

MSU's Conrad Research Center discovers unique fungi that may combat wheat stem sawfly and Hessian fly

Research conducted at one of Montana State University's agricultural research centers was patented in January after the discovery of a group of unique fungi that may lead to strides in combating wheat stem sawfly and Hessian fly, two of the most prominent wheat-targeting pests in the U.S.

Gadi V.P. Reddy, who was the superintendent of MSU's Western Triangle Agricultural Research Center in Conrad and is now a research leader for the U.S. Department of Agriculture's Southern Insect Management Research Unit in Mississippi, helped to isolate novel strains of five fungi from samples in Montana wheat fields. The fungi — *Beauveria pseudobassiana*, *B. amorpha*, *B. bassiana*, *Metarhizium pemphigi* and *M. anisopliae* — occur naturally in certain wheat plants and are lethal to both wheat stem sawflies and Hessian flies.

Wheat stem sawfly and Hessian fly cause millions of dollars in damage to wheat crops throughout Montana and the Rocky Mountain region each year, said Reddy. They pose a particularly challenging threat because they can't be combated by spray pesticides. Sawfly lay their eggs inside wheat stems, so the plant provides protection to the very pest that ultimately kills it. Once the egg hatches, the larvae eat the inside of the stem and burrow downward for winter hibernation, which weakens the stem and causes lodging.

"We don't have any reliable control methods for sawfly right now," said Reddy. "Even if you spray chemicals, it doesn't go inside the plant and kill the larvae. The flies have few natural enemies, and those are estab-

lished and effective in only a few places."

The patent, entitled "Compositions and Methods to Reduce the Population of Wheat-Stem Sawfly and Hessian Fly," was issued to MSU and the USDA Jan. 14 after a research and field-testing process that began in 2013. The patent will facilitate the production of commercial products that growers can apply to fields in an effort to accomplish what many adaptive management efforts haven't yet been able to.

The most effective management method for Hessian fly and wheat stem sawfly in recent years has been the development of solid-stemmed wheat varieties. MSU breeders have released nine solid-stemmed varieties since 1995, including 2013's Warhorse, the leading variety in Montana that year, and 2019's Bobcat.

However, said Reddy, solid-stemmed wheat often shows lower yield and lower protein content than traditional hollow-stemmed varieties, which can make it less attractive for farmers to plant. The advent of no-till agriculture has also benefited the pests, which hibernate in the stubble left behind after wheat is harvested, waiting until the next spring to emerge.

After the initial discovery of the fungi in 2013, Reddy's team sent them to co-inventor Stefan Jaronski at USDA's Northern Plains Agricultural Research Laboratory in Sidney, which frequently conducts research with the MSU College of Agriculture and Montana Agricultural Experiment Station. Once the fungi were isolated from the wheat samples and laboratory and field tests were completed, MSU and the USDA applied for

the patent in 2017.

"We found out that based on the experimental results, these fungi were specific to sawfly and Hessian fly," said Reddy. "When spores end up on the insects themselves, they can germinate and release enzymes and substances that are toxic to the flies but are safe to both human beings and the wheat plant itself."

Through a licensing process with MSU's Technology Transfer Office, agricultural companies will be able to manufacture sprays or other products containing the fungi and eventually make them available to farmers.

Single FWP Bowhunter education class set for May in Great Falls

A single bowhunter education classroom course in Great Falls this year has been scheduled for May.

Registration is taking place now online at the Fish, Wildlife and Parks web site.

The course will run five evenings and a Saturday morning: 6-9 p.m., May 4 and 6, and 7-9 p.m., May 11, 13, and 14. A field exercise will take place May 16. Classes will be at Paris Gibson Education Center, 2400 Central Ave.

To register online go to the FWP website, <http://fwp.mt.gov>, and follow the links to Education and Bowhunter Education. Then



FIRST PLACE FIDDLER — Music filled the air over President's weekend at the Old Depot Theatre in Dillon. The 37th annual Dillon Junior Fiddler's Contest drew fiddlers from all over Montana, Idaho, and Washington for a chance to compete with their hoedowns, waltzes, and tunes of choice. Cadhla Norris took home the 1st place trophy and prize money for the Junior Division. COURTESY PHOTO

go to May 4 and select a classroom at Paris Gibson.

Every student must pick up and read the bowhunter education manual before the first class. Manuals are available at FWP.

All first time bowhunters, regardless of age must complete a bowhunter education course. State law says anyone buying an archery license must show either a previous year's archery license or a certificate of completion from a bowhunter education course.

For more information on this or any other course in north central Montana contact the FWP office in Great Falls, 454-5840.

2ND ANNUAL Trivia Night
 March 27
 7:00 p.m. Moose Lodge
4 Person Team for \$100
 Dinner & 1 Beverage Included
 Tickets Available on Facebook or Meadowlark School
 Questions? Call Meadowlark School 278-5620

55th Annual Brady Civic Stag Party
 Friday • March 13
 8 pm - 2 am
 Food Provided by Dusty's Bar
 Tickets \$15 in advance ~ \$20 at the door

Summer Orientation Program for the visually impaired

This is an offer for ALL visually impaired peoples 18 and older in the state of Montana.

At NO COST to you, the student, Montana Association for the Blind will be hosting the Summer Orientation Program (SOP). This program is designed to help you regain your independence again, by teaching skills inside and outside the home.

The 4-week program will cover travel safety, computer instruction, writing alternatives, and so much more. Not only these classes,

but you will be in a warm, safe environment with people who understand - because many of us have gone through it ourselves.

The (SOP) program will be hosted at Rocky College in Billings, June 15 to July 10. Again, the students pay nothing for room, board, and training.

If you or someone you know and love has lost or is in the process of losing your/their sight, please contact Jocelyn DeHaas at (406) 442-9411 or mab.sop15@yahoo.com

Yukon Adventure at the Orpheum

The Call of the Wild vividly brings to the screen the story of Buck, a big-hearted dog whose blissful domestic life is turned upside down when he is suddenly uprooted from his California home and transplanted to the exotic wilds of the Alaskan Yukon during the Gold Rush of

the 1890s.

As the newest rookie on a mail delivery dogsled team—and later its leader—Buck experiences the adventure of a lifetime, ultimately finding his true place in the world and becoming his own master.

The movie is rated PG and runs one hour 50 minutes.

CHS students presents

The Brothers Grimm Spectaculathon

The Conrad High School students will be presenting *The Brothers Grimm Spectaculathon*, a comedy by Don Zolidis, as their production this year.

Two narrators and a small crew of actors are tasked with combining all 209 Grimm's Fairy Tales into a single, mostly-coherent show. *Cinderella*, *Rapunzel*, and *Hansel & Gretel* are all there, but so are *The Girl Without Hands*, *The Talking Fish*, and *The Devil's Grandmother*. This play has something for everyone, from charming princes and evil witches to princess fights and a complete lack of Crab People.

The students involved are actors Emma Clark, Elizabeth Ringdahl, Bridger Gouchenour, Elizabeth Wallk-Opalka, Zach Ginther, and A/V Technician Nathan Edwards.

There will be a 7 p.m. show on Friday, March 20, and 3 p.m. and 7 p.m. shows on Saturday, March 21 at the CHS Auditorium.

A small admission fee will go to benefit the CHS theater program.

THE BROTHERS GRIMM
SPECTACULATHON
 A COMEDY BY DON ZOLIDIS

MARCH 20 21
 CHS AUDITORIUM

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Please check your ads immediately.
 The I-O will not be responsible for errors in ads that have been run after the first week.

NOTICE OF CLOSE OF REGULAR VOTER REGISTRATION AND OPTION FOR LATE REGISTRATION

Notice is hereby given that regular* voter registration for any school elections held on Tuesday, May 5, 2020 will close at 5:00 PM on Monday, April 6, 2020.

*NOTE: If you miss this regular registration deadline, you may still register for the election by showing up at the Pondera County Election Office up to and including on Election Day.

All qualified active and inactive registered electors of each district are entitled to vote in said elections.

Persons who wish to register and who are not presently registered may do so by requesting a form for registration by mail or by appearing at the Pondera County Election Office, 20 4th Ave SW, Conrad, Montana. If you have moved, please update your registration information by filling out a new voter registration card and submitting it to the Pondera County Election Office.

Dated this 11th day of March, 2020

Kody L Farkell
 Pondera County Election Administrator
 20 4th Ave SW
 Conrad, MT 59425
 (406) 271-4000

MNAXLP

3 Rivers Annual Membership Meeting

Monday, March 16, 2020
 Fairfield Community Hall
 Registration begins at 11:00 am
 Lunch served Noon - 1:00 pm
 Business Meeting at 1:00 pm

If you are unable to attend, you can watch a live stream of the business meeting on 3rivers.net.

Fairfield office closed 11am to 3pm
 Conrad, Big Sky & Shelby offices and Browning Radio Shack will be open

3 RIVERS COMMUNICATIONS
 467.2535 • 3rivers.net