

People & Places

Researcher helps keep DON in check

Chad Jackson screens wheat, barley for Fusarium headblight disease

By JOHN O'CONNELL
Capital Press

ABERDEEN, Idaho — The screening nursery Chad Jackson tends at the University of Idaho's Aberdeen Research and Extension Center is the front line in the fight against Fusarium headblight in wheat and barley crops.

The fungal disease causes grain to form the deoxynivalenol toxin, known by the initials DON, which ruins milling and malting quality and can cause sickness in people and animals. The prevalence of the disease has been on the rise in Idaho wheat in recent years, and in 2015, the first loads of barley, originating from the Idaho Falls area, were rejected for elevated DON levels.

Jackson joined UI in 2005 as a research specialist, working in support of UI Extension cereals pathologist Juliet Marshall. He said the screening nursery includes plots of roughly 100 spring wheat and barley varieties. Jackson said the nursery includes all of the entries in UI's variety trials and barley lines under development by USDA Agricultural Research Service barley breeder Gongshe Hu's program. UI also has a contract to evaluate lines under development by Anheuser-Busch.

"It's becoming more of an issue," Jackson said of head-



John O'Connell/Capital Press

Chad Jackson, a research specialist at the University of Idaho's Aberdeen Research and Extension Center, holds a handful of corn used to propagate Fusarium headblight to inoculate trial plots in a variety screening nursery. The disease has become increasingly worrisome for wheat and barley growers.

blight in Idaho. "I think it's going to probably be long-term enough we're going to have to plan on having resistance genes stacked into our varieties coming out."

The university also conducted headblight fungicide trials on behalf of product manufacturers in 2013. The following year, UI obtained a \$30,000 grant from the Wheat and Barley Scab Initiative to set up the nursery. The initiative also funded the nursery for 2015 and 2016.

Jackson inoculates grain in his nursery by scattering moldy corn among the plants and spraying plants with fungus.

Jackson said Aberdeen will also participate this summer in a standardized fungicide trial for the Scab Initiative,

in which several fungicides will be evaluated in nurseries around several states.

About a decade ago headblight — which likes hot and moist conditions — was considered mainly a Midwest problem, Jackson said.

"It's been easy for us to promote our production, saying we have less of a prevalence of Fusarium because of our arid climate," Jackson said.

As Idaho's corn acreage increased to support the growing dairy industry, Jackson said the state experienced a shift toward F. graminearum — a more aggressive headblight strain that thrives on corn and can be carried long distances by wind, unlike the prior common strain, F. culmorum.

"We can't let our guard

down on this because it has been a pretty consistent problem," Jackson said. "In the last six years, we haven't gone a year without seeing it."

The most susceptible barley variety in the 2015 nursery trials was Goldeneye. The least susceptible was a Midwestern variety, Quest.

Marshall, Jackson's supervisor, explained that some of the most tolerant varieties are six-row barleys, which are gradually being phased out by the industry.

"We really have no effective control of this disease. When the temperatures are right, you're going to get headblight, even with the best resistant varieties and fungicide," Marshall said.

IDO 851, Alpowa and UI Stone were among the most



Western Innovator

Chad Jackson

Age: 36

Hometown: Sterling, Idaho

Education: Bachelor's degree in agricultural science from Western Illinois University and master's degree in plant science from University of Idaho

Job: Research specialist at University of Idaho's Aberdeen Research and Extension Center

Innovation: Planting and maintaining Fusarium headblight screening nurseries

Family: Wife, JanaLee Barclay Jackson; children Samantha, 10, Alexis, 8, Christian 5, Abigail, 10 months

resistant wheat varieties. Jackson said hard white varieties, such as Klasic and Snow Crest, and certain durum wheat varieties are among the most susceptible.

In addition to planting resistant varieties, Jackson advises growers to plant spring wheat as early as possible to avoid flowering when spore loads are high, to avoid planting susceptible varieties following corn and to spray fungicides on barley at head emergence and wheat when flowers are 50 percent developed.

OSU prof switches from testing grass straw to sled dogs

By MITCH LIES
For the Capital Press

Morrie Craig, a toxicologist in the Oregon State University School of Veterinary Medicine, is spending the first couple of weeks of March this year in some of the remotest corners of the world.

Craig isn't looking for a getaway, however. He's testing dogs for the presence of drugs in the Iditarod Trail Sled Dog Race.

Craig, chief of drug testing for the race for the past 23 years, heads a team of about 15 veterinarians that test for the presence of drugs at the start, finish and middle of the 1,049-mile race, which was first run in 1973.

The in-race testing takes him to some remote sites, he said.

"You get to see the interior



Submitted photo

Oregon State University College of Veterinary Medicine toxicologist Morrie Craig is shown with a sled dog in Willow, Alaska. He has been the chief of drug testing for the Iditarod Trail Sled Dog Race for the past 23 years.

of Alaska," Craig said. "Oftentimes it is minus 30 or 40 or 50 (degrees Fahrenheit) and it takes you to places almost no

one ever visits.

"It's the last great frontier," he said.

Craig, who also is director

of the OSU Endophyte Lab — which tests grass straw and seed screenings that are bound for Asia for the presence of endophyte, which can cause problems when fed at high doses to livestock — first came to the attention of Iditarod organizers in the mid-1990s after the publication of a book he co-authored on proper care of racing and retired greyhounds.

About that time, four of the race's top performers suspected drug use among the ranks of teams competing in the race. Craig was asked to develop a drug-testing program.

Two years later, event organizers asked Craig to head the effort.

Craig and his team will conduct urine tests on between 180 and 200 dogs during the 10 or so days of the race, testing for 187 different drugs.

The idea behind the testing, Craig said, is to discourage competitors from trying to gain an unfair advantage. In the statistical-based program that Craig has established, cheaters have a greater than an 80 percent chance of getting caught, he said.

The deterrent appears to work. "Almost always the dogs run drug-free," he said.

Testers will go to work on March 6, testing about one-third of the dogs in Willow, 23 miles from the ceremonial start of the race in Anchorage, and their work will conclude in Nome, site of the end of the race, where dog team members of the top 25 finishers will be tested.

Craig wouldn't divulge where the veterinarians will be testing along the course.

"We keep that private," he said.

Calendar Sponsored by: GASES / WELDING / SAFETY / FIRE

20 Northwest Locations

To submit an event go to the Community Events calendar on the home page of our website at www.capitalpress.com and click on "Submit an Event." Calendar items can also be mailed to Capital Press, 1400 Broadway St. NE, Salem, OR 97301.

Friday, March 4

Pacific Northwest Christmas Tree Association 2016 Short Course, 8:30 a.m.-4:10 p.m., Holiday Inn Portland South, Wilsonville, Ore. <http://www.pnwcta.org/>

Ag Chemical Collection Event, Redwood Transfer Station, Grants Pass, Ore., 541-690-9983. www.rogueriverwc.org/

Saturday, March 5

Basic Farm Equipment Maintenance and Repair, 1-5 p.m. This class offers an introduction to farm equipment maintenance and repair. Dunbar Farms, Medford, Ore. <https://secure.oregonstate.edu/os-uext/register/974>

Ag Chemical Collection Event, Rogue Disposal Transfer Station, White City, Ore., 541-690-9983. www.rogueriverwc.org/

Thursday, March 10

2016 Idaho Nutrient Management Conference, Best Western Sawtooth Inn, Jerome, 208-736-3605.

Saturday, March 12

Spring into Gardening, McMinnville Community Center, McMinnville, Ore., 503-434-7517.

This year's theme will be Home Landscaping: Small Changes, Big Impact. Presented by Oregon State University Extension and the Yamhill County Master Gardeners Association.

Monday, March 14

Farm Succession Workshop, 6-9 p.m. Learn about the options available to you as you prepare to transition your working lands to future generations. Speakers will discuss the legal, financial and business factors that a farm family should consider when planning for the future. They will present real world examples of how to address these important issues while balancing the complexities of family dynamics. Sponsored by the East Multnomah Soil and Water Conservation District. Holiday Inn Express, 477 NW Phoenix Drive, Troutdale, Ore. <http://emswcd.org/workshops-and-events/upcoming-workshops/all-events/farm-succession/>

Friday, March 18

2016 Oregon FFA State Convention, Oregon State University, Corvallis. <http://www.oregonffa.com>

Northwest Horse Fair & Expo 2016, Linn County Fair and Expo Center, Albany, Ore. The largest equine expo in the Northwest will feature fancy dancing horses, strutting stallions, clinics by world-class horse trainers and riders, breed and stallion review demos, equine entertainment and a trade show. <http://equinepromotions.net/>

Saturday, March 19

Women in Agriculture Conference, 8:30 a.m.-3:30 p.m. Pacific time, 31 locations across the region. The 2016 Women in Agriculture Conference will offer women in Washington, Idaho, Oregon, Montana and Alaska a unique opportunity to gather in 31 locations for a one-day event featuring knowledgeable speakers, inspiring stories, networking with other producers and practical advice for learning new skills. <http://womeninag.wsu.edu/>

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Monday, March 21

2016 Oregon FFA State Convention, Oregon State University, Corvallis. <http://www.oregonffa.com>

California Fresh Fruit Association Annual Meeting, Resort at Pelican Hill, Newport Coast. <http://www.cafreshfruit.org>

Tuesday, March 22

California Fresh Fruit Association Annual Meeting, Resort at Pelican Hill, Newport Coast. <http://www.cafreshfruit.org>

Saturday, April 2

Spring Farming Days, 9 a.m.-4 p.m., Eastern Washington Agricultural Museum, Pomeroy. www.co.garfield.wa.us/museum

Sunday, April 3

Spring Farming Days, 9 a.m.-4 p.m., Eastern Washington Agricultural Museum, Pomeroy. www.co.garfield.wa.us/museum

Wednesday, April 6

Idaho FFA State Leadership Conference, College of Southern Idaho, Twin Falls. idahoffa.org/

Thursday, April 7

Growing Agripreneurs — A Season of Farming Training, 6-9 p.m., Growing Agripreneurs is a seven-month program, beginning April 7, designed for beginning

farmers interested in gaining theoretical and practical knowledge through classes, field work, marketing, food preservation, farm tours and one-on-one mentoring. Pre-registration by March 25 required. Southern Oregon Research and Extension Center, 569 Hanley Road, Central Point, Ore. Cost: \$350 (couples discount, \$600) Partial scholarships available. <http://extension.oregonstate.edu/sorec/farms>

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Friday, April 8

Idaho FFA State Leadership Conference, College of Southern Idaho, Twin Falls. idahoffa.org/

Saturday, April 9

96th Annual California Ram Sale, Viewing starts are 8 a.m. Over 400 range rams from California, Oregon, Idaho and Utah. Crossbred, Hampshire, Suffolk and White-Faced (Columbia, Rambouillet) rams will be auctioned off in the sale. In addition three purebred ewes will also be sold. Also, ultrasound carcass measurements and a range ram index will be provided on all sale rams. Porterville Fairgrounds, 2700 W. Teapot Dome Ave., Porterville, Calif. <http://cawoolgrowers.org/sale/ramsale.html>

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To Reach Us

Toll free 800-882-6789
Main line 503-364-4431
Fax 503-370-4383
Advertising Fax 503-364-2692

News Staff

N. California
Tim Hearden 530-605-3072

E Idaho
John O'Connell 208-421-4347

Idaho
Carol Ryan Dumas 208-860-3898

Boise
Sean Ellis 208-914-8264

Central Washington
N.Wheat 509-699-9099

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Matthew Weaver 509-688-9923

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Eric Mortenson 503-412-8846
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