Ag Notes
Harford County Newsletter

UNIVERSITY OF MARYLAND EXTENSION

November 2022

University of Maryland Extension

Harford County Agricultural Center
Suite 600
3525 Conowingo Rd.
Street, MD 21154
(410) 638-3255
M—F 8:00 a.m.—4:30 p.m.

Extension.umd.edu/harford-county
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INSIDE THIS ISSUE:

The Extension office will be closed on November 11 for Veteran's Day and November 24-25 for Thanksgiving.

Hello, Harford County!

I hope everyone is enjoying the fall weather and maybe even enjoying some fall brews! Did you know that my colleague, Bryan Butler with UMD, has established a long-term hops trial and partnership with Flying Dog Brewery? The variety trial, located in Keedysville, MD, is where we generate information on hops production recommendations specific to Maryland's unique growing conditions and evaluate commercial and experimental hop varieties and their performance.

Field Notes release showing team members from UMD, Flying Dog, Chesapeake Malt, and Panora Acres. Photo credit: Flying Dog

This long-standing project has yielded some great beers over the years, brewed from hops harvested in the hop yard. This year the brew is bigger and better than ever and features other ingredients from farms across Maryland, including Harford County!

This year's Field Notes from Flying Dog is a 5.6% ABV pale ale and includes hops from the research trial in Keedysville, wheat from Panora Acres in Manchester, and malted barley from Hopkins Brewery/ Chesapeake Malting Co. in Havre de Grace!

Having already sampled the beer, I can attest that it is quite tasty. What is even more exciting is that this project helps our farmers in Maryland further diversify into different markets and enterprises. Field Notes is widely available in stores throughout Maryland, so pick up some and try it out! This is however, assuming you do not have an alcohol intolerance or allergy.

Did you know that you can be intolerant of alcohol, or allergic to specific proteins in alcoholic beverages? For some people, consuming alcohol can cause an almost immediate reaction, the most common being a runny or stuffy nose—I recently observed this phenomenon first-hand at the bar with a friend of mine.

With alcohol intolerance the body does not break down and process the alcohol. Less severe allergic reactions are those where individuals may break down the alcohol but are sensitive to other compounds in the beverage, such as histamine, which can cause a runny nose and nasal congestion.

Assuming you're not intolerant or allergic, if you run across Field Notes at your local beer store, consider giving it a try for yourself! Enjoy responsibly and have a very happy Thanksgiving!

Until next time,
-Andy

Pesticide Applicator Recertification Options

Again this year we will be offering multiple ways to renew your private pesticide applicator license.

Option 1: An in-person re-certification training will be offered March 8, 2023 from 1-3 p.m. at the Harford County Ag Center. Credits will satisfy Maryland continuing education credits (CEUs) necessary to renew your private applicator license. There is no cost for this class, but please register ahead of time by calling the office at (410) 638-3255 or emailing akness@umd.edu. Please bring your applicator certification number with you to the meeting.

As a reminder, recertification credits will also be offered at our upcoming Extension winter production meetings, such as the Harford County Mid-Winter Agronomy Meeting on February 14.

Option 2: Watch pre-recorded, online webinars at your own pace through our University of Maryland Pesticide Portal. Visit https://umeagfs.teachable.com/ to access the video series. These are best watched on a tablet or laptop as there are questions embedded in each video.

Option 3: Complete the Pesticide Recertification Workbook that offers a 30 question quiz. Upon the completion, you will send the quiz to the Baltimore County Extension office and you will receive a notification that you have successfully passed the quizzes and credits have been submitted to the State Department of Agriculture for your pesticide license renewal. This workbook is also approved for three (3) Delaware credits and two (2) core Pennsylvania credits.

To order your free workbook, please call the Harford County Extension office at (410) 638-3255.

For those seeking a new Pesticide Applicator License, the next exam will be offered on March 8, 2023 at the Harford County Extension office from 9-11 a.m. Please call our office to sign up.

Gramoxone/Paraquat Training

There have been major changes to the label of paraquat products and applicators operating with new stock of these products must undergo paraquat-specific training.

Anyone using Gramoxone, Firestorm, Helmquat, Parazone, and other paraquat products must complete an EPA-mandated training before application of the product. The following are items related to the new label for paraquat products:

- Only certified applicators, who successfully completed the paraquat-specific training, can mix, load or apply paraquat
- Access the EPA-approved training module at www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators. Users must create a free account with username and password.
- Applicators must repeat training every three years

For additional information and FAQs about the paraquat training go to the EPA Paraquat Dichloride Training for Certified Applicators website.

If you need access to a computer or the internet or to schedule alternative training options, please contact Andy Kness at (410) 638-3255 to set-up accommodations.

2023 Custom Farming Rate Survey

Shannon Dill, Principal Agriculture Agent
University of Maryland Extension, Talbot County

Extension services in Maryland and Delaware will be collecting custom survey rates this fall. We need your assistance in securing up-to-date information about farm custom work rates, machinery rental rates, and hired labor costs in Maryland. Custom rates are used widely by farmers across the states, so we need the best information available.

Please respond even if you know only a few rates. We want information on actual rates, either what you **PAID TO HIRE** work or what you **CHARGED TO PERFORM** custom farming work. Custom Rates should include all ownership costs of implement & tractor (if needed), operator labor, fuel and lube. Reported rates will be summarized in the Custom Rate Survey to show a range and averages for the states. No individual names or rates will be published in the Custom Rate Survey.

The results will be available at local Extension Offices and will be available online at https://extension.umd.edu/grainmarketing. We hope this publication will be beneficial to you as a custom farm operator and thank you for your cooperation with this effort.

The survey can be completed online at: https://go.umd.edu/customrate2023 or to get a blank survey, call the Talbot County Extension office at (410) 822-1244 or email sdill@umd.edu. We ask that you please complete the survey by December 31, 2022.

New Rule Improves Protection for H-2A

Sima Majnooni
University of Maryland Agriculture Law Education Initiative

For many years, farmworkers' advocacy groups have claimed that H-2A workers need more protection. The H-2A program helps American farmers unable to hire qualified domestic workers to fill employment gaps by hiring guest workers from other countries if this employment will not adversely affect wages or working conditions of domestic workers.

The U.S. Department of Labor (DOL) published a Final Rule to "Improve H-2A Visa Program" in the Federal Register on October 12, 2022, effective November 14, 2022. This rule was originally proposed as a draft rule in 2019 during the Trump administration. After thousands of comments from different advocacy groups, agencies, and other officials, the 2022 final rule kept some parts of the proposed 2019 rule and changed other parts. The new rule modernizes the H-2A regulations and improves the program's protections and enforcement against fraud and abuse.

DOL Secretary Marty Walsh, said, "By improving H-2A program regulations, we are strengthening worker protections, meeting our core mission."

The provisions adopted in this final rule tighten protections for H-2A workers. These provisions include:

- Modernizing employer processing time by mandatory electronic filing for most applications, helping minimize delay and administrative costs for the employer and DOL;
- Improving safety and health protections for workers housed in rental or public accommodations;
- Updating surety bond requirements for farm labor contractors for better accountability;
- Permitting appropriate inspecting authorities to inspect and certify employer-provided housing for a period of up to 24 months under certain circumstances;
- Clarifying the joint-employer definition in the filing of Applications for Temporary Employment Certification; and

Modernizing the methodology for determining the prevailing wage allows state workforce agencies to produce more prevailing wage findings.

The new rule will ensure that employers can fill the labor gap by employing foreign agricultural workers while maintaining the program's strong protections by enhancing robust enforcement against program fraud and abuse that undermine the rights and interests of workers.

Resources: https://www.dol.gov/sites/dolgov/files/ETA/oflc/pdfs/H-2A-2020-final-rule-1_8_2021-Clean-with-disclaimer.pdf

Frost Can Cause Hazards in Forage

Amanda Grev, Forage and Pasture Management Specialist
University of Maryland Extension

With the first freeze of the fall just around the corner, remember that a frost can result in potential hazards for certain forages. When a plant freezes, changes occur in its metabolism and composition that can cause toxicity issues for livestock. A few issues to be on the lookout for are discussed below.

Prussic Acid Poisoning

Sorghum species like sorghum, sudangrass, sorghum-sudangrass hybrids, and johnsongrass contain a cyanogenic compound called dhurrin within the plant. Under normal circumstances, the dhurrin is bound within plant tissues and remains non-toxic. However, if the plant tissue is injured by some sort of stressor such as a frost, the plant cell membranes can become damaged. This damage releases enzymes that can break down the dhurrin, resulting in the formation of a highly toxic hydrogen cyanide compound commonly referred to as prussic acid.

Prussic acid hinders the animal's ability to transfer oxygen in the blood stream, resulting in asphyxiation. Ruminant animals are most susceptible, with a prussic acid concentration as small as 0.1% of dry tissue considered dangerous. Symptoms of prussic acid poisoning can appear within minutes following ingestion, with common symptoms including excessive salivation, difficulty breathing, staggering, convulsions, and collapsing. The greatest levels of prussic acid can be found in the leafier parts of the plant, particularly in new growth, and young, growing plants contain more prussic acid than older plants. To prevent prussic acid poisoning, follow these recommendations for grazing or harvesting frosted forages.

Grazing: Do not graze sorghum species on nights when a frost is likely, as high levels of the toxic compounds are produced within hours following a frost. After a killing frost, wait at least 7 to 10 days before grazing or green chopping forage, as prussic acid levels are highest in plant leaves and do not begin to decline until after the leaves have dried. After a non-killing frost, do not allow livestock to graze until the regrowth has reached a minimum of 2 feet in height or 2 weeks have passed, as the regrowth will likely contain high levels of prussic acid. When returning to grazing, don't turn animals in hungry and use a heavier stocking rate and rotational grazing to reduce the risk of animals selectively grazing leaves or young growth that may still have higher concentrations of prussic acid present.

Harvesting: Proper field curing or ensiling can help reduce the potential for toxicity in harvested forages because prussic acid is volatile and some of the toxic components will dissipate as a gas during the drying or fermentation process. Forages should be ensiled for a minimum of 8 weeks if there was a risk of high prussic acid levels at the time of chopping. The prussic acid content in hay can be reduced by as much as 75% during the curing process, so hay is typically not hazardous when fed to livestock. Forages can also be analyzed prior to feeding to ensure the toxic compounds have been reduced to a safe level for consumption.

Nitrate Toxicity

Sorghum species, along with several other species including millet, brassicas, oats, and other small grains, are susceptible to nitrate accumulation. Under normal growing conditions, nitrate from the soil is absorbed by the roots of forage plants and is supplied to the upper portions of the plant, where it is converted into plant protein. However, under adverse environmental conditions such as drought, frost, or sudden weather changes, plant growth ceases and metabolism slows but the plants continue to take up nitrogen from the soil, resulting in a buildup of nitrates within the plant. Nitrate levels will remain high until there is new leaf growth, which increases photosynthesis and provides energy to utilize the excess nitrate.

When livestock consume forages with normal nitrate levels, the nitrate is broken down by rumen microbes to nitrite and then further to ammonia, which is converted to protein. With high-nitrate forages, nitrites accumulate faster than they can be converted to ammonia, and the accumulated nitrite is absorbed into the bloodstream. Nitrite combines with hemoglobin to produce methemoglobin, which is incapable of transporting oxygen, ultimately leading to asphyxiation. Symptoms of nitrate toxicity are related to a lack of oxygen in the blood and include weakness, difficulty breathing, rapid heartbeat, staggering, muscle tremors, and inability to stand. Affected animals typically show signs of poisoning within a few hours after consumption, and ruminant animals are most susceptible due to the rapid conversion of nitrate to nitrate by rumen microorganisms.

Nitrate levels are typically measured as nitrate nitrogen (NO_3-N) on a parts per million (ppm) basis. Levels under 550 ppm NO_3-N are typically considered safe to feed for all classes of livestock. Levels between 550 and 1100 ppm NO_3-N may cause problems in pregnant and young animals, and levels between 1100 and 2200 ppm NO_3-N are typically considered toxic and should be fed with caution. Levels above 2200 ppm NO_3-N are likely unsafe to feed. Unlike prussic acid, which accumulates in the leafiest portion of the plant, nitrates tend to accumulate in the lower portion of the stem and stalks. To prevent nitrate poisoning, follow these recommendations for grazing or harvesting frosted forages.

Grazing: Avoid grazing susceptible forages when growth ceases due to drought, frost damage, or other adverse conditions. When grazing forages with suspected nitrate accumulation, introduce and acclimate livestock gradually. Feeding a low-nitrate forage or hay prior to turning livestock out onto high-nitrate forages will reduce the amount of nitrate consumed; avoid turning hungry livestock out onto a high-nitrate field. Graze high-nitrate forages in the afternoon when nitrate levels tend to be the lowest, and stock lightly so animals can selectively graze the leaves which are lower in nitrate concentration.

Harvesting: Delaying harvest until stress conditions have passed will help to lower nitrate levels within the forage and prevent toxicity. Because nitrates accumulate in the base of the plant, risk can also be reduced by cutting higher and leaving more stubble. The ensiling process can reduce nitrate concentrations by 30 to 60% following complete fermentation due to microbial degradation. However, nitrate concentrations are stable in cured hay so use caution if the forage must be baled and leave at least 12 inches of stubble to avoid baling the most toxic part of the plant.

Like with prussic acid, forages can be analyzed for nitrate concentrations prior to feeding. If forages are known to have higher than ideal nitrate levels, diluting the forage by incorporating a low-nitrate forage into the diet will reduce the overall nitrate consumption by the animal. Introducing the toxic forage slowly will help animals adapt, as well as feeding small amounts frequently rather than one large feeding. Increasing the energy content in the ration by offering a grain or high-carbohydrate feed can also help by enhancing metabolism in the rumen and aiding in the conversion of nitrates to protein, helping livestock to better tolerate higher nitrate levels in their diet.

Bloat Potential

Frothy bloat is the most common type of pasture bloat and results from the formation of a stable foam in the rumen that minimizes the animal's ability to expel rumen gases. Consumption of forages containing high levels of soluble protein, such as alfalfa and clover, can contribute to stable foam production. Livestock suffering from bloat may indicate discomfort by stomping their feet or kicking at their belly. They will appear distended on the left side, and may die within hours.

Following a frost, plant cells rupture, producing small plant cell wall fragments and increasing the amount of K, Ca, and Mg present, all of which can increase the risk of bloat. Be aware that forage with bloat potential can be more likely to cause bloat for a few days following a frost event. If grazing pastures with high concentrations of bloat-inducing species like alfalfa or clover, waiting a few days to a week following a hard frost is a good management practice to reduce the risk of bloat.

Upcoming Winter Production Meetings

Mark your calendars! Below is a list of select regional winter ag meetings that may be of interest to you (this list is not comprehensive). Meetings marked with an asterisk (*) satisfy all requirements for Maryland pesticide and nutrient management credits. Contact the office for further details. Keep an eye open on our events page (https://extension.umd.edu/news-events/events/) and in future issues for more educational opportunities.

Meeting	Date & Time	Location	Registration
Northern Maryland Field Crops Day*	December 1, 8:00-12:00 pm	Friendly Farm Restaurant	$28 in advance. https://go.umd.edu/FCD2022 or (410) 887-8090
Pesticide Applicator Training	December 15, 1-3:00 pm (recertification) December 15, 9-11 am (exam)	Baltimore County Extension Office	Call (410) 887-8090
Carroll County Winter Agronomy Meeting*	January 12, 9-2:00 pm	Carroll County Extension Office	Free. Call (410) 386-2760
Central Maryland Vegetable Grower's Day*	January 26, 8:00-12:00 pm	Hereford Fire Hall (pending)	Details to come
Harford County Mid-Winter Agronomy Meeting*	February 14, 9:30-3:00 pm	Deer Creek Overlook	$12 in advance. Call (410) 638-3255
Nutrient Management Voucher Training	February 23, 1-3:00 pm	Harford County Extension Office	Free. Call (410) 638-3255
Pesticide Applicator Training	March 8, 1-3:00 pm (recertification) March 8, 9-11 am (exam)	Harford County Extension Office	Call (410) 638-3255
Maryland Beginning Farmer Success Series	February 2-April 6	Online and in-person	Details to come

Grain Producer's Scholarships

Maryland Grain Producer's Association press release

The Maryland Grain Producers Association (MGPA) is providing three different opportunities with seven scholarships, totaling $15,000. The three different opportunities are now open and broken down below:

- Three $3,000 scholarships to MGPA members studying agriculture in a 2 or 4-year degree program.
- Two $2,000 scholarships to MGPA members studying for a 2 or 4-year degree.
- Two $1,000 scholarships for non-MGPA members studying agriculture in a 2 or 4-year program.

Scholarships are funded by the Maryland Grain Checkoff program and approved by the Utilization Board each year. "We value our grain members and adding the Grain Member Scholarship offers another member benefit for our producer families." Says MGPA President, Melvin Baile, Jr. "the board also recognizes and accepts those interested in agriculture but didn't have the opportunity to be raised on a grain farm, with the Grain Production Scholarship."

Applications for the three different scholarships are available online and are due **January 31st**. Those who apply for the Maryland Grain Honoree Scholarship are also eligible for the National Corn Growers Scholarship. For more information, visit marylandgrain.org. Please contact the office at (443) 262-8491 with any questions.

WE'RE HIRING: Area Extension Director

We are hiring an area director for the Northern Cluster, which includes Harford, Baltimore, and Carroll Counties. The area director is responsible for overseeing the daily operations of the county offices in the cluster and handling budgets. The individual chosen for the position will be able to choose which county office to call their "home" office, but will be expected to spend time in each of the three county offices on a weekly basis.

Interested candidates need to apply online at ejobs.umd.edu, position #103609.

Harford County Farm Bureau Banquet

Wednesday, November 16, 2022

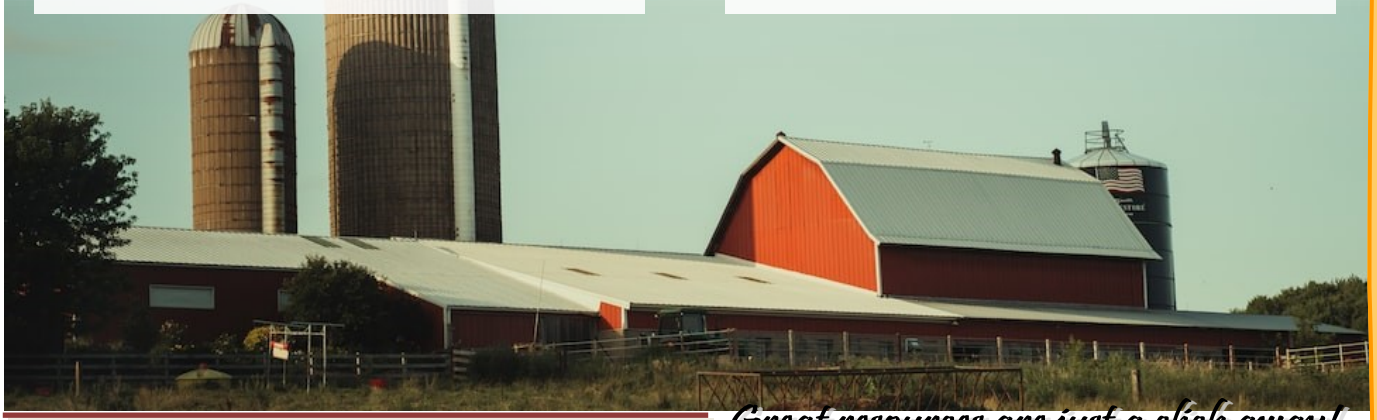
Pond View Farm

2601 Jolly Acres Rd, White Hall, MD

6:00 PM

Tickets: $30 each ($15 for children 12 and under). Please reserve your tickets by November 9.

RSVP to Alice Archer at harfordfb@gmail.com or (443) 417-3505.



Great resources are just a click away!

Andrew Kness
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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

04-05 Nov. UMES Small Farm Conference. 9-3:30 PM. Princess Anne, MD. $35/day. Register online or call (410) 621-5450.

08 Nov. Maryland Beef Webinar Series: Benchmarking for Success. 7:30-8:30 PM Virtual via Zoom. Free. Register online.

11 Nov. Taking Cover Crops To The Next Level. 11-1:30 PM. Racine Family Farm, Rising Sun. Free. Register online or call (410) 651-1350.

17 Nov. Pasture Walk at UMD Beef Demonstration Site. 4-7PM. Central MD Research & Education Center, Ellicott City. Free. Register online or call (301) 432-2767

01 Dec. Northern MD Field Crops Day. 8-12 noon. Friendly Farm Restaurant. $28 in advance. Register online or call (410) 887-8090.

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