TECHNOLOGY:

FAA opens door for farming with drones

Niina Heikkinen, E&E reporter

Published: Wednesday, June 22, 2016

A new Federal Aviation Administration decision to loosen restrictions on commercial drone use could be a major boon for U.S. farmers, ranchers and agribusiness.

Yesterday, FAA announced that, beginning in late August, it will allow people to obtain permits to use small drones weighing under 55 pounds as part of their business operations.

Experts said the new operational rules will likely make it easier for farmers and ranchers to gain access to drones outfitted with imaging technology that can help them enhance the precision of their farming techniques. The drones can enable producers to spot problems with their crops sooner and target their responses to better prevent losses. This will encourage farming practices that are both more cost-effective and better for the environment, supporters of rule change said.

"This is really exciting," said Robert Parkhurst, director of agriculture greenhouse gas markets at the Environmental Defense Fund. "We're going to learn a lot in the next couple of years as more drones are deployed in the field."

One of the main benefits for farmers will be a greater ability to specifically target water, fertilizer and pesticide applications to fields, said RJ Karney, director of congressional relations at the American Farm Bureau Federation.

"Farmers and ranchers can identify things before they become major issues," Karney said.

The technology also provides more flexibility than relying on satellite imaging, creating a "huge area of opportunity" for agricultural producers, Parkhurst said.

"You can use different sensors, and you can see different characteristics of the field. With a satellite, you have to decide years in advance what sensors you want to put on there. With a drone, you can put a new one on whenever you can justify the cost, but then you have to get help with making sense [of the images]," Parkhurst said.

Cutting the red tape

Although some farmers had been using drone technology to assess their fields, the practice is still in its early stages, in part because of the difficulty of accessing drone technology.

For many years, commercial use of drones was banned, but beginning in May 2014, FAA introduced the Section 333 exemption request. That opened the door for farmers, ranchers and other businesses to use the emerging technology.

But the application process was time-consuming, said Jamie Nafziger, a partner at international law firm Dorsey & Whitney LLP who has worked with 333 exemption applicants.

People had to fill out dozens of pages explaining details like the safety implications of using the drones, how the technology would benefit the public interest, and specifications of the type of drone they planned to use.

"It wasn't impossible to do that, but it was something that would take several hours and probably some attorney time helping them with the FAA regulations," Nafziger said.

Then applicants would have to wait somewhere between 60 and 90 days to hear back from FAA.

"By the time people were interested, they really couldn't even apply that year and have it granted in time to make that growing season," she said.

There were other hurdles, as well. Drone operators had to have a pilot's license in order to use the drone for commercial purposes. When a drone was in use, the pilot had to keep the drone within his or her line of sight at all times.

"Now, with a few exceptions, they aren't going to have to do that at all anymore," Nafziger said.

Under the new rules, applicants will apply for a remote pilot certificate with a small UAS (unmanned aircraft systems) rating that would involve taking knowledge exams and getting certified for a fee, likely under $200, said Nafziger.

Instead of requiring the pilot to keep the drone in sight at all times, the new rules will allow help from assistants, making it easier to survey larger areas of land at one time. Anyone who is at least 16 years old is eligible to apply.

While these changes will make it easier for farmers and ranchers to apply to operate their own drones, it's not clear how many will choose to use the technology themselves, said Karney.

"Our members have a strong interest in this, but it's still a wait-and-see approach," he said. Farmers are making business decisions; it's going to take some early adopters to make the case."

First the data, then the analysis

Others were more optimistic. John Nowatzki, an extension agricultural machine systems specialist at North Dakota State University, said he has seen a lot of farmers using small drones for crop assessments.

"What we'll see is a significant amount of increased use, as long as all they have to do is be certified," he said.

Part of the challenge of using the technology will be interpreting the data the drones are gathering.

Parkhurst sees a clear opening for agricultural companies to take advantage of the new rules and offer imaging services to farmers.

Now farmers have access to the technology to capture data, but the most important part is the analysis and visualization for the data, he said.

"We are very early in the implementation curve. This is generation 1.0 for the technology. We will move quickly to 1.5 or 2.0," he said.

According to Nafziger, most of the people she has worked with who are seeking exemptions to use drones commercially have been in agribusiness and offer advice on precision agriculture.

While the Farm Bureau is pleased that FAA has moved forward with the new rules, it would like to see some changes to "fully maximize its potential," according to Karney.

Such changes would include allowing drones to fly outside of the line of sight and at night, as well as allowing drones to fly over people and to fly above the maximum altitude of 400 feet.

"Doing this is going to allow farmers to utilize the technology to its full potential," he said.

Twitter: **@nhheikkinen** | Email: **nheikkinen@eenews.net**