding the world) as the rationale for their development of a new, very expensive (half-a-million give or take some change) tractor.

Give us a break! A: Small farmers around the world are the heart of the communities within which they live, and a half-a-mil tractor is not within their budget, but it would put them and their neighbors out of business, increasing the level of hunger in the world. B: People go hungry and suffer from undernutrition not because farmers cannot produce enough food, but because they can’t afford to buy enough food to meet their nutritional needs. We are not going to solve the problem of hunger with big technology.

It is not the technology per se that bothers us. We geek out on electronic gizmos as much as anyone else—well not as much as our kids and grandkids.

In the realm of autonomous technology, we have far more concerns about sharing the roads with autonomous cars than we have about an autonomous tractor operating within a “geofence.” The tractor does not have to deal with inattentive drivers in the other lane and if it senses a problem and suddenly stops, no problem. It does not face the risk of a rear-end collision. So, that’s a plus for the tractor.

We are more concerned about who owns and repairs the tractor and its operating system. How much control does John Deere retain? We are concerned about Deere’s ownership of the data collected from the farmer’s field and how they use that data. If the farmer decided to change to another equipment/technology dealer, does that farmer lose access to a decade or more of farm data or can she continue to use the data developed on and about her farm?

Even though global warming is probably the most serious physical problem facing farmers (pests and weeds are no match for drought, flood, and fire), Deere says nothing about whether or not their field behemoth also reduces its release of global warming gasses. It seems to us that it does little to address the issue of the long-term sustainability of our climate.

In his “Liability Problem for Autonomous Equipment?” article (https://tinyurl.com/y9xafas2) Purdue University’s Jess Lowenberg-DeBoer, Director of the Site-

Specific Management Center, argues that while the development of bigger and bigger equipment made more efficient use of a farmer's time, with the development of autonomous technology that is no longer true. As he says, "once the driver is removed, bigger farm equipment is no longer obviously better." Lowenberg-DeBoer goes on the say, "With computer control, one person could supervise a swarm of smaller machines just as easily as one person could supervise one large one. The ideal autonomous equipment may be more like a rototiller than a 4WD tractor."

It may be that by the time all the liability and public acceptance issues get sorted out, farmers will have purchased fleets of droids that work night and day monitoring fields and pulling weeds with no need for chemicals. All of this could be controlled by little more than a good program and a smart phone.

And that brings us back to the small parcel farmers around the world. Many of them have access to cellphones and a group them could probably afford a solar-powered droid or two, making their weeding and plant management more efficient. Their kids would probably the ones managing the droids; managing a droid has to be more fun than weeding, a typical kid chore. Now, "that" could feed those most susceptible to hunger.

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Dr. Harwood D. Schaffer: Adjunct Research Assistant Professor, Sociology Department, University of Tennessee and Director, Agricultural Policy Analysis Center. Dr. Daryll E. Ray: Emeritus Professor, Institute of Agriculture, University of Tennessee and Retired Director, Agricultural Policy Analysis Center.
Email: hdschaffer@utk.edu and dray@utk.edu; http://www.agpolicy.org.