First Report of Tar Spot on Corn (Zea mays) Caused by Phyllachora maydis in Florida, Iowa, Michigan and Wisconsin

Leaf lesions were first observed in March of 2017, those reported for tar spot of corn caused by Phyllachora maydis. Maubl. were observed in commercial corn hybrids (Zea mays L.). In 2016, symptoms were observed in Jones County, Iowa, Palm Beach County, Florida, Allegan County, Michigan and in Grant and Lafayettdonies, Wiscon sins. Leaf signs and symptoms included ascospora, often surrounded by a narrow necrotic halo, on both healthy and se nescent leaf material. Disease severity and incidence varied by location. Some fields had few infected plants (<1%), with some infected leaves only exhibiting a single ascoma, while in 2017 one field in Michigan had up to 90% infected plants with up to 80% disease severity on individual leaves. Morphological characteristics of the pathogen from all examined leaves from all locations were similar and consistent with the description of Phyllachora maydis (Parberry 1967). Ascomata, single or grouped with a clypeus, contained numerous paraphyses, with cylindrical asci containing hyaline, ellipsoid, asceptate ascospores 5.5 to 8 × 9.5 to 14 µm (n= 30). DNA was extracted from ascomata aseptically re moved from leaves collected in each state. Voucher samples from each state were deposited in the U.S. National Fungus Collections (BPI). The internal transcribed spacer (ITS) regions of the ribosomal RNA gene were sequenced using primer pair ITS1F/ ITS4 (Lanera et al. 1999) for Iowa and Michigan samples, and ITS4/ITS5 for Wisconsin (White et al. 1990). Sequences from Iowa, Michigan and Wisconsin were identical, and showed a 97% sequence homology to GenBank deposit Accession No. KU184459.1, with a 90% query cover. A representa tive sequence from each state was deposited: (BPI 910561) GenBank Accession No. MG881848, Michigan (BPI 910560) GenBank Accession No. MG881847, Wisconsin (BPI 910560) GenBank Ac cession No. MG881846. Sequences were not obtai ned from the Florida sample (BPI 910568).

Koch’s postulates were not performed given the ob ligate nature of the pathogen (Muller et al. 1984). This report documents the first confirmation of tar spot on corn in Iowa, Michigan and Wisconsin (three states surrounding Indiana and Illinois, where it was first reported in 2015) and Florida. It has been reported in Central and South America that when co infection of Phyllachora maydis and Monographella maydis occurs there can be significant yield loss. However, Monographella maydis has not yet been documented within the United States. There may currently be no significant losses in grain produc tion; however, this disease could potentially affect silage corn production where early dry-down is not desired, and may increase lodging.

If you think you’re seeing corn tar spot, feel free to submit samples to the Plant Disease Diagnostic Center, UW-Madison, 1630 Linden Drive, Madison, WI 53706-1598. Please include a general PDDC submission form https://pddc.wisc.edu/wp-content/uploads/sites/39/2012/04/PDDC-Submission -Form-0722216.pdf with the sample. If the disease is tar spot, the diagnosis is free.

Diane Plewa at the University of Illinois Plant Clinic would like to receive corn tar spot samples this summer for a research project she’s working on. For more info, see https:// pddc.wisc.edu/wp-content/uploads/sites/39/2013/07/ Corn-Tar-Spot-Wanted-CPC-2018.pdf. If you send a tar spot sample to the PDDC and would like to for ward the sample to Diane, please send in the sample with both the PDDC form and Diane’s form filled out. Because of confidentiality issues, the PDDC will not forward samples without permission (i.e., having the completed copy of Diane’s form).

Mr. Austin Glenn McCoy, Dr. Megan Kara Romberg, Mr. Edward Zaworski, Dr. Alison E Robertson, Ms. Anette Plichtib, Dr. Brian Hudelson, Dr. Damon L. Smith, Mr. Robert Beiriger, Dr. Richard Raid, Dr. Jan Byrne, and Dr. Martin I Chivers Plant Disease, Volume 0, Number ja

**Focusing on Agriculture: Milk Your Energy Savings**

Agriculture energy expenditures in Wisconsin amount to roughly $681.4 million each year. Farmers are constantly striving to eliminate unnecessary energy expenses, while still maintaining a safe and productive business. Lower milk prices have had a big impact on dairy farms considering ways to re duce their expenses and keep their business profitable. Even with making some strategic cuts to feed, labor, and supplies, farmers are still not breaking even. And with less money available for capital projects, farmers are determined to find creative solutions to keep their businesses in the black. Eliminating energy expenses is a way to keep your operation cost effective while maintaining herd size, safety, and a modern facility. There are many ways to decrease energy usage, and technology is a key part of efficiency on farms. Dairy service companies have noticed that fewer energy users to give you an idea of how much of your monthly bills incurred to cover these necessary farm processes and equipment.

The majority of energy consumed on dairy farms goes into milk production processes such as the milking equipment, milk cooling, and water heating. Additional energy can be consumed by process equip ment including vacuum pumps, lighting and ventil ation systems. The chart below summarizes these top energy users to give you an idea of how much of your energy costs go into milk production processes such as the milking equipment, milk cooling, and water heating. Additional energy can be consumed by process equipment including vacuum pumps, lighting and ventilation systems. The chart below summarizes these top energy users to give you an idea of how much of your energy costs goes into these necessary farm processes and equipment.

When you are ready to identify the return on investment (ROI) of the equipment upgrades, work with your Dairy Service Company or Trade Ally and Energy Advisor to conduct a simple payback for your upgrade. The basic payback equation below can be used to prioritize future equipment purchases.

If you are purchasing 10 waterers for a total of $11,100, and are able to apply an energy efficiency incentive credit of $600 towards the new waterers, then by averaging the new cost of the waterers from the energy savings on your utility bill, you will be able to pay off these waterers in under three years! This makes the return on investment for this project approximately 33 percent.

Focusing on Energy

**About Focus on Energy**

Focus on Energy is Wisconsin utilities’ statewide energy efficiency and renewable energy resource program funded by the state’s energy utility revenues, state and local government, the Wisconsin Electric Power Supply Association, and the federal government. Focus on Energy helps Wisconsinites reduce their electricity and gas bills through energy-saving projects and programs. Focus on Energy helps Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control Wisconsin’s growing demand for electricity and natural gas. For more information call 800.762.7077 or visit focusenergy.org
World Forage Analysis Superbowl to Award $22,000 in Cash Prizes

The World Forage Analysis Superbowl is now accepting entries for its 35th annual competition with more than $22,000 in cash prizes to be awarded to the best samples. The top forage producers from across the country will be recognized and awarded at the annual Mycogen Seeds Awards Luncheon on October 3 during World Dairy Expo at the Alliant Energy Center, Madison. For details, please visit the competition’s website: http://www.foragesuperbowl.org.

The contest evaluates lab and visual components in seven forage categories and awards $1,500 to the top individual in each class, with additional prizes also awarded to second through fourth place finishers. The contest categories and corresponding sponsors include: Champion Balancer sponsored by Agri-King; Champion Commercial Hay sponsored by NEXGROW Alfalfa; Champion Dairy Hay, sponsored by WL Research; Champion Grass Hay, sponsored by Barenbrug USA; Champion Haylage, sponsored by Ag-Bag; Champion Standard Corn Silage, sponsored by Agrisure Traits; and Champion Brown Midrib Corn Silage, sponsored by Mycogen Seeds.

Awards are also presented to four additional outstanding forage samples. Kenin provides a $2,500 cash award to the Grand Champion Forage Producer, while the Grand Champion First-Time Entrant receives a $1,500 award from sponsor Kuhn North America. CROPLAN By WinField United supports prizes of the Quality Counts Awards for Hay/Haylage and for Corn Silage. The World Forage Analysis Superbowl is also made possible by its Gold Sponsor: Proteclia and Silver Sponsors: Passion Ag, Inc. and the National Hay Association.

New in 2018, the deadline to submit corn silage samples is July 1; all other entries retain their August 30 deadline. Entry forms are available by calling 920-336-4521 or visiting foragesuperbowl.org. Participants receive a detailed laboratory analysis of the entered sample with the $30 entry fee and may submit multiple entries in the contest.

The World Forage Analysis Superbowl is organized in partnership between Dairyland Laboratories, Inc., Hay & Forage Grower, US Dairy Forage Research Center, University of Wisconsin and World Dairy Expo. To learn more, visit foragesuperbowl.org.

FSAs Emergency Loans

Farm Service Agency (FSA) emergency loans are available to Farmers who have suffered qualifying physical losses based upon damage and losses caused by snow and high winds that occurred April 13, 2018 through April 18, 2018. Loans to cover damages to property destroyed or damaged will be based upon the allowable cost associated with repairing or replacing the property destroyed or damaged.

The maximum amount for these loans is $500,000 and the current interest rate is 3.75%. FSA is prohibited from making loans to applicants who can obtain credit elsewhere. Farmers who would like more information can call the Manitowoc FSA office at 920-683-5119. The deadline for filing applications is January 29, 2019.

New smartphone app: Sporecaster, The Soybean White Mold Forecaster

Sporecaster is a new smartphone application designed to help farmers predict the need for a fungicide application to control white mold in soybean. The app, which is free to use, was developed with support from the Wisconsin Soybean Association and Wisconsin Soybean Marketing Board. It was programmed by personnel in the UW-Madison Nutrient and Pest Management Program.

Here are the links to get the free app. Visit http://ipcm.wisc.edu/blog/2018/05/new-smartphone-app-sporecaster-the-soybean-white-mold-forecaster/ to see video tutorials.


The purpose of the app is to assist farmers in making early season management decisions for white mold in soybean. The best time to spray fungicides for white mold is during flowering (R1 and R3 growth stages) when apothecia (small, mushroom-like structures) are present on the soil surface. Apothecia release spores which infect senescing soybean flowers, leading to the development of white mold.

Sporecaster uses university research to turn a few simple taps on a smartphone screen into an instant forecast of the risk of apo-

NO AUGUST FOGHORN

You can still receive information from us by signing up for our electronic newsletter at Kewaunee.uwex.edu/foghorn-newsletter