

Bacterial Stripe of Corn (Maize)

Burkholderia andropogonis

Hosts: Corn (maize) (*Zea mays*). Large host range in the family Gramineae includes teosinte (*Euchlaena mexicana*), Johnsongrass (*Sorghum halepense*), Sorghum alnum (*Sorghum alnum*), and Sudangrass (*Sorghum bicolor*) with its numerous varieties such as Chinese sorghum and sweet sorghum. Hosts in the family Leguminosae include carob (St. John's bread) (*Ceratonia siliqua*), garbanzo bean or chickpea (*Cicer arietinum*), Florida velvet-bean (*Mucuna pruriens*), white clover (*Trifolium repens*), and many species and subspecies of vetch (*Vicia* spp.), including purple, common, and hairy.

Disease common name: Bacterial stripe of corn (maize).

Pathogen: *Burkholderia andropogonis*; syn.: *Pseudomonas andropogonis* and *Pseudomonas andropogonis* pv. *stizolobii*.

Disease Cycle

Inoculum: Weeds, such as Johnsongrass (*Sorghum halepense*) and Sudangrass (*Sorghum bicolor*), growing adjacent to corn fields may serve as alternate hosts and a source of inoculum. The pathogen is thought to be seedborne, and phytosanitary certificates are required by some countries to certify that corn seed is pathogen free.

Transmission: Little is known about transmission.

Infection: The bacterium enters the plant through stomata when leaves are water-soaked.

Symptoms and signs: Lesions are amber to olive colored, appear oily, are translucent (Figs. 1 and 2), and usually form elongated streaks, which become brown and necrotic at a later stage (Fig. 3). The stripes average 8–12 mm in length and may include the entire breadth of the leaf. The disease progresses from the lower leaves upward.

Disease Management

Little information is available on control since the disease is rare in temperate zones. However, in the tropics, the disease commonly occurs on susceptible inbred lines during periods of warm, wet weather. Resistant cultivars are being developed.

References

- Bradbury, J. F. 1986. Guide to Plant Pathogenic Bacteria. CAB International, Slough, U.K.
- White, D. G., ed. 1999. Compendium of Corn Diseases, 3rd ed. American Phytopathological Society, St. Paul, MN.



Figure 1. Early stage of leaf infection.
(Courtesy A. Alvarez)



Figure 2. Primary leaf symptoms are amber- to olive-colored, water-soaked, translucent lesions.
(Courtesy M. Shurtleff)

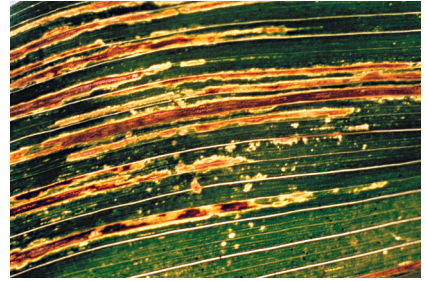


Figure 3. Leaf with yellowish brown to reddish lesions, 2–3 mm wide, late stage of disease. (Courtesy APS)