



syngenta®

 **Clariva™ Complete**
Beans

 **Mertect®340-F**

 **Soybeans**

Preserve yields from sudden death syndrome



Quick facts about SDS

- First identified in Arkansas in 1971, this early-season disease now robs yield in more than 10 top soybean-producing states in the U.S.
- Plant leaves infected by the SDS pathogen display pale green or yellow spots between the leaf veins before they turn brown, shrivel up, die and fall off the petiole (leaf stalks).
- Environmental conditions play a large role in the development of this yield-robbing disease. Cool, wet growing conditions create ideal conditions for the pathogen to thrive.
- Both SCN and SDS pathogens have the ability to overwinter, so if either is present in the field, seed-applied solutions, in addition to genetic-based resistance, are key management practices.
- SDS and brown stem rot (BSR) are easily confused. To differentiate SDS from BSR, split a soybean stem lengthwise with a knife. The soybean pith will be brown if it's BSR and will remain white if it's SDS.

What do all major soybean-producing states have in common besides soybean cyst nematode (SCN)? Sudden death syndrome (SDS) says the Purdue University Extension. SDS is caused by the fungal pathogen *Fusarium virguliforme*, which infects seedlings as early as one week after emergence. Despite early infection, soybean plants don't typically exhibit symptoms until late into the season when plants begin to flower and only then when very specific environmental conditions occur, including moisture during later vegetative and early reproductive growth stages.

SDS is often identified in fields infested with SCN. SCN feed on the root systems, which makes soybean plants more susceptible to diseases like SDS. Unfortunately, there are no in-season management tools for either SDS or SCN.

The addition of Clariva™ Complete Beans seed treatment, a combination of separately registered products, and Mertect® 340-F fungicide to the Syngenta seed treatment portfolio in 2015 marks a milestone in SDS management. Clariva Complete Beans offers season-long SCN protection as well as reduced damage from SCN-related diseases such as SDS. Adding Mertect 340-F with direct activity on SDS provides a double mode of action to help manage SDS.

Prior to the recent introduction of seed-applied treatments, genetic resistance provided the primary management option to protect against SDS. Clariva Complete Beans and Mertect 340-F complement SDS-resistant NK® Soybean varieties and add an additional layer of protection to your investment. NK Soybeans are backed by more than 45 years of plant breeding, leading to the development of elite genetics and traits.

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An industry leader in SDS protection

Developed through the Syngenta Y.E.S. Yield Engineering System™, NK Soybeans lead the industry in SDS genetic resistance scores.

Soybean RM
1.5 to 2.5

Brand (# of varieties compared)	Average SDS score
NK Soybeans (8)	3.13
Pioneer® (10)	4.20
Asgrow® (10)	4.64

Soybean RM
2.5 to 3.5

Brand (# of varieties compared)	Average SDS score
NK Soybeans (13)	2.77
Pioneer (19)	4.00
Asgrow (20)	5.00

Soybean RM
3.5 to 4.5

Brand (# of varieties compared)	Average SDS score
NK Soybeans (13)	3.54
Pioneer (15)	4.27
Asgrow (17)	4.65

Syngenta and Monsanto use the same SDS rating scale of:
1 = Excellent and 9 = Poor

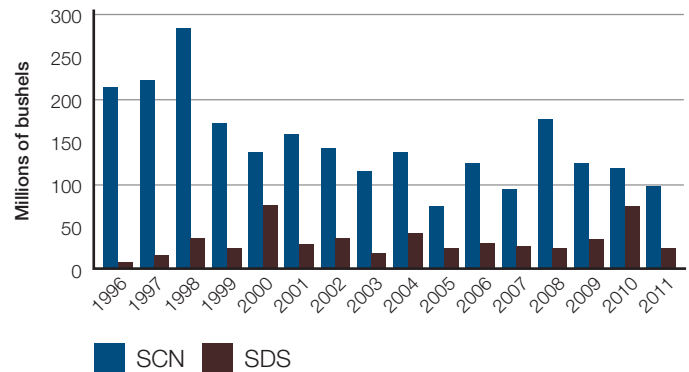
Pioneer uses a different rating scale of:
9 = Excellent and 1 = Poor

Note: The Pioneer scale was translated to the Syngenta and Monsanto scale for the analysis.

NK Soybeans and Clariva Complete Beans with Mertect 340-F advantages

- NK Soybeans offer a clear genetic SDS resistance advantage versus the competition.
- Clariva Complete Beans with Mertect 340-F complements SDS-resistant NK Soybean varieties as another management option.
- NK Soybeans and Clariva Complete Beans with Mertect 340-F offer effective protection against SDS, minimizing in-season yield loss.

Annual damage in U.S. soybeans



Source: University of Missouri and the United Soybean Board

Effective SDS protection

Don't let SDS stand in the way of milestone yields. Clariva Complete Beans with Mertect 340-F has shown consistent performance under SDS pressure in four consecutive years of testing in Syngenta trials. Protect your investment by combining Clariva Complete Beans with Mertect 340-F and industry-leading SDS-resistant NK Soybean varieties so your soybeans can **start strong**.

GROW  **more**
soybeans

For all the latest soybean news from Syngenta and to register to receive the Soybean Insider email, visit SyngentaUS.com/soybeans. Tap into the vast knowledge of our expert agronomy team on KnowMoreGrowMore.com. Join the conversation – connect with us at social.SyngentaUS.com.

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