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State officials urging farmers to control wheat streak mosaic virus now

Disease caused more than $76M in losses in 2017 wheat crop

Kansas State University officials are joining in on a group effort to help Kansas farmers stop the spread of a destructive wheat disease that took a strong foothold in the state's fields this year.

In early August, the Kansas Wheat Commission reported that wheat streak mosaic virus caused a conservative $76.8 million in direct losses to Kansas wheat farmers. That amounts to 19.2 million bushels of wheat, and a 5.7 percent yield loss – well above the average 1.5 percent yield loss.

Kansas State University wheat disease specialist Erick DeWolf said the virus was particularly harsh in areas of west-central Kansas.

"Almost all of western Kansas was above normal levels and even parts of central Kansas (was) above normal," DeWolf said. "The amount of disease we're seeing in individual fields and entire regions of the state is much more widespread and much more severe than what we've experienced in at least a decade."

Wheat streak mosaic is a plant pathogen carried by the wheat curl mite. The virus stunts the growth of wheat and related plants, causing streaks of yellow, non-uniform discoloration on the leaves. The mites often live on volunteer wheat, or the wheat that grows or is left in a field after the year's harvest.

In some parts of Kansas, wheat streak mosaic virus caused farmers to completely abandon their 2017 wheat crop.

"I remember in some of those areas, they would have been 50-60 bushel wheat pretty easily, and to go from that level of yield potential to zero is a big loss," DeWolf said.

The Kansas Wheat Commission and the Kansas Department of Agriculture are among the groups leading a statewide effort to combat the disease for the 2018 season. An education campaign titled ‘Stop the Streak’ aims to prevent the conditions that led to the above-normal levels of the virus this year.

DeWolf said those conditions included adequate rainfall and volunteer wheat in July and August 2016 that led to increased populations of the wheat curl mite. He said mild temperatures that persisted well into November allowed the tiny mites to survive well past planting of the 2017 crop.

“When we have above-normal volunteer populations and mite populations going into the fall, where they have plenty of time to move around, that definitely sets the stage for major outbreaks of wheat streak mosaic,” DeWolf said. “I think it was those things that were set in motion last summer and fall that really translated into the above-normal levels of wheat streak that we saw this year.”

Officials tend to agree that there are only three ways to control the spread of wheat streak mosaic virus: remove volunteer wheat and other grassy weeds; avoid early planting; and plant varieties with resistance to the virus.

“Removing volunteer wheat has got to be step one,” DeWolf said. “It comes down to a lot of these communities deciding that they’ve had enough of this disease and doing what they need to as a community to control the volunteer wheat.

“An individual grower can do a lot of things right, but if their neighbors – the community – doesn’t follow the best practices for controlling the volunteer wheat, it can really nullify a lot of their individual activities. So, wherever possible, these communities can be coming together – groups of co-ops, or other groups of growers – to try and do everything they can to make sure the volunteer wheat is controlled, that should greatly reduce the risk of a repeat performance on wheat streak mosaic.”

DeWolf said that, if using a herbicide, volunteer wheat should be dead for at least two weeks before farmers plant their 2018 crop.

“If you’re using an herbicide like glyphosate that needs some time to be enacted in the plants, it’s those dead dry plants that are going to decrease the mite population,” he said. “And that’s the condition we need to be in before our new wheat crop begins to emerge.”

At this point, he added, “we’re probably looking at a lead time of at least three weeks, maybe four weeks, prior to the planting of our new wheat crop. The window is open here for some folks already and we’re probably looking at August as the critical month of trying to get the volunteer wheat under control.”

DeWolf encouraged farmers to work with seed companies to buy varieties with resistance to wheat streak mosaic, and resist planting next year’s crop too early.

““Planting date does play into this,” he said. “I’ve worked with enough growers in western Kansas to know that many times they plant wheat when they have moisture. Year in and year out, moisture is one of the major yield-limiting factors that we have in our wheat production in Kansas.

“So it’s not uncommon for us to see some growers go in and start planting their wheat in late August or early September. That does elevate the risk of us having problems. Wherever possible, I would encourage them to plant their wheat toward the end of the more agronomically acceptable time, what we often refer to as the Hessian Fly-free date. That would generally reduce the risk of them having a wheat streak mosaic problem.”

For more information on wheat streak mosaic virus and statewide efforts to control the problem, visit the Kansas Wheat Commission’s web page, kswheat.com/growers/wheat-streak-mosaic-virus.