



# Lessons Learned from the Combine

## *Increase Yield by Learning from Past Mistakes*

by Karen Simon

**Ray Gaesser, a soybean grower from near Corning, Iowa, says recording the performance of varieties during harvest and using that information to choose carefully for next year's soybean crop can increase yield potential.**



PHOTO COURTESY OF KAREN SIMON.

Vigilance in monitoring soybean crop health can improve yield and profitability. What is seen and noted from the combine windshield, along with careful scouting throughout the growing season, provides valuable information that can contribute to future years' bumper crops.

"We scout our fields every week during the growing season so there shouldn't be too many surprises, but taking notes and watching for problems while combining can provide helpful information," says soybean grower Ray Gaesser. Gaesser and his wife Elaine and son Chris farm near Corning, Iowa.

"Problem areas are flagged with GPS. Then we record what we see in a notebook. This helps us be proactive and choose the right varieties for the right fields next year. Of course, we're on a corn/soybean rotation, so the data we're collecting is most vital the next year when we plant soybeans again. That's why it's important to keep good records," Gaesser says. "Incidents of sudden death syndrome, phytophthora and brown stem rot help us learn to choose varieties with resistance to those diseases. However, since we never know what challenges we'll face, it's important to choose the best disease package available while maintaining yield, protein and oil."

Matt Hughes, a soybean grower from near Shirley, Ill., says harvest is a learning opportunity. He plants a number of field trials, testing everything from variety comparisons to the benefits of fungicides.

"This year there were so many variables we won't be able to attribute results to any one factor, but it should be interesting," says Hughes.

To say growing conditions have been a challenge in Illinois this year would be



PHOTO COURTESY OF KAREN SIMON.

**Matt Hughes, a soybean grower from near Shirley, Ill., uses the data collected from his fields throughout the year to retool his crop management plans.**

an understatement. Between planting late and a host of diseases and pests, there has been no shortage of diseases or insects to observe and study. Hughes uses a GIS program, backed up by paper notes to document all activities on his farm.

“We use this information not only to choose varieties, but to plan our whole management system,” Hughes says. “During the winter months it’s a fresh slate. We rebuild our crop management system based on what we’ve learned and start the next season with a good plan in place.”

According to Iowa State University Extension Agronomist Palle Pedersen, weeds are a problem growers also need to take note of while traveling across the field. “Right now, the biggest threat to profitability is weed management and control,” Pedersen says. “Most growers are applying glyphosate-based herbicides too late for effective early-season weed control, which reduces yield. To protect profit, we’re recommending use of a pre-



**Sudden Death Syndrome (SDS)**



**Phytophthora Root and Stem Rot**



**Brown Stem Rot**

emergence herbicide, followed by one or two applications of glyphosate. For fields with problems with volunteer corn, a grass herbicide should be applied as well.

It’s not just the weeds that compromise yield, it’s the diseases they host.

“Broadleaf weeds host diseases like white mold and soybean cyst nematode (SCN), building up disease levels in fields. The genetics aren’t strong enough to fight them.” says Pedersen.

The second challenge-costing yield, Pedersen says, is white mold. After several years’ hiatus, white mold returned with a vengeance in Northeast Iowa this year. “The cool, wet conditions were a happy hour for white mold,” he says, adding that planting with a drill, seeding at high rates, creating high fertility rates with manure applications and tillage all contribute to an increased possibility of white mold.

No variety is 100 percent resistant to white mold, so Pedersen suggests those who have had problems with this disease use less aggressive practices to close canopy, aiming for canopy at R3 by seeding in 15-inch rows, cutting seeding rates and adopting no-till practices.

The third challenge this year was sudden death syndrome (SDS). Pedersen says high yield practices like planting early in narrow rows and planting varieties with no disease resistance greatly increase the chances of seeing the disease in soybean fields. Growers planting soybeans early using earlier varieties increase the risk of SDS as well.

SDS appears in wet fields and likes standing water and compaction, as well as high fertility levels. It also appears in fields infested with SCN, so not using a good SCN resistant variety can increase the chances of SDS occurring as well.

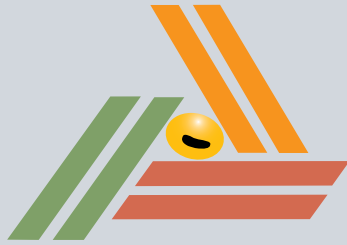
“Sudden death syndrome and white mold are diseases of high-yielding soybeans”, says David Wright, director of research for the North Central Soybean Research Program. “Research shows that sudden death syndrome can be managed with genetic resistance. However, maturity groups I and II commercial soybean varieties appear to lack the genetic base for stable resistance.” Public and private plant breeders are diligently working to improve genetic resistance to SDS and variety performance should improve over the next few years.

An important tactic to adopt is careful variety selection. “Expensive seed doesn’t equal high yield,” advises Pedersen. “If the seed doesn’t contain the right genetic disease package and the correct management practices aren’t adapted, high yield won’t be achieved.”

Variety selection is the most important management decision. “Take good notes, work with an agronomist, work closely with the seed companies and use data to support variety choices,” Pedersen says.

He suggests planting only a small amount of soybeans to varieties with no data to support company claims.

“You may want to take advantage of early season discounts, but don’t commit to specific varieties,” he says. “Don’t make specific choices until you have the data to do so. Improving weed management programs and choosing varieties carefully are very critical to increasing yield potential.”



## Directors Tour Shipping Hot Spot

### SOY TRANSPORTATION COALITION

Every summer The Soy Transportation Coalition (STC) conducts its summer board meeting at a location that is instrumental to the transportation of soybeans and soy products and on July 7-8, STC held its summer board meeting in Seattle, Washington.

In addition to the board meeting, the group toured Louis Dreyfus' export terminal, the MacMillan-Piper transloading facility, BNSF Railway's Seattle International Gateway, the Tacoma Export Marketing Company, and the AGP export terminal at Grays Harbor. Illinois farmers Dean Campbell, David Niekamp, Ron Kindred, and Phil Bradshaw and Iowa farmers Ed Ulch, Randy Van Kooten, and Roy Bardole participated in the trip.

The Pacific Northwest (PNW), including Seattle, is the second leading port region for the export of soybeans. In 2008, 9,478 million metric tons of soybeans were exported from the PNW

– second only to the Mississippi Gulf region (see Table 1).

Analysis recently conducted by the highlighted how the two leading destinations for soybeans, once loaded into a rail car, are the Seattle-Tacoma region and the Portland, Oregon region (see Table 2). The two PNW regions receive 47.71 percent of soybeans shipped by rail. These shipments are, in turn, loaded onto ocean vessels destined for the export market.

“The soybean industry is an increasingly global enterprise,” says Dean Campbell, soybean producer from Coulterville, Illinois, and Chairman of the Soy Transportation. “More and more of what we farmers grow locally is consumed internationally. This places more pressure on the transportation system to ensure those deliveries are made to our customers. If the soybean industry wants to keep expanding its overseas markets, it requires us to care

about the transportation system that will make it all possible.”

Randy Van Kooten, farmer from Lynnville, Iowa, and STC board member concurs, “During the visit to Seattle, we were able to observe shipping containers being filled with Midwest soybean meal for the export market. It's important for farmers to see the entire logistics chain that serves the journey from farm to dinner plate and understand the challenges each step faces. After all, a breakdown in one area will disrupt the entire delivery.”

The Soy Transportation Coalition was established in 2007 by the seven state soybean boards, the American Soybean Association, and the United Soybean Board. The organization's mission is to promote a cost effective, reliable, and competitive transportation system for the soybean industry.

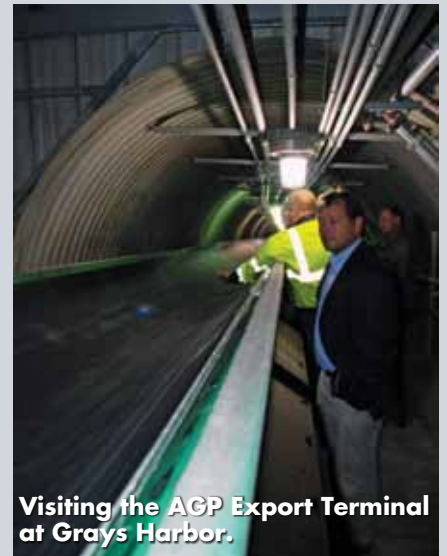


STC Directors toured the Tacoma Export Marketing Company in Tacoma, Washington.

**TABLE 1:**

Soybean Inspections for Export by U.S. Port Region (2008)  
Source: USDA

Port Region	Volume (1,000 metric tons)	% Total
Mississippi Gulf	16,295	61%
Pacific Northwest	9,478	35%
Atlantic	605	2%
Great Lakes	315	1%
Texas Gulf	178	0.6%
Total	26,871	100%



Visiting the ACP Export Terminal at Grays Harbor.

**Table 2:**

Top Five Destinations for Railroad Movement of Soybeans

Region	Tons	Percentage
Seattle-Tacoma-Bremerton, WA	6,391,762	28.56%
Portland-Salem, OR-WA	4,285,417	19.15%
New Orleans, LA	1,799,187	8.04%
Champaign-Urbana, IL	1,026,124	4.58%
Huntsville, AL-TN	955,451	4.27%



At Louis Dreyfus' export terminal.

Full report can be accessed at [www.soytransportation.org](http://www.soytransportation.org)

STC members watching grain be unloaded at the Tacoma Export Marketing Company.





# RESIDUE matters



**Iowa Secretary of Agriculture Bill Northey kicks off of the Residue Matters campaign at the opening day of the Clay County Fair, Sept. 12 in Spencer, Iowa.**

by *LeAnn Strother*

**R**esidue matters. Whether you call it stover or simply cobs and stalks, the plant residue left on the field after harvest plays an important role in protecting soil from erosion, helping build organic matter and contributing nutrients back to the soil.

In addition to the tillage decisions that impact how much residue is left on the soil, increased demand for stover as a feed and energy source has led many producers to wonder whether they should bale and sell their crop residue or leave it on the ground.

Because residue matters, the Iowa Soybean Association (ISA) has joined other public and private entities in a campaign to create a consistent message about better residue management and to help farmers consider the value of residue as they make management and tillage decisions.

“Residue Matters’ is not simply a no-till promotion program,” says Heath Ellison, ISA Environmental Programs state technical assistance coordinator. “The project partners set a goal of helping farmers improve their residue management incrementally. This could come from eliminating a tillage pass, removing less residue for livestock feed or biomass energy production, or

trying newer technologies that disturb less residue.”

The “Residue Matters” campaign was launched in northwest Iowa on the opening day of the Clay County Fair in Spencer. Iowa Secretary of Agriculture Bill Northey, who farms east of Spirit Lake, was on hand for the kickoff.

“In these volatile economic times, knowledge is key for crop producers to make the right decisions for both short and long-term profitability,” Northey said. “Knowledge about residue’s value and its management can help producers make the right choices for their operation.”

The “Residue Matters” campaign builds on a unique partnership of producers, Iowa State University, agribusiness, government and commodity organizations and non-profit groups.

“So many landowners rely on agribusinesses or certified crop advisors for their agronomic information,” said Bill Ehm, the DNR’s water policy coordinator and co-chair of the campaign. “This campaign is a great opportunity to work with a private business and expand on that relationship. It’s yet another way

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**Heath Ellison, ISA Environmental Programs state technical assistance coordinator**



- **Saving soil, time and energy**
- **Improving soil quality**
- **Saving nutrients**

of including conservation in the conversation.

“That’s crucial as we know from the 2008 floods and excessive run-off that occurs every year. We need to do the best job we can to infiltrate water where it falls, before it has a chance to do so much damage. Improving residue management and soil quality are two of the best tools for managing run-off and ensuring long-term productivity on the farm.”

Troy Upah, CEO of Ag Partners, says his Albert City-based agribusiness is involved in the campaign because it’s the right thing to do for farmers.

“Farmers have always used residue for feed, such as silage,” Upah says. “Recently, as we’ve watched farmers experiment with biomass, our concern is that they truly need to put a value on their residue in terms of their soil. Granted, for us, there is a short-term conflict in that we can probably sell more fertilizer to replace nutrients if farmers harvest their residue. However, we know that our long-term success depends on their profitability, so we must take the long-term approach of helping them consider what is good for their soil.”

“The Iowa Soybean Association supports ‘Residue Matters’ because that campaign aligns well with the ISA’s Environmental Program goals,” Ellison says. “ISA’s CEMSA [Certified Environmental Management Systems for Agriculture] program helps farmers implement environmental management systems to address the primary resource concerns on the farm – soil, water, air, plants, animals and energy. The ‘Residue Matters’ campaign matches up very well with CEMSA.”

### **Residue Management**

Without proper maintenance, even the most powerful engine can lose the ability to perform at its peak. The same goes for soil. Residue management is aimed at making sure soil is performing at its peak by managing the amount, orientation and distribution of crop and other plant residue throughout the year. It addresses all soil disturbing activities like tillage, nutrient applications and harvesting of residue.

The critical time to maintain good residue cover is in the spring, until a crop canopy covers the soil. To achieve that requires planning at harvest, regarding tillage and residue removal.

Residue management is a relatively inexpensive area to improve. However, there are many management considerations to explore before deciding on a residue management system for a particular farming operation. Technical assistance is available to help producers implement a system that works for them.

More information is available from local USDA Natural Resources Conservation Service centers and ISU Extension offices. Northwest Iowa farmers can also talk with an Ag Partners agronomist or go directly to the Web site at [www.residuematters.org](http://www.residuematters.org) for more detailed information and research publications.

The “Residue Matters” partnership includes Ag Partners, Agribusiness Association of Iowa, Conservation Districts of Iowa, Iowa Certified Crop Advisors, Iowa Corn Growers Association, Iowa Department of Agriculture and Land Stewardship-Division of Soil Conservation, Iowa Department of Natural Resources, Iowa Environmental Council, Iowa Farm Bureau Federation, Iowa Soybean Association, Iowa State University and USDA Natural Resources Conservation Services.



# Your ISA. Your Way.

## Choose How ISA Serves You

by Karen Simon

In his column at the beginning of this magazine, Iowa Soybean Association (ISA) CEO Kirk Leeds announced a new membership initiative called “Your ISA. Your Way.” ISA has always had a lot to offer. We offer nationally recognized programs that help you understand your agronomic decisions, give you the tools to be more environmentally sound and help provide you with the information you need to grow healthier, higher yielding soybeans. We will continue to offer these programs and more.

There are some changes that current ISA members will notice immediately. The eGold Standard, ISA’s electronic newsletter, will now be published weekly year ‘round to keep you up-to-date on what’s happening in the soybean indus-

try. In addition, those members who do not have access to e-mail will receive the Gold Standard, the paper version of ISA’s newsletter, monthly. These publications, along with the Iowa Soybean Review and ISA’s Web site, [www.iasoybeans.com](http://www.iasoybeans.com), will help you stay in touch with new initiatives and programs.

As a member, you’ll be able to let us know what kind of information you want and how you want to receive it. You will be able to update your contact information by phone or via our Web site, request information and publications, and choose whether you’d rather receive that information via mail or e-mail. Your contact information and preferences will be confidential and will only be used to serve you better. And because you’ll choose what types of information you’ll receive, you don’t have to worry

about finding unwanted junk mail in either your e-mail inbox or your mailbox.

“Membership in the best organization serving Iowa’s soybean growers just got better. By paying the soybean check-off, Iowa soybean growers have earned the right to be members without paying additional membership dues,” says ISA President Delbert Christensen, a soybean grower from near Audubon, Iowa. “As a farmer-led organization, ISA has always been very conscious of doing the right things to serve soybean growers. By engaging with our members at a greater level, ISA will serve Iowa growers’ needs well into the future.”

Keep watching this space to learn more about the new products and services you can choose from. For more information about ISA’s current programs, visit [www.iasoybeans.com](http://www.iasoybeans.com).



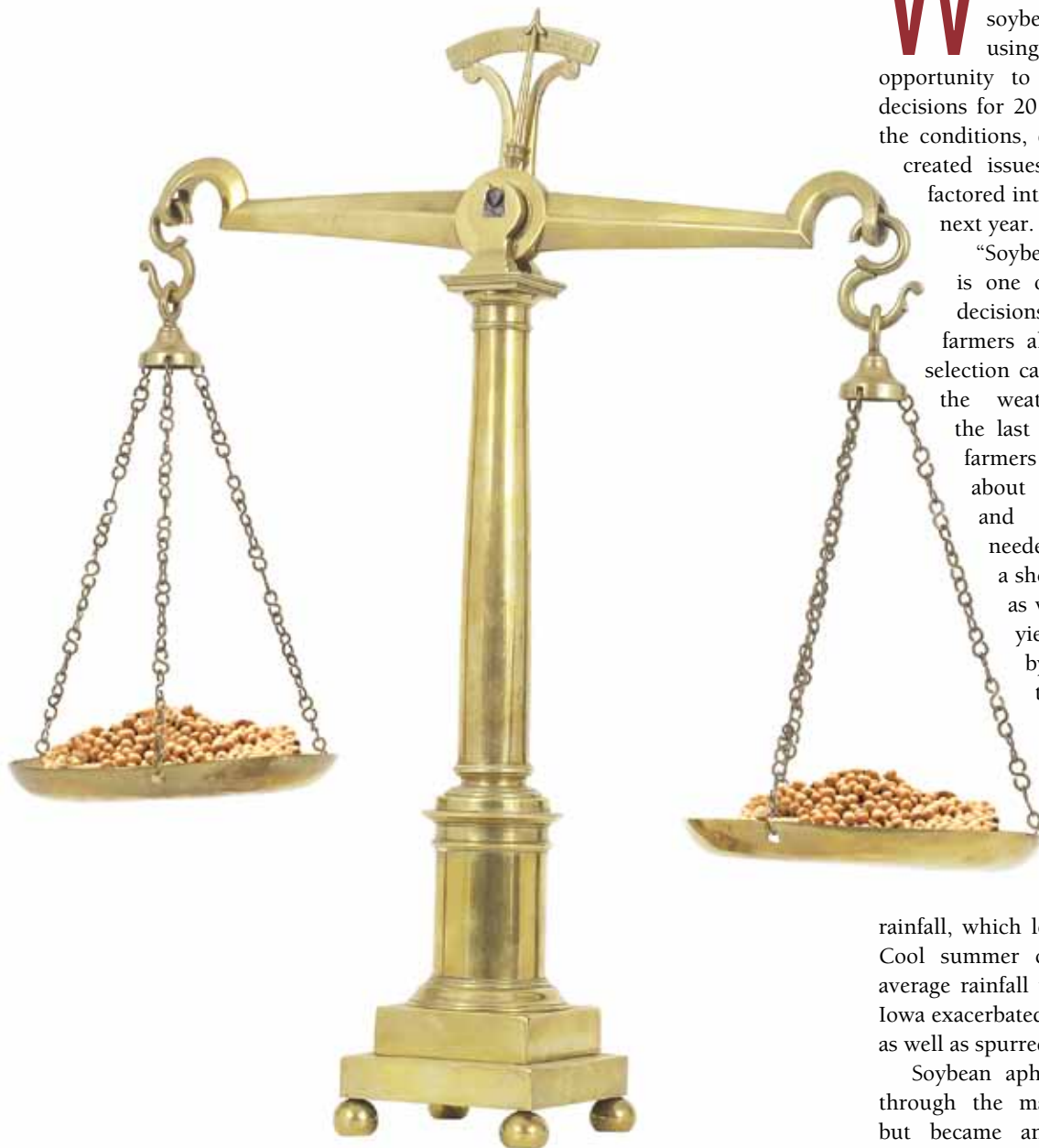
**EXPANDING OPPORTUNITIES. DELIVERING RESULTS.**





# Remember 2009 when Weighing 2010 Varieties

*Unusual Year Offers Reasons for Revisiting Seed Selection*



**W**ith the unusual 2009 growing season still fresh in the minds of soybean farmers, state soybean specialists suggest using the experience as an opportunity to revisit seed selection decisions for 2010. Consideration for the conditions, diseases and pests that created issues this year should be factored into planting decisions for next year.

“Soybean variety selection is one of the most important decisions farmers make. But farmers also realize that variety selection can’t fix all issues. After the weather combination of the last two seasons, I believe farmers will first think more about their farming systems and what equipment is needed to plant more acres in a shorter spring time frame, as we will again have seen yields heavily influenced by late planting dates this past year,” says Vince Davis, University of Illinois Extension soybean specialist.

Davis notes 2009, like the previous year, was hampered by spring rainfall, which led to delayed planting. Cool summer conditions and above-average rainfall in areas of Illinois and Iowa exacerbated the start to the season, as well as spurred disease problems.

Soybean aphid numbers were low through the majority of the season, but became an issue farther south than normal in late planted and



PHOTO COURTESY OF BOB ELBERT.

double-cropped soybeans. In addition, late-season white mold and sudden death syndrome (SDS) development created issues.

### **Cool Season Spurs Disease**

“Diseases were back that had not been seen recently. White mold was present in eastern and northeastern Iowa, and SDS is something we can no longer ignore,” says Palle Pedersen, Iowa State University Extension soybean specialist. “Farmers need to use a combination of cultural practices and variety selection to manage for these diseases.”

When it comes to white mold, Pedersen says some soybean varieties offer tolerance to the disease, but no varieties are available with 100 percent resistance. He recommends farmers with white mold in 2009 review disease data in 2010 variety selections.

“Farmers also need to build in cultural practices next year to manage white mold,” Pedersen says. “These practices include lower seeding rates, discontinuing drill use and manure applications, as well as using no-till practices.”

Pedersen is working with the Iowa Soybean Association on research to explore SDS agronomics, which he says can be mostly managed by selecting the right varieties.

“We need to continue to push yield potential, but farmers who continue to plant soybean varieties susceptible to SDS will get burnt,” he says. “Varieties that did not have any SDS resistance got hammered in 2009. I suggest farmers spend much time on variety selection and not compromise at all on disease resistance. Seed dealers and agronomists

can help direct farmers to the best varieties for SDS resistance.”

Davis urges farmers in parts of both states to remain cognizant of soybean cyst nematode (SCN) as well. “If farmers don’t know the level of SCN in their fields, they should get their soils tested before selecting varieties,” he stresses. “Yields proven under many different environments and disease tolerance ratings are needed (in variety selection), as well as matching SCN sources of resistance with levels of SCN in fields.”

### **Wider Trait Selection Available**

While no new traits are expected to be released for 2010 soybeans planted in Illinois and Iowa, greater availability of some of the newer trait technology is expected.

“I don’t think there are any traits in soybean varieties that are completely new, but the glufosinate-resistant, or Liberty Link, soybeans will continue to be new to many farmers. I also anticipate seeing varieties developed with newer breeding and selection technologies, such as the ‘Y’ line from Pioneer and Roundup Ready 2 Yield soybeans from Monsanto,” says Davis. “All three of these were available in 2009, but in a reduced quantity. I expect all of them will be planted on more acres next year.”

Pedersen predicts the same, noting that all of the varieties were planted in test plots in 2009. He encourages farmers to review the data coming in this fall to see how they performed. He also reminds farmers that it may be two years or more before all of the traits are incorporated into the right elite varieties.

“Iowa State trial data will come out in November, and be published in the

*Iowa Soybean Review*. The most important thing farmers should do is look at yields and yield stability. Choose varieties that have consistent yields across locations and are always in the top 10 performers,” says Pedersen. “Look at the disease package so you have defensive genes to unlock the genetic yield potential of a specific variety. Finally, think about the economics of your chosen varieties. It is more common to buy seed based on seed count now. It can be a large expense, so adjust seeding rate based on local Extension recommendations. It only takes a final uniform stand at harvest in Iowa of 100,000 plants per acre.”

Illinois soybean farmers can look through trial results this fall posted on the Varietal Information Program for Soybeans site (VIPS [www.vipsoybeans.org](http://www.vipsoybeans.org)).

“VIPS is an excellent tool to use in variety selection,” says Davis. “In addition, farmers should carefully study the literature from the companies they are interested in buying from, as well as, any other reputable local sources of data. The key is to make decisions based on many sources of plot and yield information and not base decisions on one piece of company literature or because it performed well in one or two local strip trials.”

Pedersen agrees. “Collect data from both public and private sources. Seed companies will provide you with accurate performance information because they want your return business,” he says. “Be patient and take your time in selecting varieties in 2010. Otherwise, your decisions could haunt you next fall at harvest.”



# Sudden Death Syndrome is Here to Stay

Palle Pedersen  
Assistant Professor  
Soybean Extension Agronomist  
Iowa State University  
palle@iastate.edu

*“We are asking for trouble when we are planting a low maturity group 2 soybean variety with low SDS resistance in areas where a full season variety is a maturity group 3.”*

**W**ith more Danish-like growing conditions in Iowa this year it really accelerated the incidence and severity of some of our common soybean diseases. Cool and wet conditions are often favored by many soilborne pathogens. Simply put, it was a nearly perfect year for disease development and because of that we saw many disease infested fields. Discussions on diseases like brown stem rot (BSR), white mold, and sudden death syndrome (SDS) were very common in the coffee shops this summer.

SDS has in the past only been a real problem in central and southern Iowa, but this year it expanded to cover most of the state. It is my opinion that SDS is the second most devastating disease in Iowa, only following soybean cyst nematode. It was first confirmed in Iowa in 1993. Yield losses due to SDS vary widely from slight to nearly 100 percent. Foliar symptoms of SDS are very similar to those of BSR, however splitting the stem and looking for the internal stem discoloration of the pith, which is associated with BSR, can distinguish it.

While environmental conditions are a key factor for any disease, the exact conditions for SDS are not know. SDS is favored by cool and wet conditions; hot and dry weather appears to slow or arrest the disease. Soil conditions seem to be another key factor that drives the disease. SDS seems to be most severe in saturated soils, such as in low spots or in areas prone to puddling. The disease also seems more severe in no-tillage fields and fields that are compacted. Headlands, with a lot of compaction from heavy traffic, are areas where the plant has restrictive root growth and is quite often the first place where the disease is confirmed.

No single tactic will control SDS; however, the use of multiple management tactics will help to minimize losses. Using cultural practices that reduce plant stress and control SCN are documented by many since SCN is often associated with severe SDS. Variety selection is the key to managing this disease and varieties tolerant to both SCN and SDS should be planted if there is a history of SCN and SDS in a field. Finally, drainage should also be improved and fields that are compacted should be tilled to improve the restrictive root growth.

Currently I am doing a large project funded by the checkoff and the Iowa Soybean Association looking at the effect of agronomic practices on SDS. The preliminary data shows that we can still implement all the practices that I have been pushing over the years to maximize yield BUT if we plant a SDS susceptible variety in a SDS environment then we are asking for trouble. We do not have



Foliar symptoms of SDS.

PHOTO COURTESY OF PALLE PEDERSEN.

any varieties that are completely resistant to SDS but there are many good varieties out there with a high tolerance level. That means we now need to get used to seeing SDS in our fields every year. I am fully aware that we will see more SDS in early planted fields but if we pay more attention to variety selection then the yield advantage of early planting will outweigh this.

A good example from the past growing season is a friend of mine. He farms in southeast Iowa. He is a very good farmer but corn is “king” on his farm. His mentality is that he wants to plant a maturity group 2.2-2.4 on his farm so he can get the soybeans harvested early and by then he can get an early start on his corn. All the varieties that he planted this year had a five in the seed catalog on a scale from 1-9 with 1 being the best. A 5 to me is simply not good enough and I think that he realized that. He will lose a lot of yield this year to SDS because of this. We know that relative maturity of a variety will alter the reaction to a pathogen so planting a variety from northern Iowa in southern Iowa will make it worse. And it doesn’t matter if you plant early or late!

For more information on soybean management practices, please visit my Web site at [www.soybeanmanagement.info](http://www.soybeanmanagement.info).