

A New Virus To Notice In Soybeans



Link Directly To: **PIONEER**



Leaf symptoms of several virus diseases in Illinois. The leaflets at upper left and lower right show typical symptoms of soybean vein necrosis virus (SVNV)—brownish (necrotic) lesions running along the veins. Photo courtesy of the University of Illinois Plant Clinic.

DR. SUZANNE BISSONNETTE

URBANA, ILL.

Change is always the name of the game when it comes to diseases that affect our field crops. Efforts to observe, detect, diagnose, and manage pests need to be as flexible as the pathogens are – which is a long way of saying, “There is a new disease you may have noticed in your soybean fields.” If you’ve been monitoring soybean fields for late-season pests, you may have noticed very odd symptoms on some leaves.

Have you seen large, brown, blotchy lesions that run in the direction of the leaf veins and look a bit like the leaf was scratched with something abrasive and then tried to scab over the scratch? That symptom is characteristic of a new disease of soybean called soybean vein necrosis virus, or SVNV.

We have seen this symptomology in soybean leaf samples at the plant clinic for the past several years, and now we know its cause. A 2010 survey of soybean fields conducted by USDA-ARS virologist Les Domier of the University of Illinois Department of Crop Sciences showed that the disease is found throughout Illinois and is the second-most prevalent virus found in Illi-

nois soybean fields, right after bean pod mottle virus. That is an amazing feat for a pathogen that not only causes a new disease but is itself a newly described virus.

The virus is transmitted to soybean by the insect thrips. Domier notes that SVNV is in the tospovirus family of viruses, unusual in that they replicate not only in an infected plant but also in their thrips vectors. So thrips that are carrying SVNV can transmit it for a long time.

Symptoms of SVNV in Illinois typically start showing up in August, which is certainly the case this year. Infected leaves may just have a single necrotic scabby lesion or may have many large lesions. Symptoms may be restricted to a scabby necrosis along the veins or may spread widely from the veins. Initial studies and observations in Arkansas note that symptoms do vary with the cultivar, as we seem to be seeing here. Let’s hope that this variation in symptomology points to a source of genetic resistance, as has been the case for other pathogens. Changing disease and pest populations keep us all on our toes and remind us to remain flexible and vigilant in our scouting expeditions. Δ

DR. SUZANNE BISSONNETTE: Plant Diagnostic Clinic and IPM coordinator, University of Illinois