

**A LITTLE BIT COUNTRY
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Diseases Can Devastate Lentils

Of the few acres planted this spring, it is my observation that a higher percentage of lentils were put in the ground than any of our other primary crops - durum, peas, and hard spring wheat.

One of the major yearly threats to lentils is ascochyta blight. Plant pathologists at the Carrington Research Center and North Dakota State University report observing the presence of ascochyta blight in a commercial production field near Carrington. Another devastating disease, anthracnose has been found in a field of lentils located on the North Central Research Center at Minot.

The lentils in the commercial production field were seeded into ground where corn was grown in 2010 so the disease likely originated from infected seed. The ascochyta-infected plants were clustered in a 6-inch stretch within a row, suggesting the disease had spread radically from a single source. The lentils in Minot were seeded into ground where lentils were grown last year. It is presumed the anthracnose was transmitted from lentil stubble.

It is unusual to observe ascochyta blight and anthracnose at such an early lentil growth stage, and producers are urged to scout their fields. Both diseases are associated with leaf, stem, and pod lesions that are tan with dark brown borders. Leaf lesions generally develop before stem lesions; when disease initially develops, stem lesions may be absent. Within the tan lesions, black specks may be observed. When the stem lesions become sufficiently severe, they girdle the plant, causing premature plant senescence and death. Seeds produced within diseased pods often become infected, causing losses in seed quality due to discoloration. Ascochyta and anthracnose cause very similar symptoms, and laboratory diagnosis is generally required to distinguish them.

Disease transmission from infected seed is highly likely this year. Ascochyta is known to be transmitted from infected seed to seedlings, and the cool, wet weather has been highly favorable for disease development. Many seed lots tested positive for ascochyta in 2010, and many lentil acres were presumably planted to infected seed. Fungicide seed treatments reduce but do not eliminate disease transmission. Though seed-to-seed transmission of anthracnose has not been experimentally demonstrated, anthracnose also infects seeds, and infected seed can presumably also serve to introduce anthracnose to fields. Where disease transmission has occurred from infected seed, foci of infection may remain small while the canopy remains open, but producers should expect that disease will spread rapidly as soon as the lentil canopy closes.

If ascochyta or anthracnose is observed, a fungicide application is strongly recommended immediately prior to canopy closure. Both diseases can cause severe yield and quality losses in lentils, and delaying a fungicide application can result in significant losses. If wet weather persists or disease levels are moderate to high, a second fungicide application may be needed. Registered fungicides with efficacy against both diseases include **chlorothalonil** (Bravo Weather Stik, 1.5 pts/ac; Echo 720, etc), **pyraclostrobin** (Headline, 6 fl oz/ac), **azoxystrobin** (Quadris, 6.2 fl oz/ac), and **prothioconazole** (Proline, 5 fl oz/ac). Chlorothalonil is a contact fungicide and should only be used if disease is anticipated but has not yet been observed. If disease has been observed, Headline, Proline, or Quadris is recommended. If two sequential applications are made, fungicide chemistries should be rotated, for example Proline (FRAC 3) then Headline or Quadris (FRAC 11), or vice versa. Caution is recommended for growers considering the use of boscalid (Endura); Endura has activity against ascochyta, but data from Carrington in 2010 suggest that it may not control anthracnose well. Because ascochyta and anthracnose are very difficult to distinguish, growers are advised to use a chemistry that is known to be effective against both diseases.

Although this area of the state usually experiences less disease pressure than those to the east of us, the unusual weather pattern so far has been very favorable for both diseases. Thus, close field scouting is highly recommended.