

# Plant Disease in Kansas

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Kansas Department of Agriculture

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## Disease update in wheat

### Special points of interest:

- *Leaf rust yellowing fields in Kansas.*
- *Wheat streak mosaic complex reports were few and scattered in fall 2008 survey.*
- *New finds of pine wilt reported in Pratt and Ellis counties.*

The fall planted crop of 2008 appears to be healthy in regards to the spring green up. Leaf rust is widespread over much of the western two thirds of the state. This disease generally does not overwinter to any great extent to impact the crop in the spring. If the winter is abnormally mild and dieback of the wheat foliage does not occur then leaf rust could be a major problem in early April in southern regions of Kansas. Let's hope for a good cold spell to knock this rust infection back.

Currently we are seeing wheat fields turning yellow from leaf rust infection. The infection is killing leaves and pruning back plants causing a yellowing of fields from a distance. This is primarily occurring in south central and southwest Kansas but has been observed in central and northern locations also.

Why all the leaf rust? This is a combination of factors but they

all go back to what is called the disease triangle. The disease triangle consists of a suitable environment, presence of a host, and a susceptible host. The fall weather was wet and had frequent storms and coupled with some warm weather in September and October, conditions were ideal for leaf rust infection. Leaf rust was in abundance this fall. The volunteer crop harbored an extensive infection in early September and the rust inoculum continued to build up and easily jumped over to nearby planted wheat with favorable weather. Much of the wheat continues to be susceptible to intermediate to infection from leaf rust. In southwest Kansas, almost 80 per cent of the 2008 harvested varieties were susceptible and south central Kansas had 36 per cent susceptible and 53 per cent intermediate. All three factors: host, weather, and disease combined for an epidemic this fall.

Fall always provides a good time to assess virus problems for the next crop. Extensive survey was conducted by KDA staff in central and western counties in November. Fortunately, little was seen in the form of virus in the planted crop. The few samples collected were run at KSU diagnostic lab and found both High plains virus and wheat streak mosaic. The most significant find was in Sherman County (NW) where the field had 25 per cent incidence. Other reports of the wheat streak viral complex by either KDA survey or diagnostic reports from the KSU clinic were in Wallace (WC), Edwards (SC), Hodgeman (WC), Pratt (SC), and Kingman (SC) counties. Wheat curl mites which transmit the virus were observed in Ford and Gray counties of southwest Kansas in planted wheat although viral symptoms were not evident.

PLANT PROTECTION AND WEED CONTROL  
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## Plant Protection and Weed Control Program

Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

### Our Mission is to:

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantine pests;
- Provide customers with inspection and certification services.

The Plant Disease Survey in Kansas has been conducted since 1976. The survey addresses disease situations in field crops, native ecosystems, and horticultural trade. The Kansas Department of Agriculture works cooperatively with Kansas State University and Extension programs, United States Department of Agriculture, and various commodity groups.

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## Pine wilt update

In the last issue, it was reported two new finds were made in Barton County in central Kansas. Because of these finds, a meeting of stakeholders will be held this winter to bring about a plan to address the disease. This is similar to a efforts made last year in Ellis County to keep the disease in check.

Over the past month, two new finds were made. The first report in Pratt County was made and the one tree was taken down and destroyed. The second find was outside of Victoria in Ellis County and the county agent is working with the landowner to remove the

tree and monitor the area. Both finds on the leading western edge were made on Scotch pine.