

Viruses Biggest Wheat Disease Problem This Year

COLUMBIA, MO.

Farmers growing wheat in Missouri should think twice before spraying fungicide on their fields. Most wheat problems this year are due to viruses, so fungicides would have no effect, said University of Missouri Extension specialists.

"This is a good year for viruses in wheat. In the central part of the state, viruses are a big problem," said Laura Sweets, MU Extension crop disease specialist. "Fungicides won't have any impact on those."

"There's no control for plants once they're infected with a virus," said Simeon Wright, MU Extension plant pathologist and coordinator of the MU Plant Diagnostic Clinic, which tests crop samples to identify plant diseases and pests.

In recent weeks, several samples have tested positive for wheat streak mosaic, which is among the most damaging of the viral diseases.

"Yield loss is very challenging to predict. However, in some cases you can get up to a 50 percent yield loss," Wright said. "It can cause sterile heads and a less extensive root system."

Wheat streak mosaic is transmitted by the wheat curl mite when it feeds on plants. Symptoms include stunted growth and yellow streaking on the leaves.

Wright said volunteer wheat is a prime haven for curl mites and can be a main source of the virus. Volunteer wheat is rogue wheat spilled during the previous harvest. It often grows along field margins, so signs of wheat streak mosaic often show up first on field edges.

"The virus can spread very well on grassy weeds, but volunteer wheat is by far the biggest thing that allows the virus, and the mite that spreads it, to carry over from one year to the next," Wright said. "The mites can shelter in it over the winter and serve as a reservoir for the virus."

While there is no way to control wheat streak mosaic once plants are infected, farmers can

manage their fields before planting wheat to reduce sources of the virus and mites. First, remove volunteer wheat and other plants that attract mites, such as weed grasses and other cereals. Second, choose wheat varieties with resistance to the mite or the virus.

"Some varieties have some resistance," Wright said. "There are usually ratings that tell you how resistant different seed varieties are."

Planting wheat later in the fall also helps because mite activity slows as temperatures cool, he said.

The best way to protect wheat plants is to scout fields for signs of damage, then send samples to the MU Plant Diagnostic Clinic for positive identification.

"It's common to see plants with multiple viruses, or a viral infection with a fungal disease," Wright said. "You can also have wheat varieties with speckling on the leaves that's unique to that variety and not caused by a disease."

Scab, a fungal disease that may soon be a risk, occurs when the weather is warm and wet. Farmers should not try to control scab with fungicides without a positive identification.

Plant samples sent to the clinic must be fresh. Decomposing tissue complicates testing and can give false readings, Wright said. Send samples directly to the clinic or through a local MU Extension office.

To mail directly, download a submission form from the Plant Diagnostic Clinic Web site. Put samples in a plastic bag with a dry paper towel, then place sample and form in a padded envelope or box. A general test costs \$15. Virus testing is an additional \$10. It may take up to a week to get virus test results.

Forms are available at <http://soilplantlab.missouri.edu/plant/submit.htm> and from local MU Extension offices.

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