

People & Places

Drones become flying sensors

By BRAD CARLSON
Capital Press

Drones will be increasingly important in crop production and research in the coming years, Jae Ryu believes.

The unmanned aerial vehicles even could replace manned agricultural aircraft within a decade, the University of Idaho researcher said.

Some farmers already use small drones to identify areas of water stress in the field, said Ryu, a Boise-based associate professor in the Department of Soil and Water Systems.

But bigger drones and payloads are often required for detecting nutrient shortages as well as the presence of insects and disease, and for spot-spraying a chemical, he said.

“At this point, it is still expensive,” said Ryu, whose largest drone is worth about \$60,000 including its sensor package. “But large farms can consider getting this kind of equipment.”

Analyzing drone-collected images and data also requires additional time and special skills, he said.

Farmers can access equipment, facilities and human resources by partnering with the university, Ryu said. The data and contract or fee revenue support research advancement as well as current projects.

Drone use in agriculture has grown partly because satellite information is too



Brad Carlson/Capital Press

The University of Idaho’s Jae Ryu with a drone equipped with a hyper spectral sensor used to characterize crop stress.

coarse to use effectively for farm-scale decision-making, he said. With a drone, there are fewer physical constraints such as clouds, the user gets high-resolution images quickly, and “you can see a dime from the sky from maybe 200 feet off the ground.”

Hyper-spectral sensors can identify crop stress possibly caused by water or nutrient shortages, or pest and disease impacts. Ryu said hand-held versions excel at taking images anywhere in a crop, including pinpointing crop stress, and enable the user to move

around a field easily.

By mounting the sensor on a drone, “we can basically identify a crop-stress area at farm scale,” he said. Light-spectrum data from the drone-mounted sensor can be cross-validated with information gathered by hand-held device, increasing data accuracy and utility.

In an onion field, for example, a hand-held sensor may find one light spectrum indicating crop stress from a lack of water and another spectrum showing stress from a nutrient deficiency.

“It is only identified locally,” Ryu said. “But the drone can tell them if this area is heavily affected.”

Spot spraying may require a heavier “freight” drone.

“Many Asian and European countries already are implementing drone-based spot spraying,” Ryu said. “That is my next project, to build a spot-spray drone to advance pest control in the Treasure Valley.”

He uses remote-sensing technologies and satellite images to view drought and characterize its impact on Western agriculture. He



Western
Innovator

JAE HYEON RYU

Age: 48

Title: Associate professor, University of Idaho College of Agricultural and Life Sciences Department of Soil and Water Systems.

Education: B.S., Konkuk University, 1996; M.S., 2002, and Ph.D., 2006, University of Washington.

Family: Wife, Yookyung Lee, Korean language instructor, Boise State University; two children.

Home: Southeast Boise.

Hobbies: Outdoor activities including tennis, hiking and skiing.

is working on using drone-mounted sensors to chart water quality, important in that detecting an issue early could reduce problems later, he said.

Drones, with their close-proximity imagery, also show promise in estimating grape and tree fruit productivity, Ryu said.

He is considering developing a drone workshop for farmers.

Co-op’s ‘go-to guy’ retires after 38-year career

By CRAIG REED
For the Capital Press

ROSEBURG, Ore. — A part-time job at the Douglas County Farmers Co-op turned into a career for Rex Heard.

That wasn’t necessarily his intention, as he had considered a paramedic career. He figured the hours of being a paramedic would work well with his desire to also be a small flock sheep rancher.

But once he was at the co-op and its management saw he had previous experience with sheep and a continuing interest in them, he was given more livestock responsibilities. His future at the co-op was set, and he still managed to run a flock of sheep on his family’s ranch.

At the time, there were 75,000 to 100,000 ewes in southwestern Oregon’s Douglas County and more of those woolies in adjoining counties, so the co-op needed somebody with some sheep experience.

“Nobody who worked here had sheep,” said Heard, whose father, veterinarian Dr. Weldon Heard, had a sheep ranch. “The co-op dumped everything about sheep on me, like it was a bad disease. The fact my dad was a veterinarian, ranchers were familiar with him through sheep and through the Australian shepherd



Craig Reed/For the Capital Press

Rex Heard, a 38-year employee at the Douglas County Farmers Co-op in Roseburg, Ore., saw numerous changes in agriculture during his career, including an increase in sales of animal health medicines. Heard was the co-op’s “go-to guy” in that department.

dogs he raised, helped me earn their trust.”

There were also many sheep shearers in western Oregon at that time and they had shearing blades that needed sharpening and shearing equipment that needed to be repaired or replaced. Heard quickly filled those needs at the co-op.

After just one year, he became the assistant manager in the co-op’s feed department.

Now, 38 years later, Heard ended his career at the Roseburg store at the end of August. The 62-year-old will now be able to spend more time with his flock of 100 ewes that produce 4-H and FFA club lambs, commercial lambs and some

commercial rams.

Through his co-op career, Heard was promoted to feed department manager, outside field manager and for the last 18 years was purchasing agent for livestock supplies.

“When I started, we had a manual cash register, no computers,” Heard said. “We basically started and finished business with a customer. We didn’t have clerks in the front or buyers in the back.”

Heard said another change he saw in the livestock industry was fewer sheep ranches because wool prices had fallen and predator numbers had increased.

Heard also saw an increase in sales of animal health medicines. He

became the co-op’s go-to guy in that department. He worked with Dr. Mark Lyman, the co-op’s consulting veterinarian, to answer customers’ questions about animal medicines.

“People wanted me to be their veterinarian so I had to learn a lot about those products,” Heard said.

He also had to learn how to buy livestock products for the co-op and its customers in order to be competitive against a growing number of options, including the internet.

“I worked hard to cultivate a trusting relationship with our producers,” Heard said. “It put more pressure on to keep your word, to work harder to buy right and a lot of pressure to maintain that trust. You wanted producers to trust the co-op, not just me.

“It’s no longer a local market, it’s a world market,” he added. “There’s so much more competitiveness in the ag industry.”

Lyman, who has been the co-op’s consulting vet for almost 20 years, said Heard “was the most knowledgeable guy in there (co-op) that I dealt with. He’s as knowledgeable in herd health and production medicine for livestock as most livestock veterinarians.”

Melvin Burke, the co-op’s general manager for the past 16 years, described Heard as “a servant to the

customer.”

“He would explain the ins and outs of his own experiences to the customer, and get them through to a solution,” Burke said “He’s such a wealth of information.

“He was an employee who was also a producer,” Burke added. “He did what he loved away from the co-op, living the lifestyle of a rancher and then brought that experience to the co-op and its customers. He cared for the animals and for the people. Rex did the right thing to help people and their animals even when no one was watching.”

Heard also represented the co-op before and during the annual county lamb, hog and beef shows and auctions. The co-op estimated that over the past 25 years, Heard interviewed over 40,000 kids with 4-H and FFA animal projects who came to the store in hopes of getting bids on their animals at an upcoming auction. He then bid on behalf of the co-op at the auctions.

“Rex was the face of the co-op for years,” Burke said. “He’s one of the co-op’s longest tenured employees. Rex was a go-to guy. People will miss him. He’ll be sorely missed.”

Heard admitted his co-op career was something he never intended, but it ended up “being a blessing to me and my family.”

CALENDAR

THROUGH SEPT. 28

Public Lands Council Annual Meeting:

Great Falls Civic Center, 2 Park Drive S, Great Falls, Mont. The agenda includes federal agency updates, an Endangered Species Act panel discussion, a public lands ranching panel discussion, a PLC business meeting and a predator tour. <http://publiclandscouncil.org>

SATURDAY, SEPT. 28

Goat Education Day:

8:30 a.m.-4 p.m., Auditorium, Southern Oregon Research and Extension Center (SOREC), 429-569 Hanley Road, Central Point, Ore. Adults \$35, Youths (18 and younger) \$20 <http://bit.ly/JaysonGoatEdDay2019>

Sauvie Island Jubilee:

10 a.m.-5 p.m. Howell Territorial Park, 13901 NW Howell Park Road, Portland, Ore. The event is free and open to all. Celebrate Sauvie Island history and culture, and the West Multnomah Soil and Water Conservation District’s 75th anniversary. It will be a fun-filled day of activities for all ages. <https://www.sauvieislandjubi>

lee.org/main

WEDNESDAY,
OCT. 9, 16, 23

Exploring the Small Farm Dream for Veterans: 1-3:30 p.m., Benton County Extension, Sunset Meeting Room, 4077 SW Research Way, Corvallis, Ore. A 3-part workshop series offered to veterans free of cost. Sponsored by Benton County Veteran Affairs. <https://tinyurl.com/yy2fnnyo>

WEDNESDAY-SATURDAY
OCT. 30-NOV. 2

92nd National FFA Convention and Expo: Indiana Convention Center, 100 S Capitol Ave., Indianapolis, Indiana. This is the organization’s annual gathering. <https://convention.ffa.org/>

SATURDAY-TUESDAY
NOV. 2-4

2019 Angus Convention: Reno-Sparks Convention Center, 4590 S. Virginia St., Reno, Nev. From out-

standing educational seminars to nationally known entertainment, the 2019 Angus Convention in Reno, Nev., is an event you won’t want to miss. <http://www.angusconvention.com/>

FRIDAY, OCT. 4

Tri-State Fine Fuels Management Field Day: 9 a.m. Rockville School gym, 739 Succor Creek Road, Jordan Valley, Ore. Management tools including using dormant-season grazing to be discussed. Sergio Arispe, sergio.arispe@oregonstate.edu, 541-881-1417 <http://extension.oregonstate.edu/malheur/>

SATURDAY, OCT. 5

Oregon’s Bounty Event: 10 a.m.-2 p.m. Oregon State Capitol, 900 Court St. NE, Salem. This free celebration of the state’s agricultural harvest is sponsored by the Oregon State Capitol Foundation. 503-986-1388

FRIDAY-SUNDAY
OCT. 11-13

Young Farmers & Ranchers Ag

Tour: The Young Farmers & Ranchers (YF&R) Ag Tour of southwest Oregon Coast is open to Farm Bureau members. Tour will depart from Corvallis at 8 a.m. on Friday, Oct. 11, and will return by 5 p.m., Sunday, Oct. 13. jaccon@oregonfb.org, 503-399-1701

WEDNESDAY, OCT. 16

Forest Stewardship Coached Planning Course: 6 p.m. Cowlitz County Administration Building General Meeting Room (3rd Floor), 207 Fourth Ave. N, Kelso, Wash. Forest Stewardship Coached Planning is a comprehensive series of classes that are taught by recognized forestry experts from around the state of Washington. Participants receive one-on-one assistance in writing a forest stewardship plan, a forestry reference library, maps of their properties, a forest measurement tool and a personal site visit from a professional forester. It takes place Oct. 16-Nov. 20 (a field trip will be Nov. 16). The registration fee is \$125 before Oct. 5, and \$150 after. Cost is per household (limit 4 people). Pat-

rick Shults, patrick.shults@wsu.edu, 360-740-1213. <http://forestry.wsu.edu/kelsocp/>

THURSDAY, OCT. 17

Oregon Farm Bureau Tax Symposium: 9:30 a.m.-2 p.m. Oregon Farm Bureau Office, 1320 Capitol St. NE, Suite 200, Salem. Join Oregon Farm Bureau and leading tax professionals in a half-day workshop to discuss how to best prepare for the upcoming tax season. Event is free to voting and supporting members of Farm Bureau. RSVP by Oct. 11. tiffany@oregonfb.org 503-399-1701

SATURDAY, OCT. 19

Oregon Ag in the Classroom Fall Harvest Dinner: 5 p.m., CH2M Hill Alumni Center, Oregon State University, Corvallis. Make plans to join us for our 2019 Fall Harvest Dinner and Auction. All proceeds will directly support our mission: “To help students grow in their knowledge of agriculture, the environment and natural resources.” AITC@oregonstate.edu, 541-737-8629



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