FUNGICIDE USE GUIDELINES FOR ALABAMA

Edward Sikora
Professor and Extension Plant Pathologist
Auburn University

Several fungicides are now available in Alabama for use against soybean rust. These can be divided into three groups: strobilurins, triazoles and premixes of strobilurins and triazoles.

Strobilurins should be used as protectants and must be applied prior to infection to be effective. **Quadris** and **Headline** are strobilurins. Triazoles have protectant and curative activity. **Laredo, Folicur, Domark, Tilt, PropiMax** and **Bumper** are triazoles available in Alabama. **Laredo, Folicur** and **Domark** appear to be the most effective of the triazoles against soybean rust. Premixes of strobilurin and triazole materials include **Quilt, Stratego** and **Headline SBR.**

When to Spray

Your first spray should NOT be applied prior to bloom. Applications before this time will not be economical. We suggest making your first application at bloom or thereafter when there is a risk of rust in your region. This disease can spread rapidly (over 100 miles a day) so growers need to be aware of new rust outbreaks in the southeastern United States. If a grower waits for the disease to "show-up" in their field before applying a fungicide, chances are their fungicide program will not be effective.

Growers can keep informed of rust movement by visiting the USDA web site at www.sbrusa.net. Growers without Internet access can also call the Auburn University Soybean Rust Hotline at 1-800-774-2847 for updates on the disease and control recommendations.

Growers, who follow rust movement closely, could use a strobilurin fungicide such as Headline or Quadris in a protectant program (before the disease arrives in their area) initially, then follow-up with a triazole or a premix (triazole + strobilurin) 21 days later if a second application is needed. The strobilurin in the second spray will help control diseases such as Frogeye leaf spot and Cercospora blight as well as rust.

A grower who is not keeping up-to-date on rust outbreaks or not scouting their fields intensely should consider a premix such as Headline SBR, Quilt or Stratego as the first spray of the season. The addition of the triazole with its curative activity would be beneficial if the disease has already reached the field undetected. They could then follow-up with a triazole or a premix 21 days later if needed.

If there is a high liklihood that rust has moved into your field prior to your first fungicide application, applying a triazole fungicide with its curative activity would be the most

effective option available. A second application of a triazole or a premix may be needed 14-21 days.

Following is a list of fungicides available for

Control of soybean rust in Alabama.

Strobilurins:

Quadris (Syngenta)

Headline (BASF)

Triazoles:

Laredo (Dow Agro)

Tilt (Syngenta)

PropiMax (Dow Agro)

Bumper (Makhteshim)

Folicur (Bayer)

Domark (Valent)

Premix (Strobilurin + Triazole):

Stratego (Bayer)

Quilt (Syngenta)

Headline SBR (BASF)

EFFICACY RATINGS OF SOYBEAN RUST FUNGICIDES

The following tables were developed by soybean specialists at Mississippi State University as a guideline to differentiate between the effectiveness of currently labeled fungicides for the prevention of losses from Asian soybean rust (ASR). The most effective fungicides against ASR are the triazoles, but they are not very effective against late season soybean diseases. Strobilurins are effective against late season soybean diseases but are not as effective against ASR. Premixes have both triazole and stobilurin

active ingredients, but generally contain each at reduced rates, a matter of concern to us. The effectiveness of all these products depends upon coverage, rate, and timing.

These triazoles are labeled for use against Asian soybean rust in the United States. The more stars in the column "Level of control" the better the fungicide controls Soybean rust. Ratings are taken from EMBRAPA Soja, Brazil where Asian soybean rust is endemic and can be severe.

Triazoles	***Trade name***	***Rate product/A[1]***	***Level of Asian soybean rust control[2]***
Tebuconazole[3]	Folicur	3-4 fl oz	***
Myclobutanil	Laredo EC and EW	4 – 8 fl oz	**
Tetraconazole	Domark 2 ME	5 fl oz	**
Propiconazole	Bumper, Propimax, Tilt	4-8 fl oz	*

[1] Rate of commercial product, usually in fluid ounces

[2] *** level of control greater than 90%; ** 80 – 86%; * 59-74%

[3] Phytotoxicity caused by Tebuconazole is observed on some Brazilian soybean varieties at temperatures >86 F. As temperature increases, chances of phytotoxicity increase but, soybean yield is not affected. Injury may occur when high temperatures occur. The addition of crop oils increases phytotoxicity.

Strobilurins are effective fungicides for management of many soybean diseases. When used **preventively**, they provide some control against Asian soybean rust, but their real strength lies in managing other late season soybean diseases. Ratings are taken from EMBRAPA Soja, Brazil where Asian soybean rust is endemic and can be severe. Late-season disease ratings are based on data generated in Mississippi.

Strobilurins	***Trade name***	***Rate product/A[1]***	***Level of Asian soybean rust control [2]***	***Level of late season disease control***
Pyraclostrobin[3]	Headline	6 – 12 oz	Not rated by EMBRA[3]	**
Azoxystrobin	Quadris	6.2 – 15.4 oz	*	**

[1] Rate of commercial product, usually in fluid ounces

[2] *** level of control greater than 90%; ** 80 – 86%; * 59-74%

[3] The chemistry is not rated by EMBRAPA.

Fungicides in this table contain two active ingredients, a triazole needed for ASR management, the other a strobilurin that acts as a protectant against ASR and other late

season diseases. Ratings are taken from EMBRAPA Soja, Brazil where Asian soybean rust is endemic and can be severe.

Mixed Chemistries	***Trade name***	***Rate product/A[1]***	***Level of Asian soybean rust control[2]***	***Expected performance against Asian soybean rust[3]***
Tebuconazole + Pyraclostrobin[5]	Headline SBR	7.8 fl oz Reduced rate of both active ingredients	Not rated by EMBRAPA	Good
Azoxystrobin + propiconazole[5]	Quilt	14-20.5 fl oz Reduced rate of both active ingredients	Not rated by EMBRAPA	Fair
Trifloxystrobin + Propiconazloe	Stratego	5.5-10 fl oz	*	Fair

[1] Rate of commercial product, usually in fluid ounces

[2] *** level of control greater than 90%; ** 80 – 86%; * 59-74%

[3] These ratings are estimates based upon knowledge of individual chemistries.

Leaf surface protectants. These fungicides, applied to the leaf surface, provide a physical barrier against germinating fungal spores. This class of fungicides when exposed to water and sunlight quickly break down under Mississippi conditions, requiring frequent application, approximately every seven days.

Leaf Surface Protectants	***Trade name***	***Rate product/A[1]***	***Expected Level of Asian soybean rust control[2]***
Chlorothalonil[1,2]	Bravo Echo Equus	1 1/3 – 2 ¼ pt/A	Poor

[1] Given the application expense, its limited life span and historical data indicate that chlorothalonil is not very effective against other rusts. This chemical should probably not be used in soybeans for the prevention of Asian soybean rust.

[2] Do not mix with products containing organic solvents or alcohols, such as EC formulations.