



SOYBEAN SCENE

NORTH CAROLINA SOYBEAN PRODUCERS ASSOCIATION

SOYBEAN RUST SPECIAL EDITION

This special issue of the *Soybean Scene* is provided by the North Carolina Soybean Producers Association with funding from the United Soybean Board.

If you are a farmer in a soybean producing county in North Carolina, then you are on the front line in the battle against soybean rust. Plan ahead, watch the soybean rust forecast, and scout diligently.

Soybean rust was first identified in North Carolina in October 2005, too late in the growing season to cause much economic loss. Soybean rust has returned every year since 2005 and was found in 44 counties in 2006 and 7 counties in 2007. The drought in 2007 resulted in dry conditions less than ideal for the spread of rust. Weather events in 2008 could prove more favorable to rust, and rust could enter the state much earlier if weather events (tropical storms, for example) spread the fungus spores that cause rust. It is best to be prepared to react to any pending threat of soybean rust.

Asian soybean rust is potentially highly destructive to soybeans. Yield losses as high as 80% or more are common in soybean production areas of South America and Asia. When rust first appeared in the



Our soybean checkoff.

Effective Efficient Farmer-Driven



United States in the 2004 growing season farmers wondered if it could reach such a level of destruction. So far it has not, but experience has shown how far and how fast rust can spread. In 2007 rust was detected in 336 counties in 19 U.S. states and one Canadian province. There is potential that a wet spring and summer could result in a rust epidemic with an impact on soybean yields and requiring widespread fungicide sprays.

Your North Carolina Soybean Association recommends the following:

- Be Informed – talk to your county agent and learn to identify soybean rust if it appears in your fields.
- Follow the Rust Forecast – track confirmed sightings. Track rust on the USDA website www.sbrusa.net.
- Prepare and Plan Ahead – read the “Preparing for Rust” checklist in this newsletter.
- Scout Diligently – once or twice a week and watch the middle canopy and bottom leaves.
- Know Soybean Growth Habit – the period from flowering (R1) to full seeds (R6) is the most critical for soybean rust management.

Soybean rust first appears as very tiny red or brown spots on the upper surface of the leaf. After ten days or more, pustules will emerge on the lower surface of the leaf. The pustules release spores which are carried by the wind and will infect other soybean plants. Asian soybean rust identification is tricky and the disease can be mistaken for other plant diseases including downy mildew, bacterial blight, brown spot, Cercospora blight and frogeye leaf spot.



Soybean Scene is an official communication of the North Carolina Soybean Producers Association, Inc., the Qualified State Soybean Board designated by the United States Department of Agriculture to administer the soybean check-off program in North Carolina. One-half of check-off funds collected in the state are invested in research, market development and producer communications projects to benefit North Carolina soybean producers. The remaining one-half of funding is remitted to the United Soybean Board (USB), whose 68 farmer-directors oversee soybean check-off investments on the national level.

Comments, questions, and change of address notifications are welcomed.

Address correspondence to: Soybean Scene, 211 Six Forks Road, Suite 102, Raleigh, NC 27609, telephone 1-800-839-5775 or fax 919-839-5775. Email ncsoy@ncsoy.org Visit online at www.ncsoy.org

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Preparing for Soybean Rust

Dr. Jim Dunphy, NCSU Extension Crop Science Soybean Specialist

Dr. Steve Koenning, NCSU Extension Soybean Pathology Specialist

Don't Panic – We may or may not find rust early enough to cause serious yield losses in North Carolina, and we do have some tools (fungicides) to deal with the disease if it arrives in the state early enough to threaten economic harm. Rust hasn't cost our farmers much in the last three years – 0%, 0.1% and 0% losses in 2005, 2006 and 2007 respectively. Although rust was found in 44 counties in 2006, it was confirmed in only 6 counties in 2007.

Seriously Consider Insurance – This is the type of situation (not necessarily likely to happen, but potentially very serious consequences if it does happen) for which insurance was developed. Don't forget to document what you did to deal with rust, and whose advice (if any) you were following.

Correct pH and nutrient deficiencies – a healthy plant can withstand stress better than an unhealthy plant. Adding a little extra lime or fertilizer is probably of no value for increasing yields or rust management.

Increase the acreage of your earliest maturing variety --- at the expense of your latest maturing variety. Don't go overboard, since we don't know when it will rain, but the earlier maturing variety has less time in the field for rust to find it. Don't put rust management (a problem we may not have) ahead of yield in importance. If you haven't already checked to see how early a variety can reliably grow, try on a small acreage a variety ½ a maturity group earlier than what you usually grow. You may need this information in coming years.

Know where the sentinel plots are located – especially to the south of your area. The sentinel plots are the rust “early warning” system. In 2008, sentinel plots are planned for Bertie, Camden, Carteret, Cherokee, Cleveland, Columbus (2), Edgecombe, Gates, Granville, Henderson, Hyde, Johnston, Lenoir, Montgomery, New Hanover, Pasquotank, Rowan, Sampson, Scotland, Stanly, Union, Washington, and Wayne counties, all with a very early maturing variety and a mid-season variety. Sentinel plots are supported by your soybean check-off.

Have a sprayer ready – yours, your neighbor's, or a custom applicator's. Once rust arrives in your county, time is of the essence, and it will likely be a poor time to be looking for a sprayer, parts or a custom applicator. Deciding when to spray a fungicide is THE critical decision for controlling rust.

Scout diligently – it makes sense to increase scouting activity. Examine the underside of lower leaves for rust pustules. Rust is most likely to show up on the underside of leaves. Be especially diligent from flowering (R1) onward. Due to several factors present in 2008, such as more double-cropped beans and more beans planted in states to the south, greater vigilance seems warranted this year!

Track Confirmed Sightings – while rumors may abound this year, reliable reports of where rust has and has not been confirmed will be widely available. County Extension Agents, CCAs, licensed consultants, NCDA&CS agronomists, Certified Professional Agronomists and research station superintendents are promptly informed of any rust developments. You can check for yourself on the website www.sbrusa.net.

Continue to grow your soybeans for profit, not rust management. Keep aware of what's going on and where, and scout your soybeans (especially on the bottom of the lower leaves.) Spray if, and only if, the risk of rust (and / or other diseases) is greater than you are willing to accept.

Soybean Rust Spray Guidelines

Extension Soybean Specialists Dr. Jim Dunphy and Dr. Steve Koenning

Assess Risk before Spraying a Fungicide – Deciding if and when to spray a fungicide is the most critical decision for controlling rust. The decision to spray a fungicide depends on several factors, such as crop stage, the proximity of rust and the forecast, the results of scouting, and timing of the fungicide application. Be prepared if rust threatens -- applying a fungicide before rust becomes widespread is important. Most importantly, plan in advance to seek advice from your trusted advisors!

If soybeans are not blooming – do not spray unless rust has been identified in the field.

If soybeans are blooming but do not have full sized seed, and rust is NOT within 100 miles of the farm – do not spray unless frog-eye leaf spot, target spot or cercospora is present. If rust is moving fast through the region and conditions favor rust, then consider the threshold to be 50 miles from your farm.

If spraying for rust AND one of the above diseases and rust is NOT within the threshold mileage for your farm – a strobilurin is preferred for the first application. **If rust IS within the threshold mileage**, a combination of strobilurin and a triazole is preferred. **IF RUST IS ON YOUR FARM** – use a triazole or a combination. Three weeks after the application assess the need for a second application.

If soybeans are at stage R6 (full sized beans) or later – do not spray. It's too late to be economical. Check product labels for guidelines including growth stages at which the fungicide may and may not be used. The label is the law!

Avoid using the same chemical alone in two consecutive applications. No fungicide with a Section 18 clearance should be used more than twice the same year.

Fungicides Cleared for Soybeans in North Carolina

April 2008

**Available fungicides will be compared in replicated on-farm tests supported by the soybean checkoff.

Trade Name	Common Name	Company	Sect. 3	Sect. 18 until:
Strobilurins:				
Headline	pyraclostrobin	BASF	XX	
Quadris	azoxystrobin	Syngenta	XX	
Triazoles:				
Alto	cyproconazole	Syngenta		3/31/09
Bumper	propiconazole	Makhteshim-Agan	XX	
Caramba	metconazole	BASF		4/19/09
Domark	tetraconazole	Isagro	XX	
Laredo	myclobutanil	Dow	XX	
Proline	prothioconazole	Dow	XX	
PropiMax	propiconazole	Dow	XX	
Punch	flusilazole	DuPont		6/15/10
Tilt	propiconazole	Syngenta	XX	
Topguard	flutriafol	Cheminova		6/7/10
Combinations:				
Quadris Xtra	azoxystrobin + cyproconazole	Syngenta		3/31/09
Quilt	azoxystrobin + propiconazole	Syngenta	XX	
Stratego	trifloxystrobin + propiconazole	Bayer	XX	

Additional Fungicides That May Be Available For Rust In 2008

The section 18 label for tebuconazole (Folicur, Orius, Uppercut) has expired. Tebuconazole is an excellent fungicide for management of soybean rust, and a request for a new section 18 label has been submitted to EPA. Also, there is the possibility that tebuconazole will receive a more permanent section 3 label this summer. A new product for rust control is prothioconazole (Proline) which is now labeled for control of rust in wheat and various peanut diseases. Prothioconazole is likely to receive a section 3 label from EPA sometime in 2008.

Resources for Managing Asian Soybean Rust

There are several valuable resources available to farmers, agents and consultants. Internet-based resources are updated, abundant and will aid in the decision of whether to apply fungicides or not. Producers can obtain rust information from local Extension personnel and from Extension soybean specialists at North Carolina State University. These important resources are listed here:

County Extension Agents, Certified Crop Advisors, licensed consultants and regional agronomists – these individuals receive timely rust updates from NCSU soybean specialists and can provide warnings about the need to spray for rust. In addition, call the teletip phone number 1-800-662-7301 for a rust message updated as necessary.

The *North Carolina Crop Protection Manual* – the “official version” – can be downloaded at <http://ipm.ncsu.edu> and will contain the most recent soybean rust updates.

County Extension Offices will be receiving the latest version of the guidebook *Soybean Rust Management for the Mid-Atlantic* in the next several weeks and the book will be available for download at <http://cipm.ncsu.edu/ent/SSDW/>

www.sbrusa.net – the IPM soybean rust website includes rust tracking, commentary, information on rust

management, and a place to sign up for USDA soybean rust email alerts.

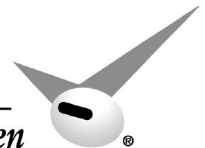
www.stopsoybeanrust.com – sponsored by the soybean checkoff, this site includes tracking updates from the soybean rust tracking center and has a “stay informed” feature where producers can sign up for email alerts.

Soybean Checkoff on the Lookout for Rust

Your soybean checkoff supports the fight against soybean rust. Since rust first appeared in the U.S. in 2004, plant pathologists have heavily monitored the spread of rust through sentinel plots, by scouting over wintering sites, and through weather data. Rust over winters on kudzu in Florida and other Gulf Coast states and past experience shows that spores can move rapidly into other soybean producing areas of the country. Your soybean checkoff funded many of the soybean sentinel plots and will do so again in 2008.

Risk assessment is complicated. Asian soybean rust can be prevented and countered with fungicides but the most difficult problem for producers is early detection and early treatment before rust is out of control. In 2008, North Carolina extension soybean specialists will compare available fungicides in replicated on-farm tests, with support from your soybean checkoff.

Our soybean checkoff.
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To assist us in maintaining an accurate address file and reduce postage costs, please notify the NC Soybean Producers Association (1-800-839-5775) of any address changes or corrections. Comments and suggestions are also welcomed.

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