

# Soybean Sudden Death Syndrome management plan

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## Overview of project objectives

Sudden death syndrome (SDS) is an annual threat in most of the North Central region. As the disease spreads into new areas there is an opportunity for early education and improved awareness of the importance of using an integrated management program for SDS.

The project objectives include:

- determining how seed treatment, in-furrow and fungicides affect SDS;
- developing cost-effective tools for detection of *Fusarium virguliforme* in fields;
- developing models to quantify the negative yield impacts of SDS in response to disease intensity at the field scale; and communicating these results to farmers, agribusiness and other soybean stakeholders.

## Key results

A new SDS management tool, seed treatment with ILeVO® fungicide, has been commercially available for farmers. The project extensively evaluated the benefits of ILeVO under different disease pressure and multiple environments. Yield benefits of ILeVO were apparent when foliar symptoms were observed, and the magnitude was greater with higher disease pressure.

There is no clear link between the soil temperature and SDS level, which indicates planting early does not necessarily pose a greater risk of SDS, but delayed planting caused significant yield reduction regardless of SDS pressure. In addition, the research team identified the most useful molecular tool to quantify SDS pathogen in soybean root and soil, which can be used as in plant diagnostic clinic to routine diagnosis and quantification of SDS pathogen in farmers field.

## Benefit to farmers

This project has several direct benefits to soybean farmers in the North Central region. The research team provides evaluations of current and future crop production practices and products and how they fit into an integrated pest management (IPM) strategy for SDS. Researchers also share how these products and practices affect the ability of resistant cultivars to manage SDS, reducing economic losses to producers through better management. The researchers recommend that Midwest farmers not delay planting to prevent yield loss from SDS. Cultivar selection combined with ILeVO can reduce SDS in early-planted soybean (late April to mid-May). Farmers are advised to sample fields to learn SCN field population levels and the HG type of SCN in each field to determine if cultivars with a source of resistance other than PI 88788 are needed.

## Links

[Developing an integrated management and communication plan for soybean Sudden Death Syndrome \(SDS\) in the North Central region](#) *USB National Soybean Checkoff Research Database*