WEDDING ANNOUNCEMENT

Submitted

Luke Galloway and Emily Saari.

Emily Saari and Luke Galloway

Luke Galloway and Emily Saari, of Klamath Falls, will be married May 8 at Valley Bible Church in Rosburg, Washington with a reception to follow.

The bride is the daughter of Robert and Becky Saari, of Rosburg, Washington, where she was home-schooled until graduating in 2013. She then graduated from Northwest University in Kirkland Washington where she earned a degree in music ministry. She is the Children's Director at Living Faith Fellowship in Klamath Falls.

The groom is the son of Timothy and Sharon Galloway, of Sunriver. He is a 2012 graduate of Bend High School and earned a medical degree from Fort Sam Houston in San Antonio, Texas in 2015. He is training in cyber transport systems at Kingsley Field in Klamath Falls.

The couple plans to honeymoon in Hawaii after the groom finishes his training at Kingsley Field in about six months.

They will settle in Klamath Falls.

Drone startup to offer crop-dusting service

BY SIERRA DAWN MCCLAIN
Capital Press

Boston-based startup Guardian Agriculture has invented an autonomous crop-dusting drone intended to complement or replace crop dusting using low-flying planes.

Guardian Agriculture came out of stealth last week, raising $10.5 million in a seed round. Ag giants, including Bayer, Wilbur-Ellis and FMC Corp., backed the startup. The company already has $20 million worth of preorders from growers in California and Florida.

Guardian Agriculture says its drones will save farmers money, reduce overall chemical use by about one-third, limit pesticide drift, promote worker safety and potentially save pilots' lives.

Critics say the unmanned devices haven't been sufficiently tested, aren't properly regulated, are inefficient and may crash into low-flying planes or helicopters.

"The service we're marketing is an existing line item for growers," said Adam Bercu, CEO and co-founder of Guardian Agriculture. "We can offer a vastly upgraded version."

Most aerial applications of pesticides are done by manned aircraft. In contrast, Guardian Agriculture's "drone" is an autonomous vehicle called an eVTOL: electric vertical takeoff and landing.

"You can call what we're building a drone, but you can also call it a serious piece of equipment," said Bercu. "It's about the size of a pickup truck in the air — not a little drone carried in a briefcase."

The eVTOL travels about 10 feet above the canopy at 20 to 30 mph along a preprogrammed route. It can spray up to 40 acres per hour and carry up to 200 pounds of wet or dry product at a time. It requires no live internet connection, is precise within a few centimeters and collects data farmers can use to make growing and spraying decisions.

Photos courtesy of Guardian Agriculture

A Guardian Agriculture eVTOL device flies over a field.

An eVTOL device is removed from a Guardian Agriculture vehicle.

The eVTOL uses automated systems to mix, load, fill and power the vehicle, reducing human contact with pesticides.

But Guardian Agriculture does not plan to sell or lease the drones. Instead, its employees will run the equipment — "a turnkey service for farmers."

Jeff Sparks, the company's chief operating officer, said the service will save farmers money by spraying areas planes can't reach, reducing the volume of chemicals sprayed unnecessarily and helping farmers avoid legal battles related to drift.

Pricing will vary, according to Guardian Agriculture, but will be competitive.

But the company has critics.

Scott Bretthauer, director of education and safety at the National Agricultural Aviation Association, said it's premature for Guardian Agriculture to provide services until the U.S. Environmental Protection Agency and Federal Aviation Association, or FAA, have conducted more research and testing on unmanned aerial devices.

"We have concerns about the safety of it," he said.

Bretthauer said he's concerned that because of their physical design, drones won't be able to deposit the volumes or droplet sizes EPA labels require for drift control.

Sparks of Guardian Agriculture responded that critics "are rightfully concerned" because small drones are unreliable. But Guardian Ag's eVTOL craft, he said, is an "entirely different class," larger and built to provide known droplet patterns.

Bercu, the CEO, said the company is working with the FAA to build a regulatory framework for this "whole new type of machine."

Bretthauer of NAAA said he's also concerned that chemical loading of drones on-site could lead to environmental contamination, and added that he's worried about drones colliding with aircraft.

"We're very concerned about collisions," he said.

Sparks responded that the eVTOL is "a hovering ground rig, not a high-flying machine."

Sparks and Bercu say they believe their business could provide ag pilots with a safer occupational opportunity.

According to the U.S. National Transportation Safety Board, in 2018, there were 52 accidents and eight fatalities in the U.S. involving aerial applicators.

Bercu and Sparks said some pilots are already interested in partnering with them, and others may stop flying to finish their careers on the ground with Guardian Agriculture.

"If they want to hang up their pilot headphones and work with us, they can," said Bercu.

Alex Frederick, senior analyst of emerging technology at PitchBook, covering private markets and venture capital, said although he doesn't expect drones to replace planes anytime soon, he anticipates the technology will gradually gain momentum.

"It's a really interesting space, and it seems like it's heating up," said Frederick.