

Pulse Crops

Ascochyta Blight of Chickpeas

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Identification and Life Cycle

Ascochyta blight of chickpea is caused by the fungus *Ascochyta rabiei*. The pathogen only infects chickpea, but related pathogens also attack lentil and pea. Ascochyta blight is a very destructive disease in the Northern High Plains, and can cause heavy losses when environmental conditions favor the pathogen. Infection is initiated by sexual spores (ascospores) forcibly discharged up in the air from specialized fruiting bodies (asci) and can move several miles via wind currents. Asexual spores are produced during the season from fruiting bodies (pycnidia) on actively growing plants. These spores exude out of the pycnidia in very high numbers and move short distances via rain splash and wind. Spores germinate and infect chickpea optimally when temperatures are mild (68 to 77°F) and free moisture is present. The pathogen survives between chickpea crops in and on infested seed, crop residue, and volunteer chickpea.

Plant Response and Damage

Infected plants exhibit dark, sunken lesions that soon take on a concentric ring appearance. Small, dark fruiting bodies called pycnidia are produced inside the lesions. Stem lesions often lead to girdling of the stem and plant tissue death above the point of infection. On pods, the lesions usually are circular with a darker border and they often display concentric rings and fruiting bodies inside the lesions also. Some infected seeds have dark spots /areas on the seed surface and often they are shriveled. However, other chickpea seeds that test positive show few visible symptoms.

Ascochyta blight can cause up to 100% yield loss and can reduce crop quality on untreated susceptible varieties.

Management Approaches

Biological Control

No biological control practices have been developed for Ascochyta blight.

Cultural Control

Plant only high quality seed free from the Aschochyta blight pathogen. Resistant varieties are available, and should be planted; the varieties Sanford, Dwelley, and Myles are considered resistant. Practice a three- to four-year rotation to nonhosts such as small grains. Eliminate chickpea residues and volunteer chickpea to reduce pathogen survival and overwintering.

Chemical Control

Chemical controls are essential for Ascochyta blight in most years, but are most effective when integrated with sound cultural control practices. Three or more fungicide applications are often necessary to effectively control Ascochyta blight when conditions are highly favorable for disease development.

Common/ Trade Name	Product per Acre	Application Frequency (days)	Remarks
Boscalid			
Endura	6 oz	7-10 days	Maximum of 2 applications or 22 ounces per season; 21 day phi

Chlorothalonil—various formulations available

Bravo Ultrex	1.25 – 1.8 lb	7-14 days	Maximum of 4 applications or 7.3 pounds per season; 14 day PHI
Bravo ZN	2 – 3 pt	7-14 days	Maximum of 4 applications or 7.3 pounds per season; Do not graze treated areas; 14 day PHI

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	6-9 fl oz	7-14 days	Maximum of 2 applications and 18 oz per season; 21 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

Seed Treatment

Gustafson LSP	14 fl oz/100 lb	--	Seed treatments reduce surface contamination
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Categories: Pulse Crops, Disease, Ascochyta Blight, Chickpeas

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