Pulse Crops

Anthracnose of Lentil

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Identification and Life Cycle

Anthracnose of lentil is caused by the fungus *Colletotricum truncatum*, and can be a very destructive disease of lentil. Anthracnose inoculum carried in wind-borne dust created during harvest can move the pathogen to nearby fields. The disease is most severe in humid to wet weather with rainfall near the end of the production season. Frequent rain showers allowing leaves to remain wet for 18 to 24 hours and temperatures ranging from 68 to 75 F are needed for infection. After infection occurs, the fungus can continue to grow in the plant regardless of the humidity and temperature. The pathogen can also attack faba bean and vetch.

The pathogen can survive in the absence of lentil in and on contaminated seed, in infested crop residue, pathogenically on other hosts, and in the soil. The survival structures of the fungus (microsclerotia) are fairly resistant to decay and often survive for at least four years buried in soil.

Plant Response and Damage

Dense stands of lentils in low-lying areas are often first to exhibit anthracnose symptoms. Early anthracnose symptoms generally appear after the first tendrils form but before flowering occurs. Tan to creamy brown lesions may appear on lower leaves, and defoliation may occur. Small tan to brown lesions with dark borders often form on lower stems. As lesions enlarge they girdle stems and kill the growth above stem. Small, dark, pinhead-sized bodies appear inside the lesions. These are visible with the naked eye or with a hand lens. Plants killed by anthracnose exhibit a dark brown discoloration.
Under favorable conditions, the disease can spread rapidly, resulting in premature plant death and large areas of dying plants in the field. Yield losses of 100% have been reported. To date, anthracnose has not been a problem on lentils in Montana; however, it could present a problem for Montana producers in wet production years.

Management Approaches

Biological Control

Biological control strategies have not been developed for anthracnose of lentil.

Cultural Control

Practice a four- to five-year rotation to nonhosts such as small grains or corn. Avoid planting lentil adjacent to old lentil fields to reduce windborne dissemination of the pathogen. No-till practices can facilitate faster decomposition of the pathogen because inoculum on the soil surface breaks down faster than buried inoculum. Varietal resistance has not been identified in commercial lentil varieties.

Chemical Control

Chemical controls are most effective when integrated with sound cultural practices.

<table>
<thead>
<tr>
<th>Common/ Trade Name</th>
<th>Product per Acre</th>
<th>Application Frequency (days)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strobilurin</td>
<td>2-5 oz</td>
<td>7-14 days</td>
<td>Maximum of 4 applications per</td>
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Headline  
5.5-8 fl oz  
10-14 days  
Maximum of 2 applications per season; 30 day PHI

Quadris  
6.2 – 9.8 fl.oz  
7-14 days  
Maximum of 6 applications per season; Do not apply more than three applications before rotating to a fungicide with a different mode of action; 0 day PHI

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