
Can Grasshoppers Spread Common Bacterial Blight in Beans?

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Abstract

Common bacterial blight (CBB) is a seed-borne disease of dry bean that is usually spread through rain-splash, particularly when heavy rain or hail damages plants. CBB can cause a reduction in yield and if the seed becomes infected it will become a primary source of inoculum in the next generation. During drought cycles, we often experience heavy grasshopper infestations in Saskatchewan. Not only do grasshoppers reduce crop yield and lay eggs for the following year, but they may also be responsible for spreading disease as they travel through a crop. This could be the result of feeding damage which allows rain to spread disease, or grasshoppers may be carrying the pathogen from plant to plant causing the disease to spread more rapidly through the field. In August 2002, a dry bean breeding nursery at Saskatoon was heavily infected with CBB during the same time frame as a major grasshopper invasion. This research was designed to determine if the grasshoppers themselves can physically spread the disease from plant to plant or if they just damage the plants, making them more susceptible to infection.