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Soybean Vein Necrosis Disease

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What is soybean vein necrosis disease? Soybean vein necrosis disease (SVND) is a relatively recent discovery in soybean. SVND was first described in 2008 in Tennessee, but has since been confirmed in several other states including Arkansas, Delaware, Illinois, Iowa, Kentucky, Maryland, Michigan, Mississippi, Missouri, New York, Pennsylvania and Virginia. SVND was confirmed in Wisconsin in 2012. Researchers do not know if SVND can lead to significant yield reductions.



Yellowing and death of leaf veins, as well as mosaic patterns, are typical symptoms of soybean vein necrosis disease.

What does soybean vein necrosis disease look like? Soybean plants with SVND exhibit vein clearing (i.e., lightening of vein color) and chlorosis (i.e., yellowing), as well as mosaic patterns (i.e., blotchy light and dark areas) on affected leaves. Initially, symptoms develop around the veins of leaves and eventually expand outward. As the disease progresses, vein and leaf browning and necrosis (i.e., death) occur.

Where does soybean vein necrosis disease come from? SVND is caused by *Soybean vein necrosis virus* (SVNV). SVNV is in the viral genus *Tospovirus*. This group of viruses includes common vegetable viruses [e.g., *Tomato spotted wilt virus* (see UW Plant Disease Facts D0117, *Tomato Spotted Wilt of Potato*) and *Iris yellow spot virus*] and ornamental viruses [e.g., *Impatiens necrotic spot virus* (see UW Plant Disease Facts D0067, *Impatiens Necrotic Spot*)] that can cause severe damage and substantial loss of yield and crop quality. Tospoviruses tend to have wide host ranges and are transmitted by several species of thrips. SVNV is transmitted primarily by soybean thrips (*Neohydatothrips variabilis*), and to a lesser extent by tobacco thrips (*Frankliniella fusca*) and Eastern flower thrips



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(*Frankliniella tritici*). SVNV may have been introduced to Wisconsin as thrips moved north on wind currents from the southern United States.

How can I save a soybean crop with soybean vein necrosis disease? Currently very little is known about SVND. Thus there are no specific management practices recommended for SVND at this time.

How can I avoid problems with soybean vein necrosis disease in the future? Currently no specific control recommendations are in place. Researchers at universities across the country are attempting to determine what impact SVNV will have. Additional research is needed to determine how SVNV affects soybeans, how it is transmitted, how it overwinters, and what can be done to slow its spread.

For more information on soybean vein necrosis disease: Contact the University of Wisconsin Plant Disease Diagnostics Clinic (PDDC) at (608) 262-2863 or pddc@wisc.edu.

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A complete inventory of UW Plant Disease Facts is available at the University of Wisconsin-Madison Plant Disease Diagnostics Clinic website: <https://pddc.wisc.edu>.

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