Soybean Cyst Nematode: Fall Sampling and New Nematicide Seed Treatment

Through the years, parasitic nematodes have been the cause for yield losses of greater than 10% in each of the following three United States crops: corn, soybean, and cotton. Microscopic nematodes pierce plant roots, which can help facilitate plant bacterial, fungal, and viral infections.

Nematode damage is frequently underestimated and misattributed to stresses associated with drought, fertility, chemical injury, and disease. Symptoms may not be visible or appear as wilting, yellowing, or stunting. The presence of nematode species can vary based on environmental conditions, soil type, and the presence or absence of actively growing plants that support their life cycle. Yield loss attributed to nematodes has been estimated at 10.2% for corn, 10.6% in soybean, and 10.7% in cotton.

Nematodes are able to enter fields through soil movement including the wind, shovels, boots, farm machinery, and animals. It has been estimated through sampling that over 80% of U.S. corn acres are infested with at least one species of nematode.

Testing for Nematodes. Typically, fall is the best time to sample fields for soybean cyst nematode (SCN) presence because the results will be available to use when determining seed product selection for the next growing season. It is recommended to limit the size of the sampled area to 10 to 20 acres when collecting soil samples for SCN analysis. Use a soil probe and take about 20 cores throughout the sampling area. Thoroughly mix the soil cores into a composite sample and submit about a pint of soil to a nematode sampling lab. Nematode distribution can be very irregular within a field; therefore, it is important to collect several composite samples to provide an accurate population estimate. When collecting samples, handle with care to avoid killing nematodes and promptly ship to a lab. Follow lab instructions for collecting, handling, and shipping all nematode samples.

To confirm the presence of nematodes in corn, soil and root samples must be taken during the early to mid growing season, and submitted to a nematode testing facility. Generally, only soil samples are required to confirm the presence of SCN.

There are commercial and university nematode testing laboratories. University of Missouri and Kansas State University provide screening for SCN and corn nematodes at their respective diagnostic labs. Further information on collecting and submitting samples is available at:

- University of Missouri Plant and Nematode Screening Services [https://scndiagnostics.com/]
- Kansas State University Extension Plant Pathology—Diagnostic Lab [http://www.plantpath.k-state.edu/extension/diagnostic-lab/]

Treatment recommendations can be made after test results confirm the nematode species that are present and their approximate population density. Refer to university recommendations for treatment thresholds.

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Climate FieldView™ - How to Create a Yield Analysis Report

The Climate FieldView™ yield analysis feature provides detailed harvest results that can help you uncover unique field, product, and soil performance insights to optimize yield and improve profitability. This powerful data allows users to gather and review yield performance and identify yield-limiting factors that lead to more informed seed selection. Make field harvest data management simple with analysis of seed performance across an entire operation or analyze at the field level to help determine the outcome of key agronomic decisions you have made throughout the year.

Step 1: Getting Started
A: Select the Overview tab (be sure your iPad® device is connected to the internet).
B: The yield analysis status box is located in the lower left corner.
C: Review the status box for a snapshot of the most recent harvest documented by Climate FieldView.

Step 2: Accessing Specific Harvest Data
A: On the Yield Analysis screen, select Fields, Hybrids, or Soils to choose which report to analyze.
B: Select data for a specific field by clicking the field name on the left side of the screen.
C: Select the Crop Selector tab to access data for a specific crop.
D: Access the Harvest Year dropdown in the top right section of the screen to select a different harvest year. This provides comparative and contrasting data for field, crop, or soil performance for various years.
E: Each Yield Analysis page has a Detailed Summary near the top. This displays the overall harvest results for a crop, including number of fields harvested, harvested acres, total bushels, average yield per acre, and average moisture.
F: Next, the Detailed Summary is the yield analysis table. This data can be sorted by Field Name, Average Yield, or Harvested Acres. Tap on any of these titles to sort the data in ascending or descending order.
G: For easy access and for sharing options, the yield analysis report can be viewed as a PDF file that can be emailed, printed, and/or saved directly from your iPad device.
H: The Yield Analysis Report is accessible through iPad or iPhone® devices.

For questions, please contact Climate Support at 1.888.924.7475 or support@climate.com.

Our services provide estimates or recommendations based on models. These do not guarantee results. Consult your agronomist, commodities broker, and other service professionals before making financial, risk management, and farming decisions. Information and recommendations we provide do not modify your rights under insurance policies purchased through our affiliates. More information at http://www.climate.com/disclaimers.
Soybean Cyst Nematode: Fall Sampling and New Nematicide Seed Treatment (cont. from p 1)

Crop protection has primarily been limited to crop rotation, use of resistant soybean products, and available nematicides. However, the EPA recently approved the use of NemaStrike™ Technology, a seed treatment technology that provides broad-spectrum nematode control for soybean (Figure 1), corn (Figure 2), and cotton crops. Some of the nematodes controlled include soybean cyst, root knot, lesion, lance, reniform, sting, and needle.

With a novel mode of action, low water solubility, and synthetic nematicide (tioxazafen), NemaStrike™ Technology defends crops from the start and stays in the root zone as plants grow for up to 75 days. In numerous field trials over 3 years, the technology has helped to protect the average yields of corn by 7 bu/acre (100 trials), soybean by 3 bu/acre (113 trials), and cotton by 80 lbs lint/acre (51 trials). Performance results will vary based on nematode pressure.

Acceleron® Seed Applied Solutions with NemaStrike™ Technology will be offered to DEKALB® and Asgrow® brand seed purchasers. Please contact your DEKALB and Asgrow brand seed providers for additional information.

Sources:
2 AgriThority. 2016 nematode sampling study conducted in the U.S. Corn Belt
4 Results of three-year field trials across all locations and thresholds (2014, 2015 and 2016) vs. competitive standard. Web sources confirmed 10/09/17. 171009153949

Fall Applied Herbicides

Fall herbicide applications can be a great first step to set the stage for effective weed management in next year’s corn and soybean crops. The two goals of fall-applied herbicides are: 1) to control existing winter annuals, biennials, and cool-season perennials, and 2) to minimize the chance of those weeds producing seeds.

Fall treatments may be applied anytime after harvest depending on weed species and size. In general, winter annuals and biennials may be controlled well into December, but perennial control usually drops off in late November. Applications should be made to actively growing weeds before a heavy frost or freeze. Review the cut-off date and soil temperatures on the herbicide labels before application. The majority of herbicides recommend application while the soil is cool, but not frozen. For those planning to apply herbicides with fall fertilization, the recommended soil temperature for herbicide application is below 50 °F on actively growing vegetation.

Fields that are heavily infested with winter annual weeds, such as marestail, henbit, and chickweed, are good candidates for a fall burndown herbicide application. Winter annual weeds will emerge in the fall after harvest and complete their life cycle in the spring and early summer. Weed control is often more difficult in the spring because of weather conditions and the potential for larger weed size. If allowed to grow in the spring, winter annual weeds can form a thick mat on the soil surface which can interfere with tillage, crop establishment, and soil warming from the sun.

A single marestail plant (Figure 1) can produce as many as 200,000 seeds, so it is vital that growers initiate a herbicide control program when marestail is small. Marestail is generally easier to control in the fall when they are small before they bolt or shoot a main stem in the spring. Bolted marestail is difficult to control with a spring burndown herbicide application.

Glyphosate-resistant marestail is of particular concern. Cropping systems with glyphosate-resistant weeds like marestail should include an effective tank-mix partner with glyphosate for fall burndown. Adding a second herbicide with an effective site of action will improve weed control and reduce selection for glyphosate-resistant weeds. Applications should be made during periods of mild weather when marestail is actively growing.

Fall herbicide application alone is not a comprehensive approach; a majority of your weed management plan should be targeted to spring/summer treatments. Recommended weed management plans for glyphosate-tolerant crops include a fall application if needed, a spring preemergence application of a residual herbicide, and one or two in-crop applications of a Roundup® brand glyphosate-only agricultural herbicide with at least one additional site of action herbicide in the tank-mix.

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This publication was developed in partnership with Technology Development & Agronomy by Monsanto.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. Products with NemaStrike™ Technology are not registered in all states. The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local Monsanto dealer or representative for the product registration status in your state.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Tank mixtures:

The applicable labeling for each product must be in the possession of the user at the time of application. Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. Monsanto has not tested all tank mix product formulations for compatibility or performance other than specifically listed by brand name. Always predetermine the compatibility of tank mixtures by mixing small proportional quantities in advance. Acceleron®, Asgrow and the A Design®, Asgrow®, DEKALB and Design®, DEKALB® and Roundup® are registered trademarks of Monsanto Technology LLC. Climate FieldView™ is a trademark of The Climate Corporation. All other trademarks are the property of their respective owners. ©2017 Monsanto Company. 171009065354. 101317DLB

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Benefits of fall-applied herbicides include:

- Reducing weed pressure and helping prepare fields for planting and emergence.
- Controlling winter annuals in the fall can help to increase both soil temperature and moisture at planting time.
- Helping to spread out the spring workload.
- Reducing early spring infestation from insects, such as black cutworm and armyworm, by removing weeds that are attractive egg-laying sites.

See your local Monsanto Crop Protection Dealer or visit http://www.roundupreadyplus.com/ for more information.

Current News and Updates

Fall is in the air! As our days are getting shorter that means some growers are winding down with corn harvest and in other areas, just getting a good start. In many cases, some farmers barely got started with corn and it was time to switch to soybean. As always, we experienced an interesting year with later planting followed by severe drought in some areas while other areas kept receiving timely rain.

Dry down advantage and late-season plant health are two key components that DEKALB® products deliver, which are going to be more important than ever. We are quickly reminded how important these two characteristics are in your portfolio package with the later harvest many are experiencing this year.

Our challenge to you as you are spending many hours in your combine, grain cart, or waiting in line to dump your grain is to strategically analyze your experiences with this year’s products. Next year it is going to be more important than ever to maximize yield in order to maximize profitability. Maximizing yield potential while minimizing risk exposure is one of the best long-term approaches towards sustained profitability. We feel very confident that as you sit down with your local DEKALB Asgrow dealer that they will be able to work together with you to meet your goals!

Have a safe 2017 fall harvest!

Sources:


Web sources verified 10/10/17. 151006093622.