Ag Notes
Harford County Newsletter

UNIVERSITY OF MARYLAND EXTENSION

May 2023

University of Maryland Extension

Harford County Agricultural Center
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Street, MD 21154
(410) 638-3255
M—F 8:00 a.m.—4:30 p.m.

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INSIDE THIS ISSUE:

Hello, Harford County!

The Extension office will be closed on May 29 for Memorial Day as we remember our fallen heroes.

I hope spring is treating you well, last week we were fortunate to receive some much-needed rain, although we are still starting the growing season off in about a five-inch deficit.

If you recall from March's issue, I explained a concerning seminar presented by Harvard and EPA on animal agriculture. In a nutshell their argument was to abolish animal agriculture. I'd like to offer some further evidence to support the fact that animal agriculture is not the demise of our planet.

In April I had the opportunity to tour the Kilby Dairy in Cecil county with some of my LEAD Maryland alumni. We had a great tour and I found their anaerobic digestor to be quite interesting and a perfect example of how animal agriculture can be the solution to several problems we face today.

Anaerobic digestion is the process of breaking down organic material with bacteria in the absence of oxygen; much like how a cow's rumen works. Organic waste, such as animal manure, biosolids, food waste, oils, fats, grease, etc., is loaded into a reactor, which is basically a pit covered with heavy plastic. This creates the anerobic conditions required for the bacteria. The bacteria eat the organic waste that's fed into the reactor, and their byproduct is methane gas. The methane is captured, "cleaned" (scrubbed to remove sulfur), then can be used to power methane engines (which aren't that much different than diesel engines) to make electricity, power vehicles, or used to heat homes. The residual solid material left in the reactor (called digestate) can be used as fertilizer amendments, animal bedding, and in a myriad of other applications.

In the case of Kilby's, they capture the methane, clean it, and use it as fuel to power an electric generator. They generate enough electricity to power their entire farm with excess that is sold back to the grid. Their farm has a 245 kWh engine that runs 24 hours/day 7 days a week and only shuts down for maintenance. For reference, 245 kWh is enough electricity to power about 190 houses per day. What is even more impressive is that they actually have the capacity to produce another 60-70% more electricity based on how many cows they have, but current regulations cap them at their current production.

This brings me to my next point; if we were to widely utilize anaerobic digestion we could solve many issues associated with greenhouse gasses and food waste by using animal agriculture; let me explain.

The process of producing methane through anerobic digestion is a net zero greenhouse gas, renewable process because we are not bringing carbon up from the ground and burning it (which is what fossil fuels do); rather, the entire process is an above-ground cycle, which means there are no additions to the greenhouse gas load in our atmosphere. Further, it helps solve our ever-growing problem of food waste and landfill space because instead of food waste clogging up our landfills, we could feed it to the digestors. Also, as mentioned earlier, the methane that is produced can be used for heating, cooking, to generate electricity, or to fuel vehicles. Additionally, methane-powered vehicles are very similar to diesel engines and are arguably far more reliable than electric powered vehicles, which require charging and an electric grid that at the moment cannot handle the demand of an all electric world.

So, to the EPA and Harvard "experts," I would argue that animal agriculture is not destroying our planet, rather it is affording us an opportunity to produce a source of reliable, green, renewable energy. Isn't agriculture amazing?

Until next time,

-Andy

Ag Business

MDA Pesticide Container Recycling Ending

Rob Hofstetter, Program Manager
Maryland Department of Agriculture, Pesticide Regulation

After collecting more than a million pounds of plastic and conducting an empty pesticide container collection program for 30 years the Department's 2023 Program will be cancelled.

The Agricultural Container Recycling Council (ACRC) provides a contractor to pickup and/or grind the collected plastic free of charge. For the last two years we have been working with a new contractor, assigned by the ACRC. The contractor has not been able to keep up with demand and we have received no additional assistance from the ACRC. As such, we have several sites that are full or overflowing. Until we can clean out these sites, the program will be postponed. We thank everyone who has participated in this program and apologize for any inconvenience this will cause.

We hope to be able to continue the program in 2024.

For further information please contact the Pesticide Regulation Section at (410) 841-5710 or via email at pest.reg@maryland.gov.

New Vegetable Enterprise Budgets

Nate Bruce, Farm Business Management Specialist
University of Delaware

Enterprise budgets for fresh market vegetables have been updated with prices and information for 2023. You can use these budgets to estimate your production costs and returns for several different crops: bell peppers, broccoli, cabbage, cantaloupe, seedless watermelon, sweet corn (hand harvested), tomato, and potato. All enterprise budgets are in Excel. The first tab contains research estimated costs and returns. The second tab allows you to enter your own costs and returns.

To download the new enterprise budgets use the links below:

bell pepper |broccoli | cabbage | potato

cantaloupe | seedless watermelon

sweet corn (hand harvest) | tomato

These budgets will soon be posted at: https://www.udel.edu/canr/cooperative-extension/sustainable-production/commercial-crops/vegetable-crops/. If you have any questions on the budgets, please contact Nate Bruce by email at nsbruce@udel.edu or by phone (302) 363-7619.

For Students

Harford County Farm Bureau Scholarships

The Harford County Farm Bureau Scholarship is available to applicants whose families are members of Harford County Farm Bureau. The applicant must be accepted or enrolled in a full-time accredited 2 or 4 year college, university, or technical school, and the applicant's chosen curriculum must be in an approved program in agriculture or an agriculturally related field.

The Harford County 4-H Memorial Scholarship is available to graduating high school seniors who have been a member of Harford County 4-H for a minimum of 2 years. The applicant must be accepted or enrolled in a full-time accredited 2 or 4 year college, university, or technical school. It is not necessary for the applicant's chosen curriculum to be agriculturally related. This scholarship was established to memorialize several Harford County 4-H members who lost their lives at a young age because of accidents or health issues. Funds for this scholarship come from donations and from the sale of 4-H livestock projects which are sold at the Harford County Farm Fair.

There is one scholarship application form, which can be used for either or both scholarships. To obtain an electronic copy, please contact the Farm Bureau office at harfordfb@gmail.com.

The completed application and all requested information should be sent to: Harford County Farm Bureau,

3525 Conowingo Road, Suite 200, Street, MD 21154-1900. **Applications must be postmarked by or delivered to the Farm Bureau office at the Harford County Agricultural Center by Thursday, May 25, 2023.**

Preparations for Tar Spot of Corn

Andrew Kness, Senior Agriculture Agent
University of Maryland Extension, Harford County

Figure 1. *Signs and symptoms of tar spot on corn. Black raised areas are tar spot and long rectangular grey lesions are from grey leaf spot.*

Tar spot is a foliar disease of corn caused by the fungus *Phyllachora maydis* and we confirmed it for the first time in Maryland from a grower field in Harford County in 2022; however, it is possible that it has been present in fields at low levels earlier than the 2022 growing season. Weather conditions across northern Maryland and Southern Pennsylvania in August and September were favorable for tar spot development and pockets of disease outbreaks were reported, leading to much discussion about the disease amongst farmers and ag service providers over the winter months about what to do to manage this disease in the future.

The pathogen that causes tar spot is favored by cool, wet weather. Tar spot spores overwinter in old corn crop residue and it seems to survive our winters just fine, as demonstrated by winter survival in Pennsylvania, as well as many northern corn belt states.

Temperatures between 60-70°F, coupled with 7+ hours of leaf wetness from dew, humidity, rain, or irrigation, trigger sporulation and subsequent spore germination on susceptible corn plants. Roughly 14-21 days later, signs and symptoms of tar spot will develop on corn plants in the form of small, raised black spots that have the appearance of tar or splattered black paint (Figure 1). These spots are the reproductive structures which provide secondary inoculum that repeatedly infect more tissue for as long as temperature and moisture conditions remain conducive.

In the Midwest where tar spot has been present since 2015, yield losses have been reported upwards of 60 bushels in bad years. It is also important to note that tar spot can make corn plants senesce and dry down much faster than normal, going from green to brown in 10-14 days under optimum conditions. This can make silage harvest tricky, which is why scouting is so important.

We do not know how prevalent and severe this disease will become in Maryland, so I encourage farmers to diligently scout corn fields to get ahead of it and to also determine where the disease is distributed. Scouting will also help you determine if a fungicide application is warranted. Fortunately, most fungicides that are labeled for corn do a fairly good job of protecting against tar spot, but there is data that suggests that the two-and three-way mode of action (MOA) products work better than single MOA products.

Fungicides should be applied as close to disease onset as possible; for tar spot this can be tricky because it can infect corn at any growth stage and it can still have significant yield impact as late into the season as R4. University research in the corn belt has found that the best chance for an economic return on investment is a single application around VT-R1; however, there are some instances where a second application was necessary, but these were only when weather conditions for tar spot remained favorable during the later reproductive growth stages.

A few things to consider for tar spot management as we go into the 2023 growing season are as follows:

1. Avoid highly susceptible hybrids, especially in corn-on-corn fields or if you have a field with history of tar spot. There is no complete resistance to tar spot in commercial corn hybrids, but we do know there is some variation in hybrid susceptibility. Work with your seed dealers to try to identify your best hybrids and plant them in fields where you think tar spot may be a problem.
2. Tillage and residue management appears to play a minor role in the management of this disease. Tillage may slightly reduce overwintering spores, which serve as primary inoculum, but we need to

keep in mind that tar spot spores can blow in from neighboring fields; so, I would not roll out the heavy tillage and blow up your no-till system just to try to manage tar spot because it will only have a marginal effect.

- Corn-on-corn has a higher risk for developing tar spot, especially if the previous corn crop was infected. Rotate with other crops to break up this cycle. *P. maydis* only infects corn (including dent, sweet, and popcorn); all other crops are not hosts. We do not know how long tar spot spores remain viable; we do know it is at least one year.
- Hybrid maturity also plays a role in disease severity. Research from the Midwest has shown that longer maturing hybrids suffer greater yield loss than shorter maturing hybrids. This is because the longer you push the grain fill period into the cooler late summer/fall months, the more likely tar spot will infect during earlier grain fill growth stages.
- Scout fields this year starting a little before tasseling through to maturity. As mentioned above, this will help you determine if a fungicide is warranted.

We will be conducting some field trials this year looking at tar spot management in Maryland with funds from the Maryland Grain Producer's Utilization Board. Part of this project will also include a survey of corn across the state to determine the distribution of tar spot. **If you think you find tar spot in a field this year, I would be interested in knowing about it.** You can call or email me (410-638-3255, akness@umd.edu), or report a sighting at corn.ipmpipe.org.

Small Grains Field Day

Tuesday, May 23rd from 3 to 5:30 pm

University of Maryland
Wye Research and Education Center
211 Farm Lane, Queenstown, MD 21658

We will hear an update on the Agronomy degree program within the Department of Plant Science and Landscape Architecture, including highlights from the first semester teaching AGST401: Tractor and Equipment Operation, Safety and Maintenance. We will showcase a commercial variety strip trial organized by the Maryland Crop Improvement Association (MCIA) and industry reps will be on hand to discuss their entries in the trials. Dr. Vijay Tiwari will discuss the small grain variety trials and his wheat breeding program, Dr. Nidhi Rawat will discuss her pathology work in barley and wheat, and Dr. Kurt Vollmer will update us on weed control in wheat.

Register here: bit.ly/smallgrain23

COLLEGE OF AGRICULTURE & NATURAL RESOURCES

UNIVERSITY OF MARYLAND EXTENSION

Wheat Disease Update

Andrew Kness, Senior Agriculture Agent
University of Maryland Extension, Harford County

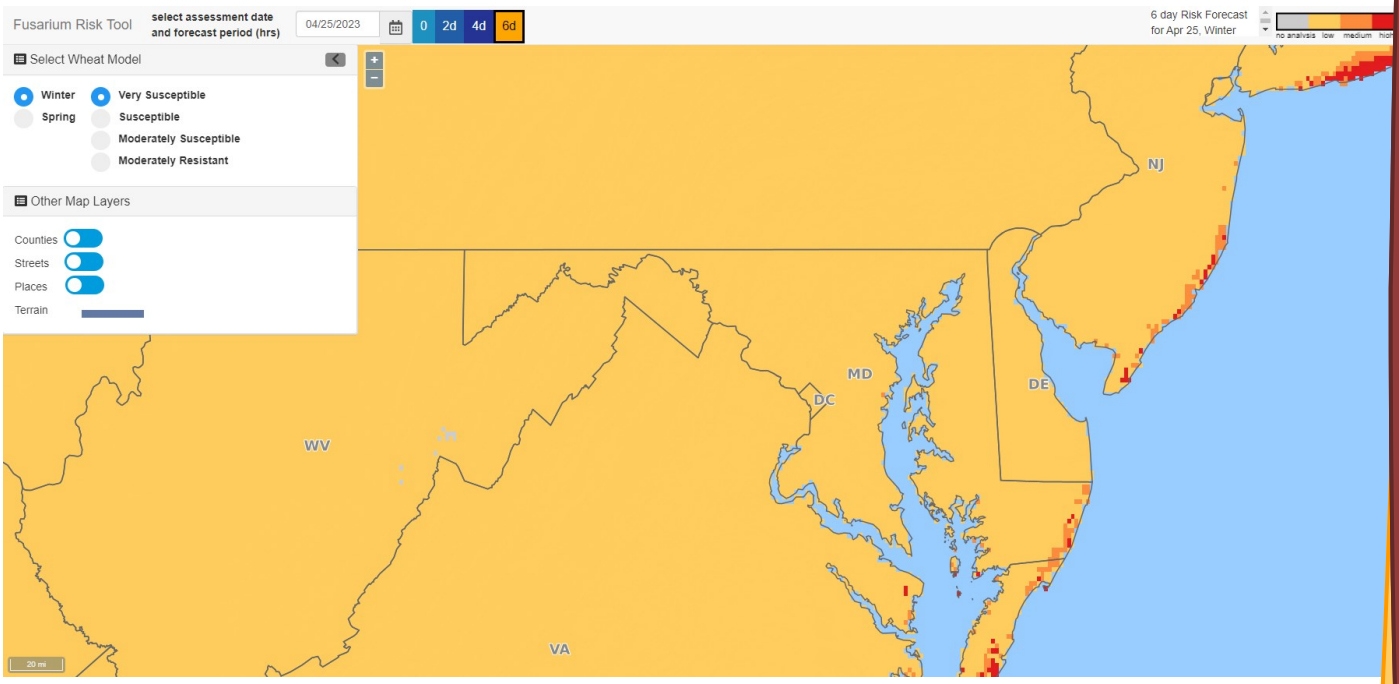

Figure 1. *Fusarium head blight risk model for very susceptible wheat varieties (April 25, 2023). Yellow shading indicates low risk, red is high risk. Access the model at wheatscab.psu.edu.*

In my travels across the county I've stopped to take a look at several wheat fields, all of which are coming along nicely. With the mild winter and above normal temperatures for much of February, March, and April, wheat has progressed far ahead of normal schedule, with the earliest varieties already heading and entering the flowering stage.

With the dry weather, risk for fusarium head blight (FHB) remains low (Figure 1). You can use the prediction model at wheatscab.psu.edu to help you determine if a fungicide application is warranted to manage FHB and more importantly, associated DON vomitoxin. The fungus that causes FHB can only infect wheat through open flowers, and requires wet and humid conditions to achieve this. Therefore, if conditions remain dry during flowering then you may be able to get away without a fungicide application.

If you decide to pull the trigger on a fungicide, make sure you time it as close to flowering, Feekes growth stage 10.5.1, as possible. Feekes 10.5.1 is when yellow anthers are visible on the middle part of the head (Figure 2). Once wheat reaches this stage, the optimum application window remains open for about five days thereafter.

Figure 2. *Wheat at Feekes 10.5.1.*

Fungicides should be applied with at least 15 gallons of water per acre and use nozzles angled forward 30-45 degrees from horizontal, or twinjet nozzles that spray forward and backward to achieve the greatest coverage of the wheat heads and the best fungicide efficacy. For aerial applications, five gallons per acre spray volume is recommended.

Fungicides that have consistently provided the best control of FHB and DON vomitoxin are Prosaro Pro SC, Miravis Ace SE, Saphaerex, Prosaro 421 SC, Proline 480 SC, and Caramba 0.75 SL. These fungicides also do a great job of keeping the flag leaf clean of leaf spot diseases and rusts as we finish the crop.

USDA Still Accepting Ag Census Forms

United States Department of Agriculture press release

The U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS) is reminding Maryland farmers and ranchers that the window is closing on the opportunity to participate in the 2022 Census of Agriculture. To date, NASS has received 15,175 completed questionnaires from Maryland producers for a return rate of nearly 51%. NASS is encouraging U.S. producers who have not returned their completed ag census questionnaires to do so as soon as possible to avoid additional mail, phone, email, text, and in-person follow-up, which is currently underway.

"I want to express my gratitude to those Maryland operators who have already taken the effort to complete the 2022 Census of Agriculture. The wellbeing and health of Maryland's agricultural community will benefit from the data that was collected. There is still time to answer for those who haven't finished their reports," said NASS Maryland State Statistician Shareefah Williams. "Making certain that we hear from every operator in Maryland is my main objective. I appreciate your efforts to feed the world."

NASS is reminding producers that if they produced and sold $1,000 or more of agricultural product in 2022, or normally would have produced and sold that much, they meet USDA's definition of a farm. However, federal law requires everyone who received the 2022 Census of Agriculture questionnaire complete and return it, even if they do not currently meet this definition. Producers can respond online at agcounts.usda.gov or by mail.

"If you received the ag census but do not fit the definition of a farm, are no longer farming, never farmed, or are a landowner who leases your land to a producer, please write your status on the form and mail it back," said Williams.

The Census of Agriculture remains the only comprehensive and impartial source of agriculture data for every state and county in the nation. Census data are used by policymakers, trade associations, researchers, agribusinesses, educators, and many others. The information helps inform decisions on farm policy, rural development, the development of farm technologies, and more. It also aids in the creation and funding of loans and insurance programs and other forms of assistance.

The ag census differs from other NASS surveys. Beyond being conducted just once every five years, it provides important demographic information and data on certain commodities, such as horses, bison, and Christmas trees, that would not otherwise be available. The Census of Agriculture collects information on nearly every aspect of American agriculture for a complete picture of the health of the industry. Changes to the 2022 questionnaire include new questions about the use of precision agriculture, hemp production, hair sheep and updates to internet access questions.

Federal law under Title 7 USC 2204(g) Public Law 105-113 requires that NASS keep all submissions confidential, use the information for statistical purposes only, and publish aggregate data to prevent disclosing the identity of any individual producer or farm operation.

NASS will release the results of the ag census in early 2024. To learn more about the Census of Agriculture, visit nass.usda.gov/AgCensus. On the website, producers and other data users can access frequently asked questions, past ag census data, special study information, and more. For highlights of these and the latest information, follow USDA NASS on Twitter at @usda_nass.

Small Acre Cover Crop Program

Maryland Department of Agriculture press release

Program is Open to Small Farms and Urban Growers Who Plant Less Than 10 Acres

The Maryland Department of Agriculture today announced that the sign-up period for its Small Acreage Cover Crop Program is open now through May 26. Now in its second year, the program provides grants to help small farms and urban growers plant cover crops on their production areas to build healthy soils, improve crop yields, protect local water quality, improve climate resilience, and provide other environmental benefits.

"Small-scale and urban farmers play a major role in growing fresh, healthy food for local communities," said Maryland Department Agriculture Secretary Kevin A. Atticks. "The Department is excited to provide these essential growers with conservation grants that promote healthy farming practices that support local food production. I encourage all eligible growers to apply for our small farm cover crop grants during the open enrollment period."

The Small Acreage Cover Crop Program is for urban and small-scale producers who do not qualify for traditional cover crop programs. New this year, operations that plant less than ten acres of qualifying cover crops—including cereal grains or cover crop seed mixes—may apply for grants. Financial assistance for this program is capped at $1,500 per grower, per year.

Program highlights include:

- Maximum payment per grower is $1,500 per year
- Growers will be reimbursed based on paid receipts
- Eligible species include single cereal grains or cover crop seed mixes
- Cover crops may be planted in open plots/fields, raised beds, or a high tunnel following the harvest of a production crop (vegetables, herbs, flowers, corn, sorghum, soybeans, hemp, millet, or tobacco)
- Growers should follow cover crop planting recommendations made by the seed manufacturer or the University of Maryland Extension for eligible species.

Urban and small-scale producers may download grant applications on the Maryland Department of Agriculture's website. Applications must be postmarked by May 26, 2023 for consideration in this year's program.

The Small Acreage Cover Crop Program is funded by the Chesapeake and Atlantic Coastal Bays Trust Fund and managed by the department's Small Farm and Urban Agriculture Program. Growers who want to apply for these small acreage cover crop grants should contact Bill Tharpe, Program Administrator for the Small Farm & Urban Agriculture Program at bill.tharpe@maryland.gov or (410) 841-5869. For additional information, please visit the website.

Great resources are just a click away!

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Back-issues can be found at: https://extension.umd.edu/locations/harford-county/agriculture-and-nutrient-management

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Dates to remember

10 May. Women in Ag Webinar: Farm Well and Septic Care. 12 noon. Free. Register online.

23 May. Small Grain Field Day. 3-5:30 PM. Wye Research & Education Center, Queenstown. Register at bit.ly/smallgrain23 or call (443) 446-4275.

14 Jun. Women in Ag Webinar: Creating a Farm Lease Agreement. 12 noon. Free. Register online.

10-15 Jul. Mason Dixon Fair.

22-29 Jul. Harford County Farm Fair.

May 2023