Ag Notes
Harford County Newsletter

UNIVERSITY OF MARYLAND EXTENSION

March 2018

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
akness@umd.edu

INSIDE THIS ISSUE:

Hello, Harford County!

With the arrival of March, we know that spring is just around the corner! A welcome change for most after our bitter winter. March also brings St. Patrick's Day, which is often symbolized by the clover or shamrock. If you recall last March, I wrote about clover's importance and use in agriculture. This time I'd like to take a deeper look into the fascinating relationship between legumes (which includes clovers) and the beneficial soil bacteria that turn nitrogen gas into nitrogen fertilizer for plants.

Our atmosphere is comprised of more than 78% nitrogen; and nitrogen is an essential plant nutrient that all plants need in large quantities in order to grow. However, plants cannot use the nitrogen that's in the air; it must first be converted to another form and released into the soil. There is one group of plants however (and a couple of other oddball species in other families), that can utilize the nitrogen in the air to grow--these are the plants in the family Fabaceae, also known as legumes. These plants include all beans, clovers, alfalfa, peanuts, and others, all have the ability to form a beneficial relationship with specialized bacteria in the soil to take the nitrogen gas out of the atmosphere and turn it into a form that can be used by plants.

The process of turning nitrogen gas into 'plant food' is called nitrogen fixation. Over thousands of years, plants in the legume family developed a beneficial, symbiotic relationship with specialized bacteria. This relationship is carried out by an incredibly complex series of biochemical signals and reactions between the plant and the bacterium, but it goes something like this:

Plant roots release chemicals into the soil, some of which are perceived by specialized bacteria in the soil, called rhizobia. The bacteria are attracted to the roots and eventually infect it. This infection starts off just like a plant pathogen invading the root; however, the plant knows it's a beneficial infection and will physically change the cells in the root and lower its defenses, allowing the bacteria to colonize.

This colonization causes the root to deform into a structure called a nodule, trapping the bacteria within. The plant's vascular system will tap into the nodule and provide the supplies necessary for fixation. This includes carbohydrates for the bacteria to feed on, as well as oxygen and nitrogen gas carried to the nodule by leghemoglobin. Leghemoglobin is pink in color and similar to the hemoglobin found in the blood of animals. If you ever cut open a nodule and notice pink coloration, you know that it's actively fixing nitrogen.

The nitrogen fixed by the bacteria is in the form of ammonia, which the plant can then use for its own growth. In exchange for nitrogen, the bacteria get 'fed' by the plant, and everyone benefits. This interaction between rhizobia and legumes is a crucial part of the nitrogen cycle, as it is one of the main ways nitrogen gas gets into the soil to be utilized by plants.

Perhaps the most amazing part of this process is the fact that the plants and bacteria do it with such low energy input and very high efficiency. It takes us humans a tremendous amount of energy to accomplish the same task via the Haber-Bosch process. It just goes to show you how amazing plants and the microbes they interact with can be.

Wishing you a safe and productive 2018 growing season!

Until next time,
-Andy

2018 Maryland Sheep Sheering School

April 20-21
9:30-3:30 PM
Ridgely Thompson Farm
1942 Uniontown Road
Westminster, MD 21157

The 2018 Maryland Sheep Shearing School will be held on Friday, April 20 and Saturday, April 21 at the Thompson Farm in Uniontown. Students will learn: the New Zealand method of shearing sheep; how to adjust and care for hand-held shearing machines; how to set and adjust blades on shearing machines; how to properly handle wool after shearing; and each registrant will receive an ASI Shearing Notebook and instructional DVD. The school is open to anyone 16 years or older who wants to learn to shear sheep. Ownership of sheep or a desire to become a commercial shearer is preferred.

Registration must be made in advance and accompanied by $100 per person fee. Fee includes ASI Sheep Shearing instructional materials. Checks should be made payable to: Maryland Sheep Breeders Association, Inc. (MSBA). Mail registration to: Aaron Geiman, 429 Hook Road, Westminster, Maryland 21157 by **April 1, 2018**. No registrations accepted after aforementioned deadline and participation is limited to 15 people in order to maintain an optimal instructor-to-pupil ratio.

For more information or to access the registration form, go to the webpage, or contact: mdsheepshearingschool@gmail.com.

Animal Health Requirements for 2018 Show Season

The Maryland Department of Agriculture has announced animal health requirements for the 2018 fair and show season. Under the new requirements, avian influenza testing will be required for up to 15 birds per flock within 21 days prior to exhibition—this is down from 30 birds last year. Private sales of poultry will once again be permitted at Maryland fairs and shows, but sales records must be maintained by exhibition operators for one year. The new set of requirements will also allow for wild bird displays and table-egg judging contests. There are no changes to livestock requirements this year.

"I strongly support Maryland's fairs and shows because they showcase the best in Maryland agriculture," said State Veterinarian Dr. Michael Radebaugh. "However, these kinds of environments can be conducive to the spread of infectious disease if we are not careful. That is why it is critically important that all exhibitors follow our guidelines and practice strict biosecurity."

Animal health requirements are designed to safeguard Maryland's animal industries and prevent the introduction and spread of infectious and/or contagious diseases. The continuing threat of High Path Avian Influenza (HPAI) has made poultry restrictions a continued point of emphasis in this year's requirements.

For details, please see the 2018 Maryland Animal Health Fair and Show Requirements. More information is available on the Department's Fairs and Shows website.

Sugarcane Aphid Found in Maryland

Dr. Kelly Hamby, Entomology Extension Specialist, University of Maryland, College Park
Ben Beale, Agriculture Extension Educator, University of Maryland Extension, St. Mary's County
Luke Gustafson, Extension Agent Associate, University of Maryland Extension, Charles County

Sugarcane Aphids were found this October in sorghum fields in Charles, St. Mary's, and Prince George's Counties. In some fields, aphid populations were very high, with thousands of aphids present on a single leaf. In other fields, numbers were still low, with only a few aphids found per leaf. Given the variable numbers found and the different stages of sorghum present, growers should take time to scout fields. This new pest was found for the first time in Maryland late last fall in Charles County. The sugarcane aphid has caused substantial losses to sorghum in states to our south.

The sugarcane aphid is a relatively new pest of sorghum. As the name implies, the sugarcane aphid was historically only a pest of sugarcane fields. It was first found in the United States in 1977 in Florida and moved slowly throughout the sugarcane regions of the southeast. However, it started showing up as a major pest in sorghum fields in 2013 in the sorghum producing regions of Louisiana and Texas. It has since migrated through most of the southeast causing significant injury to sorghum. It is still unclear if this is a new biotype introduced from South America capable of infesting sorghum, or if there was a shift in the aphid populations in sugarcane in the southeast US adapted to sorghum. However the shift occurred, sugarcane aphid is now the most significant insect pest of sorghum in the US.

Lifecycle: Sugarcane aphids require a living host to survive. The aphids will overwinter in the warmer regions of the southeast United States on volunteer sorghum, Johnsongrass or sorghum-sudangrass. They begin their migration north as spring temperatures warm. The winged adults can be carried long distances on wind currents. Sugarcane aphids are all female who give birth to live, pregnant young. Young immature aphids mature to adults in only five days and live for up to four weeks. These characteristics allow sugarcane aphid populations to increase very quickly, especially during the hot summer months. As with other aphids, sugarcane aphids have piercing/sucking mouthparts that are used to extract nutrients from plant sap. Sugarcane aphids feed on the underside of leaves towards the base of the plants. Once the plants head out, the aphids will feed in the grain head. The sugarcane aphid produces large amounts of a sugary sticky substance called honeydew. Leaves will often appear glossy or shiny and may be covered in a black sooty mold. The honeydew substance can gum up combine heads and prevent harvest. These aphids will feed on sorghum all the way through harvest. If infestation occurs early enough, sugarcane aphids can greatly reduce yield potential and even kill plants. In Maryland, we expect the aphid to occur much later in the season, if at all, with the potential to cause some yield loss, reduction in test weight and potential harvesting issues.

Identification: There are several species of aphids capable of infesting sorghum. Sugarcane aphid can be distinguished from other aphids by black feet, antennae and cornicles (tailpipes) (see Figure 1). The overall body is normally a yellow, gray or tan color. Adults are typically wingless; however, can develop wings, especially when confronted with stress or adverse conditions. If you find aphids in sorghum,

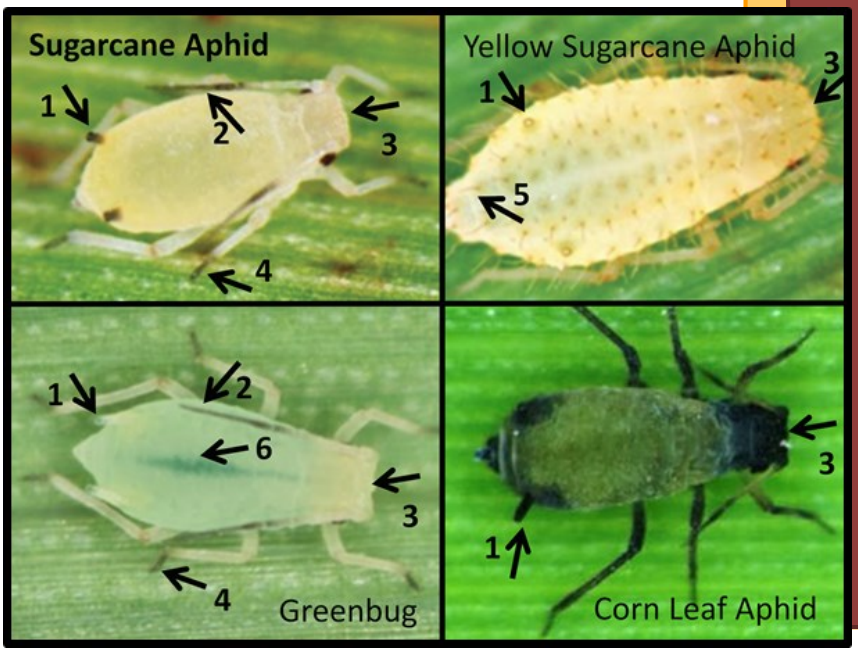

Figure 1. *Common aphids of sorghum. Sugarcane aphid (top left) can be distinguished by a smooth body combined with black cornicles (tailpipes, arrow 1), black antennae (arrow 2), a pale head (arrow 3), and black feet (arrow 4). Yellow sugarcane aphid (top right) is a different species that has very short cornicles (tailpipes, arrow 1) and rust colored hairs on the body (arrow 5). Green bug (bottom left) is the most similar to sugarcane aphid but can be distinguished by a dark stripe down the middle of the body (arrow 6). Corn leaf aphid (bottom right) has a dark head (arrow 3). Photos from aphids reared by Dr. Scott Armstrong, USDA-ARS, and photographed by Rick Grantham.*

please contact your local Extension Agent for help in confirming their identification.

Scouting and Management: The ability of sugarcane aphid populations to increase quickly and their ability to cause damage through harvest requires growers to scout regularly for the presence of this new pest. Scouting should occur once a week, and once sugarcane aphid has been detected in a field, scouting should take place at least twice a week. Keep an eye out for when the aphid arrives in Virginia because population levels in the South may also be helpful in predicting their arrival in Maryland. Researchers have evaluated sorghum varieties for resistance to the sugarcane aphid and have found some varieties that are more tolerant of aphid infestations. A list of available varieties may be found on the Sorghum Checkoff website at: go.umd.edu/sorghumcheckoff.

Threshold levels: Because the sugarcane aphid is a relatively new problem to our region, recommended threshold levels vary and are based on what is recommend in other areas. Treatment is justified when 50-125 aphids per leaf are present on 25% of plants. To avoid yield loss, insecticide applications must occur soon after threshold populations have been reached. Texas A&M has produced a scouting guide to help estimate the number of aphids per leaf: go.umd.edu/SAphidScouting.

Treatment: Always read and follow all instructions on the pesticide label; the information presented here does ***not*** substitute for label instructions. Sivanto 200 SL (IRAC Group 4D, Bayer CropScience) is registered for use in sorghum in Maryland and has a section 2 (ee) label for reduced rates (a lower 4-5 ounce rate works well at threshold, for higher numbers a higher rate may be justified). Sivanto Prime (IRAC Group 4D, Bayer CropScience) may also be used (excepting sweet sorghum) but reduced rates have not been labeled. One application should be enough in most situations unless populations are well above threshold during the first application. Control should be evaluated four days after application to ensure that populations have been reduced below threshold. It is important to obtain good spray coverage. A minimum of 10 gallons per acre spray volume is required for ground applications to ensure adequate coverage; 20 gallons per acre is preferred. Also note that Transform WG (IRAC Group 4C, Dow AgroSciences) is often recommended for use in other states but is ***not*** registered for use in sorghum in Maryland and thus cannot be used. Pyrethroids (IRAC Group 3A) such as Warrior, Baythroid or Asana are not recommended for sugarcane aphid as they are not very effective against this pest and may kill natural enemies resulting in a spike in aphid populations after application.

Management Near Harvest: High populations of sugarcane aphids with heavy honeydew and established colonies on the flag leaf or in the head can cause harvest problems by gumming up the combine. If sugarcane aphids are present at or near threshold (see above threshold), harvest as soon as possible to minimize the population at harvest. Again, these aphids reproduce very quickly, so it is important to keep an eye on the populations as you approach harvest. If large numbers of aphids are present in the head or on the upper leaves near harvest, an insecticide treatment to avoid harvest issues can be justified. This will not prevent yield loss due to prior feeding, it will just eliminate risk of harvest issues. After aphids are controlled, the honeydew will dry within a few days. Maryland does not have a section 24c label, so the pre-harvest restriction on Sivanto is 21 days. If you can meet the pre-harvest restriction, Sivanto works better to control sugarcane aphids. If you cannot, Malathion (IRAC Group 1B, make sure to use a formulation registered for use in grain sorghum such as Malathion 8 Aquamul) has a shorter 7 day pre-harvest restriction and moderate efficacy on sugarcane aphids.

Still in need of pesticide certification training?

The Harford County Extension Office will offer one final round of pesticide training classes before the start of the 2018 field season at the new Extension Office located at 3525 Conowingo Rd., Street, MD 21154 (at the corner of Rt. 1 & 136 in Dublin). The optional training class for new private applicators will be on **March 8** from 9-11 AM, with the exam on **March 15**, 9-11 AM. Recertification training will be offered from 1-3 PM on **March 8**. This program will satisfy the requirements for renewing your private applicator pesticide license and count towards 4 credits in commercial categories 1A, 6 and 10. Please call the Extension Office at (410) 638-3255 to register for either class.

How Does The New Tax Law Affect My Farm?

Kelly Nuckolls, Agriculture Law Education Initiative
University of Maryland, College Park
Posted to Maryland Risk Management Education Blog

The Tax Cuts and Jobs Act, the new federal tax law passed at the end of 2017, has several changes that farmers should consider discussing with their accountant or attorney at the start of the New Year. While there are a number of changes in the new federal tax law, this article will highlight only a few specific changes that farm operations should pay attention to, for more information and details on other new federal tax law changes for 2018, you should consult your attorney or accountant.

Farm business entities that are C-corporations or LLCs that are taxed at the corporate rate should consider the new federal tax law's changes to the corporate tax rate. The new tax bill lowered the tax rates for most businesses, except for smaller C-corporations and certain LLCs. Depending on how they are structured, LLCs are taxed as either a corporation, partnership, or with an individual's tax return. From now on, all corporations will be taxed at 21 percent. Before the new federal tax law, corporations with a taxable income of less than $50,000 were taxed at 15 percent. Farm operations taxed as corporations could see a significant increase in their tax rate if their taxable income is less than $50,000. These businesses may save money on their taxes if they reshape how their entity is structured. For example, an LLC could be restructured to meet the Internal Revenue Service (IRS) requirements to be taxed as a partnership instead of a corporation. If you have an LLC that has been taxed as a corporation in the past, it might be useful to discuss with your attorney or accountant how you can restructure your LLC to be taxed as a partnership. Also, there are other business entities, such as S-corporations and partnerships, that are not taxed at the corporate rate. While this may only impact a small number of farms, it is important to determine if the new federal corporate tax rate will significantly increase your federal income taxes.

If you were able to deduct your property taxes in past tax years, you may want to check if you will still be able to use this deduction to reduce your federal income taxes. The new federal tax law capped the amount of state and local taxes (i.e. income, sales, and property taxes) deduction at $10,000. This $10,000 cap does not apply, however, if local property taxes are paid on property that is part of a business that files a Schedule C, Schedule E, or Schedule F. If the property taxes are part of this "business expense," the full amount of the property tax, even if it is over $10,000, can still be deducted and will help to reduce your federal income taxes. If some of the property tax you pay includes property for personal use, that personal use percentage of your property taxes would not qualify as a business expense. In this case, the percentage of property taxes going toward personal property would only be deductible in combination with all other state and local taxes, such as income taxes, up to the $10,000 cap. Farmers may want to double check that most of their paid property tax qualifies as a business expense that can be deducted on one of these forms. There are limitations on what activities qualify as business expenses, and what types of business operations can report their business income and expenses on a Schedule C, Schedule E, or Schedule F form.

The new federal tax law might also mean your farm estate and succession plans will no longer need to focus on reducing your estate for estate tax purposes. An estate pays a federal estate tax if the estate's worth is over a certain amount. The federal estate tax in the past might have caused financial concerns for the next generation of farmers, with the trigger amounts for paying federal estate taxes set at around $5 million per individual and almost $11 million for married couples. Now, the new federal tax bill has doubled what an estate must be worth before it will be required to pay federal estate taxes. For 2018, an unmarried individual's estate must be worth $11.2 million, and $22.4 million for married couples before the estate is taxed. This amount will continue

to increase with inflation, until 2025. In 2026, the federal estate tax trigger amount will be cut in half and will go back to around $5 million per person and $11 million for married couples. For now, most farm families can focus on other estate and succession planning issues, instead of estate tax issues.

The new federal estate tax trigger amounts could potentially impact states' estate taxes as well. Some states have a state level estate tax if an estate is over a certain amount. In Delaware, starting in 2018, the estate tax has been eliminated, but Maryland farm families may still have to consider Maryland estate taxes as part of their estate plans. For 2018, Maryland estates valued at more than $4 million will be required to pay the state's estate tax. In 2019, however, Maryland's estate tax will change to follow federal law. Unless Maryland's law changes this year, Maryland farm families will most likely be able to avoid concerns about state estate taxes beginning in 2019.

There are several other changes in the new federal tax law beyond what this post has discussed. Other topics you may want to discuss with your legal or financial professional include how the new federal tax law will change farm equipment depreciation and the time period for carrying back net operating losses to earn a tax rebate for previous tax years. Also, if you are considering changing or creating a business entity for your farm operation, the new federal tax law changes for "pass-through" business entities like S-corporation, partnerships, and some LLCs should also be discussed with an attorney or account because there are new tax rates and a new deduction that could potentially be a financial benefit for your farm business. Farmers should also note that some of the new federal tax law provisions expire in 2026, and should seek advice from their legal and financial professionals on creating the best business plan for before and after 2026, if federal law does not change again before then. An attorney or accountant might also have additional recommendations related to the changes in federal tax policy that could benefit your farm operation.

Maryland Farmers Market Conference

March 6

8:00-4:30 PM
Maryland Department of Agriculture
Annapolis, MD

Registration is now open for the 2018 Maryland Farmers Market Conference. The conference is scheduled for Tuesday, March 6, from 8 a.m. to 4:30 p.m. at the Maryland Department of Agriculture, 50 Harry S. Truman Parkway, Annapolis.

Conference sessions will include marketing tips for farmers markets, updates on current regulations guiding the 2018 season, food safety, and much more. Training and certification sessions will be available for the Farmers Market Nutrition Program (FMNP), the Seniors Farmers Market Nutrition Program (SFMNP), and the Fruit and Vegetable Check (FVC) program. Farmers can also sign up to participate in the Supplemental Nutrition Assistance Program (SNAP). The department's Weights & Measures program will offer equipment certifications for farmers who bring their market scales to the conference.

Space is limited to the first 90 guests to register and submit payment. Registration information can be found on the department's website. For questions regarding registration or the program in general, please contact Karen Kirksey, Karen.kirksey1@maryland.gov or (410) 841-5791.

Still in need of nutrient management voucher training?

The Harford County Extension Office will offer one final nutrient management voucher training before the start of the 2018 field season on **March 13** at the new Extension Office located at 3525 Conowingo Rd., Street, MD 21154 (at the corner of Rt. 1 & 136 in Dublin) from **9-11AM**. This program will satisfy the requirements for renewing your nutrient management voucher. Individuals needing a new voucher may also attend. There is no cost associated with this class, but please call the Extension Office at (410) 638-3255 to register.

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 applicants who have been a member of Harford County 4-H for a minimum of 2 years. Funds for this scholarship come from donations and from the sale of 4-H livestock projects that 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 a copy, please contact the Farm Bureau office at (410) 836 -7773 or e-mail harfordfb@gmail.com.

The completed application and all requested information should be sent to: Harford County Farm Bureau, 3525 Conowingo Rd., Suite 200, Street, MD 21154. Applications must be postmarked or delivered to the Farm Bureau Office at the Harford County Agricultural Center by Thursday, April 26, 2018.

All completed applications will be reviewed by Harford County Farm Bureau's Education/Scholarship Committee, with the possibility of a personal interview of the applicant if needed. The committee's recommendations will be presented to the Board of Directors for final approval at their May 2018 meeting.

Recipients of Harford County Farm Bureau Scholarship awards will be recognized during senior award assemblies at local high schools and will be notified in writing on/about June 1, 2018.

Recipients of Harford County 4-H Memorial Scholarship awards will be announced prior to the 4-H Livestock Auction at the Harford County Farm Fair on Saturday, July 28, 2018.

If there are any questions or further information is needed, please contact the Farm Bureau office.

2018 Production Guides

As you begin to prepare for the 2018 growing season, don't forget to have the most up-to-date production recommendations on-hand. The following guides are produced in collaboration with other University Extension Services in the mid-Atlantic region and are tailored for our climate and production methods. The 2018 Mid-Atlantic Commercial Vegetable Production Recommendations are available in pdf format for free online, or you can request a hard copy by contacting your Extension Office or purchasing through Penn State. The 2018 Field Crop Weed Management Guide is available for free online (low-resolution pdf), or purchase through Penn State. The IPM Threshold Guide For Agronomic Field Crops can be downloaded here. The Tree Fruit Production Guide is also available to order through Penn State. The 2018 Spray Program for Multi-Small Fruit Plantings (berries and grapes) is available for free online, or request a hard copy from your Extension Office. For other production recommendations or guides, contact your Agriculture Extension Agent.

Great resources are just a click away!

Andrew Kness
Extension Agent,
Agriculture and
Natural Resources

Like us on Facebook
facebook.com/HarfordAg

akness@umd.edu
Extension.umd.edu/Harford-county

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

General Interest

University of Maryland Extension
Harford County Office, Suite 600
3525 Conowingo Rd.
Street, MD 21154

Ag Notes

Harford County Newsletter

Dates to remember

7 Mar. Nutrient Management Voucher Training. Baltimore County Extension Office, Cockeysville, MD. 8:30-11AM. Call (410) 887-8090.

8 Mar. Pesticide Training. Harford County Extension Office, Street, MD. New training 9-11AM (exam on **March 15**), re-certification training 1-3PM. Call (410) 638-3255 to register.

13 Mar. Nutrient Management Voucher Training. Harford County Extension Office, Street, MD. 9-11AM. Free. Call (410) 638-3255 to register.

14 Mar. Starting a Small Farm Series: Integrated Pest Management. 6-9PM. Baltimore County Extension Office, Cockeysville, MD. $10. Resister online or call Neith Little, (410) 856-1850 x123.

17 Mar. Forest Health Workshop. 8:30-12:30PM. Wye Research & Education Center, Queenstown, MD. $8. Register online.

19-22 Mar. FSMA Training for Produce Safety & Preventative Controls. Western MD Research Center, Keedysville, MD. $25-$45. Register online or call Justine Beaulieu, (301) 405-7543.

28 Mar. Women in Ag Webinar: Risk Management For Food Entrepreneurs. 12PM. Free. Register online.

28 Mar. Farmers Market Nutrition Program Training. 10-11AM. Harford County Extension Office, Street, MD. Call Weida Stoeker to register, (410) 841-5776

3 April-8 May. Annie's Project Series. 5:30-8:30PM. Carroll Community College, Westminster, MD. Annie's Project focuses on farm management. For more information, go online or call Ginger Myers, (301) 432-2767 x338.

20-21 April. Sheep Sheering School. 1942 Uniontown Rd., Westminster. 9:30-3:30PM. $100. Register online or contact mdsheepshearingschool@gmail.com.

5 May. Harford County Agricultural Center Open House. More details to come.

March 2018