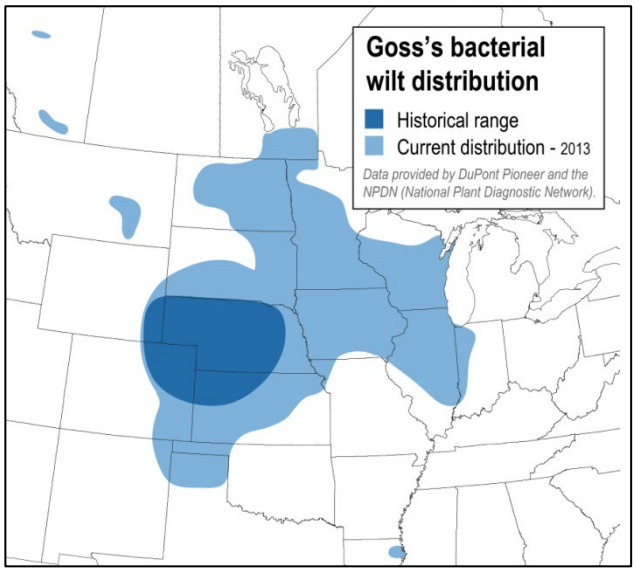
Goss's Bacterial Wilt and Leaf Blight

Disease Facts

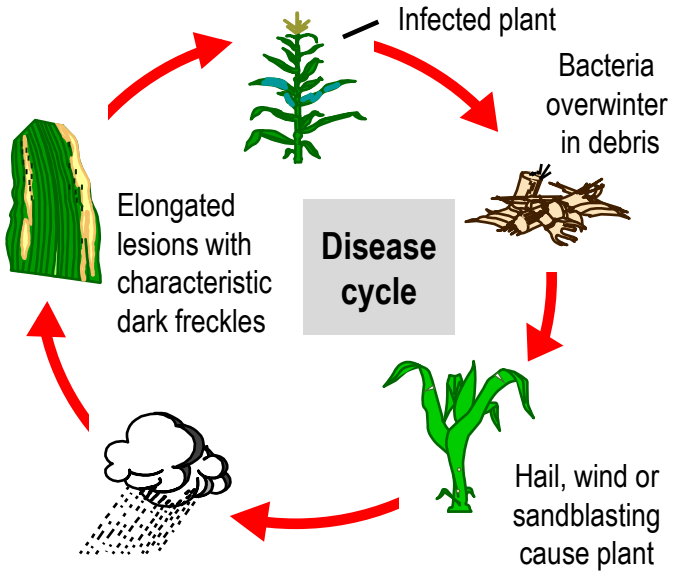
- Disease is caused by a bacterial pathogen that over-winters in residue of corn and several grasses
- Historically, damage to corn had been confined mostly to the Great Plains states
- In recent years, significant crop damage has also been reported in central Corn Belt states (see map at right)
- Depending on conditions, disease may cause only minor problems or devastating damage with grain yield losses approaching 50%



General area of Goss's wilt occurrence in corn in North America.

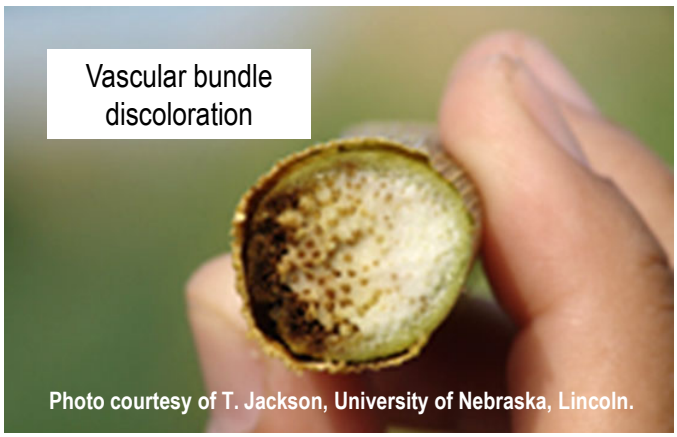
Goss's Wilt Development

- Plant wounding from wind, sandblasting and especially hail provide openings for bacteria
- Insects are not known to be a factor in spread or development of this disease
- Wet weather and high humidity encourage development
- There are two phases of the disease
  - Systemic wilt (less common)
  - Later season foliar blight



Systemic Wilt Phase

- Less common than foliar phase
- Can cause large losses, especially in susceptible hybrids
- May cause a slimy stalk rot, especially in seedlings
- May cause plant death
- Plants wilt due to vascular infection with bacteria
- Vascular bundles may have orange coloration that turns brown to black after disease progresses

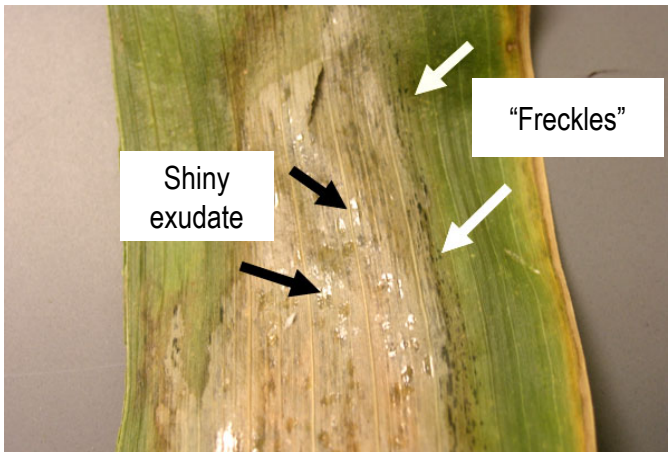


Distinguishing Features of Goss's Wilt Lesions (see photo at right)

- **Freckles** – dark green to black water soaked spots, often near lesion edges (white arrows)
- **Shiny exudate** – bacteria ooze to leaf surface and may appear shiny after drying (black arrows)

Later Season Foliar Blight

- Water soaked streaks may appear first followed by gray or brown/tan lesions
- Lesions are elongated with wavy margins that follow leaf veins
- General lesion shape may resemble Stewart's Wilt lesions
- Foliar lesions may progress to foliar blighting, killing large amounts of the canopy and predisposing plants to stalk rots



Goss's Wilt Management

- **Genetic resistance**
  - Primary management method
  - Pioneer researchers inoculate, screen and rate hybrids for resistance
  - Hybrids are also rated under natural infestations in affected states
  - See your local Pioneer sales professional for help in selecting appropriate hybrids for your field
- **Reduce corn residue**
  - Disease can become problematic in corn on corn, high-residue fields
  - Crop rotation is effective in reducing residue
  - Tillage encourages residue breakdown
- **Control grassy weeds**
  - Several grassy weeds are hosts for the bacteria, including green foxtail, barnyardgrass, shatter-cane, others
- **Prevention/Avoidance**
  - Harvest and till affected fields last and clean equipment to avoid spreading the pathogen to uninfested fields
- **Fungicide application is NOT effective** for this bacterial disease. Other materials are being tested.