

Barley Scald

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Barley scald is a common disease on barley in Maine as well as worldwide. It is caused by the fungus *Rhynchosporium secalis*. The pathogen can also attack rye and some other grasses. Scald is a fungal disease which can affect all above-ground portions of the plant. Most common in wet seasons, scald is potentially damaging to barley as it can prematurely kill leaves. Yield loss is primarily owing to reduced kernel weight, but the number of kernels and number of heads per plant may also be affected. Decreased photosynthetic area on the flag and second leaf of the infected plant may result in reduced seed weight and yield loss.

Biology

The scald fungus overwinters on barley residue, grain, and some grasses. In spring, spores are produced mainly from barley residue left on the soil surface from the previous year. Spores are transported to barley plants by raindrops and wind. The contribution of scald-infected seed as a source of disease spread in barley is not well understood. The disease is favored by cool (40°F to 75°F), rainy weather and dense crop canopies where leaves remain wet for prolonged periods. Optimal temperatures for sporulation and infection are 60°F to 68°F. If the disease appears and spreads early in



Barley leaf scald. Photo by Steven B. Johnson



Barley leaf scald, top to bottom: stem lesion; leaf lesion; leaf lesions starting to coalesce. Photo by Steven B. Johnson

the season, such as during tillering, yield losses may be expected owing to flag leaf infection. Late-season disease appearance rarely results in appreciable yield loss.

Symptoms

Large water-soaked spots, grey-green in color, appear on the leaves. These spots enlarge to lesions that are oval in shape with dark brown margins. The lesions become a bleached tan in the center. As the lesions enlarge, they coalesce to give a “scalded” appearance. Hot, dry weather halts disease progress.

Management

- Plant only certified seed of varieties adapted to the area.
- Plant less susceptible varieties, if possible.
- Properly fertilize the crop according to soil test recommendations.
- Plow under residue from previous barley crops.
- Avoid early planting if barley scald has historically been a problem.
- Rotate crops to avoid planting barley after barley.
- Use a seed treatment and a foliar fungicide.
- Keep weed grasses under control.

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