

The end of 'bigger is better' for farm equipment?

BY PETER GREDIG

I've come to learn that monitoring technology and anticipating where it will take us in agriculture requires a strong curiosity and an open mind. Last winter, I heard a speaker who challenged just how open my thinking was.

Dr. Scott Shearer is an agricultural engineer from Ohio State University. He predicts the long-established trend toward ever larger equipment is not only going to end, but we will see this trend reverse in a dramatic fashion in the future.

Consider that our primary motive in adapting larger equipment is efficiency. One person driving a tractor pulling a 60- or 80-foot implement is much more efficient and can cover more acres per man hour than a 30-footer. Bigger is better.

Of course, horsepower requirements rise as we put wider tools behind the tractor. The capital costs are enormous for assets that sit idle for much of the year, and the weight of mega tractors, seeders and carts creates an undeniable soil compaction issue. Where does it end, and what are we doing to our soils?

But what happens when we no longer have an operator sitting in the driver's seat – when there is no driver's seat? Doesn't the whole equation change? If we are headed toward a world with driverless tractors, could the big, high-horsepower tractor and large implement be replaced by numerous small robotic drone tractors, each with a much smaller implement?

I was initially dismissive of the concept, but can't stop thinking about it. A fleet of small robotic tractors would work 24 hours a day. They would not be built to last 30 years or more like our existing equipment, and could potentially be much cheaper because a lot of the costs of today's equipment is about operator comfort and ease of operation.

Shearer suggested we might be looking at very simple 60- or 70-horsepower robots with economical and easy-to-fix gas engines. Could six small robotic tractors



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with 10-foot implements replace a single 450-horsepower tractor with a 60-foot implement?

It's possible the ownership model could change as well. Golf courses lease fleets of golf carts for tournaments. Maybe something similar would arise for fleets of small robotic tractors that never rest and move from field to field as required.

It's a lot to think about and it's not going to happen overnight, but when we remove the human sitting in every tractor, the whole ball game changes. Once you stop chuckling at this crazy idea, keep thinking about it. Maybe bigger is not going to be better in the future. ■

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