

Ag Notes

Harford County Newsletter

UNIVERSITY OF
MARYLAND
EXTENSION



November 2021

The Extension office will be closed
November 11 for Veteran's Day and
November 25-26 for Thanksgiving.

Hello, Harford County!

I hope everyone is having a great fall thus far and bountiful harvests. As we wind down the 2021 growing season, we start to prepare for 2022. With that comes the time of the season for educational programs and recertifications. In Extension, we have been working to bring back in-person programming this fall and winter. We are excited to offer our traditional local in-person events such as Northern Maryland Field Crops Day, Central Maryland Vegetable Grower's Day, Harford County Mid-Winter Agronomy Meeting, and the Carroll County Winter Farm Meeting.

Our first meeting in this series of events will be Northern Maryland Field Crops Day on December 2 at Friendly Farms Restaurant. Details are inside this issue. Stay tuned for additional details regarding the other meetings as dates approach.

For those of you who would rather attend a virtual meeting, we have you covered as well. A virtual agronomy meeting is scheduled for February 3, virtual grain marketing meeting on January 14, virtual urban farmer meeting on January 24, virtual forage conference January 25 & 27, virtual vegetable meeting February 8, and virtual fruit

meeting March 1. Details and times and registration for these meetings will be forthcoming in subsequent newsletters.

Finally, don't forget to renew your pesticide licenses and/or nutrient management vouchers. All of our winter programming meetings will satisfy the requirements for these certifications. If you would rather attend a standalone, two-hour meeting to recertify your private applicator license, we are offering training at the Extension office on November 23. Details are on page 6. As a reminder, once you obtain pesticide credits you must pay the \$7 renewal fee to the Maryland Department of Agriculture (**NOT** UMD Extension) in order to renew your license or else it will lapse. For questions regarding private applicator pesticide renewals, contact MDA at (410) 841-5710.

We look forward to seeing you during our winter programs. Have a great Thanksgiving!

Until next time,
-Andy

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M—F 8:00 a.m.—4:30 p.m.

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2021 Cash Rental Rates for Maryland

Paul Goeringer, Agriculture Legal Specialist
University of Maryland, College Park

Reposted from the [Ag Risk Management Blog](#). This article is not substitute for legal advice.

Each year, the National Agricultural Statistic Service (NASS) releases county rental rate data based on surveys. NASS collects this data from 240,000 farms across the United States annually through the Cash Rent Survey - data used by other agencies throughout USDA. The survey results give us an idea of what other tenants in the area may be paying per acre for farmland. That county rental rate data is now available online [here](#) and you can find additional information on agricultural leasing [here](#). I would like to thank Serena Newton, Research Assistant, and Elizabeth Thilmany,

Faculty Specialist, for the work in updating the tables.

The updated data includes statewide and county rental rates for non-irrigated cropland, irrigated cropland, and pastureland visualized in a moving-average line graph from 2011-2021. As well as cash rental rates (2011-2021) for non-irrigated land by county and Ag district, irrigated land by Ag district and the counties in the Lower and Eastern Shore Districts, and pastureland by Ag district and counties in the North Central and Western ag districts. For 2021, NASS did not provide an ag district average for Maryland.

If you would like a hard copy of the report, contact the Extension office.

RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN \$ / ACRE										
State & County	Ag District	2011	2012	2013	2014	2016	2017	2019	2020	2021
Dorchester	Lower Eastern Shore	\$ 75.50	\$ 66.00	\$ 83.00	\$ 95.50	\$ 107.00	\$ 108.00	\$ 88.50	\$ 91.00	\$ 91.00
Somerset	Lower Eastern Shore	\$ 69.50	\$ 73.00	\$ 74.00	\$ 76.50	\$ 88.50	\$ 76.00	\$ 81.50	\$ 81.50	\$ 92.00
Wicomico	Lower Eastern Shore	\$ 67.50	\$ 84.50	\$ 80.50	\$ 77.50	\$ 81.50	\$ 95.00	\$ 84.00	\$ 84.00	\$ 84.00
Worcester	Lower Eastern Shore	\$ 77.00	\$ 82.00	\$ 92.50	\$ 84.50	\$ 88.50	\$ 87.50	\$ 92.50	\$ 95.00	\$ 103.00
Baltimore	North Central	\$ 75.00	\$ 78.50	\$ 88.50	\$ 122.00	\$ 75.00	\$ 92.50	\$ 89.00	\$ 83.50	\$ 96.50
Carroll	North Central	\$ 58.00	\$ 79.50	\$ 89.00	\$ 88.00	\$ 136.00	\$ 106.00	\$ 105.00	\$ 99.00	\$ 96.00
Frederick	North Central	\$ 55.50	\$ 67.00	\$ 77.50	\$ 77.00	\$ 105.00	\$ 80.00	\$ 76.00	\$ 76.50	\$ 90.50
Harford	North Central	\$ 78.00	\$ 72.50	\$ 114.00	\$ 164.00	\$ 120.00	\$ 138.00	\$ 149.00	\$ 167.00	\$ 156.00
Howard	North Central	\$ 66.00	\$ 67.00	\$ 76.50	\$ 76.50	\$ 74.00	\$ 72.50	\$ 89.00	\$ 83.50	\$ 96.00
Montgomery	North Central	\$ 49.00	\$ 56.00	\$ 80.50	\$ 76.50	\$ 63.00	\$ 49.50	\$ 89.00	\$ 83.50	\$ 66.50
Washington	North Central	\$ 56.50	\$ 74.50	\$ 76.00	\$ 76.00	\$ 75.00	\$ 88.00	\$ 74.50	\$ 80.50	\$ 96.00
Anne Arundel	Southern	\$ 47.00	\$ 47.00	\$ 100.00	\$ 51.00	\$ 48.50	\$ 43.50	\$ 61.00	\$ 51.00	\$ 65.00
Calvert	Southern	\$ 47.00	\$ 47.00	\$ 37.50	\$ 57.00	\$ 64.50	\$ 41.50	\$ 61.00	\$ 51.00	\$ 45.00
Charles	Southern	\$ 36.00	\$ 32.00	\$ 30.50	\$ 39.00	\$ 39.00	\$ 40.50	\$ 40.50	\$ 36.50	\$ 42.50
Prince George's	Southern	\$ 35.00	\$ 31.50	\$ 37.50	\$ 51.00	\$ 48.50	\$ 43.50	\$ 38.00	\$ 44.00	\$ 51.75
St. Mary's	Southern	\$ 39.00	\$ 36.50	\$ 40.50	\$ 54.50	\$ 45.50	\$ 45.00	\$ 51.00	\$ 52.00	\$ 58.50
Caroline	Upper Eastern Shore	\$ 73.50	\$ 78.50	\$ 90.50	\$ 95.50	\$ 110.00	\$ 101.00	\$ 101.00	\$ 105.00	\$ 112.00
Cecil	Upper Eastern Shore	\$ 71.00	\$ 85.50	\$ 103.00	\$ 89.50	\$ 94.00	\$ 103.00	\$ 103.00	\$ 116.00	\$ 138.00
Kent	Upper Eastern Shore	\$ 80.00	\$ 122.00	\$ 103.00	\$ 111.00	\$ 113.00	\$ 131.00	\$ 145.00	\$ 147.00	\$ 159.00
Queen Anne's	Upper Eastern Shore	\$ 81.00	\$ 113.00	\$ 116.00	\$ 122.00	\$ 136.00	\$ 125.00	\$ 148.00	\$ 136.00	\$ 144.00
Talbot	Upper Eastern Shore	\$ 77.50	\$ 105.00	\$ 114.00	\$ 109.00	\$ 108.00	\$ 102.00	\$ 102.00	\$ 110.00	\$ 113.00
Allegany	Western	\$ 30.50	\$ 32.00	\$ 29.50	\$ 26.00	\$ 23.50	\$ 58.00	\$ 55.50	\$ 28.00	\$ 29.00
Garrett	Western	\$ 37.00	\$ 31.00	\$ 31.50	\$ 35.50	\$ 32.50	\$ 37.00	\$ 35.50	\$ 35.00	\$ 37.50
Maryland (all Counties) Average		\$ 67.00	\$ 82.00	\$ 89.00	\$ 92.00	\$ 100.00	\$ 94.00	\$ 100.00	\$ 98.00	\$ 103.00
Summary Statistics										
Minimum		\$ 30.50	\$ 31.00	\$ 29.50	\$ 26.00	\$ 23.50	\$ 37.00	\$ 35.50	\$ 28.00	\$ 29.00
Median		\$ 66.00	\$ 72.50	\$ 80.50	\$ 77.00	\$ 81.50	\$ 87.50	\$ 88.50	\$ 83.50	\$ 94.00
Maximum		\$ 81.00	\$ 122.00	\$ 116.00	\$ 164.00	\$ 136.00	\$ 138.00	\$ 149.00	\$ 167.00	\$ 159.00

Colored cells (through 2020) represent when the "other (combined)" average is used, based on the Ag District. In 2021, NASS did not record Ag District values, the numbers in the lighter-colored cells represent a calculated median of the other ag districts. However, for Allegany, historical data was used in Forecast-Exponential Smoothing algorithm that can be seen in the "Historic non-irrigated" tab. Note, this will impact the summary statistics.



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 nitrite by rumen microorganisms.

Nitrate levels are typically measured as nitrate nitrogen ($\text{NO}_3\text{-N}$) on a parts per million (ppm) basis. Levels under 550 ppm $\text{NO}_3\text{-N}$ are typically considered safe to feed for all classes of livestock. Levels between 550 and 1100 ppm $\text{NO}_3\text{-N}$ may cause problems in pregnant and young animals, and levels between 1100 and 2200 ppm $\text{NO}_3\text{-N}$ are typically considered toxic and should be fed with caution. Levels above 2200 ppm $\text{NO}_3\text{-N}$ 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 4 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.

Small Ruminant Webinar Series

- November 8 – Goats 101
- November 15 – Raising sheep & goats
- November 22 – Sheep & goat health
- November 29 – Feeding sheep & goats
- December 6 – Marketing sheep & goats

All webinars will be held at 7:30 pm EST. They will last approximately 45 minutes, followed by Q & A via the chatbox.

To register for the webinar series, go to <https://go.umd.edu/srseries>.

Nov. 8– Dec. 6

7:30 PM—8:15 PM

Online via Zoom

Northern MD Field Crops Day

December 2

8:00 AM—12:30 PM

*Friendly Farm Restaurant
Upperco, MD*

Producers of corn, soybeans, hay and small grains will be interested in the various topics and sessions on the latest in Agriculture in Maryland.

The meeting will be held on December 2, 2021, at the Friendly Farm Restaurant at 17434 Foreston Rd. Upperco, MD 21155. Numerous commercial displays and representatives will be there to discuss new products and plans for the upcoming year.

This meeting serves as Recertification for Maryland private pesticide applicators and offers recertification credits for Pennsylvania recertification. Also, producers can attend specific presentations to renew their Maryland

nutrient applicator's voucher. Doors will open at **8:00 a.m.** to visit commercial exhibits and refreshments and presentations begin at **8:30 a.m.** and will end by 12:00p.m. Lunch will be served following the presentations.

Cost of the event is \$28.00 if you pre-register, or \$35.00 at the door. You may register online at: https://go.umd.edu/2021_FCD or call (410) 887-8090.

For more information, or if you need special accommodations, please call the Baltimore County Extension office at (410) 887-8090.



Agronomy

2021 Corn Hybrid Trials

Dr. Nicole Fiorellino, UMD Extension Agronomist, has published the results of the 2021 Maryland Corn Hybrid Trials. The full 30-page report can be downloaded from <https://psla.umd.edu/extension/md-crops>, or contact the Extension office for a hard copy.

The University of Maryland offers a fee-based, corn hybrid performance testing program to local and national seed companies. The results from these replicated trials provide agronomic performance information about corn hybrids tested at five locations in Maryland considered representative of the state's geography and weather conditions. Data should be used to infer hybrid performance relative to others. When selecting corn hybrids to grow on your farm, you should not simply pick the highest yielding hybrid; rather, choose a hybrid with desirable characteristics and yield across multiple location and multiple years. This implies that the hybrid can perform well in various environmental conditions and has good yield stability.

For more information on how to interpret variety trial results, consult this Fact Sheet: <https://extension.umd.edu/resource/what-do-numbers-really-mean-interpreting-variety-trial-results>.

Agronomic Budgeting Tools

With input costs rising at an alarming rate, it will be helpful for producers to compare crops and budgets for the upcoming growing season. UMD has several agronomic crop budgets available for download at <https://extension.umd.edu/programs/agriculture-food-systems/program-areas/farm-and-agribusiness-management/grain-marketing/crop-budgets>. These budgets have pre-loaded input cost averages, but are fully customizable to your operation. Paper copies are available upon request at the Extension office.



Winter Production Meetings

These meetings are to share the latest research and crop updates with our growers

University of Maryland Extension is gearing up for its 2021-2022 Winter Production Meetings. This year, we are pleased to announce that many of the events will be back in-person, with virtual dates available as well. These meetings are intended to share the latest research and crop production updates with our growers, and serve as a continuing education for farmers who are certified in pesticide application. They will provide all the credits needed to renew private applicator pesticide licenses, as well as nutrient management vouchers.

If for any reason we are unable to host the meetings in-person due to COVID related issues and restrictions, we will proceed to host meetings virtually.

Spanning from Nov. 30, 2021 to March 30, 2022, these Winter Production Meetings will take place at

several locations throughout Maryland. Additionally, virtual instruction will be available on specified dates. Please go to <https://extension.umd.edu/news-events/news/agriculture-extension-winter-crop-production-meetings> for details, including a timetable for the meetings that are currently scheduled. We hope to see everyone there!

Agronomy: Nov. 30, 2021, Dec. 1, 2021, Dec. 2, 2021, Jan.13, 2022, Jan. 18, 2022, Feb. 3, 2022, Feb. 15, 2022, Feb. 16, 2022, Feb. 23, 2022, Mar. 4, 2022, March 30, 2022

Fruit & Vegetable: Jan. 27, 2022, Feb. 8, 2022, Feb. 10, 2022 (2), Feb. 16, 2022, March 1, 2022

Forage: Jan. 18, 2022, Jan. 25 & 27, 2022

Urban: Jan. 22, 2022, Jan. 24, 2022

Food Safety: Dec. 8, 2021, Jan. 26-27, 2022

Contact your local ag Extension agent for further details.

Pesticide Training

For those interested in attending in-person training for private applicator certification and recertification, we are holding training dates in November. Applicators that already have a license and need continuing education credits may attend the two-hour training at the Harford County Extension Office on November 23 from 1-3 pm. Be sure to bring your certification number to get credit. This training is free of charge, but please register ahead of time.

For individuals that need to take the exam to acquire their private applicator pesticide license, an exam will be held at the Harford County Extension Office on November 23 from 9-11 am. Be sure to bring your drivers license for identification. An optional training session to prepare for the exam will be held on November 16 from 1-3 pm at the Harford County

Extension Office. Copies of the Private Applicator Core Manual will be available for purchase for \$10. Checks can be made out to "HC EAC."

November 16 & 23

*Harford County
Extension Office
Street, MD*

To register for the exam, new applicator training, or recertification training, please email akness@umd.edu or call the Extension Office at (410) 638-3255.

As a reminder, private applicator credits (as well as nutrient management voucher training) will also be offered at our regional crop production meetings this fall, such as Northern MD Field Crops Day, Harford County Mid-Winter Agronomy Meeting, and the Central MD Vegetable Growers Day.



Farm Bureau Banquet

November 17

6:00 PM

Pond View Farm
White Hall, MD

Members of the community are invited to the 99th annual Harford County Farm Bureau Banquet. Doors open at 6:00 p.m. and buffet dinner is served at 6:30 p.m.

The Farm Bureau Banquet on Wednesday, November 17, 2021, will also serve as the Annual Meeting of Harford County Farm Bureau, Inc. The business meeting will include a Maryland Farm Bureau update and a report of the past year's events and activities. The Board of Directors will be recognized, and Incoming Directors will be nominated and elected. The policy development submission sent for the upcoming Maryland Farm Bureau Convention will be reviewed. Each individual voting member will be reviewed. Each individual Voting member OR each Farm Bureau family is entitled to 1 vote on any business conducted during the Annual Meeting. We will also be recognizing our 2021 Farmer of the Year.



Live and silent auctions are available with proceeds to benefit the Harford County Farm Bureau and the Women's Committee.

Tickets are \$25 per person (\$12 for children 12 and under). RSVP to harfordfb@gmail.com or call Alice Archer at (cell) (443) 417-3505 to reserve your ticket(s) or if you have questions. Deadline for reservations is **November 6**.

Mid-Atlantic Crop Management School

Registration is available for the Mid-Atlantic Crop Management School. This year's school will be presented virtually, but in an asynchronous format. Recordings of talks will be available online starting on November 15th and will be available for viewing for a period of three weeks. After viewing talks, participants must complete a verification quiz to receive their CE credits.

CCA credits will be available in nutrient, crop, and pest

management, as well as soil and water. There will also be nutrient and pest management credits available for several Mid-Atlantic States.

To see the schedule, registration, and this year's school design, please visit: <https://go.umd.edu/crop21reg>.

Please contact Nicole Fiorellino (nfiorell@umd.edu) with any questions about options and credits.

Cover Crop Deadline Extended

Due to wet conditions across many parts of the state, the Maryland Department of Agriculture has extended the November 5 planting deadline by one week for farmers who signed up for grants to plant fall cover crops through the Maryland Agricultural Water Quality Cost-Share (MACS) Program. Farmers now have until **November 12** to plant qualifying cover crops of wheat, spelt, rye, and triticale in their fields.

The extension is only available to farmers who use the following planting methods: no till, conventional, or

broadcast with light, minimum, or vertical tillage. With the extension, farmers must certify their cover crop with their local soil conservation district within one week of planting and no later than November 19 in order to be reimbursed for associated seed, labor, and equipment costs.

For more information, farmers should contact their local soil conservation district or the MACS Program's office at (410) 841-5864.

Great resources are just a click away!

Andrew Kness
Extension Agent,
Agriculture and



facebook.com/HarfordAg

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



akness@umd.edu



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Ag Notes

Harford County Newsletter

Dates to remember

12 Nov. MACS Cover Crop Planting Deadline.

16 Nov. New Private Applicator Pesticide Training. 1-3 PM. Harford County Extension office, Street. \$10 for training manual. Register by calling (410) 638-3255 or email akness@umd.edu.

23 Nov. Private Applicator Pesticide Exam. 9-11 AM. Harford County Extension office, Street. Free. Register by calling (410) 638-3255 or email akness@umd.edu.

23 Nov. Private Applicator Pesticide Recertification Training. 1-3 PM. Harford County Extension office, Street. Free. Register by calling (410) 638-3255 or email akness@umd.edu.

02 Dec. Northern MD Field Crops Day. 8-12:30 PM. Friendly Farms, Upperco, MD. \$28 in advance, \$35 at door. Register at go.umd.edu/2021_FCD or call (410) 638-3255.

27 Jan. Central MD Vegetable Grower's Day. Friendly Farms, Upperco, MD. Details to come.

November 2021