



PLANT DISEASE IN KANSAS

VOLUME 43, ISSUE 1: SEPTEMBER
2017

BACTERIAL STREAK OF CORN CONTINUES TO BE FOUND IN NEW COUNTIES

In spite of the fairly dry conditions this summer, disease has been affecting the corn and soybean crop. One such disease is bacterial streak of corn, caused by *Xanthomonas vasicola pv. vasculorum*. It was first found in 18 counties in Kansas in 2016 during a targeted pest survey. During this survey members of KDA, USDA, and KSU scouted many counties across the whole state for infected plants, but focused most on irrigated fields as the irrigation would have helped the pathogen spread and survive. It was somewhat difficult to spot the disease, however, as it was late in the growing season and many other foliar diseases had infected the plants by that point. Members of KDA and KSU have been scouting for it again this year and currently have confirmed 20 more counties: Barton, Cloud, Decatur, Ford, Gove, Graham, Gray, Jewell, Labette, Lane, Logan, Meade, Mitchell, Pratt, Rawlins, Rice, Rooks, Rush, Scott, and Stevens counties (Fig. 1). They went out earlier in the growing season to avoid the same difficulty detecting it that occurred last year. This disease has been found on corn plants as early as V7 stage, earlier than many common foliar diseases of corn. Much of KDA's scouting has occurred in the Northern half of the state, as KDA is performing a survey on corn in this area. The Southern half will be targeted in 2018.

Bacterial streak is a foliar disease caused by the bacterial pathogen *Xanthomonas vasicola pv. vasculorum*. It enters the plant leaves via natural openings, such as stomata. It is characterized by irregular-shaped small brown lesions on the leaves (Fig. 2). When backlit, the lesions are translucent and appear yellow (Fig. 3). This is in contrast to the common fungal disease gray leaf spot, which has small rectangular lesions that are not translucent when held up to a light. Backlighting the lesions is a good diagnostic tool to tell these two diseases apart, as the lesions look very similar and can cause misdiagnosis. The disease may be spread by water splashes and may be seed-borne. It is most common in irrigated fields planted to continuous corn, although it can also be found in non-irrigated fields and fields with crop rotation. It favors warm temperatures. It is not known if this disease affects yield, although the necrosis that occurs because of the bacterial lesions may have a detrimental effect on photosynthesis, which in turn may decrease the potential yield of an affected plant. This pathogen does not spread to soybeans but has been found both in corn and in sugarcane, where it causes a vascular wilt called gumming disease. The vascular wilt symptoms have not been found in corn.

Corn Bacterial Streak

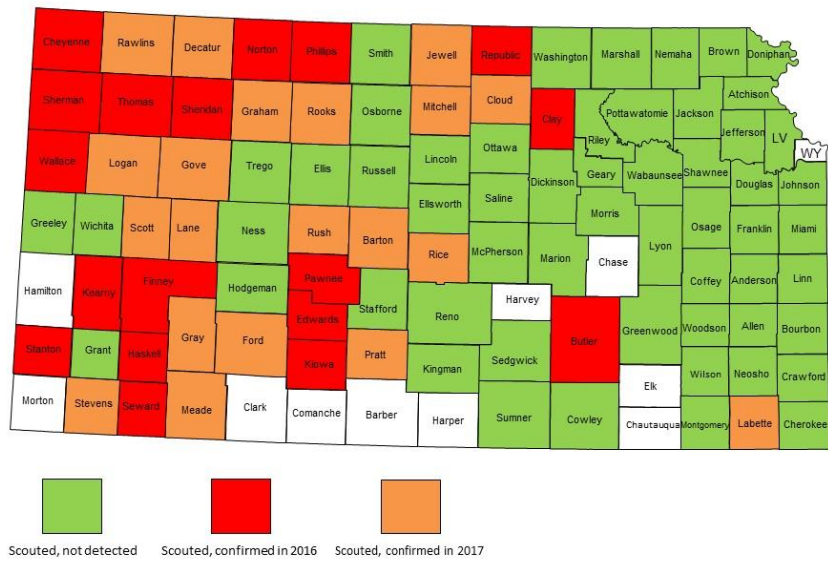


Fig. 1: Map of Kansas counties scouted by KDA, KSU, and USDA for bacterial streak in 2016 and 2017. Counties confirmed positive in 2016 are depicted in red and counties confirmed positive in 2017 are depicted in orange.



Fig. 2: Brown lesions with uneven edges characteristic of bacterial leaf streak in corn.



Fig. 3: When backlit, the brown lesions appear translucent yellow.

HOSTA VIRUS X FOUND AT A RETAIL BOX CHAIN; MANY STORES AFFECTED

This summer saw an outbreak of Hosta Virus X occur at a retail box store across Eastern and Central Kansas. These plants were grown in Oklahoma and shipped to Kansas. This is the same virus that was found across several nurseries last year and is a very common virus within the Hosta trade. Its only host is Hosta; it does not spread to other species of plants. It is spread mechanically, by transmission of infected sap from contaminated tools or hands. The most common symptoms are “ink bleeding” of color in the leaves and leaf mottling and distortion (Fig. 4). There is no cure for this disease, nor is there a chemical that can be applied. The best methods of control are to watch newly planted Hosta plants for early signs of disease and remove any diseased plants. Do not compost the plants but throw them directly in the trash. When using tools such as clippers or shovels, sterilize between plants and after use.



Fig. 4: Plants infected with Hosta Virus x show mottling and ink bleeding symptoms.

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, plant 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 quarantined pests;
- Provide customers with inspection and certification services.

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Author:
Gaelle Hollandbeck
State Plant Pathologist
1320 Research Park Drive
Manhattan, KS 66502
Phone: (785) 370-1046
Fax: (785) 564-6779