



# Diagnostic Laboratory

## Bean Anthracnose

Bean anthracnose, a potentially devastating disease, remains a concern for edible bean producers in North Dakota. It has been found in southern Manitoba, Michigan, and Ontario. Anthracnose was found in **commercial** fields in several North Dakota counties in 2001. The pinto bean variety 'AC Pintoba' has accounted for the majority of infected commercial fields in the state.

***To date, no certified bean seed produced in North Dakota has been found to contain anthracnose.***

### Symptoms

Field symptoms of anthracnose appear as small, angular brick red to purple-brown lesions on the bottom of leaves. Later, these lesions become darker, extend to the upper leaf surface, and proceed along veins. Pod lesions are sunken, circular in shape with brown to black coloring that have a dark margin surrounding the lesion. There is typically a thin zone of red tissue around the lesion. On the lesion surface, tan spores dry into dark granular masses. Lesions on seed can be similar in appearance to pod lesions. Bean anthracnose is easily spread by infected seed, rain splashing, and by being blown from field to field on crop residue. This disease can result in significant yield losses.

### Prevention

**The North Dakota State Seed Department, North Dakota State University, and the commercial seed industry have taken measures to ensure certified bean seed produced in North Dakota is free from this serious pathogen.** In 2002 North Dakota imposed mandatory anthracnose testing on all certified seed grown in the state. Additionally, service testing is being promoted and utilized by the seed industry, and the North Dakota State Seed Department has expanded regulatory program sampling and testing of seed lots offered for sale in North Dakota.

Growers should be alert as to where the seed they are purchasing comes from. Seed from known infected areas should be avoided as well as suspect varieties such as "AC Pintoba". Planting bin run seed should be avoided.

**The use of certified seed that has been field inspected and lab tested for anthracnose is recommended.**

### Testing

The Seed Department currently conducts a 1,000 seed grow-out test for bean anthracnose that requires a minimum of 14 days to complete. Seedlings are evaluated for the presence of anthracnose. A positive test result indicates the sample is contaminated resulting in failure. Growers should be aware of the sample size a testing lab uses to conduct an anthracnose test on edible bean. Sample sizes of 200-400 seed may not be large enough to detect the presence of anthracnose. Growers must submit a 2-3 pound sample for this test. Currently, the Seed Department charges \$50 per seed lot tested.

Questions on the disease can be directed to the North Dakota Seed Department or your local NDSU Extension Agent.