

People & Places

Protecting crops naturally

Dani Lightle helps orchardists battle pests, diseases

By TIM HEARDEN
Capital Press

ORLAND, Calif. — As a youngster growing up in Ohio, Dani Lightle had little to do with agriculture.

She was a science enthusiast at an early age — an interest her parents encouraged. They would buy her books on insects, and she'd go into the backyard and find each one, she said.

"I was pretty far removed" from farming, Lightle said of her childhood in Copley, Ohio, a suburb of Akron.

But now Lightle, 30, a University of California Cooperative Extension orchard crop adviser, is undertaking scientific research that could be crucial for much of California's \$54 billion agriculture industry.

Having earned a doctorate in entomology from Oregon State University in 2013, Lightle is working on several projects to help plants and trees naturally ward off pests and disease, including developing resistant rootstocks and studying the behavior of insects.

"Coming out of undergrad, I was very interested in managing invasive species," said Lightle, who honed her knowledge by working in a U.S. Department of Agriculture laboratory in Oregon after earning her bachelor's degree in biology from the College of Wooster in Ohio in 2007.

While taking a class at Wooster, "I was struck with how important it is to control invasives," she said.

Finding natural means of controlling invasive pests and



Tim Hearden/Capital Press

Dani Lightle, a University of California Cooperative Extension orchard adviser in Orland, offers a preview of an online resource for growers that will go live this month. She is involved in research projects to help trees and plants naturally resist pests and disease.

tree and plant diseases will be critical for agriculture in California, which accounts for about half of all U.S.-grown nuts, fruits and vegetables.

\$3 billion question

Each year, invasive insects and diseases cost the Golden State's farmers about \$3 billion in control costs and crop and export losses, according to the state Department of Food and Agriculture.

"It's a lot," Lightle said. "It obviously varies year by year, but there are a lot of costs associated with a pest, including the cost to control it."

Moreover, tighter regulations are being placed on the chemicals that growers use to treat for pests and disease, increasing the need for Lightle and other researchers to find natural alternatives. The U.S. Environmental Protection Agency is considering banning the use of chlorpyrifos, a pesticide used on some 60 California crops, including tree nuts, oranges and grapes.

Lightle became interested in a cooperative extension career while in graduate school, she said.

Sharing information

"I liked the interaction with growers," she said. "I liked sharing information with them and making the language accessible to them."

After earning her Ph.D., she rode across the country by motorcycle and randomly applied for jobs. She ended up in Orland, in the heart of the Sacramento Valley's almond, walnut, olive and prune country. She started in February 2014.

"I'm heading into my third California summer," she said.

In the last five years, Lightle has authored or co-authored seven peer-reviewed scholarly articles on raspberry viruses brought on by aphids and other insects. Other non-peer-reviewed articles she's written deal with such topics as navel orangeworm in walnuts, olive fly activity and a

pathogenic bacterium associated with California olives.

No quick fix

Many of her research projects are long-term. She and other researchers are several years into a germplasm breeding process they hope will lead to new walnut varieties that are resistant to nematodes and phytophthora.

"It's definitely not instant results," she said. "Very few things are instant results."

Even short-term projects such as examining flight patterns of insects must be done over several years because conditions change each year, Lightle said.

"Nothing is instant," she said. However, most growers "have a handle on the fact that it takes time to get results," she said.

Online tool

She and other Sacramento Valley advisers are developing an online resource for orchardists that will include



Western Innovator

Dani Lightle

Age: 30

Residence: Orland, Calif.

Education: Bachelor's degree, biology, the College of Wooster, 2007; doctorate, entomology, Oregon State University, 2013

Family: Husband, Lars Estrem; daughter, Cora

Website: sacvalleyorchards.com

pest updates, evapotranspiration reports for irrigation management and a calendar of upcoming workshops.

Lightle said she enjoys meeting with growers and says she learns something new in every conversation.

"I don't think you'd do this job or last very long if you didn't enjoy going out and talking with growers," she said. "One of the really important aspects of this job in the early years is building those relationships and networks so they know they can call on me if they need something."

Lightle said such measures as breeding disease-resistant rootstocks have "always been a first line of defense" in farming for thousands of years.

"Research-wise, I'm really hoping to pursue strategies that make a difference in growers' practices and production," she said. "That's really what takes a while."

Washington apple foundation tops \$1 million in scholarships

By DAN WHEAT
Capital Press

WENATCHEE, Wash. — The Washington Apple Education Foundation will award more than \$1 million in scholarships to tree fruit-related college bound students this spring.

It's a major milestone that the Wenatchee-based foundation's board only saw as attainable in the last year, said Jennifer Witherbee, foundation executive director.

"We're very excited. We were getting pretty certain in the last two weeks that we might reach it," Witherbee said. "But what's most important is the individual students, their stories and that they are

deserving."

About 75 percent of the money will go to Hispanics. That percentage has been increasing over the years, she said. Many are first-generation college students.

Last year, the foundation awarded \$850,000 to 225 students.

Five years ago, the foundation gave just over \$400,000 in scholarships, but the industry really stepped up its giving when the foundation changed its philosophy in student support, Witherbee said.

Instead of focusing on reaching the greatest number of students with one-time scholarships, the foundation began supporting more with repeat scholarships as long as

they did well in college, she said. The focus is on doing well and connecting to future careers, she said.

About half the 200 students receiving scholarships this month will be repeat awards and half will be new. Recipient will be announced at the end of the month.

Scholarships average about \$3,500 per year with the lowest being \$1,000 and the highest being a full-ride, four-year scholarship averaging about \$90,000, Witherbee said.

The foundation manages more than 100 scholarship funds, each with its own criteria but sharing a primary purpose of assisting young people raised in families connected to or employed in the tree fruit

industry in Okanogan, Chelan, Douglas, Grant, Kittitas, Yakima, Benton, Franklin and Walla Walla counties.

"Many of these parents work in labor positions and the cost of college is more than they can bear alone," said Gene Sharratt, executive director of the Washington Student Achievement Council. He assisted the foundation in organizing its scholarship program more than 20 years ago.

Sharratt, Central Washington University President James Guadino and foundation chairwoman Rachel Sullivan, CEO of Crane & Crane, a tree fruit company in Brewster, were to speak at the foundation's annual meeting announcing the \$1

million milestone at CWU in Ellensburg.

"CWU began offering tuition waivers to foundation students two years ago as a way of demonstrating our support to the students they reach," Guadino said.

More than half the money comes from industry gifts in May and June and the rest from earnings from one-time endowments and annual fundraisers.

The foundation was begun in 1994 as the charity of Washington's tree fruit industry with a mission of impacting lives through access to education.

Beside the scholarships, the foundation gives \$20,000 annually as grants to English as a second language programs for adults.

Long missing frog, turtle species making return to Yosemite

By SCOTT SMITH
Associated Press

FRESNO, Calif. — A type of frog made famous by Mark Twain will soon be hopping and swimming through California's Yosemite National Park after a decades-long absence, officials said Wednesday.

The California red-legged frog, named for its colorful legs and belly, vanished from the

park more than 40 years ago. It is the type of frog featured in Twain's short story "The Celebrated Jumping Frog of Calaveras County."

Western pond turtles — missing from most of the park for 50 years — are also being reintroduced to Yosemite, both under a partnership with the San Francisco Zoo & Gardens, officials announced.

"This is a landmark event

for Yosemite National Park and a historic opportunity," said the park's superintendent, Don Neubacher. The zoo has begun nurturing frogs in a permanent breeding center. Officials say they already released 2,000 tadpoles in March.

Over the next three years, thousands of tadpoles and adult frogs from the center will be transported 200 miles to be set free in the park's lush meadows,

alpine lakes and winding Merced River.

The frog disappeared from Yosemite in part because non-native, predatory bullfrogs first introduced to a reflection pond spread throughout the valley and, over time, gobbled them up, officials said.

The insatiable bullfrogs have since been eradicated from the park, clearing the way for the red-legged frog's return, said

Rob Grasso, an aquatic ecologist at Yosemite who spearheaded the project.

"Now that they've been removed, we know the red-legged frog will do well," he said.

Red-legged frogs grow to 2 to 5 inches long. They are the largest native frogs in the West — known for communicating in short, soft grunts — and listed as a federally threatened species.

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and by working on a personalized wildfire preparedness plan. http://extension.oregonstate.edu/sorec/cfa

Sunday, June 5
AOSA SCST Joint Annual Meeting, 8 a.m.-5 p.m. Embassy Suites, Airport Way, Portland. http://www.seedtechnology.net/

Monday, June 6
California Poultry Federation Summer Meeting, 9 a.m.-5 p.m. Cliffs Resort, 2757 Shell Beach Road, Pismo Beach, Calif. http://cpif.org/2016-summer-meeting

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Wednesday, June 8
Oregon Board of Agriculture Quarterly Meeting, 8 a.m.-5 p.m., Keerins Hall North Room at the Grant County Fairgrounds, 411 NW Bridge St., John Day, Ore.

Thursday, June 9
AOSA SCST Joint Annual Meeting, 8 a.m.-5 p.m. Embassy Suites, Airport Way, Portland. http://www.seedtechnology.net/

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Summer Water Law and Resource Issues Seminar, Sun Valley Resort, Sun Valley, Idaho. (208) 344-6690, http://www.iwua.org

Tuesday, June 14
Summer Water Law and Resource Issues Seminar, Sun Valley Resort, Sun Valley, Idaho. (208) 344-6690, http://www.iwua.org

Wednesday, June 15
OSU Strawberry Open House, 1-5 p.m., North Willamette Research & Extension Center, 15210 NE Mile Road, Aurora, Ore. http://oregonstate.edu/dept/NWREC/

Thursday, June 16
Grant County Fairgrounds, 411 NW Bridge St., John Day, Ore.

Friday, June 17
OSU Strawberry Open House, 1-5 p.m., North Willamette Research & Extension Center, 15210 NE Mile Road, Aurora, Ore. http://oregonstate.edu/dept/NWREC/