



Arkansas Plant Health Clinic Newsletter

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Soybean

by Jason Pavel

Soybean Anthracnose, caused by *Colletotrichum truncatum* and related species, occurs worldwide and reduces plant stand, seed quality, and yield by 16-26% in the United States. Pod infections have a larger impact on yield than stem or petiole infections. Soybean is susceptible to Anthracnose at all stages of development.

Pre- and post-emergence damping-off occurs when infected seeds are planted. Dark-brown, sunken lesions develop on the cotyledons of emerging seedlings. Under warm humid conditions, numerous small lesions may kill young plants. Irregular brown lesions can develop at any time on stems, petioles, and pods. Lesions may girdle petioles and cause early defoliation, while early infection of the pods or pedicles can cause seeds to not develop or cause the seeds to be fewer and smaller. Lesions at the nodes and at the top of plants can produce a diagnostic shepherd's crook of the stem.

Near soybean maturity, black fungal fruiting bodies that produce abundant, minute, black spines (setae) appear in random places on infected tissue. These spines may be seen with

a good hand lens and can be used to differentiate Anthracnose from Pod and Stem Blight caused by *Diaporthe phaseolorum* whose fruiting bodies grow in rows and lack spines.

Control practices to prevent Anthracnose include use of resistant varieties of soybean, buying high-quality seed, using disease-free seed, and tillage or crop rotation practices that reduce soybean residue. Applying a fungicide between beginning pod development and initial seed formation can be effective at suppressing Anthracnose. Fungicide seed treatments can also reduce the effects of Anthracnose on seedlings. Many products are labeled for control of Soybean Anthracnose, including Alto, or Aproach, or Aproach Prima, or Domark 230ME, or Evito 480SC, or Folicur 3.6F, or Fortix, or Gem RC, or Priaxor, or Proline 480SC, or Quadris 2.08SC, or Quadris Top, or Quadris Xtra, or Quilt, or Quilt Excel, or Stratego, or Stratego YLD, or Tilt, or Topguard, or Topsin 4.5FL, or Topsin XTR.

Soybean Anthracnose- *Colletotrichum truncatum*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Soybean Anthracnose- *Colletotrichum truncatum*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Soybean Anthracnose- *Colletotrichum truncatum*



Photo by Jason Pavel University of Arkansas Plant Pathology Graduate Student

Soybean Anthracnose fruiting bodies-*Colletotrichum truncatum*

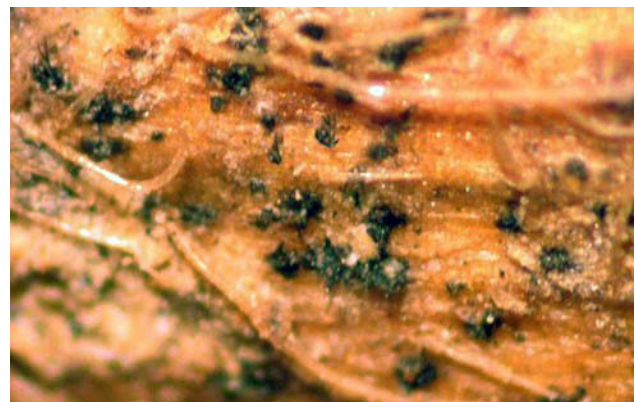


Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Soybean Anthracnose *setae-Colletotrichum truncatum*

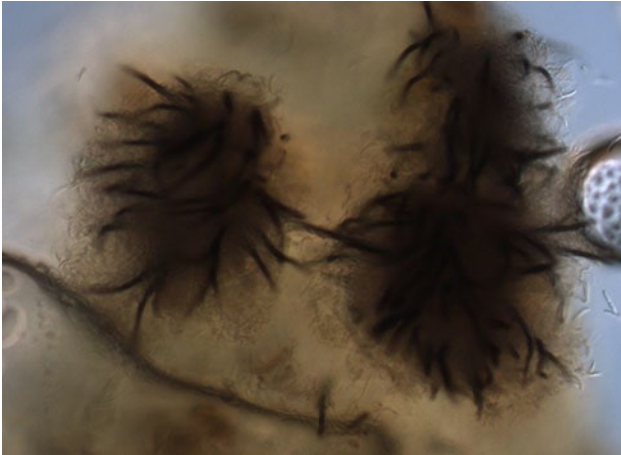


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Ash

As many of you have already heard on the news, the Emerald Ash Borer has been found in three counties in Arkansas. The Arkansas Agriculture Department/Arkansas State Plant Board has verified Emerald Ash Borer (EAB) in Hot Springs, Clark, and Nevada counties during their annual survey for the presence of this insect. The Emerald Ash Borer has killed millions of trees in 24 states in the U.S. and two provinces in Canada since its discovery in 2002. Tree death occurs 3-5 years after initial infestation. The adult borer is a metallic green beetle about 1/2" long and 1/8" wide. The female lays eggs on the bark of ash trees. When the eggs hatch, the larvae bore into the bark to the fluid conducting vessels underneath. The feeding activity of the larvae eventually cuts off the flow of nutrients to the tree, killing the

tree. There are effective systemic insecticides for control of EAB. However, by the time most people notice the symptoms of infestation, the tree's vascular system may already be too compromised to effectively take up the insecticide. Homeowners may use Bayer Advanced TM Tree & Shrub Insect Control in early to mid-spring, and Ortho Tree and Shrub Insect Control Ready to Use Granules® in mid to late spring.

Report signs of the beetle to the Arkansas State Plant Board at 501-225-1598.

Emerald Ash Borer (EAB)-*Agrilus planipennis*



Photo by Leah Bauer, USDA Forest Service Northern Research Station, Bugwood.org

Emerald Ash Borer (EAB) galleries-*Agrilus planipennis*



Photo by William M. Ciesla, Forest Health Management International, Bugwood.org

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Emerald Ash Borer (EAB) larvae- *Agrilus planipennis*



**Photo by Houping Liu, Michigan State University,
Bugwood.org**

Emerald Ash Borer (EAB) damage-*Agrilus planipennis*



**Photo by Daniel Herms, Ohio State University,
Bugwood.org**

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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