

# Bacterial Diseases: Blackleg

See also: <http://www.potatoes.com/research.cfm>



Note the black color - rhizoctonia stem canker is similar but causes brown lesions.

Plants that grow from infected seed often die shortly after emergence.  
Symptoms include:  
\*inky black stem below ground, sometimes extended far above ground;  
\*wilting of leaves or entire stems.

## General Information

**Causal Agent:** *Pectobacterium atrosepticum*, *Dickeya* spp.

**Biology:** Blackleg begins with planting infected seed. Seed can be infected during seed production, handling, cutting, and planting. Infected seed pieces sometimes rot before emergence -- this is called seed piece decay. Not all infected plants produce symptoms, but can still pass the infection to progeny tubers and therefore into storage.

**Distribution:** Blackleg occurs everywhere potatoes are grown.

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## Management

1. Prevention is key.
2. Know your seed source -- healthy seed is critical.
3. Sanitize seed cutting equipment between lots by cleaning all soil and debris from cutting equipment and applying a disinfectant.
4. Plant well-suberized seed into well-drained soil of 50-58 degrees F.

Washington State Potato Commission (Phone: 509-765-8845)

# Bacterial Diseases: Aerial Stem Rot

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Infected stems become slimy and are a paler green color.



Leaves on infected stems are often wilted and turn yellow.

## General Information

**Causal Agents:** *Pectobacterium atrosepticum*, *Pectobacterium carotovora* subsp. *carotovora*, *Dickeya* spp.

**Biology:** Bacteria that cause aerial stem rot are nearly everywhere in the environment. They are moved in irrigation water, in aerosols, and on insects. Crop debris and soil are often sources of these bacteria. Disease development is favored by dense canopies, warm weather, and long periods of leaf wetness. Bacterial reproduction can be **very rapid** under warm moist conditions.

**Distribution:** Bacterial aerial stem rot occurs everywhere potatoes are grown.

## Management

1. The critical issue: limit optimal growing conditions for the bacteria.
2. Minimize long periods of leaf wetness.
3. Avoid overly dense canopies.
4. Carefully manage irrigation, especially avoiding excess irrigation during hot weather; plants cannot use as much water in very hot weather and excess moisture encourages bacterial growth.

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