



Soybean And Corn Diseases Got Early Start On The Season

BROOKINGS — Bacterial diseases in soybean and corn fields got a head start this growing season due to the wet spring and hail events occurring throughout South Dakota.

"The wet spring and also a few hail events have created conducive environment for bacterial diseases to develop in soybean and corn fields," said Emmanuel Byamukama, SDSU Extension Plant Pathology Specialist.

Several soybean fields inspected throughout the state had bacterial blight. Byamukama explained that bacterial blight is characterized by small water-soaked spots on the lower leaves. These spots later turn yellow then brown to black in the center, with a yellowish-green halo around the spots. The brown spots may coalesce into blotches that may tear and fall out after windy weather, giving the leaves a ragged appearance.

Cool (less than 80° F), wet weather favors the spread of the disease. Dry weather halts the spread of the disease up the plant.

"The bacteria survive on residue, therefore crop rotation and tillage may help reduce the severity of this disease," Byamukama said.

GOSS'S WILT AND BLIGHT

Goss's wilt and blight were found in two counties: Faulk and Brown.

This disease is caused by the bacteria, *Clavibacter michiganensis* subsp. *nebraskensis*. The pathogen causes two types of symptoms: systemic wilt of the entire plant and leaf blight. The leaf blight symptom is the most encountered and is characterized by the dark spots that resemble freckles. The leaf blight lesions are large and longitudinal and can resemble other corn disease lesions like northern leaf blight.

The presence of water soaked lesions and freckles are distinct symptoms for Goss's wilt.

"When the bacteria infects the vascular system, it blocks water-conducting tubes leading to wilting of the entire plant," Byamukama said.

The bacteria overwinter on infested corn residue on soil surface and enter the plants through wounds created by hail, sand blasting, high winds and wounds created by insect feeding. Goss's wilt can be managed by selecting corn hybrids that are tolerant to this disease.

If the field has history of Goss's wilt, selection of resistant/tolerant cultivars is the first step.

"Because the Goss's wilt pathogen survives on residue, tillage and crop rotation will reduce the inoculum. Fields at high risk are corn following corn and no-till/minimum till fields," he said. "Some weeds like fox-tail, shattercane, and barnyard grass are hosts of the bacteria; therefore, early weed control is important to eliminate further sources of inoculum."

Some products are being marketed for Goss's wilt control; however, Byamukama said there is insufficient data in the region on the efficacies of these products.

HOLCUS SPOT

Holcus spot, another bacterial disease was seen in one corn field in Brown County, the same field also

had Goss's wilt. Holcus spot is caused by a different bacteria, *Pseudomonas syringae* pv. *syringae*. Holcus spot is a rare disease and even when it occurs, seldom will it cause yield loss. Byamukama explained that the pathogen also survives on residues and is favored by rainy and windy weather early in the season.

COMMON SMUT AND RUST

Common smut on corn leaves was seen in a few fields that had hail damage in the northeast counties. The fungal pathogen infects young, actively growing parts usually through wounds and forms galls. The fungus survives on crop debris or soil and can remain viable for several years. If the spores land on the silk, the fungus will infect the developing kernels resulting in galls on ears.

"Most corn hybrids have good resistance to common smut, however, corn on corn, no-till, and hail damage conditions may increase the risk for common smut infection on leaves," Byamukama said.

Another disease beginning to develop on corn is common rust. Several fields scouted had trace levels of this rust developing.

"This disease rarely develops to high levels to cause yield loss because most hybrids have good tolerance to this pathogen. The common rust pathogen does not survive in South Dakota; the spores are blown in from the southern states in spring. Therefore residue management or crop rotation will not affect common rust or any other rust disease, for that matter," he said.

If growers plan to apply fungicide, Byamukama said a general note on fungicide application on corn is that several research reports show that increase in yield from fungicide application happens when disease severity on flag leaf at R5 is greater than 5 percent. He encourages growers to review a publication published by Iowa State University, at: <http://www.extension.iastate.edu/Crop-News/2010/0706muellerandroberson.htm> "Most of the corn scouted across the state looked very clean with no disease developing. Corn following corn or corn on no-till may have an elevated risk for significant disease to develop, depending upon the cultivar planted and weather conditions," he said. "Applying a fungicide at tasseling in this case may be beneficial."

The corn plant pathology working group published a list of fungicides that are effective for several fungal pathogens on corn. This table can be found here: http://www.uky.edu/Ag/GrainCrops/Briefs/CDWGCornFungicideEfficacy_Table_2013_FINAL.pdf/.

Byamukama said fungicide application should be done when all corn has fully tasseled to avoid arrested ear syndrome, a physiological disorder that is caused by nonionic surfactant (NIS) fungicide additives when applied before tasseling.

To learn more about this visit, www.extension.purdue.edu/extmedia/BP/BP-85-W.pdf. To learn more visit iGrow.org.

Pain And Gain

Farming With Arthritis Can Be A Painful Experience, But There Are Ways To Adjust And Cope With It

BY RITA BRHEL
P&D Correspondent

The average age of the American farmer is nearly 60 years old, so it's not inconceivable that many producers may be suffering from arthritis, a medical condition that can affect people of any age but is more common as adults age.

That said, more than half of the individuals with arthritis are younger than 65 years old, says Amber Wolfe, the AgrAbility project coordinator at the Arthritis Foundation in Indianapolis, Ind.

The hallmark of the more than 100 arthritic diseases is swollen, painful joints, especially during movement. Most forms of the disease are chronic, can be progressive, can affect any joint, and have no cure. Understandably, arthritis makes life harder for the 50 million Americans affected — in fact, it is the most common cause of disability in the U.S. workforce, limiting nearly 2 million working Americans — especially those who work more physically active jobs, like farming and ranching.

In some ways, agricultural production can worsen arthritis. Stress — such as planting conditions or volatile markets — can worsen arthritic symptoms.

"Arthritis is just as much mental as it is physical," Wolfe said.

But, surprisingly, in other ways, farming can actually help those with arthritis — to a point. Movement encourages joint flexibility and range of motion, but everyone has a threshold of joint use, which once crossed actually worsens the arthritis.

"Rushing yourself can irritate arthritic joints," Wolfe said. "Remember, movement is medicine. Staying in a state of movement is very good for arthritis. However, excessive movement or high-impact exercise isn't as good for arthritis as low-impact and stress-free exercise."

To ease arthritic symptoms as much as possible, she recommends these guidelines:

1. Pace work.
2. Stretch and warm up joints before working, and stretch joints after working.
3. Use proper tools.
4. Wear gloves.
5. Change positions frequently.
6. Use the largest, strongest joints possible for the job, such as carrying heavy objects close to the body and lifting with the legs rather than the back.



7. Keep tools nearby.

8. Use a stool or knee pad when needing to do work at the ground level.

9. Work at the best times of the day for each individual's arthritic symptoms.

10. Make modifications to tools as needed.

Additional ideas are to keep good posture, avoid twisting joints, reduce use of vibrating tools, change position often but avoid repetitive tasks for long periods of time, wear wrist and back braces when lifting and carrying heavy items, choose footwear with a hard sole, good traction, and that supports the ankles and knees, take breaks to flex fingers, stay hydrated, and avoid caffeine.

Some arthritis sufferers find that sun exposure helps their joints, but overexposure could cause overheating and dehydration, which makes joint pain worse.

Some, though not all, people with arthritis require modifications to their tools to manage their pain. Steve Swain, assistive technical specialist with the National AgrAbility Project's Breaking New Ground Resource Center at Purdue University in West Lafayette, Ind., says there are a wide range of ergonomic options available.

"Careful tool selection can make

[farming] easier, while protecting you from unnecessary and unwanted stress, strain, and injury," he said.

Examples of ergonomic features include longer tool handles, cushioned handles, reaching devices, rolling carts, thumb rests, smaller-diameter grips, spring-loaded or power-assisted hand tools, two-handed grips, bag-carrying handles, and tools that extend.

Every person knows their limit and experience teaches what is needed to manage both arthritis and the farm. The best piece of advice, Wolfe says, is for producers to listen to their bodies to know when to slow down or stop.

"If you start to feel pain, stop and move onto another type of activity with a different part of the body, or stop completely and rest," she said. "Everybody's threshold is different. You may even have to stop for the day and come back the next day, even when you feel you have to get it done because it's going to rain or you need to get it planted or whatever."

Producers need to remind themselves that of all the equipment on their farm, the most important resource is themselves, Wolfe adds.

"You have to take care of your body just as you would with anything else in your equipment shed," she said.

SDSU Extension: Utilizing Light Test Weight Wheat In Swine Diets

BROOKINGS — South Dakota producers who saw low test weight wheat this summer may have an opportunity to add value by marketing it through pigs, said Bob Thaler, SDSU Extension Swine Specialist.

"Pigs are an excellent way to market grains, especially light weight and weather-stressed grain that may be docked at the market," Thaler said. "As long as the light weight grains are properly formulated and mixed, it can be a win-win situation for both the grain farmer and pork producer."

Low test weight grains typically contain more protein and fiber and have less starch and energy than normal test weight grains, Thaler explained. However, depending on the test weight it can be fed to pigs with little to no effect.

"Multiple research trials have shown that you can reduce grain test weight up to 10 percent without affecting feed efficiency, and you can lower it up to 25 percent without affecting daily gain," he said.

Basically this means that pork producers can feed down to 54 pounds wheat without affecting growth performance and down to 45 pounds without affecting gain.

"Once you get below 54 pounds of wheat, feed efficiency will suffer," Thaler said. "However, if the wheat is purchased at a reduced enough rate producers can still make money - even with poorer feed efficiency."

KNOW THE MYCOTOXIN STATUS

A key in feeding light test weight grains Thaler said, is knowing the grain's mycotoxin status.

"If it is free of mycotoxins, then you can strategically feed it in specific phases," he said. Since light test weight wheat is lower in energy, Thaler said it should be fed in grow-finish and gestation diets.

"Once they get past 80 pounds pigs can compensate for the lower energy by eating more feed so gains should be the same," he said. "Since we limit-feed gestating sows anyway, it is the perfect feedstuff for them. However, since we want to maximize feed/energy intake for lactating sows and nursery pigs, it's best to keep it out of those phases."

If the grain does contain mycotoxins, then it should only be fed in the late grower and finishing phases Thaler said, and blended with "clean" grains to get the diet's total mycotoxin concentration at or below recommended levels.

MORE ON FEEDING WHEAT TO PIGS

Wheat is an excellent feedstuff for pigs since it is higher in protein, lysine, and phosphorus than corn said Thaler.

"It can be the sole grain source in swine diets. Light weight wheat can also be the sole grain source for grow-

finish pigs and gestating sows. However, producers can blend it with normal test weight corn to offset the energy reduction of the diet if they want," he said.

Because light test weight grains have less bulk density and will fill up a mixer quicker, Thaler said when using light test weight wheat or other grains it is essential that a scale is used on the feedmill or grinder mixer.

For example, a 2-ton/4,000 pound mixer can hold 66.7 bushels of normal, 60 pound wheat, but that same mixer can only hold 3,602 pounds of 54 pounds wheat.

"Therefore, if just adding ingredients volumetrically, the diets will not contain enough wheat or the desired nutrient levels," he said.

He added that wheat, whether normal or light test weight, should not be finely-ground. "It should be ground or rolled to 700 microns, and rolling is preferred over hammermills for wheat," Thaler said.

Also, light test weight wheat and grains will be dustier than normal grains during feed processing, and since they contain more fiber, which it may take more management to make sure it flows through automatic feeding systems and feeders properly.

For more information, contact Bob Thaler, SDSU Extension Swine Specialist at 605-688-5435 or Ashley Gelderman, SDSU Extension Swine Field Specialist, 605-782-3290.

The family of Joseph Hejna would like to say thank you to all that sent cards, memorials, flowers, food, called or had just that special touch.

Thank you Tyndall Good Samaritan Center staff, St. Wenceslaus Catholic Church, Father Daniel, Father Joe, Tabor Altar Society for the lunch, Tabor Legion Home, the wonderful music, the Knights of Columbus, and Opsahl-Kostel Funeral Home.

*It was all greatly appreciated.
Joseph Hejna Family*



More than 1,000,000 people around the world are learning from the Bible with the help of lessons by mail from World Bible School!
SIGN UP TODAY FOR YOUR FREE LESSONS!

Send us your request to:
WBS • P.O. Box 242 • Yankton, SD 57078
or call 605-665-6379

We accept all insurance cards.



PHARMACY & DRIVE UP HOURS: CALL FOR PRESCRIPTIONS:
M-F: 8:30am to 9pm 605-665-2929
Sat: 8:30am to 5pm 800-572-2072
Sun: Noon to 5pm

YANKTON MEDICAL CLINIC
PHARMACY
1104 West 8th Street • Yankton, SD 57078
www.YanktonMedicalClinic.com
WE ACCEPT ALL INSURANCE CARDS.