

3-26-2007

Evaluation of foliar fungicides for management of soybean rust

Daren S. Mueller

Iowa State University, dsmuelle@iastate.edu

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



Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), and the [Plant Pathology Commons](#)

Recommended Citation

Mueller, Daren S., "Evaluation of foliar fungicides for management of soybean rust" (2007). *Integrated Crop Management News*. 1128.
<http://lib.dr.iastate.edu/cropnews/1128>

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 Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user.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/>.

Evaluation of foliar fungicides for management of soybean rust

Abstract

In recent years, several fungicides have become available for use on soybean, stemming from a need for management of soybean rust. The dust is far from settling as many of the Section 18 fungicides are getting full Section 3 labels and additional products are being granted Section 18 status.

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Plant Pathology

INTEGRATED CROP MANAGEMENT

Search

Get the latest research-based information on crops. [Sign up to be notified](#) when new content is available!

ICM > 2007 > IC-498 (3) -- March 26, 2007

Current Newsletter

You are viewing archives for the newsletter from 1993-2007. For current news, see [Integrated Crop Management News](#).

Archives 1993-2007



Announcements



Crop Production



Insects and Mites



Pesticide Education



Plant Diseases



Soils



Weed Management

[Image Gallery](#)

Printable Version

Printable version of this page

Related Articles

Fungicides for soybean: Considerations for 2008
December 10, 2007

Soybean rust: A year in review
December 10, 2007

Soybean rust found in an Iowa field
October 1, 2007

Summer scouting in soybean: Top dieback

Evaluation of foliar fungicides for management of soybean rust

by Daren Mueller, Department of Plant Pathology

Disclaimer: Comments are not intended to endorse any product. These comments are based on preliminary data from research trials in the southern United States, South America, and Africa and are subject to change over time. Also, fungicide efficacy can be strongly influenced by timing, coverage, disease pressure, weather, and other factors. Additionally, in certain situations two fungicide applications may be better than one, or one well-timed application may be better than two applications of something else.



Fungicide trial in Florida in 2006. Note the untreated border between plots is completely defoliated from rust. (Tristan Mueller)

In recent years, several fungicides have become available for use on soybean, stemming from a need for management of soybean rust. The dust is far from settling as many of the Section 18 fungicides are getting full Section 3 labels and additional products are being granted Section 18 status.

Which fungicide is most effective for management of soybean rust? The easy answer is that most fungicides with soybean rust on the label are effective at managing soybean rust. In fact, under low disease pressure environments, differences between fungicides may not be obvious. Effectiveness of and response to fungicides will depend on many factors, such as timing of infection during the growing season, timing of fungicide application in relation to infection, canopy penetration and coverage with fungicide, cultivar, and environmental conditions.

After a closer look at fungicide data and talking with plant pathologists who are doing fungicide trials, we start to see some differences among fungicides. Here is a breakdown of available or

and other diseases
August 6, 2007

Soybean rust update
and outlook
July 23, 2007

Soybean rust update
and outlook - July 2,
2007
July 2, 2007

Another fungicide
approved for soybean
rust in Iowa
June 25, 2007

Iowa State plant
pathologists detect crop
diseases from satellites
June 25, 2007

Soybean rust update
and outlook, June 2007
June 11, 2007

Monitoring soybean rust
June 11, 2007

Iowa officials find no
additional evidence of
Asian soybean rust
May 21, 2007

pending foliar fungicides. These summaries are drawn from personal experience, communication with pathologists who evaluated these products, and/or results from university fungicide trials. The list is sorted by active ingredient; however, there may be several products with the same active ingredient.

Chlorothalonil (many products)

Chlorothalonil products may have a place in other markets (turf), but in our opinion, not for management of soybean rust. These products have no systemic activity and are not effective once leaves are infected; therefore, they would require multiple applications of fungicide for season-long effectiveness.

Quinone outside Inhibitor (QoI) (strobilurin) fungicides

In general, the QoI fungicides are not as effective as the better triazole fungicides for management of soybean rust. Within this group, pyraclostrobin appears to be more effective than azoxystrobin for management of soybean rust. Also, QoI fungicides may boost yield more than triazoles because they are more effective on other soybean diseases.

azoxystrobin (Quadris®)

This is a reliable product when soybean rust pressure is moderate to light and if applied prior to disease infection. Because it is effective in managing other soybean diseases (e.g., anthracnose and pod and stem blight), this product will be a core fungicide for southern states, but probably will not be recommended as a stand-alone treatment for soybean rust management.

pyraclostrobin (Headline®)

See comments for azoxystrobin.

Triazole fungicides

The triazoles are the most effective group of fungicides; however, that does not mean they are all equally effective. Most of these fungicides fall into two categories--excellent or good. Although triazoles have "early infection" activity, they still are most effective when applied prior to disease establishment.

cyproconazole (Alto®)

An "excellent" product for soybean rust management.

flusilazole (Punch™)

A "good" product for soybean rust management--better than the QoI fungicides but not at the same level as the top tier triazoles.

flutriafol (TopGuard™)

An "excellent" product for soybean rust management.

metconazole (Caramba™)

A "good" product for soybean rust management--better than the QoI fungicides but not at the

same level as the top tier triazoles. May cause phytotoxicity.

myclobutanil (Laredo®)

A "good" product for soybean rust management-- better than the QoI fungicides but not at the same level as the top tier triazoles.

propiconazole (Tilt® and others)

Consistently performs worse than all other triazole fungicides. In some trials, this product was either as effective or even less effective than the QoI fungicides. Not recommended as a stand-alone treatment for soybean rust.

tebuconazole (Folicur® and others)

An "excellent" product for soybean rust management. May cause phytotoxicity. Also, timing for this product seems more critical than other "excellent" triazoles.

tetraconazole (Domark®)

An "excellent" product for soybean rust management.

Premix (Triazole + QoI fungicides)

The premix fungicides combine two separate fungicide classes. A general guideline is that their effectiveness will be nearly that of the most effective product of the two. Note: many of the premix fungicides have reduced rates of the stand-alone products, which can affect their efficacy. The premix fungicides may be the most complete products available for the southern states where other diseases are managed with fungicides.

cyproconazole + azoxystrobin (Quadris® Xtra)

An "excellent" product for soybean rust management.

metconazole + pyraclostrobin (Headline Caramba™ Copack)

A "good" product for soybean rust management-- better than the QoI fungicides but not at the same level as the top tier triazoles.

propiconazole + trifloxystrobin (Stratego®)

This is a reliable product when soybean rust pressure is moderate to light and if applied prior to disease development. However, other fungicides may be more effective for soybean rust management.

propiconazole + azoxystrobin (Quilt®)

Less effective than other fungicides tested for management of soybean rust. In some fungicide trials, this product had nearly similar rust severity as the untreated control. However, this product does a decent job of managing other soybean diseases.

tebuconazole + pyraclostrobin (Headline® SBR)

An "excellent" product for soybean rust management.

Thanks to Boyd Padgett and Ray Schneider at Louisiana State University, Layla Sconyers at University of Georgia, David Wright at University of Florida, Marty Draper at USDA-CSREES, National Program Leader--Plant Pathology, and Tristan Mueller at University of Illinois for their valuable input.

Daren Mueller is an extension plant pathologist with the Iowa State University Corn and Soybean Initiative and the Pest Management and the Environment Program.

This article originally appeared on pages 61-62 of the IC-498 (3) -- March 26, 2007 issue.

Updated 03/27/2007 - 3:46pm