Ag Notes
Harford County Newsletter

UNIVERSITY OF MARYLAND EXTENSION

May 2019

The Extension Office will be closed on May 27 for Memorial Day.

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
facebook.com/HarfordAg

Andrew Kness
Ag Extension Educator
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INSIDE THIS ISSUE:

Hello, Harford County!

Well, it appears that the 2019 field season is well underway here in Harford County with planting and field work in full swing! If you remember back in 2017, you received several notices from the USDA to complete the 2017 U.S. Census of Agriculture. This census provides the most comprehensive data on U.S. agriculture and is critical for documenting agriculture's impact on our society, economy, and is used extensively in guiding future policy and regulations. On April 11, the USDA officially released the 2017 Census data to the public.

The data can be accessed through the National Ag Statistics website (NASS); and if you're interested at all in learning more about our industry, I'd encourage you to play around with the database! There's a lot of great information. Here are a few highlights regarding Maryland's statistics, courtesy of an MDA press release:

- "The total value of production of Maryland agriculture increased by 9 percent from 2012, totaling $2,472,805,000 in 2017.
- The per farm average net income increased from $38,920 in 2012 to $52,997 in 2017 – up nearly 36 percent.
- The number of farms increased from 12,256 in 2012 to 12,429 in 2017, due in part to an increase in smaller farms with 1 to 9 acres of land.
- The average age of all producers was 57 years old.
- The number of female producers increased by nearly 33 percent from 2012, totaling 8,148 producers in 2017.
- For the 2017 Census of Agriculture, NASS changed the demographic questions to better represent the roles of all persons involved in on-farm decision making. As a result, in 2017 the number of all producers in Maryland was 21,279, up from 19,055 producers in 2012.
- New and beginning producers with 10 years or less of farming comprised of 5,764 producers.
- Producers with military service was published for the first time with 2,054 producers represented.
- Young producers, age 35 years or less, comprised of 2,262 producers with an average age of 28.6 years old.

The Census tells the story of American agriculture and is an important part of our history. First conducted in 1840 in conjunction with the decennial Census, the Census of Agriculture accounts for all U.S. farms and ranches and the people who operate them. After 1920, the Census happened every four to five years. By 1982, it was regularly conducted once every five years. [The census] remains the only source of comprehensive agricultural data for every state and county in the nation and is invaluable for planning the future."

In next month's issue I'll share with you some data specific to Harford County! Until then, everyone have a safe planting season!

Until next time,
-Andy

Maryland's Industrial Hemp Pilot Program

Andrew Ristvey, Extension Specialist, Commercial Horticulture
University of Maryland

Last year, the Maryland Legislature passed House Bill (HB) 698 to allow farmers, contracting with the Maryland Department of Agriculture (MDA) or Institutions of Higher Education (IHE) in Maryland to grow industrial hemp for research purposes. Any farmer or grower wishing to produce hemp needs to obtain a Maryland Department of Agriculture license to do so, but they must be partnered with an IHE before their application is considered. While the 2018 U.S. Farm Bill legalized Industrial Hemp (removed it from Schedule 1 Status based on the 1970 Controlled Substances Act) and will no longer require growers to partner with an IHE or state department of agriculture, this ruling will not go into effect until 2020. In every state that has adopted an industrial hemp pilot program, the partnership requirement has not changed for 2019.

The most important issue surrounding the production of industrial hemp is the legal enforcement of the tetrahydrocannabinol (THC) content, the psychoactive phytochemical. In fact, the definition of industrial hemp is related to this THC concentration, which needs to be less than 0.3% THC in any part of the plant. If the THC content is above that threshold, the plants need to be destroyed.

Cannabis sativa has had a long history in the U.S. long before it was regulated and then made completely illegal under the Controlled Substances Act. Originally grown for fiber and textiles, the species was commonly grown in the U.S. In an effort to bring back a hemp industry to the U.S., the Federal Government has, step by step, lifted the restrictions on the plant. While many other countries like China and Canada have cornered the hemp fiber, seed and textile markets, U.S. farmers will mainly grow hemp to produce cannabidiol (CBD), another *Cannabis* phytochemical. Cannabidiol is a similar phytochemical to THC but it is not psychoactive. It is purported to have anti-inflammatory properties and some medical evidence shows success with childhood epilepsy syndromes. Within the medical field, there is much interest in studying this compound. Regardless of the need for testing the effectiveness and safety of CBD for human use, tinctures, salves and a great deal of other products are making their way to the market.

With that said, the main interest for hemp production in Maryland is for CBD. Knowing that industrial hemp will become a specialty crop, at least for the short term in the Free State, the University of Maryland will need to develop nitrogen fertility recommendations for nutrient management planning. Therefore for this year, the University of Maryland Extension has partnered with 13 growers under the Maryland Industrial Hemp Pilot Program. Most will be growing the hemp for CBD. The research, necessary for farmer participation, will be looking at how different nitrogen rates effect growth, yield, and phytochemical content including CBD and THC. We are also interested in understanding phosphorus requirements during the vegetative and flowering growth cycles. Additionally, we have interest in soil nutrient removal, especially phosphorus and how we may possibly incorporate this plant into a crop rotation. We have chosen partners throughout Maryland to better understand production effects from different soil types or climate. Finally, we are very curious about the plant's susceptibility to disease and pests. If you want to know if a plant gets a disease, grow it in Maryland. While many growers have been told the plant is bullet-proof, much of the present production has been occurring in drier-climate states. However, North Carolina research has seen disease pressure on the plants. Our climate is very conducive for a variety of plant threats. Even though this crop was grown successfully throughout the mid-Atlantic region for a couple hundred years, *Cannabis* has been bred into many varieties which may not retain the same resistance as the original plants. Another issue that cannot be ignored is that at this time, the plant is not labeled for pesticide use, making this growing season a little precarious for growers. Hopefully industrial hemp will be labeled in 2020 for pesticide use.

As for University of Maryland Extension, we hope that this crop will be a money-maker for growers. As with all new crops, we expect some success and some failure. Good luck to all the pilot program growers this year!

**The University of Maryland's application process for partnering in the Industrial Hemp Pilot Program is over; however, there may be other IHE's in Maryland that are still willing to accept applicants.*

INTERESTED IN LEARNING MORE ABOUT INDUSTRIAL HEMP? There will be a seminar on **May 8, 9—10:30 AM** at the **Harford County Extension Office** in Street. This meeting will explain the current legal status of industrial hemp, and you will hear from some growers on their experiences growing this new crop. Registration is not required. For more information, contact Delegate Andrew Cassilly, (410) 841-3444, or call the Extension office.

Managing Scab: Timing & Application is Critical

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

If you're growing wheat for grain this year, chances are Fusarium head blight (FHB), or scab, is on your radar after what happened in 2018. Hopefully you were able to plant a moderately resistant wheat variety, which will get you about 50% suppression of deoxynivalenol (DON) vomitoxin in the grain; however, in most years, we also need a fungicide application for further suppression of DON. Keeping DON contamination under 2 parts per million is critical for selling your crop at the elevator, therefore suppressing DON is your priority when managing FHB.

As wheat in Northern Maryland approaches heading and flowering, pay close attention to the weather. Warm, humid, rainy conditions trigger *Fusarium* fungi to produce spores, and these spores can germinate and infect your wheat crop through open flowers and cause FHB. The decision whether to spray or not to spray can be tricky if we have a somewhat dry spring during flowering. Use the Fusarium Head Blight Prediction Center forecasting tool to help you decide if weather conditions are conducive for FHB development. You can also sign up for text or e-mail alerts at scabusa.org. If risk is elevated during flowering, you'll want to protect those flowering wheat heads with a fungicide.

The DMI/triazole fungicides (FRAC group 3) should be used for FHB. These include metconazole (Caramba®), prothioconazole + tebuconazole (Prosaro®), and prothioconazole (Proline®). Other triazole fungicides labeled for suppression of FHB on wheat include tebuconazole (Folicur®) and propiconazole (Tilt®). Propiconazole is **no longer effective** at suppressing FHB and should not be used; tebuconazole still has limited efficacy and is not as effective as the first three fungicides listed above. The Qoi/strobilurin fungicides (FRAC group 11) **should not** be applied after head emergence because these products can increase DON contamination in the grain.

New from Syngenta for the 2019 wheat crop is a mixed mode of action fungicide (FRAC 7+3) called adepidyn (Miravis Ace®). Several University studies (including Maryland) have shown that adepidyn is effective at suppressing FHB and DON contamination in the grain when applied at the appropriate time.

To achieve maximum fungicide efficacy, timing and application method is critical. The optimal timing for fungicide application (regardless of which product you use), is from the start of flowering (Feekes 10.5.1, Figure 1) to 6 days thereafter. Research has shown that applications made prior to 10.5.1 (such as early heading, Feekes 10.3) may visibly reduce **symptoms** of FHB infection on the heads, but **do not** achieve significant or reliable **suppression of DON** in the grain. Note that all of these products are rain-fast in about 20-30 minutes; so if you have a window during optimal timing, don't hesitate to take it.

Ground applications should be made using 80-degree flat fan nozzles angled forward (or forward and rearward nozzles) 30-45 degrees down from horizontal (30 degrees is preferred) operating to achieve droplet sizes between 300-350 microns. This allows more product to contact the head, which is where you need the fungicide. These fungicides are locally systemic, meaning they will move small distances but will not move from leaves up to the head. This is why it is important to get as much product on the heads to protect the flowers. Use 10-20 gallons of water per acre to get good coverage and keep the spray boom 8-10 inches above the crop.

It should also be noted that the fungicides listed above for suppression of FHB also do an excellent job of protecting against foliar diseases. These fungicide applications at flowering will help keep the flag leaf clean of disease, which is the photosynthetic powerhouse that generates over 80% of your yield.

If you have questions, drop me an e-mail at akness@umd.edu or call me at (410) 638-3255.

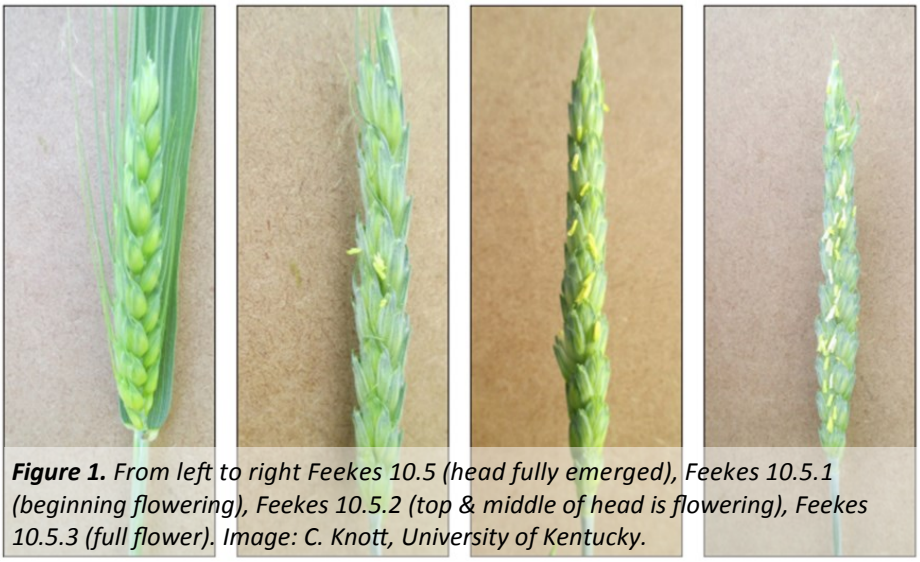


Figure 1. *From left to right Feekes 10.5 (head fully emerged), Feekes 10.5.1 (beginning flowering), Feekes 10.5.2 (top & middle of head is flowering), Feekes 10.5.3 (full flower). Image: C. Knott, University of Kentucky.*

Ag Business

$23 Million Available in Grants From USDA

USDA press release

The U.S. Department of Agriculture (USDA) has announced $23 million in competitive grant funding to support the development and expansion of local and regional food markets, enterprises and producer-to-consumer marketing.

The Farmers Market and Local Food Promotion Program (FMLFPP), authorized by the 2018 Farm Bill under the Local Agriculture Marketing Program (LAMP), covers both the Farmers Market Promotion Program (FMPP) and Local Food Promotion Program (LFPP). Applications for both must be submitted electronically through www.grants.gov by 11:59 p.m. Eastern Time on **June 18, 2019**.

FMPP funds projects that develop, coordinate and expand direct producer-to-consumer markets to help increase access to and availability of locally and regionally produced agricultural products. FMPP offers two types of projects: Capacity Building and Community Development Training and Technical Assistance. Both have a three-year performance period. Funding ranges from $50,000 to $500,000.

LFPP funds projects that develop, coordinate and expand local and regional food business enterprises that serve as intermediaries and help increase access to and availability of locally and regionally produced agricultural products. LFPP offers 18-month Planning Grants and 3-year Implementation Grants. Funding ranges from $25,000 to $500,000.

Eligible applicants include agricultural businesses or cooperatives, producer networks or associations, community supported agriculture networks or associations, food councils, local governments, nonprofit corporations, public benefit corporations, economic development corporations, regional farmers market authorities, and tribal governments.

Both FMPP and LFPP require matching funds equal to 25 percent of the total Federal portion of the grant. Additionally, both FMPP and LFPP applicants may use up to $6,500 of the amount requested in their application for upgrades to equipment to improve food safety.

In addition to FMLFPP, LAMP encompasses the Regional Food System Partnership grants and the Value-Added Producer Grants (VAPG) Program. LAMP aims to:

- Connect and cultivate regional food economies through public-private partnerships.
- Support the development of business plans, feasibility studies, and strategies for value-added agricultural production and local and regional food system infrastructure.
- Strengthen capacity and regional food system development through community collaboration and expansion of mid-tier value chains.
- Improve income and economic opportunities for producers and food businesses through job creation.
- Simplify the application and the reporting processes for the grants administered under the Program.

For more information about grant eligibility, previously funded projects and upcoming informational webinars, visit the AMS Grants website.

For Students

Scholarships

Maryland Grain Producers Scholarship

The Maryland Grain Producers Association will offer four $2,500 scholarships to students pursuing an agriculturally related degree or career in 2019. The Applicant or the applicants' immediate family must be involved in the production of grain in Maryland.

Scholarship funding is provided by the Maryland Grain Checkoff Program, which supports promotion, education and research projects beneficial to the grain industry.

Interested students should return a completed application by **May 17**, 2019. Visit marylandgrain.org/main_scholarships.htm for more information.

Mid-Atlantic Certified Crop Advisor Scholarship

The Mid-Atlantic Crop Advisers Program will be offering up to two $1,000 scholarships to college students pursuing a crop-related degree in 2019. Applicants must be a resident of or attending a four-year university or two-year program in the Mid-Atlantic region (Delaware, Maryland, New Jersey, Virginia, or West Virginia). Applicants must be pursuing a career in plant or soil sciences, agronomy, or an agriculture related field.

The purpose of the scholarship is to provide financial support to students interested in pursuing a career that would lead them to become a certified crop advisor or certified professional agronomist. Interested students should return a completed application by **June 1st**. For more information, visit midatlanticcca.org/scholarships.

Priority will be given to projects that:

- Benefit the entire ag community
- Assist farms working together
- Support marketing or new technology for ag businesses

Important Information:

1. Anyone can apply. $20,000 maximum award per applicant
2. Projects must support Harford County agriculture
3. Matching funds only; county pays 75%
4. Grants are for reimbursements only (receipts required). Receipts due by June 30, 2020
5. Not for permanent structures or capital improvements

Contact Jason Gallion for more information:

jcgallion@harfordcountymd.gov
(410) 638-3511

Strawberry Twilight Meeting

May 22
6-8:00 PM
Wye Research & Education Center
Queenstown, MD

Come and listen to University and USDA Specialist discuss current conditions and issues with Maryland strawberry production, including fungicide resistance, scheduling fungicide sprays using the Strawberry Advisory System (SAS), and weather monitoring systems to aid in spray decisions.

See and taste some of the 15 varieties in our 2018/19 annual plasticulture variety trial, which includes a few of the standard varieties, as well as a few newer available selections. As always, a sweet treat will be served at the conclusion of the program.

To register visit 2019strawberrytwilight.eventbrite.com. This program is **free**, but please RSVP. For more information, contact Mike Newell (410) 827-7388, mnewell@umd.edu.

UMD Offering Free Water Testing

Whether you are GAP certified, wanting to become GAP certified, or are anticipating the Food Safety Modernization Act Produce Safety Rule requirements, microbial water testing is a hot topic. The University of Maryland Plant Science Department is offering two different water testing programs this summer. The cost is **free**. Does your farm fall into either or both of these two categories?

- The Walsh lab is looking for lettuce and strawberry growers who may be using surface water (ponds, streams, etc.) for cooling, frost protection, spraying, or overhead irrigation. Farmers who volunteer would be visited about once per month through the growing season for sampling. We will measure the presence of generic *E. coli*, an indicator of possible fecal contamination in water. The values will only be sent to the farmer and will be correlated to local rain events. Carrol Allen (UMD) will also be available to go over existing or new GAP or FSMA SOPs and help answer any other questions you might have.
- The Micallef lab is doing a study comparing the presence of Salmonella and *E. coli* in pond water. Salmonella has not been well studied and the lab is interested in tracking seasonal and geographic variation as well as the impact from rainfall. The sampling team will visit the pond 3 to 4 times during the growing season. The results will be available to the farmer only and the farm identity is never revealed.

Even though the FDA has held off implementing the rule on water testing, folks may be nervous about FSMA microbial water quality procedures and calculations. We will be happy to explain calculating the GM (geometric mean), the STV (statistical threshold), and how the cumulative and yearly averages are to be maintained. We will also demonstrate water sampling technique and can help with writing a water testing SOP specific to an individual farm.

For more information, please contact Carol Allen, Extension Associate in Food Safety, at (301) 405-4351.

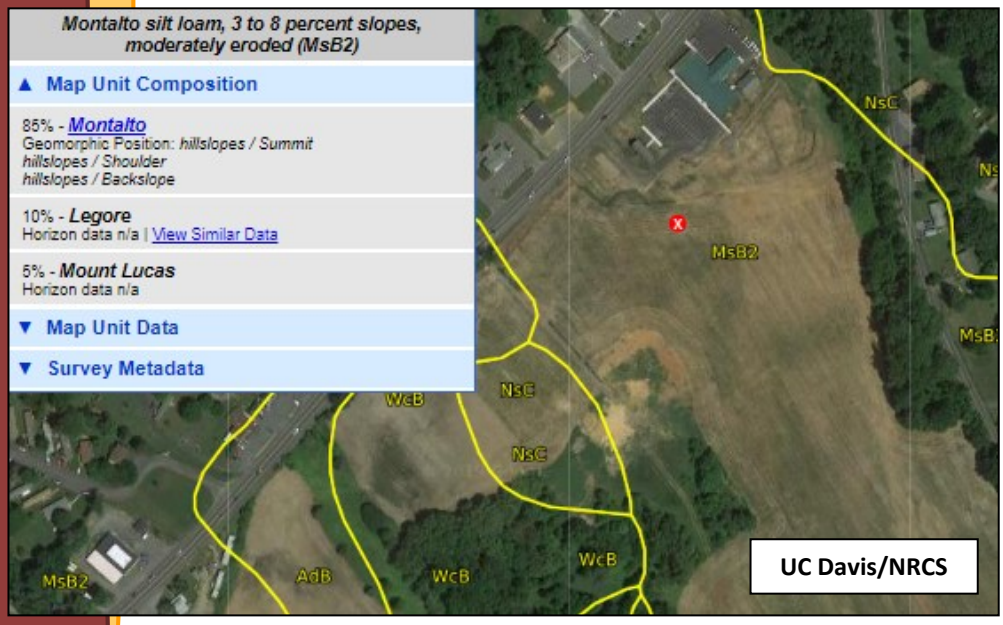
Soils

Checking Soil Types at Home And in The Field

Jarrod O. Miller, Extension Agronomist
University of Delaware

While some precision agriculture software provides soil maps as a layer along with satellite imagery and yield maps, information on soil types is free and accessible to all growers. Soil surveys have be digitized and are available to anyone with an internet connection.

Web Soil Survey is one option to review soil types, but a more user-friendly website is UC Davis Soil Web (https://casoilresource.lawr.ucdavis.edu/gmap/). Sitting at a home computer, anyone can find fields by typing in an address to observe a satellite photo with soil boundaries. Standing in any field, a cellphone with good reception can zoom to the location you are standing. Soil maps are the easiest way to check under your feet without digging.



In the figure to the left we can observe a field south of the Harford County Extension Office. Using the mouse or your cellphone touch screen, select the field/soil map unit will create a red (x) and bring up the soil series names (on the left of the Figure). There may often be many choices for soil series, reflecting the variability in the field. Choosing the dominant soil name would be valid for general observations. South of the Harford Extension Office, the MsB2 map unit is dominated by the Montalto soil (85%).

By selecting the Montalto series (clicking the name in blue), a soil profile with horizon names and colors appears. Next to the soil profile are other options you can select, including particle size or organic matter content with depth. The organic matter content of the Montalto seires is expected to be 2% at the surface, quickly dropping to less than 0.5% below 50 cm (20 inches). This doesn't mean the entire field has this much organic matter, but it is good for comparing soils under production. These soil maps can be useful to those who want to explain differences in yield or growth across their farms, and can be used as an additional guide to soil sampling. If you would like help exploring these soil maps, contact your county extension office.

Livestock

Beginner's Workshop: Temporary Livestock Fencing

Come learn how to use temporary electric fencing to control livestock grazing in your pastures. This workshop is free, but please register at fencing612.eventbrite.com, or call (717) 300-8118.

For more information, contact Brian Campbell, NRCS Grazing Specialist, (717) 300-8118.

June 12
6:00 PM
Baltimore County Extension Office
Cockeysville, MD

2019 Pesticide Container Recycling

Location	Dates	Time
Scarboro Landfill 3241 Scarboro Rd. Street, MD 21154	June 7 July 5 August 2 September 6	9:00—3:00 p.m.
The Mill of Blackhorse 4551 Norrisville Rd. White Hall, MD 21161	June 1—September 30 *current Mill customers only	Monday-Friday, 7:30—6:00 p.m. Saturday, 7:30—5:00 p.m. Closed Sundays

All containers must meet the following criteria:

- ☐ be made from high density polyethylene (HDPE)
- ☐ have held an EPA-registered pesticide or adjuvant, crop oil, etc.
- ☐ be properly rinsed (pressure-rinsed or triple-rinsed)
- ☐ Caps and other non-HDPE parts, such as rubber linings and foil seals cannot be recycled
- ☐ Stained containers are acceptable provided no material can be smeared or removed when touched by a rubber glove
- ☐ Please remove lids and label booklets prior to recycling
- ☐ For any container over 55 gallons (except IBC's), contact MDA prior to recycling
- ☐ Any container up to 55 gallons will be accepted, if requirements above are met. All containers 30 gallons and over must be cut prior to recycling. IBC's will also be accepted (contact MDA for instructions)

Harford County Ag Center Barn Quilt Dedication

May 15
2:00 PM
Harford County Extension Office

The Harford County Agricultural Center, located at 3525 Conowingo Road in Street, is getting it's very own barn quilt! County Executive Barry Glassman and others will be on hand to dedicate the Ag Center barn quilt during a ceremony on May 15. All are welcome to attend!

The Harford County Barn Quilt Trail is a collection of barn quilts painted on barns and buildings. On the Trail, you can find dairies, museums, farm markets, heritage farms, farm restaurants, natural areas, and back road adventures! Take your time, explore and shop. To find out more information about the trail, visit barnquiltsofharfordcounty.flywheelsites.com and like the 'Barn Quilts of Harford County' Facebook page.

We hope to see you on May 15 at the Ag Center!

North Harford High School FFA barn quilt

Do you have noxious or invasive weeds on your property?

Harford County's Weed Control Program can help you manage them.

Call Randy Faber at (410) 638-3018 or (240) 755-9280.

Great resources are just a click away!

Andrew Kness
Extension Agent,
Agriculture and
Natural Resources

Like us on Facebook
facebook.com/HarfordAg

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Extension.umd.edu/Harford-county

Back-issues of this publication can be found at: https://extension.umd.edu/news/newsletters/657

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Harford County Newsletter

Dates to remember

1 May. Equine Seminar. 5:30-8:30pm. Baltimore County Extension Office, Cockeysville, MD. $15. Register by calling (410) 887-8090.

2 May. Equine Nutrient Management & Conservation Practices Training. 9am-3pm. Maryland Department of Agriculture, Annapolis, MD. $30. Register online or call (410) 841-5959 by April 26.

8 May. Industrial Hemp Informational Seminar. 9-10:30am. Harford County Extension Office. Free. No registration required. Call (410) 841-3444 or (410) 638-3255 for more information.

8 May. Women in Ag Webinar: Legal Considerations for Marketing Your Farm Social Media. 12pm. Free. Register online.

8 May. Cultivate Baltimore: Transplant Production. 4-6pm. The Greener Garden, Baltimore. $10. Register online or call Neith Little at (410) 856-1850 x123.

13 May. Strawberry Jam Preservation Workshop. 6-8:30pm. Harford County Extension Office, Street. $20. Register online or call Shauna Henley at (410) 887-8090.

14 May. Harford County Watershed Steward Academy: Information Session. 6-7pm. McFaul Activities Center, Bel Air. Free. No registration necessary. Call Laura Coste' at (410) 638-3217 x2448 for more information.

15 May. Harford County Agricultural Center Barn Quilt Dedication. 2:00pm. Harford County Agricultural Center, Street. Free.

22 May. Women in Ag Webinar: Thought Leadership and Branding Social Media. 12pm. Free. Register online.

22 May. Strawberry Twilight. 6-8pm. Wye Research & Education Center, Queenstown. Free. Register online or call (410) 827-8056.

12 June. Temporary Livestock Fencing Workshop. Baltimore County Extension Office, Cockeysville. Free. Register online or call Brian Campbell at (717) 300-8118.

May 2019