

# SOYBEAN RUST MANAGEMENT GUIDE



Our soybean checkoff.  
*Effective. Efficient. Farmer-Driven.*

# HOW YOU CAN MANAGE SOYBEAN RUST:

## SCOUT FREQUENTLY

Plan to scout frequently for rust, at least once a week. All commercial soybean varieties currently available appear to be highly susceptible to the disease.

Use a 10x to 20x lens to examine the underside of lower leaves. Focus your scouting on early-planted fields with early varieties, low-lying or protected fields with prolonged dew periods, and fields with early canopy closure. Monitor soybean fields and adjacent areas all season long.

In areas with heavy rust problems, you may see clouds of spores floating in the air. These clear to yellow-brown microscopic urediniospores are transported by air currents to other soybean plants potentially over long distances.

## COLLECT SAMPLES CAREFULLY

If you suspect rust, work with your extension agent, crop scout or other professional to collect samples immediately, and place each sample in a self-locking plastic bag and refrigerate. USDA's Animal and Plant Health Inspection Service (APHIS) recommends that leaves be kept flat by placing them between paper towels or pieces of paper. Record with a permanent marker the date, host plant, collector's name, phone number, collection location within field and location of field, including state, county, township, nearest road intersection and GPS location if available.

Samples should be submitted immediately to your state's university diagnostic laboratory or state department of agriculture diagnostic laboratory for identification.



## CONSIDER PREVENTIVE FUNGICIDE USE

If soybean rust is confirmed in your area, consult your local extension agent or crop adviser immediately about a preventive fungicide application. Fungicides will likely reduce the potential yield loss, depending on plant developmental stage, timing and application method.

In regions favorable to rust development, university specialists say the rapidly repeating life cycle of the rust

fungus requires early detection and immediate fungicide application. University research has shown that as few as 21 days are required for soybean rust to develop from less than 5 percent to 90 percent disease severity. Once soybean rust is found in your fields, you will need to switch to a curative fungicide treatment.

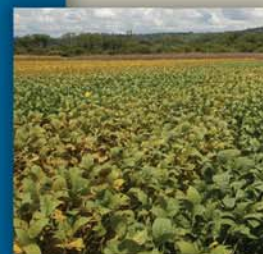
## FOLLOW FUNGICIDE RECOMMENDATIONS

If rust is in the area and you decide to spray, USDA specialists recommend that you apply the first application at or soon after first flower. Plan at least two applications with at least 14 to 20 days between applications and ensure that the fungicide penetrates the canopy.

Specific questions regarding fungicide choice, application methods, timing, rates and

more can be found on specific product labels or through your extension agent or crop adviser.

Thorough spray coverage is critical for all fungicide applications, including late-season applications. Always read the label on your fungicide for recommendations on best management practices, nozzle selection, spray carrier volume and/or spray pressure.



Temperature and precipitation conditions may dictate the need for sequential fungicide applications. Refer to the product label and other manufacturer recommendations for proper spray intervals. Remember, when using any new pesticide

formulation, pay particular attention to mixing instructions and spray tank agitation to avoid mixing problems or nozzle clogging and any safety, environmental and stewardship precautions.

To find out which chemicals are registered for the treatment of soybean rust, contact your state department of agriculture or your county extension agent.

## CONSIDER CROP INSURANCE

Talk with your crop insurance agent about the terms of your policy for rust damage claims. The disease is insured under the Federal Crop Insurance Program, but damage due to insufficient or improper fungicide applications is not covered. You must document all measures you take to combat this disease. Insurance providers must verify that losses are unavoidable due to naturally occurring events and that you followed good farming practices.

## WATCH FOR RESISTANT VARIETIES

Planting resistant or tolerant varieties may be the best way to manage soybean rust in the future, but no commercial U.S. soybean cultivars are known to be resistant to soybean rust at this time. In fact, it may be years before commercial varieties are available. Your soybean checkoff dollars have been invested in breeding soybeans for rust resistance since 2001.



## GET FAMILIAR WITH RUST



The most effective management plan for soybean rust treatment comes from early diagnosis. Keep track through the season where soybean rust is confirmed and where plant pathologists believe it may hit next. USDA has established and is maintaining a Web site to track soybean rust movement. These maps may be found at **[www.usda.gov/soybeanrust](http://www.usda.gov/soybeanrust)**. If you do not have Internet access, contact your county extension agent

for information on the spread of rust.

Early symptoms of soybean rust may be confused with other diseases. The soybean checkoff, along with other organizations, has developed a poster and pocket guide for farmers that illustrate the symptoms of various diseases. Rust appears first as small lesions on lower plant leaves that become tan to reddish brown. Uredinia, tiny bumps or spore structures within the lesions, are found mostly on the underside of leaves.



Once pod set begins, the disease can spread rapidly to the middle and upper leaves. Prolonged leaf wetness with temperatures of 59 °F to 86 °F and humidity of 75 percent to 80 percent is required for spores to germinate and spread. Under these conditions, pustules form within 5-10 days and spores form within 10-21

days. Under severe disease conditions, you may see distinct yellowing and browning of your fields and, commonly, premature plant death.

