

## On the Farm: Startups Put Data in Farmers' Hands

By Jacob  
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Iowa farmer Jason Rouse adjusts the Farmobile data-collection device in his combine. Information gathered in real time allows farmers to monitor operations and fine tune decisions. Photo: SARAH HOFFMAN for The Wall Street Journal

Aug. 31, 2015 2:01 p.m. ET

Farmers and entrepreneurs are starting to compete with agribusiness giants over the newest commodity being harvested on U.S. farms—one measured in bytes, not bushels.

Startups including Farmobile LLC, Granular Inc. and Grower Information Services Cooperative are developing computer systems that will enable farmers to capture data streaming from their tractors and combines, store it in digital silos and market it to agriculture companies or futures traders. Such platforms could allow farmers to reap larger profits from a technology revolution sweeping the U.S. Farm Belt and give them more control over the information generated on their fields.

The efforts in some cases would challenge a wave of data-analysis tools from big agricultural companies such as

[Monsanto Co.](#), [DuPont Co.](#), [Deere & Co.](#) and Cargill Inc. Those systems harness modern planters, combines and other machinery outfitted with sensors to track planting, spraying and harvesting, then crunch that data to provide farm-management guidance that these firms say can help farmers curb costs and grow larger crops. The companies say farmers own their data, and it won't be sold to third parties.

Some farmers and entrepreneurs say crop producers can get the most from their data by compiling and analyzing it themselves—for instance, to determine the best time to apply fertilizer to their soil and how much. Then, farmers could profit further by selling data to seed, pesticide and equipment makers seeking a glimpse into how and when farmers use machinery and crop supplies.

The new ventures come as farmers weigh the potential benefits of sharing their data with large agricultural firms against [privacy concerns and fears that agribusinesses](#) could leverage farm-level information to charge higher rates for seeds, pesticides and other supplies.



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Farmer Jason Rouse, who uses crop data monitoring tools, checks on his corn fields in Massena, Iowa. Photo: SARAH HOFFMAN for The Wall Street Journal

“We need to get farmers involved in this because it’s their information,” said Dewey Hukill, board president of Grower Information Services Cooperative, or GISC, a farmer-owned cooperative that is building a platform to collect its members’ data. The cooperative has signed up about 1,500 members across 37 states.

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Members of the Lubbock, Texas-based co-op eventually will be able to choose to have their data scrubbed of

identifying details, combined with other farmers' information and sold to prospective buyers. Farmers who participate would share in the proceeds. "If there is any monetary value, we think it needs to go back to the grower," Mr. Hukill said.

Advancements in wireless technology, inexpensive sensors to monitor seeding rates and data-crunching techniques honed in Silicon Valley have helped agricultural companies build systems to help farmers examine which seeds to use in different soils or whether they're underutilizing farm equipment.

Monsanto, the world's largest seed maker by sales, has spent more than \$1 billion on acquisitions over the [past three years on farming hardware](#) and data analysis capabilities. DuPont, which has teamed up with Deere and other groups as it develops its own service, anticipates generating as much as [\\$500 million a year in revenue](#) from computerized farming services.

The Climate Pro service from Monsanto's Climate Corp. division costs \$3 per acre a year. DuPont charges \$150 a month for its Encirca premium suite of farm-management tools, with an initial \$450 setup fee. Both offer basic versions free of charge.



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Farmobile charges \$1,250 a year for its data transmitter and mobile app. Photo: SARAH HOFFMAN for The Wall Street Journal

Startups like Farmobile and Granular say farmers should have greater control over how their information is used.

Farmobile's transmitters, about the size of a paperback book, download information from the diagnostic systems of tractors and other machinery and beam it to a remote server, allowing farm managers to monitor operations and make

quick adjustments. Farmobile charges farmers \$1,250 a year for its data transmitter and mobile application, which allows farmers to track their tractors and combines in real-time, monitoring performance and chemical use.

Next year Farmobile, which is based in a suburb of Kansas City, Mo., plans to open an electronic marketplace where pesticide companies, tractor makers or commodity traders could search for data on farmers' harvests and quote prices to individual farmers to see detailed information. If a farmer sells, proceeds would be split evenly between the farmer and Farmobile.

"We're monetizing something [farmers] hadn't monetized before," said Jason Tatge, co-founder and chief executive of Farmobile, which is funded by its founders and has about 140 farmers using its transmitters this year.

Granular, which sells farm-management software, also envisions a platform that would allow farmers to store and potentially market their data, said CEO Sid Gorham, who previously ran the mobile division of market-research firm Nielsen NV. Granular has raised \$25 million in venture capital from firms including [Google Ventures](#) and Andreessen Horowitz.

*'We'd give our farmers the first crack [at using the data] before selling it.'*

—Sid Gorham, CEO of Granular

The San Francisco company is working to aggregate data from large-scale farms to allow its farmer users to compare prices and performance of farm supplies like seeds to see if they are getting the best deal. Allowing farmers to market their data could become possible late next year, Mr. Gorham said. "We'd give our farmers the first crack [at using the data] before selling it."

Granular charges about \$3 per acre a year for its farm management platform, which automates some budgeting and inventory functions and projects profits.

Companies developing markets for farm data say it's not their intention to displace big seed and machinery suppliers but to give farmers a platform that would enable them to manage their own information. Storing and selling their own data wouldn't necessarily bar a farmer from sharing information with a seed company to get a planting recommendation, they say.

Meanwhile, companies developing the data silos expect it will take several years to set up comprehensive databases spanning significant swaths of big crop-producing states. Farmers, many of whom struggle with the idea of big companies or traders gaining an intimate view of their farms, will also have to be won over to make the concept work.

Some farmers, however, see the potential for a new revenue stream from their crop information. "At this point, I'm pretty comfortable with allowing my data to be aggregated into other [data sets]," said Zachary Hunnicutt, a Nebraska farmer who has been testing Farmobile's system. "It's [potentially] another income flow and a way to help people make better decisions around agriculture."

Field-level information on crops, collected in near real-time, would find ready purchasers among traders of agricultural futures such as corn and wheat, said Jon Marcus, principal of Chicago-based brokerage firm Lakefront Futures & Options LLC. "It's invaluable if it's done correctly," he said.

Big grain companies, too, could be buyers. "It'll be a source of input that we would eventually put a price on," said Soren Schroder, chief executive of [Bunge Ltd.](#), among the world's biggest purchasers of agricultural commodities.

[FMC Corp.](#), a major supplier of crop chemicals, would be interested in purchasing "more grower-level agronomic data" to help the company develop new products, though it would depend on the quality of the data and the price, according to a spokesman.

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