Distribution and Severity of Fungal Foliar Diseases of Lentils in Central and Western North Dakota and Eastern Montana in 2011

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For the past decade, five foliar diseases caused by fungi have been a problem for lentil production in neighboring Saskatchewan, often causing economic losses:

Ascochyta blight, caused by *Ascochyta lentis*
Anthracnose, caused by *Colletotrichum truncatum*
Botrytis, caused by *Botrytis cinerea* and *B. fabae*
Sclerotinia, caused by *Sclerotinia sclerotiorum*
Stemphylium, caused by *Stemphylium botryosum*

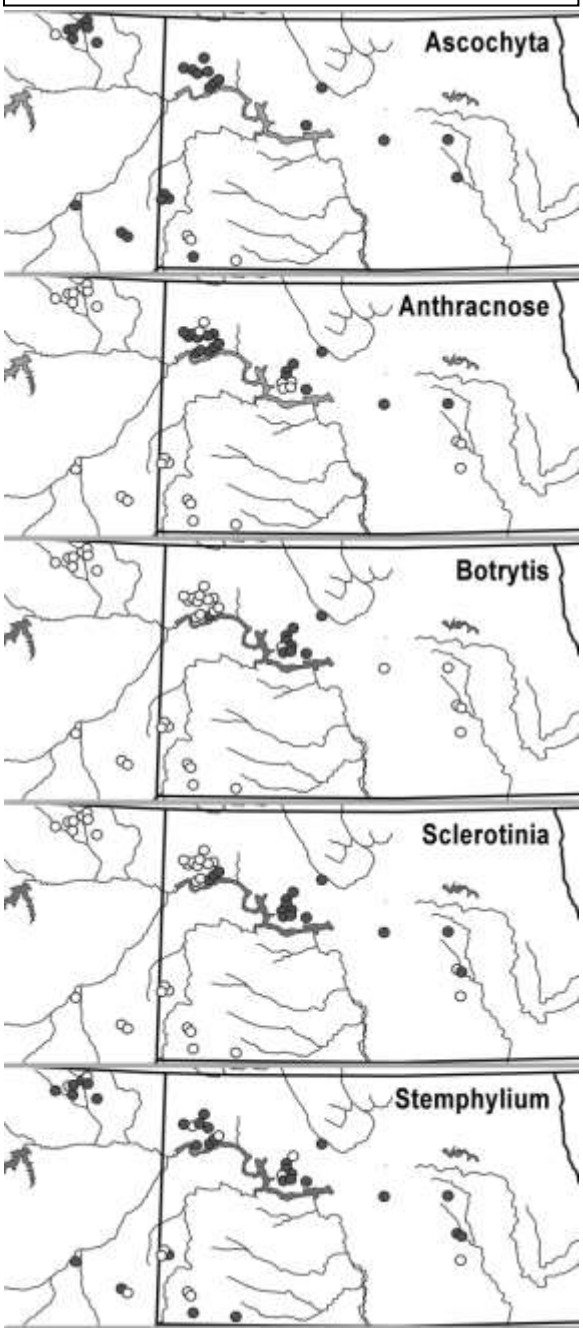
The occurrence of these diseases in North Dakota is poorly understood. Although anthracnose was shown to be widespread on lentils in central and northern North Dakota in the mid-1990s, most producers are not aware that anthracnose occurs in North Dakota. Botrytis gray mold and Stemphylium blight, though common in Saskatchewan, have never been reported in North Dakota.

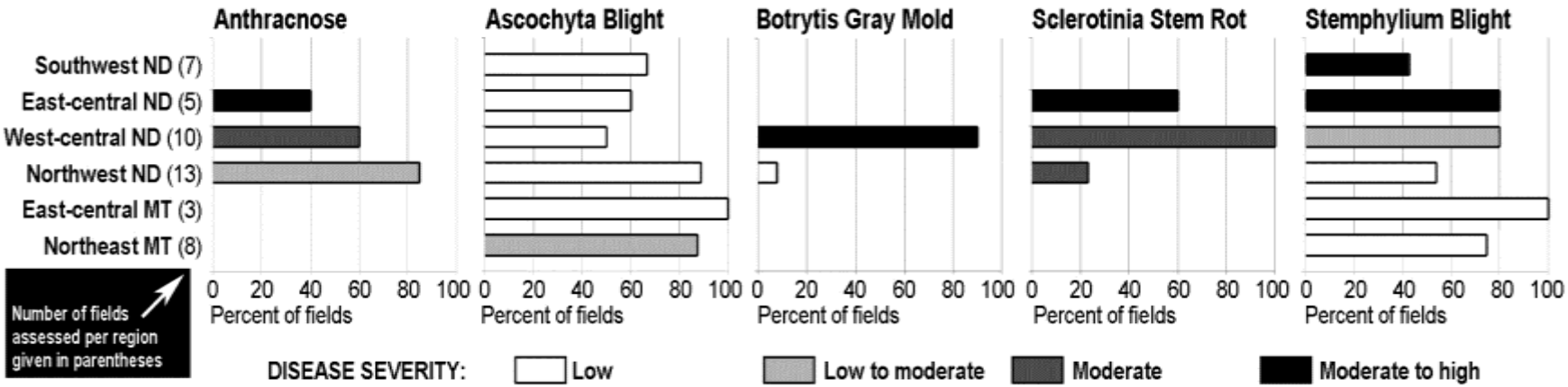
To characterize the distribution and severity of foliar diseases of lentils, lentil production fields and field trials in North Dakota and eastern Montana were surveyed for foliar diseases in late July and early to mid-August 2011. Sclerotinia, a disease with highly diagnostic symptoms, was assessed by symptoms in the field. Diagnoses of all other diseases, which sometimes can be difficult to accurately distinguish in the field, were assigned only if the causal pathogen was isolated from symptomatic tissues in the lab.

Stemphylium blight was widespread, and it was severe in multiple fields in central and southwestern North Dakota. Botrytis gray mold occurred primarily in west-central North Dakota, where it was often the most severe disease of lentils. Anthracnose occurred only in central and northwestern North Dakota, and it often occurred at economically damaging levels. Sclerotinia was primarily a problem in central North Dakota, where it often occurred at moderate to high severity. Ascochyta blight was widespread, but, because it was well managed, it was rarely severe.

Above-normal precipitation contributed to high disease severity in 2011, but it is highly unlikely that the occurrence of these diseases is limited to extremely wet years such as 2011.

Distribution of lentil diseases in 2011: *Solid circle* = field assessed, disease present. *Open circle* = field assessed, disease absent.




Anthracnose
Ascochyta Blight
Botrytis Gray Mold
Sclerotinia Stem Rot
Stemphylium Blight
Southwest ND (7)
East-central ND (5)
West-central ND (10)
Northwest ND (13)
East-central MT (3)
Northeast MT (8)
0 20 40 60 80 100
Percent of fields
Number of fields assessed per region given in parentheses
DISEASE SEVERITY:
Low
Low to moderate
Moderate
Moderate to high