Summary: Foliar Fungicide on Soybean in Iowa (2006 – 2009)

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

Alison E. Robertson
Iowa State University, alisonr@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/cropnews

Part of the Agricultural Science Commons, Agriculture Commons, Agronomy and Crop Sciences Commons, and the Plant Pathology Commons

Recommended Citation
http://lib.dr.iastate.edu/cropnews/403

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit https://crops.extension.iastate.edu/.
Summary: Foliar Fungicide on Soybean in Iowa (2006 – 2009)

Abstract
We recently collated and summarized data from soybean fungicide small plot trials conducted by Iowa State University faculty and staff, and on-farm trials conducted by the Iowa Soybean Association On-Farm Network, the ISU Corn and Soybean Initiative and the ISU Northwest On-Farm research program.

Keywords
Plant Pathology

Disciplines
Agricultural Science | Agriculture | Agronomy and Crop Sciences | Plant Pathology
Summary: Foliar Fungicide on Soybean in Iowa (2006 – 2009)

By Daren Mueller and Alison Robertson, Department of Plant Pathology

We recently collated and summarized data from soybean fungicide small plot trials conducted by Iowa State University faculty and staff, and on-farm trials conducted by the Iowa Soybean Association On-Farm Network, the ISU Corn and Soybean Initiative and the ISU Northwest On-Farm research program.

- For the total 831 observations, the overall mean yield response was 2.18 bu/A.
- Yield response of small plot trials (282 observations) was 1.67 bu/A, compared with 2.44 bu/A for on-farm strip trials (549 observations).
- The mean yield response varied among years: 2.11 bu/A (for 8 observations in 2006), 4.42 bu/A (16 observations, 2007), 2.37 bu/A (599 observations, 2008) and 1.46 bu/A (208 observations, 2009).
- Applications at R2 and R3 resulted in the highest mean yield response (2.32 bu/A and 2.42 bu/A, respectively). The mean yield response for a fungicide application at R1 was 1.07 bu/A, while the mean yield response at R4 and R5 was <1 bu/A.
- The mean yield response was greatest for fungicides that contained a strobilurin, either alone (2.52 bu/A) or in a premix (2.13 bu/A).
- Disease ratings were not taken from all plots. Where noted, brown spot, downy mildew, Cercospora leaf blight and frogeye leaf spot were rated. The predominant disease was brown spot. Mean yield response was greater when disease severity in a field at R5 was >5 percent (1.79 bu/A) compared with disease severity <5 percent (0.68 bu/A).
- Based on the price of soybean of $9.48 and $24 product + application, the breakeven yield response is 2.53 bu/A

Considerations for 2010

In our research, we have found that foliar disease severity in Iowa seldom reaches high enough levels to impact yield significantly. The warm, wet start to the 2010 growing season, however, has been favorable for brown spot development in the lower canopy. If this weather continues (warm with frequent rains), we could see brown spot move up into the mid-canopy of soybean plants, and impact yield. Thus, a foliar fungicide application at R3 could be a good decision.

Other things to consider before applying a fungicide include economics (e.g., the price of soybean, and price of product plus application), Scout fields to determine disease pressure. Specifically, check on brown spot severity in the mid canopy. Frogeye leaf spot also may occur in the mid-canopy and Cercospora leaf blight in the top canopy.

Daren Mueller is an extension specialist with responsibilities in the Corn and Soybean Initiative. Mueller can be reached at (515) 460-8000 or by email at dsmuelle@iastate.edu.

dsmuelle
Alison Robertson is an assistant professor of plant pathology with research and extension responsibilities in field crop diseases. Robertson may be reached at (515) 294-6708 or by email at alisonr@iastate.edu.

This article was published originally on 7/7/2010. The information contained within the article may or may not be up to date depending on when you are accessing the information.

Links to this material are strongly encouraged. This article may be republished without further permission if it is published as written and includes credit to the author, Integrated Crop Management News and Iowa State University Extension. Prior permission from the author is required if this article is republished in any other manner.