

## FAA releases new rules for commercial drones

Source: PrecisionHawk  
Alan Kenaga/  
Capital Press



- Operator**
- At least 16 years old
  - No pilot's license required
  - Pass FAA's aeronautical knowledge tests
  - Obtain remote pilot certificate

- Airspace**
- No 333 exemption required
  - Maximum altitude: 400 feet
  - Maximum airspeed: 100 mph
  - No flights near airports/restricted airspaces

- Drone**
- Weight under 55 pounds
  - Register drone online
  - Keep drone within line of sight
  - Daylight operations only

## New FAA rules for drones could be a 'game-changer' for agriculture

By SEAN ELLIS and ERIC MORTENSON  
Capital Press

New federal rules for the operation of small drones will lead to more innovation in the agricultural industry and open up their use to the average farmer, industry experts say.

"I think it will be a real game-changer for extending the use of unmanned aircraft systems in precision agriculture," said Donna Delparte, who is leading Idaho State University's research on the use of drones in agriculture. "It's going to really be a ground-breaking technology for growers."

The Federal Aviation Administration on June 21 released rules for the use of unmanned aircraft systems weighing less than 55 pounds. They go into effect in mid-to late August.

Ryan Jenson, CEO of HoneyComb Corp., an Oregon drone manufacturing company, said the rules are a "big deal" because they remove the uncertainty that dogged the industry.

He said his company has already received increased interest from potential buyers and dealers and expects to double capacity in the next year.

"Now the U.S. market is really primed to take off," he said.

Matthew Balderree, chief UAS pilot for PrecisionHawk, a North Carolina drone company, said the FAA's requirements for drone use were in a gray area before.



Sean Ellis/Capital Press

A drone operator explains the potential uses of unmanned aircraft systems in agriculture after a demonstration flight over a Southwestern Idaho vineyard in April 2015. Industry experts say the FAA's new rules for drones will open the door for the average farmer to use the technology.

"It clears up the rule aspect of it," he said about the new regulations. "It puts it out in black and white."

He said one of the highlights of the new rules is that drone operators no longer will be required to have a pilot's license.

People who wanted to fly drones previously had to obtain an exemption from Section 333 of the FAA Modernization and Reform Act of 2012, the rules for certifying the airworthiness of aircraft. It was a lengthy process that required a lot of paperwork, Delparte said.

Now they must register their drone with the FAA and pass an aeronautics knowledge test to qualify to fly a drone.

"It is going to be so much easier for farmers" to use drones, Balderree said. "The barrier for entry ... is a fair amount easier."

In an explanation of the

new rules sent to Capital Press, PrecisionHawk Executive Vice President Thomas Haun said, "the new rules allow for a much broader access to drone technology that can be used by a wider audience of people."

With the new rules, "as long as you meet a few pretty minimal requirements and operate safely, you can legally operate drones in agriculture and other commercial opportunities," he said. "What I think you're going to see is a movement from a few very select companies operating drones previously to a broad community of farmers having access to the technology."

The new rules require small drones to be flown below 400 feet and within the pilot's line of sight. Operators can fly a drone from a moving vehicle if they aren't the ones driving and if it's done in a sparsely populated area.

The next major step for agriculture when it comes to drone use would be to allow farmers to operate them beyond line of sight, Haun said.

"This will provide much more efficiency to farmers and help keep the cost down of the drone operations," he said.

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## Dairies reducing nitrogen, EPA says

By DAN WHEAT  
Capital Press

SUNNYSIDE, Wash. — Three Lower Yakima Valley dairies have made progress in controlling sources of nitrogen to a drinking water aquifer in the three years since reaching a legal agreement with the U.S. Environmental Protection Agency, the agency says.

The dairies have made "important progress" and "will continue this work as required by the consent order," said Lucy Edmondson, director of EPA's Washington state office.

The Cow Palace, owned by the Dolsen family, George DeRuyter & Son Dairy, and Henry Bosma Dairy and Liberty Dairy, both owned by the Bosma family, have improved field manure application and irrigation practices, the EPA said in a public update.

Nitrogen levels have dropped below the excessive level of 45 parts per million at 2 feet deep in 11 out of 20 fields and levels in the other nine appear to be declining, said Suzanne Skadowski, EPA spokeswoman in Seattle.

Nitrogen levels in 26 groundwater monitor levels have not yet improved but the EPA believes it will, Skadowski said.

"We don't know how much nitrogen is built up in soils and rocks over the years, so we don't know how soon it will go down," she said.

"The good news is that better management by an agronomist adjusting the land application is dropping the amount of nitrogen in fields and we expect it will improve in the wells," she said.

The dairies have demonstrated in their own monitoring that they are the source of at least some nitrate pollution but how much versus historical build up of nitrate in soils is an open question, she said.

In 2012, EPA concluded the dairies likely were significant contributors to high nitrate levels in groundwater.

Adam Dolsen, owner of Cow Palace Dairy, said he's pleased with the nitrate reduction but didn't think it was very bad in his fields to begin with. With the help of the agronomist, hired by the dairies and approved by the EPA,



Dan Wheat/Capital Press

Dan DeRuyter, co-owner of George DeRuyter & Son Dairy, Sunnyside, Wash., and Dan Evans, president of Promus Energy, stand on the dairy's digester in this 2012 file photo. The digester converts methane from manure into electricity, reducing nitrates.



Dan Wheat/Capital Press

Some of the milk cows at George DeRuyter & Son Dairy, Sunnyside, Wash., are shown in a 2012 file photo. The EPA says this dairy and two others are making progress in lowering nitrate levels in fields.

Cow Palace was able to get 95 percent of its fields below 45 ppm within a year, he said.

Sensors alert the dairies if effluent irrigation water reaches 3 feet in depth and the dairy shuts off the water or diverts it to another field. Nitrates getting to the groundwater aquifer are reduced by curtailing water from leaving the root zone.

To minimize nitrogen entering manure lagoons, Cow Palace and Liberty added centrifuges to solid screening and George DeRuyter & Son added a dissolved air flotation solids removal system.

To minimize lagoon leakage, the dairies are planning to line 41 lagoons.

The lagoons already are lined to USDA Natural Resource Conservation Service standards and the dairies agreed to higher standards with Community Association for Restoration of the Environment, Dolsen said.

EPA didn't approve those but "it was frustrating because EPA wouldn't tell us what it wanted," Dolsen said. The dairies hired a different engineer and decided to install double synthetic liners that

were approved by the EPA, he said.

Cow Palace plans to install the first one in late summer at a significant cost.

"So much higher costs puts us at a competitive disadvantage with other dairies around the nation," Dolsen said. "All of this is costing each of us millions of dollars and we're falling behind in installing milk meters and upgrading milking barns. We're dipping into reserves to keep things afloat."

The dairies are paying for reverse osmosis water treatment for drinking water for 110 down gradient well owners with elevated nitrate levels.

The dairies will continue monitoring wells quarterly for five more years and then will submit an eight-year report. If nitrate trends are not downward, the dairies will further assess and propose and implement additional controls.

Dan DeRuyter, co-owner of George DeRuyter & Sons, said he's still working on an effort to convert a manure digester from producing electricity to producing natural gas. That system is not required by EPA but would lessen nitrates.

In 2012, DeRuyter said the conversion would cost \$13.5 million. Cow Palace planned to be involved at that point but has subsequently dropped out. Dolsen said it doesn't produce liquid manure needed except for three months of the year. Promus Energy, Seattle, was involved in that project, which was to be the only one of its kind on the West Coast and may be unique in the nation.

## ODFW confirms Shamrock pack depredation

By STEVE TOOL  
EO Media Group

ENTERPRISE, Ore. — Two suspected wolf depredation investigations by the Oregon Department of Fish and Wildlife resulted in one possible/other designation and one confirmed wolf depredation.

The ODFW investigated the

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incidents on June 16 and June 28.

The first suspected depredation took place in the Beeler Ridge area east of Joseph. A rancher left behind several tired cows from a cattle drive in the area on June 16. When he returned with a second drive on June 18, he found the remains of one of the cattle. The ODFW investigated the same day and concluded that the cow died on June 17, but labeled its death as a possible/unknown because of a lack of evidence.

The most recent incident occurred in the Kuhn Ridge area northwest of Enterprise. Firewood cutters found the remains of a calf about 4 months old on a U.S. Forest Service grazing allotment on Tuesday.

The ODFW investigated the same day and determined the calf died the previous night.

The investigation confirmed the remains as a depredation after measuring bite marks on the carcass and finding the presence of numerous wolf tracks nearby. GPS data also indicated the presence of two wolves from the Shamrock pack in the area on Monday. The ODFW previously confirmed the same pack had killed a llama about 15 miles north of the area on May 9.

The ODFW states the June 28 confirmation as the seventh in Wallowa County this year along with one probable depredation. As a whole, the state has 11 confirmed wolf depredations and two that were determined as probable.



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