

More farmers are using drones to help tend to the crops

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Zach Fiene, co-founder of aerial drone company DMZ Aerial, flies a drone at a test plot in Mazomanie, Wisconsin, Sept. 22, 2015. The company's drone technology gives farmers an overview of crops to determine problem areas without having to walk through the field. Photo: Mike De Sisti/Milwaukee Journal Sentinel/TNS

MILWAUKEE, Wis. — With a drone, Zach Fiene can receive detailed pictures of a corn field.

He can see exactly what parts of the field are struggling with plant disease, insects or a lack of water. In minutes, he can gather as much information as someone walking for several hours.

“You can basically point the camera to where you want it to go,” said Fiene, co-owner of DMZ Aerial.

A drone is like a remote-controlled airplane equipped with a camera. It flies overhead and can take pictures or video. Drones are also called unmanned aerial vehicles or UAVs. They are piloted by onboard computers or remotely by a person on the ground.

A Farmer's Extra Pair Of "Eyes"

The Association for Unmanned Vehicle Systems International is an organization for drone manufacturers and users. It says that as the technology improves and farmers accept it, 80 percent of all business drones may be used for agriculture.

Small and cheap aerial drones can help farmers put weed killers and plant fertilizers precisely where the chemicals are needed. They can identify especially dry areas of a field, directing irrigation systems to those spots without wasting water elsewhere. The aerial robots also can spot predators in livestock herds, and direct farmers to those locations.

Drone technology is getting better. Things like 3-D images and temperature readings from drones could be combined with other information. Farmers would get even more information about growing conditions. It would help farmers to save money.

On foot, it can take hours to walk through a field. Even then, farmers can still miss something, according to Fiene, who is a trained crop scout.

"You might walk past a problem area, not see it. And three weeks later the corn is dead because disease has spread," he said.

"We Can't See Them"

The Federal Aviation Administration (FAA) is writing new drone rules. These would let drones be used regularly for business. This year, it approved dozens of permits for agricultural drone businesses.

Some aviation professionals worry about the risk of midair collisions.

"We can't see them," Andrew Moore said about small drones. He is with the National Agricultural Aviation Association.

Moore's group wants lights and tracking systems on drones.

"Every time there's a report of a drone almost hitting a plane, that's not good for us," Fiene said.

There are privacy issues, too, because drones can take pictures of people without them knowing. It also raises questions about who owns the information from a drone flying over someone's property.

"Nothing is really private anymore, from the air. I have told farmers to look up their address on Google Earth, and they would be amazed at the pictures out there," said Casey Langan. He is with the Wisconsin Farm Bureau Federation.

Seeking A Better Way

DMZ Aerial was started three years ago by Zach Fiene and his cousin, Mitch Fiene. Now they have drones in 15 states, including California and Texas.

Before they started the business, the two covered fields on foot or in vehicles.

“We always thought there has to be a more efficient way of doing this,” Zach Fiene said.

At first, the Fienes strapped cameras on radio-controlled airplanes, which was one of their hobbies. Some of their first drones were limited to about seven minutes of flight time, before the batteries had to be recharged. They could not fly more than 300 feet away.

Now they have drones that fly 50 miles per hour and can be controlled remotely from more than a mile away. Drones have to remain in sight of the person at the controls.

The drones return if batteries run low or they have lost contact with the operator. Some drones can be flown by people with little experience or training.

Fieldwork Gets Done Faster

Landmark Cooperative Services is an agricultural business in Wisconsin. It uses aerial drones in addition to people walking through the fields. When a problem is spotted from the air, the crop scout can go to take a closer look.

“What normally would take a couple of hours, in scouting time, can be done in minutes,” said Chase Sellnow, who is with Landmark.

Drones also break up the boredom of field work.

“It’s a blast. I think everybody wants to fly,” Sellnow said.