

FIELD AND FARM NEWS

Winter doesn't stop WTARC's fight against sawfly

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And WTARC news

There might be snow on the ground but the wheat stem sawfly larvae are lying quietly in wait in the wheat stubble - though not yet active.

Dr. Gadi Reddy, superintendent of Montana State University's Western Triangle Agricultural Research Center, calls the wheat stem sawfly the "million dollar pest" that MSU scientists have been researching for years.

Over the upcoming winter, while the sawfly is in its lying-in-wait (diapausing) state inside the stem of the stubble - a team of WTARC scientists will be continuing its work on biological con-

trols that could help in the fight against wheat stem sawfly.

Inside the stem, the larvae are different sizes. Why? WTARC scientists suspect it may have to do with gender, nutrition level, and wheat stem diameter, and are studying the factors that may contribute to larval growth.

"The problem is the sawfly larvae goes inside the stem to feed. Whatever we apply to try and control the sawfly has to go inside the stem, too," Reddy said.

That's why insecticides applied outside the stem really haven't worked. While the sawfly does fly, the timeline has been difficult to peg down, he added.



Wheat stem sawfly larvae, called diapause or inactive larvae, lie in wait during winter in wheat stubble. WTARC scientists are working on the reasons why they are different sizes. Photo by Scott Portman, WTARC.

In the fall, the sawfly moves to the bottom of the stem, and before the crop can be harvested, the larvae chew around the inside of the stem, Reddy explained.

As a result, the wheat stalk falls to the ground and the producer is left with the challenge of having to swath and pick up his crop to bring it to market.

Here's what scientists will be working on this winter, with reports coming at next summer's field days:

Dr. Scott Portman, a postdoctoral research associate, has been conducting research on applying predatory nematodes (roundworms) to the wheat stubble. Nematodes are small naturally-occurring roundworms that live in the soil.

"The worms find their prey by sensing carbon dioxide release, vibration, and chemical cues from the insects," Reddy said. "Many nematode species have been successfully used as environmental friendly bio-pesticides in insect control programs."

The good news about using predatory nematodes to fight pests is they are considered environmentally safe and have been exempted from the Environmental Protection Agency's pesticide registration process.

Amber Ferda, research associate, is studying using insect fungal pathogens.

Reddy said he plans to expand the work on biological controls to other Montana pest insects such as orange wheat blossom midge and canola insect pests.

Drs. Brian Thompson and Frank Antwi, postdoctoral researchers, have also been working on these projects.

"The research being carried out at WTARC is very beneficial to growers in Montana because it focuses on finding safe and practical solutions to agricultural insect pest problems in the region," Reddy said.

More reports will be coming from WTARC scientists about the pesky "million-dollar" pest as the winter goes on. ★