What is COVID-19?

Coronavirus disease 2019 (COVID-19) is a respiratory disease caused by a novel coronavirus (official name: SARS-CoV-2) that was identified in 2019. This virus is responsible for the respiratory disease outbreak that began in Wuhan, China in late 2019 and quickly circulated around the globe. The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020. There is no indication that the SARS-CoV-2 virus affects cattle. The Bovine coronavirus attacks the respiratory system and the lower gastrointestinal tract of cattle and generally causes diarrhea in calves and respiratory distress in adult cattle. Unlike the virus that causes COVID-19, there is a vaccine that producers can administer to their cattle to prevent Bovine coronavirus.

How is COVID-19 transmitted and who is at risk?

The virus that causes COVID-19 is transmitted through close contact with infected individuals. Anyone can contract the disease, but symptom severity can vary among individuals. Those who are over age 60, have an underlying medical condition (i.e., diabetes, heart disease, lung disease) or are immunocompromised, are at greatest risk for developing severe symptoms related to the disease. While the mortality rate is low (~1.5%), a significant portion of those infected do require advanced medical care. If resources limit the number of people who are able to receive advanced care, mortality rate will likely increase.

Should I be worried about COVID-19 infecting my animals?

Although there is a coronavirus strain that does affect cattle (Bovine coronavirus), there is no indication that the SARS-CoV-2 virus affects cattle. The Bovine coronavirus attacks the respiratory system and the lower gastrointestinal tract of cattle and generally causes diarrhea in calves and respiratory distress in adult cattle. Unlike the virus that causes COVID-19, there is a vaccine that producers can administer to their cattle to prevent Bovine coronavirus.

What steps can I take to protect my farm from impacts of COVID-19?

All farms will likely be impacted by COVID-19 in some capacity. It is important for producers to develop a plan and be prepared for COVID-19-related issues should certain scenarios become reality.

What should producers prepare for?

1. Variable Milk and Livestock Prices: The unprecedented COVID-19 pandemic has wreaked havoc on the U.S. and world economy and long-term effects are not yet known. These events have already begun affecting milk and livestock prices and the extent and duration of these impacts likely will not be seen for many months. Although the outlook for milk prices was fairly positive at the beginning of 2020, the onset of the COVID-19 pandemic has significantly squelched optimism. There are many unknowns contributing to the
uncertainty of financial effects of COVID-19 on dairy and livestock producers. Some of that uncertainty stems from actions that indirectly affect the demand for animal products, including “stay-at-home” orders, mass cancellations of gatherings, school closures, and the discontinuation of dine-in service at restaurants. The extent of the effect that COVID-19 will have on U.S. agricultural exports is also largely unknown at this time. During times of such economic uncertainty, producers should develop a plan to cope with the possibility of sustained low prices and reduced income.

2. **Potential Supply-chain Disruptions:** This, perhaps, is the area that is of immediate concern for many dairy and livestock producers. While agriculture and its supporting industries have been deemed “essential” by the U.S. Department of Homeland Security, there is no guarantee that all potential disruptions will be completely avoided. At some point, the outbreak of COVID-19 may cause (or, in some cases, has already caused) disruption in one or more of the following areas: milk pick-up schedules, livestock auctions/sales, feed deliveries, veterinary services, and supply deliveries. In addition to disruptions in supply delivery schedules, supply availability may also come into play given than many day-to-day supplies are not manufactured domestically. While these disruptions are out of their control, producers should communicate with necessary suppliers and prepare for the possibility for each of these scenarios. If a scheduled milk pick-up is delayed, producers should be prepared to dump milk. Producers should ensure that they have a few extra days’ worth of supplies or feed on hand in case deliveries are delayed. Planning ahead and placing orders earlier, if possible, can help ease anxiety and fears of such occurrences.

**What should producers do right now?**

1. **Encourage regular hand washing:** Producers should ensure ample access to soap and water at hand-washing stations and hand sanitizer in areas such as bathrooms, break rooms, and milking parlors. Producers should also remind workers of proper hand-washing protocol. The Center for Disease Control and Prevention (CDC) recommends washing with soap and warm water for at least 20 seconds. If soap and water are unavailable, hand sanitizer with an alcohol content of 60% or more can be used. Handwashing should take place regularly, especially after sneezing, using the restroom, visiting a public area, and before eating.

2. **Limit close contact with others:** Producers should postpone any non-essential face-to-face meetings until a later date. The CDC recommends individuals avoid close contact with others (i.e., social distancing) whenever possible.

3. **Clean high-touch surfaces regularly:** Producers and workers should practice regular disinfection of common, high-touch surfaces, such as doorknobs, bathrooms, computers, phones, light switches, etc. Bleach-based, alcohol-based (>70%), or general household disinfecting solutions should be effective in sanitizing surfaces. The virus that causes COVID-19 can survive on surfaces for hours or even days after contamination.

4. **Have a plan if you or a significant portion of the workforce becomes ill:** Producers should devise a plan that includes a contingency for labor and a list of daily essential chores in case they or a significant portion of their workforce becomes ill. Due to the highly contagious nature of COVID-19, producers should prepare for the possibility that a portion of the farm workforce could become ill. Producers and workers should not to come to work if they are experiencing a fever, cough, or respiratory distress to prevent further spread of the virus.

5. **Minimize trips to public places:** This recommendation goes along with number 2. When public outings are unavoidable, such as a trip to the grocery or hardware store, care should be taken to avoid contact with high-touch surfaces as much as possible. Following an outing, producers and workers should be diligent about washing or sanitizing hands afterward. **Quick tip:** keep a bottle of hand sanitizer in the truck and get into the habit of using it each time you get in.

6. **Practice self-care:** Many producers are so busy taking care of their animals that they neglect to take care of themselves. Practices such as eating a balanced diet, drinking plenty of water, managing stress, and getting plenty of rest all promote good health and wellbeing. Although it is difficult for many producers to fit all of these practices into their busy schedules, maintaining
these healthy habits will help support immune function and build strength should they be confronted with an illness such as COVID-19.

Where can I find more information about?

The CDC has a website dedicated to providing daily updates regarding the spread of COVID-19. The CDC also has several fact sheets available that explain in further detail how COVID-19 is spread, who is at higher risk, and how individuals can help minimize exposure and transmission. Visit [cdc.gov/coronavirus/2019-ncov/index.html](https://www.cdc.gov/coronavirus/2019-ncov/index.html) for more information.

References:


University of Maryland COVID-19 Response

*University of Maryland Extension is Still in Your Community*

The current COVID-19 pandemic has caused changes throughout the entire country. University of Maryland Extension (UME) is committed to maintaining the resources Maryland needs to continue thriving during these trying times.

We are adjusting how we function to continue providing our people with the knowledge and assistance they need to stay productive and healthy, and appreciate the patience of the community as we strive to build offerings online and adjust our outreach strategies, while maintaining necessary social distancing.

UME is currently working to meet the changing needs of the community, and many of our educational programs and events have transitioned to virtual platforms. Programming and events online will still be held throughout the day, evening and on weekends. Your local agent is also available via email, phone, and teleconferencing, between 8 a.m. and 4:30 p.m. Please visit your [local extension office’s website](https://www.extension.umd.edu/learn/covid-19-resources) for information on your best email or phone contact.

Find a full list of resources on the COVID-19 epidemic, as well as tips on protecting health and financial wellness for you and your family at [https://extension.umd.edu/learn/covid-19-resources](https://extension.umd.edu/learn/covid-19-resources).

As a part of the University of Maryland College of Agriculture and Natural Resources, UME follows the guidelines developed at the state and university level. Information and updates on the college’s [response to COVID-19](https://extension.umd.edu/learn/covid-19-resources) can be found on the University of Maryland website.

COVID-19 Small Business Survival Guide

*Maryland Small Business Development Center*

The Small Business Development Center has created COVID-19 Small Business Survival Guide. This guide provides current information related to small business best practices during this disaster, emergency funding, state programs, and updates on regulations. This guide is being updated as new information becomes available. Follow the link here: [Maryland SBDC COVID-19 Small Business Survival Guide](https://www.extension.umd.edu/learn/covid-19-resources).
UMD Plant Diagnostic Laboratory COVID-19 Announcement

**Dr. Karen Rane, UMD Plant Diagnostic Laboratory Director**
_Untiversity of Maryland, College Park_

Due to the University of Maryland College Park response to COVID-19, the UMD Plant Diagnostic Laboratory is not able to receive plant samples at this time.

If you need plant diagnostic services, please do not send samples to the clinic. Contact me via email (rane@umd.edu) with photos of the plants in question, and I will do my best to answer your concerns. Photos for diagnosis should include at least one overall picture of the site or crop, as well as close-ups of the plants and symptoms in question. Please make sure the photos are in focus for the best chance of diagnosing plant problems. Include a description of the problem, the distribution of symptomatic plants (such as: grouped, random, along edges), percent of plants affected, as well as any spray applications made in the past four weeks. The UMD Plant Diagnostic Lab [Sample submission form](#) outlines the type of information that is useful for plant problem diagnosis.

We will contact you if there is a change in this procedure. Thank you for your patience as we deal with this unprecedented situation.

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PPE Shortage for Pesticide Applicators Due to COVID-19

**Dr. Amy Brown, Pesticide Education Coordinator**
_Untiversity of Maryland, College Park_

The American Association of Pesticide Safety Educators (AAPSE) have been discussing appropriate and legal options when applicators cannot access protective masks required by label directions due to COVID-19-related shortages. One solution is that it is legal and safe to use more, but not less, protection than is required by the pesticide label, so applicators can use a more protective style of respirator or face mask if available. The National Institute on Occupational Safety & Health (NIOSH) is working on a guidance statement/document on this problem. I am keeping track of discussions and will distribute that information and any other guidance as soon as it is issued.

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Share Your Insight in SARE/CTIC/ASTA Cover Crop Survey

**SARE press release**

Farmer insights are now being sought for the sixth nationwide cover crop survey by SARE, the Conservation Technology Information Center (CTIC) and the American Seed Trade Association (ASTA). The online questionnaire is now open at [https://bit.ly/CCSurvey2020](https://bit.ly/CCSurvey2020).

The survey takes about 10 to 15 minutes to complete. Participants who complete the survey can enter a drawing for Visa gift cards worth $100 and $200.

“Since 2012, the SARE/CTIC/ASTA Cover Crop Survey has provided very important perspective into why and how farmers use cover crops—or why some don’t—and has helped guide resources in research, communications and policy around cover crops,” said Mike Smith, project director for CTIC. “The Cover Crop Survey has been a key tool for farmer organizations, conservation and extension service personnel, seed companies and other agribusinesses, and it has even been cited in testimony to Congress. This is a great opportunity to hear farmers' voices on cover crops.”

Smith noted that the survey seeks answers not just from long-time cover crop fans, but also from new users and farmers who have not planted cover crops at all.

“Past surveys have provided significant insights on progress being made with cover crops and barriers still to address,” said Rob Myers of the North Central Region SARE Program.

The seed industry is especially interested in cover cropping trends, noted Jane DeMarchi, ASTA’s vice president of government and regulatory affairs, “Use of cover crops is evolving quickly and ASTA members who supply cover crop seed are looking forward to gaining insights on how they can better serve their customers in the future,” DeMarchi said.

Where’s My Syngenta Settlement Payments?

Paul Goeringer, Agriculture Law Legal Specialist
University of Maryland Extension

This article is not a substitute for legal advice. Reposted from the Maryland Agriculture Risk Management Blog

Several of you continue to ask me when you might see checks from the Syngenta corn seed settlement. In late 2018, the court approved the settlement order for the $1.51 billion MIR162 Syngenta settlement. Based on the final order, payments to producers should have started going out in the second quarter of 2019, but this did not happen. On January 3, 2020, the federal district court in Kansas approved the final settlement. Growers have one last step: provide the claims administrator with an IRS W-9 form either online or by mailing a form into Corn Seed Settlement Program Claims Administrator, P.O. Box 26226, Richmond, Virginia 23260.

The settlement includes all U.S. corn farmers, including those who opted out of the original class-action suit and those who grew Agrisure Duracade corn and Agrisure Viptera corn varieties. The settlement also includes landlords who based rental rates on yield or price, such as a flex-lease based on yield or price or a crop-share lease. Fixed cash landlords are not eligible to participate. The period included in the settlement is September 15, 2013, through the 2018 crop year.

The settlement includes four classes:

- Class 1: Growers and eligible landlords who did not use Duracade or Viptera,
- Class 2: Growers and eligible landlords who did use Duracade or Viptera,
- Class 3: Grain handlers, and
- Class 4: Ethanol producers.

Claims to three of the four classes will have limited recovery amounts:

- Class 1 will receive a minimum of $1.44 billion, with the bulk of the settlement going to corn growers and eligible landlords who did not grow Duracade or Viptera corn seeds.
- Class 2 will be limited to $22.6 million,
- Class 3 will be limited to $29.9 million, and
- Class 4 will be limited to $19.5 million.

As a part of the settlement order, the court set aside $503,333,333.33 for attorneys’ fees.

Based on the recent information, producers should be receiving Notice of Determination forms showing the producer’s portion of the settlement. Expect checks to go out later in 2020. How much can you expect to receive in this settlement? That is still not clear and something I cannot accurately answer.

This latest move means this settlement process should be winding up. Many of the ongoing appeals appear to be resolving themselves with this settlement. If the situation changes, I will provide further information.

Webinar: Drones as a Scouting Tool

Presented by Jarrod Miller
Extension Agronomist for University of Delaware

While drones are often promoted as tools to manage nutrients or spray for pests, their most immediate use is for scouting crops. The biggest hurdle for most farmers may be which drone to purchase and how to fly. View this webinar to learn about drone and camera types, the ease of operation, and when to fly row crops. After this presentation you will be able to make an informed decision on whether drones fit your operation, and the most affordable option to buy. View here.
Governor Larry Hogan has issued an executive order requiring Marylanders to “Stay at Home,” effective March 30, 2020. As the state moves into the next phase of its efforts to mitigate the spread of COVID-19, essential industries are encouraged to continue operations while implementing best practices designed to protect employees, customers and the general public.

Agriculture and food-related businesses remain essential, however individual companies are asked to make an honest assessment as to whether their operation is essential to public health and safety. Businesses that are not directly linked to public health and safety should immediately scale back their operations, eliminate foot traffic, end curbside pick-up and move to delivery only. Any workers that are able to do their job from home should do so immediately and continue until the governor lifts the current order.

Essential workers may continue to travel to and from work as needed. It is recommended that employers draft and print letters for employees to carry when travelling. The letter should include:

- Name and address of the employee
- Name and address of the business
- Nature of the employee’s essential work
- Signature and contact information for the employer
- Letter templates are available for download below, or online at [https://extension.umd.edu/learn/covid-19-resources](https://extension.umd.edu/learn/covid-19-resources).


In response to the growing threat from COVID-19, Governor Hogan has issued a mandate for Maryland residents to shelter in place, beginning March 30 at 8 PM. Farm work and any work in support of agriculture is considered essential work by the Department of Homeland Security and is expected to continue as normal.

During the mandate to shelter in place, travel to and from farms is considered essential travel. If stopped and questioned by law enforcement, any workers traveling to or from the farm should have with them a letter indicating their place of employment and that their job is considered essential. The burden is on the employer to provide employees with proof that they are an essential worker.

Attached below are letter templates that you can use for this purpose. Personalized for your farm workers and contractors doing work on the farm. Contact your local Extension Agent if you have questions. Special thanks to Paul Goeringer, UMD Extension Legal Specialist, for developing these templates.
Spring Weed Control for Pasture and Hayfields

Dr. Amanda Grev, Pasture & Forage Specialist
University of Maryland Extension

As things are greening up this spring, you may notice a few not-so-friendly plants popping up around your fields, especially given the milder weather this past winter. If you haven’t already done so, now is the time to scout your pastures and hayfields in search of winter annual and biennial weeds. When it comes to weed control, timing of herbicide application is critical and it is important to spray when weeds are most susceptible to achieve maximum effectiveness.

Winter annuals typically germinate in the fall, overwinter, and complete their reproductive cycle in the spring or early summer. Common winter annual species include chickweed, purple deadnettle, field pennycress, henbit, horseweed/marestail, shepherd’s purse, and the mustard species. Annuals are best controlled during the seedling and early vegetative stage when they are young and actively growing. Herbicide applications will be more effective if made at this stage while they are still vegetative and more susceptible and will prevent them from flowering and producing seed. At this time of year, these winter annuals are growing rapidly and have already or will soon begin to flower and set seed. If the winter annuals in your fields have moved beyond this stage, an application may offer some control but you may also want to take note of those weedy areas now and target them later this year with a late fall application.

Biennials live for two growing seasons, with the first year consisting of only vegetative growth as a seedling and rosette and the second year consisting of vegetative growth and also reproductive growth in the form of an elongated flower stalk. Common biennial species include burdock, bull thistle, musk thistle, and wild carrot. These weeds are best controlled during the seedling and rosette stage, and should be treated now while they are smaller and more susceptible and before they begin to bolt.

There are a number of herbicides available for control of broadleaf weeds. Herbicide selection should be based on the type of forage and weed species present. The most common herbicides used for control of broadleaf weeds in grass hay or pasture are the plant growth regulator herbicides, which includes products containing 2,4-D, dicamba, triclopyr, aminopyralid, picloram, or a mix of these (see the table below for a list of common products). These products are safe if applied to grass forages at the labeled rates but can kill or injure desirable broadleaf forages (i.e. clover) in grass-legume mixed pastures.

<table>
<thead>
<tr>
<th>Product</th>
<th>Active Ingredients</th>
<th>Application Rate*</th>
<th>General/Restricted Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D</td>
<td>2,4-D</td>
<td>1 to 2 qt/A</td>
<td>General</td>
</tr>
<tr>
<td>Banvel/Clarity</td>
<td>dicamba</td>
<td>0.5 to 2 pt/A</td>
<td>General</td>
</tr>
<tr>
<td>Crossbow</td>
<td>2,4-D + triclopyr</td>
<td>1 to 6 qt/A</td>
<td>General</td>
</tr>
<tr>
<td>GrazonNext HL</td>
<td>2,4-D + aminopyralid</td>
<td>1.2 to 2.1 pt/A</td>
<td>General</td>
</tr>
<tr>
<td>Grazon P+D</td>
<td>2,4-D + picloram</td>
<td>2 to 8 pt/A</td>
<td>Restricted</td>
</tr>
<tr>
<td>Milestone</td>
<td>aminopyralid</td>
<td>3 to 7 fl. oz/A</td>
<td>General</td>
</tr>
<tr>
<td>PastureGard HL</td>
<td>triclopyr + fluroxypyr</td>
<td>0.75 to 4 pt/A</td>
<td>General</td>
</tr>
<tr>
<td>Prowl H2O</td>
<td>pendimethalin</td>
<td>1.1 to 4.2 qt/A</td>
<td>General</td>
</tr>
<tr>
<td>Remedy Ultra 4L</td>
<td>triclopyr</td>
<td>0.5 to 4 pt/A</td>
<td>General</td>
</tr>
<tr>
<td>Stinger</td>
<td>clopyralid</td>
<td>0.7 to 1.3 pt/A</td>
<td>General</td>
</tr>
<tr>
<td>Surmount</td>
<td>picloram + fluroxypyr</td>
<td>3 to 6 pt/A</td>
<td>Restricted</td>
</tr>
<tr>
<td>WeedMaster</td>
<td>2,4-D + dicamba</td>
<td>1 to 4 pt/A</td>
<td>General</td>
</tr>
</tbody>
</table>

*For use in established grass pasture or hayfields

Figure 1. Winter annual pasture weeds: purple deadnettle (left), field pennycress (middle), wild mustard (right). Images: A. Grev, Univ. of Maryland.
If weedy annual grasses such as crabgrass, foxtail, panicum, and Japanese stiltgrass are problematic, pendimethalin (Prowl H2O) now has a supplemental label that allows for its use on established perennial pastures or hayfields grown for grazing, green chop, silage, or hay production. It may be applied to perennial grass stands or alfalfa-grass mixed stands. Prowl H2O may be applied as a single application in the early spring, or for more complete control it can be applied as a split application with the first application in early spring and the second application after first cutting. Keep in mind, this herbicide is a pre-emergent herbicide, meaning it will only control weeds if applied prior to germination. If soil temperatures in your area are already above 50°F it is likely that crabgrass and stiltgrass has already germinated, but a split application of Prowl H2O now and after first cutting can help control foxtail. There are currently no herbicides labeled to control emerged weedy grasses in grass stands or alfalfa/grass mixes.

Note that if forages were recently seeded and are not yet established many of these herbicides can cause severe crop injury. Most herbicide labels for cool-season perennial grasses state that the grasses should be well established with at least 4-5 inches of growth, although some labels are more restrictive than this. In addition, some of these herbicides have haying or grazing restrictions following application. Always read and follow the guidelines listed on the product label for proper rates, timing, residual effects, and any grazing or harvest restrictions following application.

Lastly, remember that while herbicides can be a useful tool for weed management in pastures and hayfields, they are not the only option for weed control. A program that integrates several different control strategies is generally more successful than relying on a single method. For maximum results, include cultural practices such as selecting adapted species and maintaining optimum soil fertility, mechanical practices such as timely mowing or clipping to suppress weed seed production, and biological practices such as utilizing livestock for controlled grazing or browsing. And remember that weeds are opportunistic; the best method for weed control is competition with a healthy, dense stand of desirable forage species.

Maryland Sensitive Crop Locator

Erika Crowl, Agriculture Agent Associate
University of Maryland Extension, Baltimore County

Attention all beekeepers, specialty crop growers, and pesticide applicators!

In 2019, The Maryland Department of Agriculture partnered with the non-profit company FieldWatch™, Inc., to provide online registry tools to promote good communication between producers of pesticide-sensitive crops, beekeepers and pesticide applicators.

FieldWatch registry uses precision real-time mapping tools to help pesticide applicators know where beehives and specialty crops are located before spraying and to reduce incidences of off-target pesticide exposure. FieldWatch offers three free voluntary mapping tools called DriftWatch, BeeCheck, and FieldCheck for sensitive crops, beekeepers, and applicators, respectively.

This system is meant to create awareness among farmers and landowners and to improve stewardship in Maryland. To register, go to FieldWatch.com and choose the type of account you would like to create.

For more information about FieldWatch, read this helpful resource or call The Maryland Department of Agriculture Pesticide Division at (410) 841-5710.
Proactive Measures to Combat Herbicide-Resistant Common Ragweed

Sarah Hirsh, Agriculture Agent
University of Maryland Extension, Somerset County

In the next couple of weeks, common ragweed will begin to emerge (Figure 1). There are herbicide-resistant populations of common ragweed throughout Maryland. In 2019, common ragweed samples from St. Mary’s, Charles, Somerset, Worcester, and Wicomico counties, MD were tested and found to be resistant to glyphosate (group 9) and cloransulam (Firstrate; group 2 “ALS Inhibitors”) herbicides. Furthermore, three-way resistance to glyphosate, Firstrate, and fomesafen (Reflex, group 14 “PPO Inhibitors”) was found for two eastern shore samples from Dorchester Co, MD and Kent Co, DE. Because common ragweed populations can be resistant to glyphosate and other herbicides, pre-planting and residual herbicide control are particularly important.

What steps can you take now against common ragweed?

1. Delay cover crop burn down. In addition to providing other agronomic benefits, cover crops may provide competition with spring weeds, including ragweed, and reduce emergence and growth. Growing conditions have been excellent this spring, so terminating a cover crop would leave an open window for weeds to proliferate.

2. Plan to apply something other than or in addition to glyphosate at pre-planting burndown. Research trials in 2019 indicated that a herbicide burndown of glyphosate plus Liberty at soybean planting effectively eliminated common ragweed. (Soybean was planted 18 May at one site and 3 June at a second site). The addition of 2,4-D or Banvel is another glyphosate tank mix option, and paraquat or paraquat + metribuzin is another option for smaller ragweed plants.

3. Apply a residual herbicide at soybean planting. Research trials in 2019 indicated that it was important to apply a residual herbicide at burndown to control post-planting common ragweed escapes. Applying the residual herbicide at soybean planting provided better common ragweed control than applying the residual herbicide at an earlier (4 April) burndown date. A second research trial comparing residual herbicide products found that Command, Linex, Dimetric, or combinations of Command + Dimetric, and Linex + Dimetric all reduced common ragweed prevalence in soybean.

More information on managing herbicide-resistant common ragweed in Maryland can be found here: https://extension.umd.edu/sites/extension.umd.edu/files/_docs/publications/Ragweed%20FS474.pdf

Common ragweed can quickly get out of hand and dominate a soybean crop (Figure 2). However, with proactive control and scouting, herbicide-resistant common ragweed can be effectively controlled.
Maryland Department of Agriculture’s Manure Transport Program helps cover the cost of transporting manure to farms with low phosphorus fields or to alternative use facilities. Payments of up to $22.50/ton are available to eligible farmers and manure brokers.

**NEW: Haul Now, Apply Later FastTrack Option to Transport Poultry Manure.** Farmers who want to switch to poultry manure should check out the new and improved Haul Now, Apply Later Fast Track grants to move poultry manure. With our new and improved FastTrack grants, farmers can haul poultry manure now, and apply for cost-share reimbursement later. Download an application and claim form from: mda.maryland.gov/resource_conservation/Pages/manure_management.aspx.

**Standard Option to Transport Poultry Litter**

Our standard transport grants to move poultry manure are still available to eligible farmers.

- Farmers apply through the local soil conservation district
- Registered manure brokers apply directly to the Maryland Department of Agriculture
- The applicant submits a current nutrient management plan that contains: —Nitrogen-based nutrient recommendations for fields with a soil phosphorus Fertility Index Value that is 100 or less—Phosphorus-based nutrient recommendations for fields with a soil phosphorus Fertility Index Value between 101 and 150.
- Receiving farm fields with a phosphorus Fertility Index Value that is greater than 150 are not eligible to participate in this program.

**Requirements for Poultry Litter Transport**

Farmers may apply for grants to move poultry litter using either a standard application or the Haul Now, Apply Later FastTrack option. In both instances, the following rules apply:

- Qualifying farmers receive up to $22.50 per ton to transport poultry litter
- The sending farm must be located in Maryland and raise broiler chickens for one of the participating Delmarva poultry companies
- Poultry litter must be transported more than 7 miles from the sending farm
- Transported poultry litter must be land applied as a nutrient source for an agricultural crop, OR sent to an approved alternative use facility

**Grants to Transport Dairy and Livestock Manure**

A simplified application process is now in place for dairy and other non-poultry livestock producers who need to move manure:

- Cost-share grants pay up to 87.5 percent of all eligible costs
- Payment rates are based on the transport distance and type of manure, either liquid or solid
- Receiving farm fields are required to have a Maryland soil phosphorus Fertility Index Value below 101
- Manure must be transported more than 1 mile from the sending source
- Only operations receiving the manure may apply for transport grants
- Manure must be applied to crops or hay fields containing less than 25 percent legumes
- Grants to transport dairy and livestock manure are based on the following maximum application rates: 6,000 gallons per acre for liquid/slurry manure or 10 tons per acre for solid/semi-solid manure
Managing Fusarium Head Blight

Dr. Alyssa Koehler, Extension Field Crops Pathologist
University of Delaware

With the mild winter, wheat and barley are moving right along. Planting behind corn is common in our region, but this maintains inoculum for Fusarium Head Blight (FHB). Fusarium species that cause FHB can infect both corn and small grains. Walking through fields with corn stubble, you may see orange growth on old debris (Figure 1). Wet spring conditions favor fungal sporulation that can lead to infected wheat heads. As the pathogen grows on debris, spores are released that can be rain dispersed or moved through air currents. As the grain is flowering, spores land on the head or anthers, colonize these tissues, and move into the grain head. Once inside the grain, water and nutrient movement is disrupted, which results in the bleached florets we associate with FHB (Figure 2). Shriveled and wilted “tombstone” kernels can reduce yield and result in grain contaminated with mycotoxins. Deoxynivalenol (DON), also referred to as vomitoxin, is a health hazard to humans and animals. Wheat heads colonized later in development may not show dramatic symptoms, but can still have elevated DON.

As we approach heading and begin to think about in-season disease management strategies, a well-timed fungicide application can help to reduce disease severity and DON levels. It is important to remember that fungicides can help to reduce disease levels and DON (traditionally around 50% reduction on a susceptible variety), but they do not eliminate FHB or DON. To try to maximize the efficacy of fungicides, it is important to apply at the correct timing. Fungicides for FHB are most effective when applied during flowering in wheat and at head emergence in barley. The Fusarium Risk Assessment Tool (www.wheatscab.psu.edu) is a forecasting model that uses current and predicted weather forecasts to predict FHB risk. The model is currently being configured for this season and should be accessible at the link above by the end of the first week of April. Historically about 70% accurate, this tool aids in assessing FHB risk as wheat approaches flowering and fungicide application decisions are made. The pathogen that causes FHB infects through the flour and rainfall 7 to 10 days prior to flower favors spore production and increases risk of infection. Optimal wheat fungicide application is at early flowering (10.5.1) to about 5 days after. Although new products like Miravis Ace can be applied earlier, it is still best to wait for main tillers to be at 10.5.1 or a few days beyond so that secondary tillers have a greater chance of being at 10.3-10.5.1. If you spray too early, heads that have not emerged will not be protected by the fungicide application. When wheat heads begin to flower, look for yellow anthers in the middle of the wheat head. When at least 50% of main stems are flowering, you will want to initiate fungicide applications. As the flowering period continues, anthers will emerge from the top and then the bottom of the wheat heads. Anthers can stay attached after flowering but usually become a pale white (Figure 3, next page). Triazole (FRAC group 3) fungicides that are effective on FHB include Caramba (metconazole), Proline (prothioconazole), and Prosaro (prothioconazole + tebuconazole). Miravis Ace (propiconazole + pydiflumetofen) offers a triazole + SDHI, FRAC group 7. As a reminder, fungicides containing strobilurins (QoI’s,
FRAC 11) should not be used past heading because these fungicides can result in elevated levels of DON. Flat fan nozzles pointed 90° down are great at covering foliage but they do not provide good coverage on heads, which is the target for FHB management. Nozzles that are angled forward 30-45° down from horizontal (30 degrees is better than 45) or dual nozzles angled both forward and backward give better contact with the head and increase fungicide efficacy. For ground sprays, fungicides should be applied in at least 10 gallons of water per acre.

Thinking beyond this season, an integrated approach can improve management of FHB and help to keep DON levels low. In your field rotation plan, avoiding planting small grains into corn residue will help to reduce the amount of initial inoculum in your field. If you have soybean fields that can be harvested early enough for a timely wheat planting, this rotation helps to break up Fusarium inoculum. In addition to rotation considerations, seed selection is another important piece of FHB management in wheat. There is no complete host resistance against FHB, but you can select wheat varieties with partial resistance. The University of Maryland sets up a misted nursery to compare FHB index and DON levels across local wheat varieties to aid in variety selection decisions. Results from 2019 can be found at [https://scabusa.org/pdfs/UMD_Misted-Nursery_Factsheet-2019.pdf](https://scabusa.org/pdfs/UMD_Misted-Nursery_Factsheet-2019.pdf). Remember that these trials are conducted under extreme disease pressure and you want to look at relative DON performance. Unfortunately, barley does not have any resistance to FHB. In UMD’s 2019 trial, Calypso had the lowest DON content in local barley varieties tested.

**Figure 3.** From left to right: Feekes 10.3, Anthesis; Feekes 10.5.1 (yellow anthers beginning flowering); 4 days after anthesis (white anthers post flowering). Image: A. Koehler, Univ. of Delaware

Get ready for 2020 wheat crop by signing up for Fusarium Head Scab Alerts and forecasting tools!

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Developed & Supported with funding from the U.S. Wheat & Barley Scab Initiative - [www.scabusa.org](http://www.scabusa.org)
Stacking the Deck to Manage Corn-On-Corn Diseases

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

Given current commodity prices, growers may be considering increased corn acreage. Continuous corn presents additional risks in terms of disease that you need to proactively manage. Here are some points to consider so that you can try to stack the deck in your favor in case conditions become favorable for pathogens that threaten corn yields.

Here in our region of the world, we typically have plenty of humidity and moisture that favor disease development in our crops. Furthermore, our most common and potentially most severe yield-limiting diseases, such as grey leaf spot (GLS), northern corn leaf blight (NCLB) (Figure 1), as well as stalk rots, are residue-borne and overwinter in corn stover. The following are points to consider for disease management in a corn-on-corn system:

- **Variety Selection:** You can do yourself a big favor right off the bat by selecting hybrids that have good stalk integrity ratings and **resistance to NCLB and GLS.** Genetic resistance is one of the most cost-effective ways to manage disease. If you’re planting corn into corn, especially in a reduced or no-till situation, place hybrids with good NCLB and GLS resistance in these fields and save your more susceptible hybrids for fields that have lower disease potential (for example, after soybeans).

- **Residue Management:** Several pathogens of corn survive and overwinter in corn residue; therefore, residue is the primary source of infection. Not surprisingly, more corn residue present on the soil surface means that the following corn crop is at a higher risk of developing these diseases. While no-till and reduced-till systems afford us many benefits in crop production, harboring pathogen inoculum is one of the drawbacks. Chopping and sizing corn residue in the fall into smaller pieces can help accelerate its decomposition and may reduce inoculum (spores) **slightly** at best. In order to reduce inoculum significantly, more aggressive tillage is necessary to bury the residue. If you’re trying to build soil health and utilize no-till or reduced tillage, this may not be an option and you will need to make sure you are doing a good job in all other areas of disease management.

- **Planting:** Getting planting equipment and planting conditions correct is important, especially for seedling and root-rotting diseases of corn. Ensure you’re achieving proper planting depth, as the longer the seed sits in the ground, the more prone it will be to rot and dampen off. Soil temperature is important for getting the seedlings off to a quick start, so it is advisable to wait until soil temperatures are at least 50 degrees and rising to plant; this is especially important for corn-on-corn. Fields with reduced tillage, cover crops, and substantial cover will warm up slower than tilled fields or fields with less cover (i.e. last year’s soybean fields). You may consider planting corn in last year’s bean fields first, then your corn after corn fields to ensure soils are warm enough for rapid and uniform emergence. Additionally, do not push plant populations too high, as excessive plant populations can cause dense canopy humidity which favors disease development and can stress plants if nutrients and/or water become limiting, which will predispose plants to pathogen infection.

- **Seed Treatments:** Nearly all commercial corn hybrids come pre-treated with seed treatments, which typically contain a fungicide. These fungicides will provide some protection from many seed and root-rotting pathogens for about two weeks.

- **Weather and Scouting:** Weather plays a crucial role in disease development. Cool, saturated soils in the spring favor the development of our seed and root-rotting diseases. Moisture, humidity and excessive leaf wetness, coupled with moderate to warm temperatures favor the development of NCLB and GLS (64-81°F for NCLB, 70-90°F favor GLS).
Both of these pathogens will infect susceptible and moderately susceptible hybrids throughout the growing season as long as the weather is conducive for their development; however, you want to keep an eye on them as to where their lesions are present on the plant. Infections on the lower leaves have no impact on yield; however, if they infect the ear leaf and above, there is a potential for significant yield reduction. Scout your fields at least weekly as plants approach tasseling to make sure NCLB and GLS are not encroaching on the ear leaf. Look for the presence of lesions as shown in Figure 1. If infections are approaching the ear leaf, then you may want to consider a fungicide application.

- **Fungicides:** Fungicides can be an important management tool for foliar fungal pathogens, in particular NCLB and GLS. If temperatures remain between 65-90°F in conjunction with high humidity and excessive leaf wetness as the plants approach reproductive stages, then a fungicide application around tasseling (VT) may be beneficial to protect yield. Determining whether a fungicide application will be economically beneficial is the difficult part, and knowing your cost of application can help you make a decision so that you know how many bushels you need in return to pay for the fungicide. There have been hundreds of University fungicide trials conducted on corn over the years, and less than 50% of the time are fungicide applications economical. It is important to realize that there are conditions where a fungicide application is more likely to pay; they are: 1.) Applied at VT to a susceptible or moderately susceptible corn hybrid, 2.) Corn-on-corn, especially in no-till fields, 3.) environmental conditions are favorable for disease development (warm, humid, and leaf wetness) at the time around VT.

There is also interest in applying fungicides for perceived stalk strength benefits. In general, fungicides will not improve stalk strength directly, rather indirectly by managing foliar diseases. Stalk rots are strongly correlated to disease severity on the flag leaf. When photosynthetic area of the flag leaf is reduced due to pathogen lesions on the leaves, the corn plant cannibalizes the carbohydrates stored in its stalk in order to fill the grain, thereby compromising stalk integrity. Therefore, if you keep the ear leaf clean, you will greatly reduce stalk rots and improve standability, which is where fungicides can help. This is why it is important to scout your fields, look for disease, then determine if a fungicide application is warranted.

Planting corn after corn poses additional risks that favor the development of disease in your crop. By talking into account these steps, hopefully you can better manage your crop and put more dollars in the bank.
Management Tips to Harvest High Quality Winter Forage

Jeff Semler, Principal Agriculture Agent
University of Maryland Extension, Washington County

In most of our region, the warm temperatures have kick started the winter forage. This crop can give you the earliest and the highest quality forage for your livestock. Now is the time to add nitrogen and sulfur, which can save you on protein supplements by allowing you to harvest high-protein forage.

Yield potential was set last fall, depending on planting date and available nitrogen. These two factors generate the number of fall tillers that help set the yield potential for the following spring.

While planting date is the most important factor, there is still potential for economical yields so long as the stand came through winter.

1. **Provide sulfur for more protein.** Sulfur has long been an overlooked plant nutrient. Prior to the clean air act, our sulfur came in our rain. Sulfur is critical for protein formation and should be included with any nitrogen application to winter forage. For example, adding extra nitrogen — 115 pounds — without sulfur only provided 12% crude protein. Adding a lesser amount of nitrogen with sulfur provided 17% crude protein.

   For a field that did not get manure last fall (a major on-farm sulfur source) an effective ratio is roughly 1 pound of sulfur for every 10 pounds of nitrogen. This is good for all cool-season grasses in addition to winter forage grains, such as triticale.

   Sulfur is also critical for corn and especially sorghum, which can produce much higher protein in the forage.

2. **Increase N application.** Research has shown that even if you immediately incorporated manure the previous fall before planting, an application of spring nitrogen is still needed.

   In one study, spring fertilizer application didn’t increase the spring yield of triticale on manured ground but it did raise the crude protein from 9% to over 19%, which can potentially save money on purchased protein.

   Many farms apply between 75 and 100 pounds of nitrogen an acre in spring. Even if you applied manure prior to planting in the fall, it is suggested increase this to 125 pounds an acre to boost forage protein and save on purchased protein. Remember, a 3-ton dry matter yield at flag leaf stage will remove 192 pounds of nitrogen at 20% crude protein. What is not used by the winter forage will still be used by the following crop.

   One caution, don’t try this higher rate on rye. Rye has limited tillering and produces a tall but thinner stand. It is very prone to lodging when more than 50 pounds of nitrogen an acre are applied.

   Triticale is only two-thirds the height of rye and is resistant to lodging. Several university trials have found that triticale yields 35% higher than rye because of the higher tiller density.

3. **Add an antivolatilization agent.** It is highly recommended to add an antivolatilization agent in the spring. This will inhibit the urease enzyme from splitting the urea into ammonia that could be lost. Trials have found that urea loss in fields treated with an antivolatilization agent were 63% less than in fields that were untreated. The antivolatilization compound increases the chance of full return on your fertilizer investment.

4. **Know when to harvest.** For those new to growing winter forage, it is ideal to harvest at the flag leaf stage (stage 9) for optimum quality. Stage 8 does not have higher quality than stage 9, and you can get a substantial yield drag from harvesting too soon.

   If temperatures are warmer than normal, push to harvest the forage at the flag leaf stage. Conversely, if it is at stage 8 and there is a week of rain forecasted, get it cut so you have quality forage.
Mild Winters Favor Greenbug Aphids and Winter Grain Mite in Small Grains and Orchardgrass

Kelly Hamby, Terry Patton, and Galen Dively
Department of Entomology, University of Maryland College Park

Summary. Weather stations in Baltimore, MD recorded the 3rd warmest winter on record in 81 years from Dec 2019 to February 2020, with 10% of our 30 year average snowfall (NOAA National Climate Report). Insects that overwinter as immatures or adults in above-ground protected areas are typically favored by mild winters, especially species that are not cold-hardy because much of the population would typically die during the winter. However, the lack of snowfall can also reduce overwintering survival because snow can insulate against freezing temperatures. Mild winter conditions favor green bug aphids and winter grain mite outbreaks in small grains and orchardgrass, and these pest populations can build rapidly. Fortunately, mild winters also favor many beneficial natural enemies. Greenbug aphid outbreaks have been observed in central Maryland orchardgrass (see Figure 1), and greenbugs have also been observed in Delaware. Overall, aphid populations have been spotty in Delaware and promising natural enemy activity has been observed (UD Weekly Crop Update, March 20). However, close surveillance is necessary when greenbug is the predominate species because greenbug injects toxic saliva during feeding and can be very destructive. It is important to carefully scout your fields for aphids multiple times to determine whether populations are building or crashing on your farm. Management interventions may be necessary to prevent economic losses. Winter grain mites may also be a problem this year and scouting close to the soil surface is necessary to catch this issue in a timely manner.

Cereal Aphids and Greenbugs. Multiple species of aphid occur in Maryland small grains and orchardgrass (see Figure 2) and aphids can vector barley yellow dwarf virus. Bird-cherry oat aphids vector the most severe strain and may need to be managed in the fall to prevent damage from barley yellow dwarf, especially in intensive management wheat. Although the direct damage from aphid feeding is generally similar across species, it is especially important to record species if greenbugs are present. Greenbug saliva contains enzymes that break down cell walls, so their feeding is most damaging. They initially cause spotting on the leaf followed by discoloration and eventual leaf and root death if feeding continues. Grain cultivars vary in their tolerance for greenbug damage. One of the first noticeable symptoms of aphid outbreaks are circular yellow to brown spots with dead plants in the center (see Figure 3, next page); however, aphid damage may be confused with moisture stress and/or nitrogen deficiency so make sure to scout for aphids especially in areas that are showing stress symptoms. Scout a minimum of 1 linear row foot in 10 sites, the more row feet and locations the better, and estimate...
the number of aphids per foot of row. The rule of thumb treatment threshold for small grains is to treat if counts exceed 150 per linear foot throughout most of the field, with few natural enemies detected (e.g., mummy aphids, lady beetles, fungal infections). One natural enemy to every 50 to 100 aphids can be enough to control the population. This threshold may be lower if greenbugs are the predominant aphid and greenbug populations should be carefully monitored. Foliar insecticides including pyrethroids (Group 3A), neonicotinoids (Group 4A), and organophosphates (Group 1B) can be used to control aphids.

Winter Grain Mite. Winter grain mites are a cool season pest of small grains and orchardgrass that cause a silvery leaf discoloration from feeding damage that punctures individual plant cells. Feeding can also stunt plants. Winter mites have a dark brown to black body with bright reddish-orange legs (see Figure 4). Somewhat uniquely, their anal opening is on the upper surface and can appear as a tan to orange spot that is more visible under magnification. Two generations of winter grain mite occur per year and are active from the fall to early summer. They oversummer in the egg stage, with the first generation hatching around October and adult populations peaking in December or January. The second generation peaks from March to April and produces the oversummering eggs. Because spring eggs result in fall populations, rotating the crop away from grasses and managing wild grasses around field edges can be helpful to reduce populations. Adult activity occurs when temperatures are between 40 and 75°F, and they prefer cool, cloudy calm weather. Therefore, winter grain mites are easier to see during these conditions, and more likely to be higher on the plant during the early morning or late evening. If you are scouting on a hot, dry day or in the middle of the day, you should check under residue where the soil is moist, and may need to dig 4 or 5 inches into the soil to find the mites. Winter grain mite does not typically cause economic damage, and no thresholds have been developed. If large portions of a field show symptoms and mites are present, treatment may be warranted. No products are specifically labeled for winter grain mite; however, products labeled for brown mite such as dimethoate (Group 1B, in wheat only) are likely to be effective. Warrior II (pyrethroid, Group 3A) may also provide suppression.

References and Useful Extension Articles:
Kansas State University Wheat Pests, Winter Grain Mite, https://entomology.k-state.edu/extension/insect-information/crop-pests/wheat/winter-grain-mite.html
The Importance of pH and Liming Material

Kelly Nichols, Agriculture Agent Associate
University of Maryland Extension, Frederick County

If I were stranded on a desert island and could do only one part of the soil test to determine how to grow food, I would test for pH. This statement, made by Dr. Doug Beegle, my soil fertility professor, highlighted how important soil pH is. For most agronomic crops, the ideal pH is between 6.0 and 6.5. Alfalfa and barley prefer a bit higher pH of 6.5-7.0. Between the pH of 6 and 7, nutrient availability is at its optimum. Outside that range, key nutrients such as nitrogen, phosphorus, and potassium become more tightly bound to other nutrients and unavailable for the crops to take up (Figure 1). Below 6.0, nutrients such as iron, copper, and aluminum become more available, and in some cases could result in toxicity to the crop.

Over time, the pH of soil naturally decreases. So, to increase the pH, we add lime. The soil test results will provide the amount of lime needed to increase pH to the optimum level.

The lab uses the current soil pH and acidity of the soil to determine how much lime is needed. (Your soil test may report the acidity, which is measured in milliequivalents per 100 grams [meg/100 g]). Also, if your soil test result includes the buffer pH, ignore that number. It is the pH of the buffering solution used during the test, and not the pH of the actual soil.

Let’s say your soil test result says that you need 2 tons of lime per acre to increase the pH to 7.0. Does that mean you can put on 2 tons of whatever liming material you like best? Not quite. The results are given based on the assumption of using calcium carbonate, which is considered pure limestone and given a rating of 100% calcium carbonate equivalent, or CCE. All other liming materials are compared to calcium carbonate and given their own CCE (Table 1). For example, burned lime has a CCE of 178. This means that it has more acid-neutralizing activity than pure calcium carbonate; therefore, less material can be used to obtain the same neutralizing activity as pure lime. Wood ashes, on the other hand, has a CCE of 40; therefore, more material needs to be applied in order to adjust the pH.

Don’t forget to take the price into consideration when comparing liming materials! For example, if ground shells are really cheap, that’s great; but it has a lower CCE, so you’ll need to apply more.

For more information, click here to read the Soil pH Management and Determining Lime Rates fact sheet.
Agricultural Conservation Leasing

Sarah Everhart, Legal Specialist
University of Maryland Francis King Carey School of Law

Last winter, agricultural service providers, such as Extension agents and staff from Soil Conservation Districts and NRCS, attended statewide Agricultural Conservation Leasing workshops co-hosted by Sarah Everhart, Agricultural Law Education Initiative (ALEI), University of Maryland Carey Law School and the Harry R. Hughes Center for Agro-Ecology, Inc. (Hughes Center). The workshops highlighted the importance of using a simple farm lease to support the implementation of best management practices on leased farmlands.

Conservation practices tend to be less common on leased acres for a variety of reasons, including but not limited to, instability in the leasing relationship, poor communication between landowners and farmers, and a lack of knowledge of practices and funding opportunities. In an effort to address these factors, the ALEI and the Hughes Center created the Agricultural Conservation Leasing Guide. The Leasing Guide is a great tool for both landowners and farmers. The first step in this process for most leasing parties is to contemplate and communicate their goals for the farming operation. The Leasing Guide contains communication strategies and tools to help parties take these vital first steps. For landowners who are unfamiliar with agriculture and/or on-farm conservation practices, the Leasing Guide contains an explanation of how the structure and term of a lease can impact conservation and descriptions of commonly used conservation practices. There are also considerations and sample lease language for conservation practices, useful for both landowners and farmers, within the Leasing Guide.

According to Everhart, “we tried to make it as easy as possible for folks to use a lease to both protect themselves and support the use of best management practices on the farm. We heard from many farmers that maintenance of these practices can be an unwelcomed and often uncompensated addition to a farmer’s workload, so we included numerous ways to use lease language to equitably allocate responsibilities related to these practices.”

“We have been really pleased with number of farmers and landowners who have benefited from the Agricultural Conservation Leasing Project thus far. At this point, we estimate that, due to the Project, 45 farmers have incorporated conservation practices on leased farmland and we anticipate more to do so in the future”, said Nancy Nunn, Assistant Director, Hughes Center.

The ALEI and the Hughes Center are available to offer technical support and educational resources (leasing resources are available for download on the Hughes Center website (go.umd.edu/conservationleasing). Anyone with questions about this project can contact Sarah Everhart, (410) 458-2475, severhart@law.umaryland.edu. The Project is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, through the Northeast Sustainable Agriculture Research and Education program under subaward number ENE18-151.
Currently, 0% of the state is under any drought condition. Temperatures throughout the winter have been mild and that trend is predicted to continue with 40-50% chances of above normal temperatures in April. There are equal chances for above, below, and normal precipitation.
University of Maryland Agronomy Faculty Directory

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<tr>
<td>Allegany</td>
<td>Sherry Frick</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:sfrick@umd.edu">sfrick@umd.edu</a></td>
<td>(301) 724-3320</td>
</tr>
<tr>
<td>Anne Arundel</td>
<td>R. David Myers</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:myersrd@umd.edu">myersrd@umd.edu</a></td>
<td>(410) 887-8090</td>
</tr>
<tr>
<td>Baltimore</td>
<td>Erika Crowl</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:ecrowl@umd.edu">ecrowl@umd.edu</a></td>
<td>(410) 887-8090</td>
</tr>
<tr>
<td>Baltimore City</td>
<td>Neith Little</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:nglittle@umd.edu">nglittle@umd.edu</a></td>
<td>(410) 856-1850</td>
</tr>
<tr>
<td>Caroline</td>
<td>Jim Lewis</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:jlewis2@umd.edu">jlewis2@umd.edu</a></td>
<td>(410) 479-4030</td>
</tr>
<tr>
<td>Carroll</td>
<td>Bryan Butler</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:bbutlers@umd.edu">bbutlers@umd.edu</a></td>
<td>(410) 386-2760</td>
</tr>
<tr>
<td>Garrett</td>
<td>Peter Coffey</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:pcoffey@umd.edu">pcoffey@umd.edu</a></td>
<td>(410) 386-2760</td>
</tr>
<tr>
<td>Cecil</td>
<td>Doris Behnke</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:dbehnke@umd.edu">dbehnke@umd.edu</a></td>
<td>(410) 996-5280</td>
</tr>
<tr>
<td>Charles</td>
<td>Alan Leslie</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:aleslie@umd.edu">aleslie@umd.edu</a></td>
<td>(301) 539-3055</td>
</tr>
<tr>
<td>Dorchester</td>
<td>Emily Zobel</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:ezobel@umd.edu">ezobel@umd.edu</a></td>
<td>(410) 228-8800</td>
</tr>
<tr>
<td>Frederick</td>
<td>Kelly Nichols</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:kellyn@umd.edu">kellyn@umd.edu</a></td>
<td>(301) 600-3578</td>
</tr>
<tr>
<td>Garrett</td>
<td>Willie Lantz</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:wlantz@umd.edu">wlantz@umd.edu</a></td>
<td>(301) 334-6960</td>
</tr>
<tr>
<td>Harford</td>
<td>Andrew Kness</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:akness@umd.edu">akness@umd.edu</a></td>
<td>(410) 638-3255</td>
</tr>
<tr>
<td>Kent</td>
<td>Nate Richards</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:nrichard@umd.edu">nrichard@umd.edu</a></td>
<td>(410) 778-1661</td>
</tr>
<tr>
<td>Queen Anne's</td>
<td>Jenny Rhodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:jrhodes@umd.edu">jrhodes@umd.edu</a></td>
<td>(410) 758-0166</td>
</tr>
<tr>
<td>St. Mary's</td>
<td>Ben Beale</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:bbeale@umd.edu">bbeale@umd.edu</a></td>
<td>(301) 475-4484</td>
</tr>
<tr>
<td>Somerset</td>
<td>Sarah Hirsh</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:shirsh@umd.edu">shirsh@umd.edu</a></td>
<td>(410) 651-1350</td>
</tr>
<tr>
<td>Talbot</td>
<td>Shannon Dill</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:sdill@umd.edu">sdill@umd.edu</a></td>
<td>(410) 822-1244</td>
</tr>
<tr>
<td>Washington</td>
<td>Jeff Semler</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:jsemler@umd.edu">jsemler@umd.edu</a></td>
<td>(301) 791-1304</td>
</tr>
<tr>
<td>Wicomico</td>
<td>Ginny Rozenkranz</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:rosnkrnz@umd.edu">rosnkrnz@umd.edu</a></td>
<td>(410) 749-6141</td>
</tr>
<tr>
<td>Worcester</td>
<td>Maegan Perdue</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:mperdue@umd.edu">mperdue@umd.edu</a></td>
<td>(410) 651-1350</td>
</tr>
</tbody>
</table>

**UNIVERSITY OF MARYLAND EXTENSION SPECIALISTS**

<table>
<thead>
<tr>
<th>Role</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicole Fiorellino</td>
<td><a href="mailto:nfiorell@umd.edu">nfiorell@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Agronomist</td>
<td></td>
</tr>
<tr>
<td>Kelly Hamby</td>
<td><a href="mailto:kahamby@umd.edu">kahamby@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Entomologist</td>
<td></td>
</tr>
<tr>
<td>Dale Johnson</td>
<td><a href="mailto:dmj@umd.edu">dmj@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Extension Farm Management Specialist</td>
<td></td>
</tr>
<tr>
<td>David Ruppert</td>
<td><a href="mailto:druppert@umd.edu">druppert@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Nutrient Management Program Coordinator</td>
<td></td>
</tr>
<tr>
<td>Amanda Grev</td>
<td><a href="mailto:agrev@umd.edu">agrev@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Extension Pasture &amp; Forage Specialist</td>
<td></td>
</tr>
<tr>
<td>Kurt Vollmer</td>
<td><a href="mailto:kvollmer@umd.edu">kvollmer@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Extension Weed Management Specialist</td>
<td></td>
</tr>
<tr>
<td>Paul Goeringer</td>
<td><a href="mailto:lgoering@umd.edu">lgoering@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Extension Legal Specialist</td>
<td></td>
</tr>
<tr>
<td>Gurpal Toor</td>
<td><a href="mailto:gstoof@umd.edu">gstoof@umd.edu</a></td>
</tr>
<tr>
<td>University of Maryland Nutrient Management Specialist</td>
<td></td>
</tr>
</tbody>
</table>

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Temperatures have been above normal for most of the month. Soil moisture is also slightly above average. Manure applications as well as commercial fertilizer applications are in full swing. Small grains are looking good and in some cases oats have overwintered without significant damage, increasing potential forage options. Corn will soon be going in the ground and some sweet corn is already planted. Will the mild winter result in increased weed, insect and disease issues this year? Only time will tell. -Jeff Semler, Washington Co.

Farmers have been applying manure and fertilizer over the last couple of weeks. It's been a bit wet, but it's warming up, and we'll see more planters in the fields over the next few weeks. I have gotten several questions about controlling Japanese stiltgrass, mostly in pastures and hay fields. Japanese stiltgrass is an annual, so the key is to prevent it from producing seeds. It also germinates earlier than crabgrass, so it is important if you have stiltgrass to be out earlier (i.e. late winter/early spring) when scouting and using control methods like a pre-emergent herbicide. For more information, please visit the Frederick County Ag FAQs page. –Kelly Nichols, Frederick Co.

It's been a mild March and small grains are off to a quick start. Most all wheat has had it's second shot of nitrogen and is coming along nicely. Field conditions have been fair, although a tad on the wet side that has interrupted some field work, like manure applications; but overall, not a bad start to the 2020 field season. Soils are warming up fast and planters should be hitting the fields in a couple of weeks. -Andy Kness, Harford Co.

Most lime has been spread. Most second applications of nitrogen with herbicide have been made to small grains. Over half of manure has been spread and cover crop burn down started a couple weeks ago. Planters are ready to, just waiting on warmer/drier weather. -Jim Lewis, Caroline Co.

Farmers are busy preparing for planting. Rain showers have slowed some field work. Everyone is busy spreading litter/manure, applying herbicides and completing field operations before planting commences in the next week or so. Small grain crops are at jointing stage. Most of the second N applications have been made. Hay fields are greening up now. We have not experienced any issues with crop inputs. –Ben Beale, St. Mary’s Co.

Winter wheat looks good in many fields. We have seen much growth in the past two weeks. Growers have been applying manure across the region. Cover crops have been terminated on what seems to be about half of the acreage. I have not seen any early season corn planted yet. Field conditions are quite wet at the moment due to recent rains. –Sarah Hirsh, Somerset Co.