

The deadline for phoning advertising for the July issue of the Trader's Dispatch will be June 28.

# Management of wireworms using new insect pathogenic strains

By Anamika Sharma, Shabeg S. Briar, Gadi V.P. Reddy, Western Triangle Ag Research Center and Stefan Jaronski, USDA-ARS-Northern Plains Ag Research laboratory



John Miller (left), Anamika Sharma (right) and Shabeg Briar (seen on the driver seat) while seeding the spring wheat.

USDA-ARS, Sidney. This project was funded by the Montana Wheat and Barley Committee to Dr. Gadi V.P. Reddy to develop sustainable pest management strategies for the management of wireworms.

These fungi, known as *Beauveria* and *Metarhizium*, work as contact agents — when the insect comes into contact with spores, they attach to its surface, germinate and penetrate into its body within 24 hours. The fungi then multiply within the host and subsequently kill the insect. Determined

efforts to develop the use of entomopathogenic fungi against wireworms are very recent, although an early attempt to use *Metarhizium anisopliae*, one of these entomopathogenic fungi, was in 1932.

Our recent studies (Reddy and team members) indicated that granules containing spores of *three fungal strains* can be effective against wireworms in spring wheat. All three fungi, applied as granules in furrow or as soil drenches, were more effective than when used as seed-coats for wireworm control. The fungi used in this study provided significant plant and yield protection under moderate wireworm pressure, supporting

CONTINUED ON PAGE A59

In recent years, wireworm damage has become a growing problem, and the demand for a useful control method is increasing. However, wireworm larvae live deep in the soil, moving to the surface to feed on young seedlings in the spring, then disappearing again, as 'hit and run' pests. Pest control is very difficult and often unsatisfactory. Protecting wheat seedling stands from wireworm feeding in Montana is a critical need to achieve maximum crop yield.

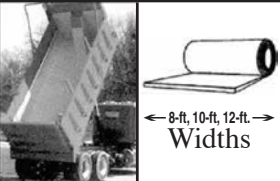
During the summer of 2017 we are conducting field experiments in spring wheat (Duclair) for management of wireworms using new strains of entomopathogens (insect pathogens) that were mass produced at

## MACHINERY FOR SALE

- 2012 John Deere 7330 tractor, MFWD, 741 SL loader, grapple, dual PTO, 2600 hours, excellent shape. **\$85,000**
- 2012 Vermeer R28 hydraulic rake, like new ..... **\$22,500**
- 1981 Versatile 855 tractor, 4x4, air conditioning, new tires, out of frame overhaul on engine, 4 remotes, nice shape. .... **\$30,000**
- 2012 Ford F550 fatbed, 6.7 Power Stroke, crewcab, 109,000 miles..... **\$30,000**
- Aerway 12-ft. pasture harrow..... **\$875**
- Home made ditcher, 3 point..... **\$300**
- Miller 250TS wire feed welder, 3 phase..... **\$800**

Phone (406) 264-5056, Sun River, MT

## SEAMLESS POLY LINER



- 1/3 Weight of Aluminum
- UV Inhibitor & Food Grade
- Chemical Resistant
- 1/8", 3/16", 1/4", 3/8", & 1/2" thick
- 8-ft. or 10-ft. wide x Any length

### Tired of Shoveling?

Haul dirt, landscaping materials, clay, sand, manure, rock, grain, etc. ALSO Hot Asphalt Liners Available

- Dump trucks & belly dumps
- Wood floor trailers
- Manure spreaders
- Fertilizer hoppers
- Chutes

- QuickSilver Liners
- Durapro Liners
- HMW Liners

## NORTHWEST PLASTICS

1-406-293-3097 TOLL FREE 1-877-368-3097

## GET YOUR FENCING NOW!

STEEL PRICES ARE MOVING UP. SALE PRICES END 6/30/17

### CONTINUOUS FENCE BUY NOW & SAVE!

20 PANEL MIN ORDER



20' STEEL CONTINUOUS PANELS

- 1 1/4" 6 RAIL ~~\$100~~ NOW \$93
- 5 RAIL ~~\$93~~ NOW \$86
- 4 RAIL ~~\$86~~ NOW \$78

- 1 5/8" 6 RAIL ~~\$125~~ NOW \$120
- 5 RAIL ~~\$115~~ NOW \$110
- 4 RAIL ~~\$100~~ NOW \$95

ONLY A FEW LEFT!

## HAY SAVER FEEDER



LESS WASTED HAY! BULL PROOF & TRACTOR PROOF! \$20 OFF ANY IN-STOCK FEEDER!

### PRE-CUT FENCE POSTS

- 2 3/8" STD WALL 8' LONG \$ 12.00 EACH
- 2 3/8" HEAVY WALL 8' LONG \$12.95 EACH
- 2 7/8" STD WALL 8' LONG \$14.80 EACH
- 3 1/2" STD WALL 9' LONG \$25.95 EACH
- 4 1/2" STD WALL 9' LONG \$45.00 EACH

FENCE CLIPS, POSTS CAPS & PANEL ENDS INSTOCK NOW

### HEAVY DUTY GATES

MADE FROM 1 5/8" 14 GAUGE STEEL WITH 1 5/8" 10 GAUGE HINGE POST - STANDARD ALL THREAD OR WELD ON HINGES - CHAIN LATCH. ADDITIONAL LATCH OPTIONS AVAILABLE

- |           |           |
|-----------|-----------|
| 5 RAIL    | 6 RAIL    |
| 10' \$140 | 10' \$155 |
| 12' \$155 | 12' \$170 |
| 14' \$170 | 14' \$190 |
| 16' \$190 | 16' \$205 |

CUSTOM SIZES AVAILABLE. JUST ASK!

## Sign up for DEALS & STEALS!

ADVANCE NOTICE OF: CLOSEOUTS • SALES • SPECIAL BUYS AT [WWW.MOUNTAINVIEWMETALWORKS.COM](http://WWW.MOUNTAINVIEWMETALWORKS.COM)

# Students raise money for ranchers

By University of Nebraska-Lincoln IANR News

Recent wildfires across Colorado, Kansas, Oklahoma and Texas have devastated the ranching industry. The fires have destroyed millions of acres of grassland, and left thousands of cattle dead. Now, students in the Large Animal Veterinary Medical Club at the University of Nebraska-Lincoln (UNL) are lending their support to those affected by the wildfires.

The club acted quickly after learning of the wildfires, and organized a fundraiser selling "Vet Med" hats. During the course of the 11-day fundraiser the club sold 366 hats, raising over \$4,000 for wildfire victims.

"We saw a lot of news coverage about the wildfires and we thought it was important to help out," said Rachael Granville of Springfield, a student in the university's Professional Program in Veterinary Medicine (PPVM). "Someday those ranchers are going to be our clients so we care about them and want them to be successful."

The club sold hats to students, faculty and staff in Nebraska, and their PPVM partners at Iowa State University. In addition, the club extended the fundraiser to vet med schools in the states affected by the wildfires: Colorado State University, Kansas State University, Oklahoma State University and Texas A&M University. The University of Illinois and Mississippi State University also contributed to the fundraiser.

According to club president Kara Sutphen, funds raised by the club will be given to the Working Ranch Cowboys Association. The association has established a wildfire relief fund to provide financial assistance to working ranchers and cowboys suffering significant hardships due to the wildfires.

"We feel that donating the funds we raise to the Working Ranch Cowboys Association is better than us trying to buy supplies and send it to the affected areas because these people are going to need financial assistance for a long time. The association has historically done a lot of crisis relief, and they have operations set up for people to apply for the funds," Sutphen said.

The club is currently contacting several state veterinary medical associations to see if they will match the funds raised so far.

The Large Animal Club is a club for PPVM students at the university. The club organizes meetings and wet labs to expose students to a variety of topics focused on large-animal medicine. Additionally, the club awards scholarships to three PPVM students annually.

## Management of wireworms using new insect pathogenic strains

CONTINUED FROM PAGE A58

their value in the management of this pest. Exploring and expanding on these results, we are currently using granular formulations of additional strains of the insect pathogenic fungi, *B. bassiana* GHA, *M. robertsii* DWR356, *M. robertsii* DWR2009, *M. robertsii* DWR2009, as well as DWR356 and DWR2009 on millet grain substrate (at the rate of 10lb/acre and 20lb/acre) along with Gaucho® (Imidacloprid) at the rate of 2.4 oz/45.352 kg/seed and control (water treatment). All the strains are applied in furrows with the seeds. We will also monitor wireworm population and standing plants in different plots to assess the effectiveness of the fungal pathogens. Finally, we will compare the yields resulting from these treatments.

We are conducting our trials at two sites on farms near Ledger and Valier. Both sites have moderate to high wireworm infestations. Hence, we expect to analyze the results in the light of significant pressure from wireworms and also as the part of an integrated pest management for two specific wireworm species, *Limonius californicus* and *Hypnoidus bicolor*, key species in Golden Triangle area of Montana. Success with these entomopathogenic fungi, along with other management strategies such as use of trap crops, will hopefully provide some remedy to the existing wireworm problem in this region.

#####

Only 5 percent of cars actually run better on premium gas as opposed to regular. Make sure to check your owner's manual to see what it recommends.

#####

Get rid of tar on your bumper with an unexpected item from your fridge— mayonnaise. Wipe on, wait five minutes, then easily wipe off both the mayo and the tar.

The deadline for phoning in advertising for the July 2017 issue of the Trader's Dispatch will be Wednesday, June 28. Phone (406) 271-5533.

## Hoven's New To You

### USED TRACTORS

Challenger MT575B with loader \$89,900



- 2012 Massey Ferguson 7624 CVT, 180 PTO. \$134,900
- 2013 New Holland T7 185 with loader. \$109,900
- New Holland TC45DA with loader. \$19,900
- Case IH Puma 210 tractor with loader. \$84,900
- International 1256 with loader. \$9500
- International 656 hydro, gas, no loader, no 3-point. \$5900
- David Brown 1212 3 pt., 540 PTO. \$5900
- David Brown 1200A tractor. \$6500
- Case 2470 crab steer, bad engine. Make Offer
- Versatile 700 parting out, engine and some tires gone.



"Partners in Production"

406-727-7153

4181 North Park Trail - Great Falls

Ken - 788-4588; Ed - 231-4254;  
Bill - 899-7609; Emery - 868-7964

www.hovenequipment.com

### USED MISCELLANEOUS

Ford F350 4WD, automatic, flatbed. \$19,900



- Matthews MC flail mower. \$7900
- John Deere Z445 rider, 54" deck. \$3200
- John Deere 148 loader with grapple. \$5500
- Kelly 3-pt. backhoe. \$3100
- Danuser F7 3-pt. post hole auger, 9" & 12" bits. \$1400
- Flatbed trailer. \$850
- 2013 Buhler Y7420 72" snowblower. \$1950

### USED PROCESSORS

2015 Bale King 5100 processor. \$19,500



- Vermeer BPX8000 with final cut. \$15,500
- Haybuster 2650. \$10,900
- 2012 Highline CFR650 processor. \$18,500
- Highline 6000. COMING IN

**- COMING IN -**

Case IH 3394 tractor  
Valtra C120 tractor  
Westfield MKX 13x84 auger



Full Line of CM, Bradford and Hillsboro Flatbeds



None Better - 16+4 Hillsboro a real workhorse \$6900



20-ft. CM Aluminum livestock, \$15,500 with mats and spare tire.



Travalong 14-ft. dump, 16K hoist, battery tender, wireless remote, contractor grade, own the best for just \$9850.



Merritt livestock hauling perfection, different choices in stock.



Check out our full line of PJ trailers, many configurations. Blow out pricing! Rely on us for your trailering solutions.



International 544 hydro transmission, diesel, reliable loader tractor, 55 hp. \$8500/offer

**STOCK DRIVE**

TRAILER SALES

DILLON, MT 406-949-6070

jeff@stockdrivemt.com

stockdrivemt.com or check us out on Facebook

