Western Producer

Drought reduces wheat disease risk

By Barb Glen

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MEDICINE HAT, Alta. — There may be a silver lining in the cloud of the 2017 drought in much of southern Alberta and Saskatchewan.

It has probably reduced the likelihood that wheat streak mosaic virus will be a problem in 2018.

Mary Burrows, a plant pathologist at Montana State University and an expert on the virus, said the drought destroyed the "green bridge" that the leaf curl mite needs to survive and spread the virus.

"In Montana, I would say our risk is really, really low and I think the Alberta-Saskatchewan risk is probably pretty low too because they had the same drought," said Burrows in an interview at the Farming Smarter Cypress Conference in late October.

"Mostly it's weather dependent in the fall and whether the weather conditions, moisture and temperature, are conducive to growth and reproduction of the mite, is what we're finding."

Burrows said potential was high in Montana for a major outbreak in the 2017 crop year.

Planting and emergence of winter wheat was ahead of the five-year average leading into the growing season and there were plenty of herbicide resistant weeds around to serve as alternative hosts for the leaf curl mite.

Then came the drought. No crop. No wheat streak mosaic virus.

Whether or not the virus is a factor next year, it is becoming more prevalent and more severe when conditions do allow it to strike, said Burrows.

Leaf curl mites, which are about the size of a dust speck, can transmit triticum mosaic and High Plains virus, in addition to wheat streak mosaic. Joint infections of all three are now common, according to surveys from 2015-16.

"The situation has changed from having barely any … we have them very commonly now and there are two or three viruses in every plant."

Controls options are limited.

"There really is no chemical option … and the chemicals people do use are probably harming their beneficials. We're doing some insecticide trials this year and looking at the beneficials and the pests as well in response to the insecticides. We're still waiting on those results."

Burrows said a devastating outbreak of wheat streak mosaic virus in 2015-16 was caused by several factors, among them widespread hail, well-above-average rainfall and an extended fall without frost.

The low value of wheat at the time, plus hail damage, led farmers to graze their wheat, allowing a green bridge for the virus-carrying mites to survive.

"Grazing is a great way to keep wheat streak going, especially if you're using cows," said Burrows. Cattle tend to leave enough foliage for mite survival. Goats and sheep might be more effective, but high numbers would be required and even then, might not eliminate the green bridge.

An early sign of the virus in spring is a yellowing crop. Farmers' first reaction is to add fertilizer but if wheat streak is the culprit, more fertilizer will worsen the damage, Burrows said.

"The mite actually reproduces faster on healthy plants, so this is one of those starve a virus situations."

According to her studies, wheat streak mosaic virus has become a bigger issue due to earlier planting dates for winter wheat, large scale production, higher numbers of grassy weeds and volunteer wheat due to no-till practices, poor control of volunteer weeds and wheat and higher seeding densities.