BACTERIAL LEAF BLIGHT

Soybean Diseases

Overview

Bacterial leaf blight can be found in most soybean fields every year. It is caused by the bacterium *Pseudomonas syringae* pv. *glycinea*. The disease is most common following windswept thunderstorms in July and August. The bacteria can also infect snap bean and Lima bean.

The disease is sometimes confused with brown spot (Septoria leaf spot) or bacterial pustule. Both bacterial blight and brown spot often occur in the same fields and even the same plant, and symptoms can be difficult to separate.

The bacteria that cause bacterial blight overwinter in crop residue and on seed. Therefore, bacterial blight is favored by continuous soybean cropping, no-till production systems, or fields planted with infected seed lots.

Scouting

Symptoms typically develop several days after a windswept rainstorm or hailstorm. Symptoms are most evident on new growth that is expanding at the time of the rain event. Because bacterial blight and brown spot can occur in the same field or even the same plant, it is necessary to be able to differentiate the symptoms.

In the earliest stages of bacterial blight development, dark, water-soaked lesions will develop on the young leaves. As the disease progresses, a yellow halo usually forms around each lesion. As bacterial blight continues to develop, the lesions will coalesce and the diseased tissue will fall out, giving the leaf a tattered appearance. Leaves remain attached.

With Septoria brown spot, infection begins on the oldest leaves. Brown, angular lesions form

during cool, wet weather. The leaflets eventually turn yellow, sometimes with brown edges, and drop to the ground.

If drier weather follows bacterial blight development, new growth will be free of disease. If another storm event occurs, however, then the disease typically redevelops on the newest leaves again. The bacteria can also infect stems, petioles, and pods.

Management

For management, it is important to differentiate between brown spot and bacterial blight. Severe brown spot can be managed with fungicides. However, fungicides are not effective against bacterial diseases such as bacterial blight and bacterial pustule. If bacterial blight was severe in a season, however, the following agronomic practices will help reduce the disease the following year:

- Rotate to any crop other than Lima beans or snap beans
- Where soil erosion is not a concern, tillage can be used to bury residue or place it in closer contact with the soil for faster decomposition
- Plant pathogen-free seed
- Select resistant varieties. Companies typically do not rate varieties for bacterial blight resistance, however, if a variety is observed to be highly susceptible, it should be removed from the grower's lineup.

Distribution

Bacterial blight on soybean, University of Minnesota, 2018

Soybean Bacterial Blight and Brown Spot, Iowa State University

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