

Pulse Crops

Anthracnose of Lentil

Howard F. Schwartz, David H. Gent, Martha Mikkelson, and Jack Rieggelman

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.

Common/ Trade Name	Product per Acre	Application Frequency (days)	Remarks
Strobilurin			
Amistar	2-5 oz	7-14 days	Maximum of 4 applications per

			season; Rotate with fungicides with a different mode of action; 0 day PHI
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

The information herein is supplied with the understanding that no discrimination is intended and that listing of commercial products, necessary to this guide, implies no endorsement by the authors or the Extension Services of Nebraska, Colorado, Wyoming or Montana. Criticism of products or equipment not listed is neither implied nor intended. Due to constantly changing labels, laws and regulations, the Extension Services can assume no liability for the suggested use of chemicals contained herein. Pesticides must be applied legally complying with all label directions and precautions on the pesticide container and any supplemental labeling and rules of state and federal pesticide regulatory agencies. State rules and regulations and special pesticide use allowances may vary from state to state: contact your State Department of Agriculture for the rules, regulations and allowances applicable in your state and locality.

Categories: Lentil, Pulse Crops, Disease, Anthracnose

Date: 04/02/2007