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## Scouting Soybean Fields for Soybean Rust

Darrell Deneke, Extension IPM coordinator

The symptoms of Asian soybean rust are not distinctive or unique. Scouting soybeans for this disease will be a challenging task that will require perseverance and diligence. It will require substantial effort to differentiate this disease from all of the other diseases that may be occurring in a South Dakota soybean canopy.

Scouting patterns generally call for stopping at five random locations in a field, following an “M” or “W” pattern across the field (Fig 1). This will also be the approach with soybean rust.

However, we want to err on the side of **detection** when scouting for this disease. Scouting five locations and only a set number of plants at each site is intended to give an estimate of the average amount of disease in the field. With soybean rust we want to find what is there and if even low levels are present, treat.

That means that while the “M” or “W” pattern provides random survey sites, sometimes we would rather bias our site selection to favor detection. In our climate—generally drier than other soybean producing parts of the country—choosing more sites that are near windbreaks and other features that may favor longer dew periods may be desirable (Fig 2).

While walking between the five sites in each field, watch for stress sites and pick an occasional leaf to check for symptoms. Do not assume that this disease will be uniformly distributed across the field. There may be small hotspots in various locations in the field.

At each survey site, collect 100 leaves from the lower canopy and mid canopy. Scan the undersides of those leaves for any hint of rust. The number of leaves out of 100 with **any** level of disease are the disease incidence.

Spray decisions are based on two points, the qualitative assessment (Is there any disease present?) and the quantitative assessment (How much disease is present and in what part of the canopy?)

No disease present means that any treatment made is a preventative treatment. In the preventative mode we can use any fungicide product.

If there is as little as an average of 1-10% incidence (1-10 leaves out of 100 with any level of disease) in the lower canopy you are moving toward an early curative treatment, and strobilurin and chlorothalonil are less desirable choices for treatment.

As disease begins to move into the middle third of the canopy, the opportunities for successful control and economic response diminish. Detection of the disease in the mid canopy means that only a triazole product should be used. If a rate range is available on the label, use the higher rate as incidence or severity (the amount of each leaf that can be infected) increases.

It is important to know that a leaf can only sustain visible rust pustules on somewhere between a third and half of the total leaf area.

Fig 1. An unbiased standard “M” or “W” scouting pattern to detect uniformly distributed pests.

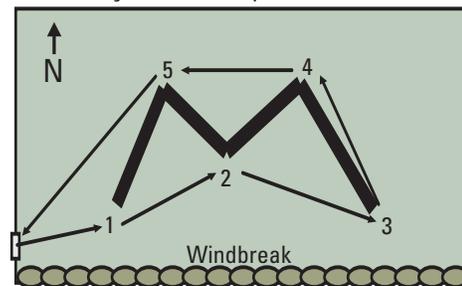


Fig 2. A biased scouting pattern designed to increase the chances of detection of a clustered disease that is influenced by longer dew periods.

