

Secure Optimal Yield 2009 Plant Health Report



Achieving high yields of top-quality soybeans is the goal of every soybean grower and of the American Soybean Association (ASA) members who strive to provide customers with high-quality U.S. soybeans for feed, food and fuel. By partnering with BASF Corporation, the ASA is able to better identify new ways to help ASA members maximize their soybean yield and profitability.

Together, the ASA and BASF sponsor an annual grower education effort called the Secure Optimal Yield (SOY) Program. The program provides an opportunity for growers to use enhanced crop-management technology and techniques to maximize yield and profitability in soybeans.

"Taking a proactive approach to optimize disease control and other Plant Health benefits can increase yields by four to eight bushels per acre in soybeans, based on BASF yield trials over the past four years," said Amber Shirley, Ph.D., Technical Marketing Specialist, BASF. "Establishing control over diseases is an essential way to maximize yields. Primary diseases affecting soybeans include Septoria brown spot, Cercospora blight and Anthracnose."

Disease control, improved growth performance and improved tolerance to biotic and abiotic stress help plants to reach their yield and quality potential. Biotic stress results from living organisms that can harm plants, such as viruses, fungi, weeds and pests. Abiotic stress is caused by non-living factors, including drought, extreme temperatures and pollutants.

"Disease-causing pathogens are nearly always present at some time during the life cycle of a plant, whether disease is visible to the eye or not, and all

diseases found in soybeans can reduce the quality of soybeans and increase production costs," Shirley said.

Diseases are an example of biotic stress. Common diseases that affect soybeans include Asian soybean rust, Cercospora blight, Anthracnose, Frogeye leaf spot, Septoria brown spot and pod and stem blight. Fungicide applications are an efficient approach to establishing optimal disease control; without fungicides, uncontrolled diseases would significantly lower U.S. crop production.

Abiotic stress also affects a plant's growth, and difficult weather conditions fall into this category. For example, in spring of 2007 there was significant rainfall across the United States, which forced growers to delay planting. Soybeans that are planted late are more prone to stress and diseases, and as a result, in some areas growers did not achieve as high yields as hoped for that year. Weather conditions pose challenges to growers to maintain seed quality and maximize yield.

"Headline® fungicide from BASF optimizes Plant Health by providing excellent disease control, improved growth efficiency and enhanced tolerance to stress conditions," Shirley said. "Superior disease control results in cleaner leaves that can produce more energy. In addition, Headline-treated soybeans are more tolerant to stresses, use the products of



Optimizing disease control and Plant Health helps achieve maximum yield and quality potential in soybeans. (BASF photo)

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photosynthesis more efficiently and make better use of nitrogen fertilizer, which allows for efficient growth. These benefits can help improve quality potential to produce healthier soybean crops and help growers get the most out of every acre."

Plant Health also offers economic benefits. Higher yields equal greater profits. As the most researched fungicide on the market, Headline has been proven to increase yield potential, based on studies conducted from 2004 to 2008 in all major soybean-producing states.

The optimal application timing for Headline on soybeans is from R2 stage through R4, but it may be applied at all vegetative and reproductive stages of soybean development. R2 is a soybean's full bloom stage, at which the soybean has one open flower at one of the upper two nodes. R3 is the beginning pod stage, where the pod is one-quarter of an inch long at one of four uppermost nodes on the main stem. R4 is full pod stage, and the soybean pod should be three-quarters of an inch long.

The percentage change in global consumption for soybeans has increased more than 120 percent over the past 20 years. That's almost twice the increase in consumption for corn and more than five times the increase for either wheat or rice. And since 2004, when ASA successfully championed passage of the federal Biodiesel Tax Incentive, demand for domestic biodiesel has increased from 25 million gallons to



SOY field trials show control acres on the left and test acres on the right. The control acres show evidence of Waterhemp, Common Lambsquarters, Foxtail and Crabgrass, while the test acres, which were treated with a BASF residual herbicide and Headline fungicide for improved Plant Health, show clean rows with large numbers of healthy pods. (BASF photo)

690 million gallons, an increase of more than 2700 percent.

"It's important for American growers to get the most out of every acre to meet the growing global demand for food, feed and energy," said ASA President Johnny Dodson, a soybean producer from Halls, Tenn. "Disease control and Plant Health is one way that growers looking for new approaches to reach optimal yield potential can implement to help create optimal conditions for soybean crop growth."



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2009 SOY Challenge Underway

Nearly 700 soybean growers across the United States signed up for the 2009 SOY Challenge to conduct on-farm field trials to demonstrate enhanced weed and disease management techniques on their farm. Collectively, these participants intent to plant more than 400,000 acres of soybeans this year, which includes the test and control acres enrolled in the SOY field trials program.

The largest number of registrations for the 2009 SOY program was received from the state of Illinois, where 159 growers are participating. North Dakota are second at 131 participants, and Iowa registered 83 growers.

To participate in the 2009 SOY Field Trials, each producer agreed to allocate 20 or more historic corn/soy acres within one or more fields, each planted to a single variety of Roundup Ready® Soybeans of the grower's choice. Control acres are treated with a single post application of glyphosate only, while SOY test acres are treated with a burndown application that includes a BASF residual herbicide, one post application of glyphosate, and one application of Headline at R2-R3.

Each participant in the 2009 SOY program receives a free one-year ASA membership, official SOY display sign for test field and a \$200 Cabela's® gift card after submitting field trial results. Also, growers submitting a success story with field trial results become eligible to win a Grand prize 2010 Dodge pickup (value up to \$40,000), plus a round-trip ticket to the 2010 Commodity Classic in Anaheim, Calif., or 1 of 2 Runner-Up prizes of \$2,000 cash, plus a round-trip ticket to Commodity Classic. See www.SoyGrowers.com/SOY for complete program details and contest rules.

"Registration for the 2009 program closed on April 3rd, so if you didn't sign-up, you'll have to wait until next year to participate in the 2010 SOY program," said ASA President Johnny Dodson. "But you can still use the enhanced crop-management technology and techniques outlined in the SOY program to maximize yield and profitability in your soybeans."

Brent Larson Awarded SOY Scholarship

The American Soybean Association (ASA) and BASF Corporation announced during Commodity Classic in Grapevine, Texas that Brent Larson of Canby, Minn. is the winner of the 2009-2010 Secure



Proud father Gary Larson with his son Brent, winner of the 2009-2010 SOY Scholarship, at the ASA Awards Banquet held during this year's Commodity Classic. Brent plans to attend South Dakota State University next fall.

Optimal Yield Scholarship. Larson beat out 46 other applicants because of his outstanding leadership activities and overall academic achievements. Larson plans to attend South Dakota State University and major in Agronomy with minors in Agriculture Economics and Marketing.

"I know the value of a college education and you need to major in subjects that will help you run your farm business in the most efficient way possible," Larson said.

The \$5,000 scholarship is available to high school seniors who are the child or grandchild of an ASA member, and who plan to pursue a degree in an agriculture-related field. Leadership and extracurricular activities are evaluated, as well as teacher and personal recommendations, GPA and standardized test scores.

The SOY Scholarship is made possible through a grant provided by the BASF Corporation.



Watch interviews with ASA members (L to R) Gary Ludwig, Ken Priellis and Roy Wendte to learn about their experience as participants in the 2008 SOY program. Access these interviews at www.SoyGrowers.com/SOY.

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