Be on the Lookout for Brown Stem Rot in Soybean

Daren S. Mueller  
*Iowa State University, dsmuelle@iastate.edu*

Adam Sisson  
*Iowa State University, ajsisson@iastate.edu*

Tristan Mueller  
*Iowa Soybean Association, tmueller@iasoybeans.com*

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Abstract
Soybean diseases are starting to show up in Iowa fields this growing season. In an On-Farm Network trial in north central Iowa, brown stem rot (BSR) was recently found. This disease is caused by the fungus Phialophora gregata, and infection can result in yield loss for Iowa farmers.

Keywords
Plant Pathology and Microbiology

Disciplines
Agricultural Science | Agriculture

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Be on the Lookout for Brown Stem Rot in Soybean

August 12, 2014

By Daren Mueller, Department of Plant Pathology and Microbiology; Adam Sisson, Integrated Pest Management; and Tristan Mueller, Iowa Soybean Association

Soybean diseases are starting to show up in Iowa fields this growing season. In an On-Farm Network trial in north central Iowa, brown stem rot (BSR) was recently found. This disease is caused by the fungus Phialophora gregata, and infection can result in yield loss for Iowa farmers.

Foliar symptoms of BSR are interveinal chlorosis and necrosis (yellow and brown discoloration) of leaves (Figure 1 and 2). Leaves can then curl and die. Inside the soybean stem, vascular and pith tissue turns brown (Figure 3). Foliar symptoms of BSR can easily be mistaken for sudden death syndrome (SDS), which is also being found in Iowa at this time (Figure 4). In order to tell them apart, split the stem and look at the pith tissue. If...
the pith is brown and not the normal white color, then the plant likely has BSR. Not all BSR-infected plants show foliar symptoms, however.

Figure 1. Soybean plant showing foliar symptoms of brown stem rot.
Figure 2. Leaf of brown stem rot infected plant showing necrosis and chlorosis of tissue.

Figure 3. The internal stem browning of plants with BSR can help distinguish it from SDS. Courtesy Alison Robertson.
Figure 4. Foliar symptoms of SDS.

Management: During the season nothing can be done to control BSR, but is important to know if it is present for future management. The main control of BSR is selecting soybean varieties that have resistance. Also, crop rotation and tillage can help reduce BSR. Soybean cyst nematode (SCN) often occurs with BSR, and SCN may "break" the ability of resistant varieties to reduce disease.

Daren Mueller is an assistant professor in the Department of Plant Pathology and Microbiology; he can be reached at 515-460-8000 or e-mail dsmuelle@iastate.edu.

Adam Sisson is an Integrated Pest Management extension specialist; he can be reached at ajsisson@iastate.edu or 515-294-5899.

Tristan Mueller is the Operations Manager for Iowa Soybean Association's On-Farm
Network and can be reached at 515-334-1075 or e-mail tmueller@iasoybeans.com.

**Category:** Plant Diseases

**Crop:** Soybean

**Tags:** Diseases Soybean brown stem rot brown stem rot symptoms

**Authors:**

**Daren Mueller** Assistant Professor

Daren Mueller is an Assistant Professor and Extension Plant Pathologist at Iowa State University (ISU). He is also the coordinator of the ISU Integrated Pest Management (IPM) Program. Daren received his B.S. from the University of Wisconsin-Madison in 1996 and his M.S. and Ph.D. in Plant...

**Adam Sisson** Extension Program Specialist III

Adam Sisson is an Extension specialist with the Iowa State University Integrated Pest Management program. Adam focuses on the development of publications and other educational resources for farmers, agribusiness, and students. He received his B.S. in agronomy and environmental stud...