

## **Soybean Disease Watch:**

### **Soybean Diseases to Watch for in the ongoing season**

The soybean season is currently at peak in southern Africa including Malawi, Tanzania, Mozambique, Zambia. Diseases and pests of soybean cause substantial losses. In this bulletin, we highlight four major yield limiting diseases to watch out for: **Soybean rust, Red leaf blotch, Frogs eye leaf spot** and **Septoria brown spot**. A better understanding about these diseases will help you to scout and plan management strategies during the growing season.

### **Soybean Rust (SBR)**

**Disease Overview:** Soybean rust is a foliar disease caused by an obligate biotrophic fungus, *Phakopsora pachyrhizi*. Soybean rust results in reduced photosynthesis and defoliation with reported yield losses up to 80%. Symptoms are commonly found on the underside of the leaf and of SBR first appear as small, water-soaked lesions that gradually turn into lesions. As infection progresses, leaves start to yellow, or become chlorotic. Severe infections cause premature defoliation and early maturation. Rust lesions are commonly observed between flowering through the end of the growing season but may appear before flowering. Lesions are often first observed lower in the plant canopy and move upwards as the disease progresses.



Leaf chlorosis (yellowing) and necrosis (dead tissue) caused by soybean rust

**Disease Management:** Scouting is critical for effective identification and management of SBR. To scout, survey a field or plot in a W- or Z-shape and randomly select plants to examine for disease symptoms. Scout throughout the growing season and intensify scouting frequency at early flowering (R1) through the full seed (R6) stage.

Fungicides are one of the most effective methods for controlling soybean rust. Triazoles are recommended for single fungicide applications as they prevent new infections. Triazole+strobilurin mixtures will provide longer residual protection than either fungicide alone. Spraying is not economical when the disease has progressed to the upper canopy or if plants are past the R6 growth stage. Fungicide availability will vary by location— check with your extension agent for an updated list of available products. Click [Here](#) more soybean rust management information.

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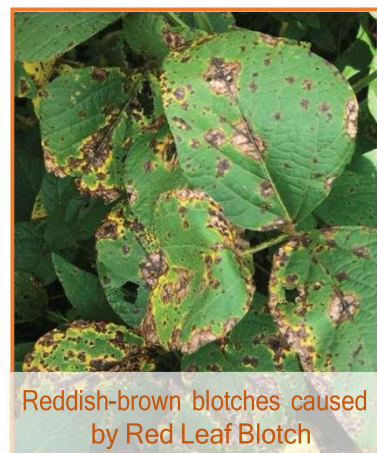
For more information and to be added to WhatsApp Disease and Pest ID Board, please contact SIL-DPT at [soybeaninnovationlab@illinois.edu](mailto:soybeaninnovationlab@illinois.edu)!

## Red Leaf Blotch (RLB)

**Disease Overview:** Red leaf blotch (RLB) is a foliar disease caused by the soil-borne pathogen *Coniothyriumglycines*. The disease was first identified in Ethiopia and has been observed throughout Africa. RLB has not been found outside of Africa and little is known about effective management. RLB can cause up to 50% yield loss. Symptoms may occur throughout the growing season. As plants mature, symptoms appear to move from the lower to the upper canopy, causing premature defoliation. Lesions first appear near the primary veins on both sides of the leaf. As lesions progress, they form reddish-brown blotches. Lesions on the bottom surface of the leaf will have dark borders. Lesions are mainly found on the leaves but can also occur on petioles, pods, and stems.

**Disease Management:** No fungicides are currently registered for RLB control in Africa. The Pan-African Soybean Variety Trials (PATs) have shown differences in varietal response to RLB. Some of the top-performing soybean varieties showing RLB tolerance include SC Signal, SC Spike, and SC Status.

Currently, there are no RLB-resistant commercial varieties available. Click [Here](#) for more information on RLB management.



Reddish-brown blotches caused by Red Leaf Blotch

## Frog eye leaf spot

**Disease Overview:** Frog eye leaf spot (FLS) is caused by the fungus *Cercospora sojina*. Yield loss estimates due to frog eye leaf spot have been reported as high as 30% with extensive leaf blighting. This pathogen survives on the residue of previous soybean crops, so the disease is most severe when soybean is grown continuously in the same field, and in situations where tillage is reduced. While most primary infections start from infected residue, infected seed can also carry the pathogen, and airborne spores will blow from field

to field during the growing season. Leaf lesions are small, irregular to circular in shape, and gray with reddish-brown borders. Most commonly occurring on the upper leaf surface, lesions start as dark, water-soaked spots that vary in size. As lesions age, the central area becomes gray to light brown with dark, red-brown margins. In severe cases, disease can cause premature leaf drop and will spread to stems and pods.

**Disease Management:** Crop rotation with non-host plants, planting disease-free seeds, and tillage can reduce inoculum levels and subsequent infection. Appropriate fungicide applications can effectively control frog eye leaf spot. Products applied to soybean at reproductive stages R3 (beginning pod) to R5 (beginning seed) are most effective. Click [Here](#) to learn more about the management of this disease.



Frogeye leaf spot of soybean caused by *Cercospora sojina*

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## Septoria leaf spot

**Disease overview:** Septoria brown spot is caused by the fungus *Septoria glycines*. It is the most common foliar disease of soybean. Yield losses of 5 to 8% may occur under severe conditions when much defoliation occurs. Disease develops soon after planting and is usually present throughout the growing season. Symptoms are typically mild during vegetative growth stages of the crop and progress upward from lower leaves during grain fill. Infected young plants have purple lesions on the unifoliate leaves. Lesions on later leaves are small, irregularly shaped, dark brown, and are found on both leaf surfaces. Soybean plants weakened by other diseases or agronomic practices become more susceptible to brown spot. It has been observed that relatively high levels of brown spot occur in fields with severe soybean cyst nematode damage, Fusarium root rot, and other conditions. If

**Disease Management:** There are no known sources of resistance, but differences in susceptibility occur among soybean varieties. Foliar fungicides labeled for Septoria brown spot control are available. Applications made during R3 through R5 soybean growth stages may slow the rate of disease development into the middle and upper canopy and protect yield.

you find abundant Septoria brown spot, check to see if plants are being weakened by other problems such as nematodes.



**Brown spots on soybean leaves caused by *Septoria glycines***

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