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Idaho

Weather stations addressing falling numbers knowledge gap

By JOHN O'CONNELL
Capital Press

ABERDEEN, Idaho — Researchers will soon get a comprehensive look at how environmental conditions affect levels of an enzyme that can impair flour quality by digesting starch.

The state Wheat Commission financed the installation of weather stations this season at the University of Idaho's 16 regional variety trials, seeking to pair minute-by-minute, site-specific weather data with results of the low falling numbers test.

The test entails making a gravy from flour and recording the time needed for a paddle to fall through the gelatinized starch, measuring activity of the starch-degrading enzyme alpha amylase.

UI Extension cereals pathologist Juliet Marshall explained an unacceptably low falling number test can often result from pre-harvest sprouting — when rain triggers wheat to germinate prematurely. But late-maturing alpha amylase can also compromise grain in the absence of sprouting, triggered by environmental stresses, such as a wide spread in day and nighttime temperatures.

"We're hopeful that we'll be able to identify the varieties that are susceptible to the late-maturing alpha amylase problem and warn growers not to put them in areas susceptible to low falling num-



Courtesy Idaho Wheat Commission

A new weather station, funded by the Idaho Wheat Commission, records weather data at a University of Idaho regional variety trial site. The stations will help UI pair data on environmental conditions with low falling numbers test results.

bers," Marshall said. "It helps us pinpoint the exact environmental conditions that are conducive to that problem."

The Wheat Commission contributed \$16,000 to cover the installation of the weather stations, which record tempera-

ture, humidity and rainfall on a Zip drive, facilitating data aggregation. Some of the stations also have sensors to record variations in readings below the crop canopy.

Doug Finkelnburg, a UI Extension educator based in Lewiston, submitted the grant request following a discussion among Idaho wheat officials who had attended a falling numbers summit hosted in February in Spokane, Wash.

Finkelnburg said the weather stations give the industry a new variety screening tool, and will also aid wheat breeders in selecting parents for crosses.

"We think what causes late-maturity alpha amylase is likely associated with multiple genes, which means a number of conditions can come together to trigger susceptibility," Finkelnburg said. "We don't know what those stresses are."

Researchers say the weather stations should also come in handy in studying how changing environmental conditions affect several crop diseases, such as stripe rust.

"(Growers) want answers, and we can't give them the answers unless we have the environmental data to go along with data we have on grain," said Cathy Wilson, the Wheat Commission's director of research collaboration.

Wilson said her organization is also funding research delving into the molecular interactions influencing the outcome of the falling numbers test.



Courtesy U.S. Fish and Wildlife Service

The Idaho Department of Fish and Game has formally proposed to allow sportsmen to use bait when hunting wolves, and a committee formed to oversee wolf depredation control for the state has discussed implementing a bounty on problem wolves with IDFG sportsmen dollars.

Idaho proposes wolf baiting, mulls bounty on problem wolves

By JOHN O'CONNELL
Capital Press

BOISE, Idaho — The state Department of Fish and Game has proposed allowing sportsmen to lure wolves with bait, hoping to better utilize hunting as a tool to thin the predator's numbers where livestock and big game depredation is most rampant.

Fish and Game Director Virgil Morris said members of the department's Wolf Depredation Control Board have also had preliminary discussions about offering a bounty on problem wolves. The board — established by the Legislature in 2014 to manage funds directed at wolf depredation control — includes representatives from IDFG, the state Department of Agriculture, the ranching industry and the public.

Morris explained wolf-related livestock depredations are at an all-time low, but in recent years, the state, ranchers and sportsmen have had to offer financial assistance to offset federal funding cuts to USDA Wildlife Services, which is authorized to kill problem wolves.

"The use of sportsmen who pay for the opportunity to hunt or trap is traditionally our best method of managing wildlife populations," Morris said.

According to a report, Wildlife Services killed 75 wolves in 2015, from a statewide population of at least 786.

The report confirmed there were 35 cattle and 125 sheep depredations that year.

In 2016, Morris said his department issued 35,000 wolf tags. Hunters — most of whom were pursuing other game — harvested 139 wolves. Trappers claimed 131 wolves.

Morris said bear hunters who use bait are allowed to shoot any wolves they may attract incidentally, provided that they also hold a wolf tag. He hopes the proposed wolf bait rule, which must be approved by the Legislature and the Idaho Fish and Game Commission, will encourage

"more wolf hunters to go out in the field and just pursue a wolf, like bears."

The public comment period on the wolf bait rule change was scheduled from July 5-26. Morris said IDFG has received thousands of comments — mostly out-of-state form letters in opposition. Opponents of wolf baiting, including the Idaho Conservation League, fear the practice wouldn't constitute "fair chase" and would lead wolves to become "nuisance" animals by encouraging unnatural habits.

The Idaho Cattle Association hasn't submitted formal comments, but ranchers support any tool to help officials address wolf overpopulation, said Executive Vice President Cameron Mulroney.

"If this is a method to help hunters, this may be a good way," Mulroney said.

Morris said wolf baiting would be allowed only in certain hunting units. There would be no limit on bait permits, which could be used throughout the 10-month wolf hunting season.

Hamer rancher Richard Savage, chairman of ICA's wildlife committee and a member of the control board, is an advocate of the bounty concept.

"The thing we like as livestock people is we get the wolves that are committing the depredation," Savage said. "If there's such a thing as good ones and bad ones, you get the bad ones."

Morris said IDFG sportsmen dollars would fund a bounty, which would also have to undergo a thorough public-input process.

He said a state organization called the Foundation For Wildlife Management already offers payments to help trappers defray costs of harvesting wolves in remote areas.

The department currently pays sportsmen a bounty for every lake trout they remove from Lake Pend Oreille in Northern Idaho, to benefit native fish populations, but IDFG hasn't yet offered bounties on game animals.

Bean commission project seeks to develop advanced yellow bean lines

By SEAN ELLIS
Capital Press

NAMPA, Idaho — The Idaho Bean Commission is working on a project designed to develop improved yellow bean varieties that could result in the state's dry bean growers selling more yellow bean seed in Mexico.

The IBC has received a \$134,000 specialty crop grant from the Idaho State Department of Agriculture for the breeding project, which will include University of Idaho and Oregon State

University researchers.

The goal is to develop advanced yellow bean lines with more intense yellow seed color and larger size, with high resistance to bean common mosaic virus and other bean diseases.

A previous IBC-sponsored research project developed two yellow bean varieties with BCMV resistance.

Those varieties are being brought to the market now and it's the first time that a yellow bean has had "off-the-chart resistance to bean common mosaic virus," said IBC board member Don Tol-

mie, production manager for Treasure Valley Seed Co.

"(They) will out-produce anything in Latin America because it has BCMV resistance," he said. "What kills them in Mexico is that they don't have the resistance."

The project seeks to combine that disease resistance in yellow varieties that are more culturally accepted in Mexico. That means a more intense yellow color and larger size.

The BCMV-resistant yellow bean varieties created through the previous project aren't yellow enough

for some markets, said IBC Administrator Andi Woolf-Weibye.

Consumers in Latin American nations "really want that vivid yellow color and that's what we are really trying to accomplish with this project," she said.


While adding virus resistance to yellow varieties immediately benefits bean seed growers, "improvement in the color and size of these lines will make the product even more desirable to the consumer and will likely increase demand for Idaho-produced seed," the IBC's grant application states.

Idaho has 30 bean dealers and more than 500 dry bean growers, and the state leads the nation in dry bean seed production. About 70 percent of the dry beans grown here are for seed.

Previous IBC field trials in Mexico and other Latin American nations have shown that Idaho-produced bean seed yields significantly more than bean seed produced in those countries.

If this project is successful, Idaho bean growers and dealers would be able to offer Latin American growers a higher-yielding yellow bean variety that meets cultural standards and is also resistant to several major dry bean viruses.

"It's a fairly significant opportunity if we can get them into Latin American countries and gain acceptance there," Tolmie said.



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