

# AG INSIGHT



University of  
Maryland Extension

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M—F 8:00 a.m.—4:30 p.m.

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## April 2021

The Extension office is open by appointment only .

### The 17-year Cicada is Set to Emerge in 2021

Just like COVID-19 invaded and overtook our lives last year, we have another invasion to lookout for this year—Brood X of the 17 year periodical cicada is set to emerge in the millions per square mile this summer, and we are right in the epicenter on this Brood's range!

There are seven different species of periodical cicadas (four with 13-year lifecycles and three with 17-year), as well as annual cicadas; however none of them compare in size to Brood X of the 17-year cicada.

Populations can be as high as 1.5 million per square mile, which puts the total population of Brood X into the several trillions, nearly all of which will emerge this summer.

Cicadas (sometimes inaccurately called 'locusts', which are a form of grasshopper), emerge from the ground as immatures called nymphs. The nymphs spend 17 years under the ground, feeding on plant roots. In the case of the 17-year cicada, when the time comes (17 years after they dropped to the ground) they burrow out of the ground and emerge. They will then find an appropriate plant or surface to climb up and perform their final molt/transformation into a full adult. Adult 17-year cicadas are dark brown to nearly black in color with orange accents and red eyes.

Once emerged and molted, they will begin their mating rituals. Males call to attract females, which do not make any calls. The noise is often likened to a chainsaw or a two-stroke engine. Once they mate, the females will begin to lay eggs by using her ovipositor to slice into the bark of trees where she will deposit her eggs. Each female is capable of laying up to 400 eggs in 40 to 50 pockets in the wood of several small branches of many types of trees. Some of the most susceptible trees recorded in 2004 included paperbark maple, oaks, maples, ornamental pears, and fruit trees. The type of branches preferred by females is about the width of a pencil. Egg laying occurs for about 30-45 days. Adult cicadas do not actually feed on plants—the damage to trees done by cicadas occurs from the oviposition scars created by the females.

Five to seven weeks after laying, the eggs will hatch. The tiny first instar nymphs will drop to the ground, burrow, then feed and grow until they are ready to emerge in 17 years.

If you have young trees, especially fruit trees or any high-value ornamentals, you can cover them with fine mesh netting to prevent the female cicada from laying eggs.



Stanton Gill, U of Maryland

Adult 17-year periodical cicada female

Educating People To Help Themselves

Local Governments • U.S. Department of Agriculture Cooperating

## Dry Bulb Mite Found in Maryland Garlic

Jerry Brust, University of Maryland and Karen Rane, University of Maryland

In December we received a sample of damaged garlic cloves from a grower on the Eastern Shore. The grower quite astutely thought it might be due to mites and he was correct. But it was not the garlic bulb mite (*Rhizoglyphus* spp), instead it was a mite that has not been recorded in Maryland until now, the dry bulb mite *Aceria tulipae*. It is the most important eriophyid mite attacking bulbous plants such as garlic, onion and tulip. This pest is a microscopic (only 1/100 inch), white mite with a cylindrical shape that tapers away from the head-end where its four legs are located. The mites go through two larval phases during their development. A complete life cycle at 75-80° F takes just 8-10 days. All life stages of the mite can overwinter on infected garlic while in storage and all stages also can survive in the soil on wild and cultivated *Allium* species, including onion, garlic and leeks.

Mites can be found on the foliage of *Alliums* where they are mainly located in the central veins or midribs of the leaves. Once the plant leaves die, the mites move to the bulbs in the ground. The mite is then found between the layers of the bulb when in storage and will feed using their very short pincer-like mouthparts to prick the plant tissue often making brown very small pits in cloves (Fig. 1). Dry bulb mites will feed on healthy green plant tissues while bulb mites *Rhizoglyphus* spp, feed primarily on decaying tissue, thus making the dry bulb mites much more of a problem for garlic and onion growers. Light infestations of this mite are very difficult to detect and is the reason infested bulbs can be used as seed in a field.

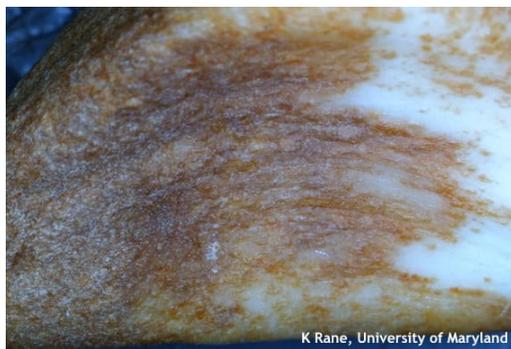
Figures 2, 3 and 4 do an excellent job of showing how hard it is to actually detect even a very large population of dry bulb mites on a garlic clove. Figure 2 shows the clove under low magnification with large areas of feeding damage (browning tissue) with a whitish 'dust' to the left in the picture (you cannot see any mites yet), magnifying this further you can see in Figure 3 the white 'dust' now can be seen as tiny white thread-like shapes and Figure 4 under greater magnification shows hundreds of these cylindrical or thread-like shapes—all being dry bulb mites. Most of the mites on this bulb were dead most probably due to the drying process of the bulb.

Most, but not all management tactics involve cultural controls. The first is to rotate out of a field that is known to have the mite for at least 3-4 years making sure there are no volunteer or wild *Allium* species left in the field during the rotation. Be sure to plant clean seed, as infested cloves are the most frequent source of infection in the field. Flood irrigation or even heavy winter rains can reduce these mite populations. Soaking seed stock for 24 hours immediately before planting in a 2% soap (do not use a detergent) and 2% mineral oil water bath will greatly reduce mite populations in the field. Light or moderate infestations are usually controlled via the normal drying process prior to storage. Dusting bulbs with sulfur prior to planting has reduced populations in the field. Be sure to control any wild *Allium* species in the field before and after planting. In storage the mites' feeding can cause the cloves to desiccate and shrivel. Dry bulb mite feeding may also open the bulb up to soft rot bacteria resulting in rotting bulbs. Although hot water treatment of the seed garlic at 130° F for 10-20 minutes can give you good control of the mites it will more than likely damage the bulbs and reduce germination. So be careful with this last recommendation and use only as a last option.



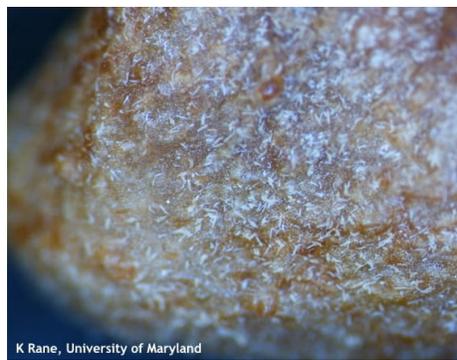
Oregon State University Plant Clinic

Figure 1. Feeding damage on garlic clove by dry bulb mites



K Rane, University of Maryland

Figure 2. Garlic clove with brown areas (left side) showing dry bulb mite feeding damage with a white 'dust'



K Rane, University of Maryland

Figure 3. Area of garlic clove with heavy mite feeding under greater magnification showing tiny white thread-like objects



K Rane, University of Maryland

Figure 4. Greater magnification of Fig. 2 showing 100s of dry bulb mite bodies

## MDA's Pesticide Disposal Program

Maryland Department of Agriculture, [press release](#)

The Maryland Department of Agriculture's Pesticide Disposal Program is a free service for all current or retired farmers and producers, including orchardists, nurserymen, greenhouse operators, and Christmas tree growers.

The program will collect any product with a registration number from the U.S. Environmental Protection Agency (EPA) or U.S. Department of Agriculture (USDA), and any other material that can be identified as a pesticide. Any unknown material will be sampled and tested by MDA prior to collection to ensure safe and proper disposal.

To participate in the program, farmers are asked to fill out the [registration form](#) and submit to MDA's Pesticide Regulation Section. The application period runs from March 15 - Sept. 15, 2021.

After reviewing applications, an MDA inspector will schedule a site visit to verify information. Once the program has a complete inventory of materials that need to be disposed, MDA will contract a licensed hazardous waste hauler to collect the pesticide materials directly from the storage site and transport to an EPA-approved disposal facility. Pickups are expected to begin in October 2021.

MDA's Pesticide Disposal Program was first introduced in 1995, and was last conducted in 2011. The program has collected nearly 190,000 pounds of unusable or unwanted pesticide from 385 sites since its inception. Funding for the program comes from licensing, certification and registration fees collected from pesticide businesses, certified applicators, and pesticide manufacturers and registrants.

For more information on the program, please consult our [Frequently Asked Questions](#) document or contact the [Pesticide Regulation Section](#) at 410-841-5710.

## The 2021 Southeast Regional Strawberry IPM Guide— Now Available!

This is a comprehensive guide from pre-plant considerations through specific phenological based disease and insect management, as well as weed and vertebrate pest management. The guide also contains information on resources like websites, Apps, and on-line diagnostic tools. It concentrates on plasticulture production but also has a section on matted-row weed management. And, of course, much of the basic pest management and pesticide efficacy is applicable for matted-row. It is now available online for **FREE** PDF download through the Southern Region Small Fruit Center at:

<https://smallfruits.org/files/2020/12/2021-Strawberry-IPM-Guide.pdf>



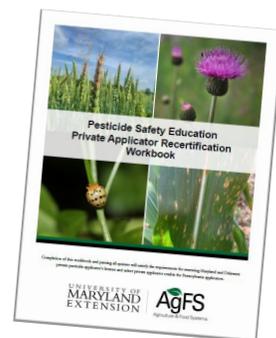
## Pesticide Applicator Workbook

A team of Extension Agents from University of Maryland, University of Delaware, PennState have produced a workbook for applicators that do not have access to our virtual recertification materials.

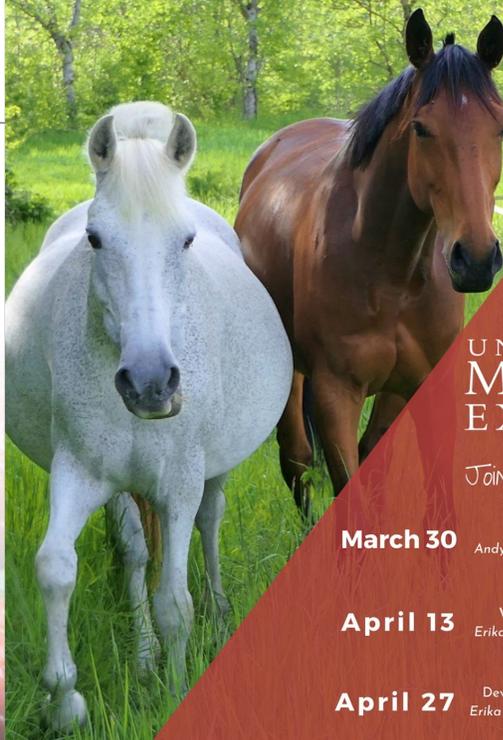
This workbook is intended to give Maryland Private Pesticide Applicators the recertification training (**4 credits**) needed to renew the applicator's license. Topics covered in this workbook are MDA-approved and are equivalent to two hours of in-person training needed every three years to renew your private applicator's license. This workbook is also approved for **three (3) Delaware** credits and select **Pennsylvania** credits (contact 410-638-3255 for details).

In order to receive credit you must complete the entire workbook. At the end of this workbook you will answer a 30 -question quiz and return it to the Baltimore County Extension Office.

**To order your workbook**, please call the Baltimore County Extension Office at 410-887-8090.



## 2021 Spring Equine Webinar Series



UNIVERSITY OF  
MARYLAND  
EXTENSION

Join us at 5 pm EST

**March 30**

Spring Pasture Management  
Andy Kness, University of Maryland Extension  
<https://go.umd.edu/pastures>

**April 13**

What Vaccines Do My Horses Need?  
Erika Crowl, University of Maryland Extension  
<https://go.umd.edu/springvaccines>

**April 27**

Develop a Fly Control Plan for your Farm  
Erika Crowl, University of Maryland Extension  
<https://go.umd.edu/flycontrol>

Use the links to register for each webinar individually. Confirmation emails will contain your unique log-in information. Registration is **REQUIRED**

For more information contact Erika Crowl at [ecrowl@umd.edu](mailto:ecrowl@umd.edu) or 410-887-8090

## What to do with Thinning Alfalfa Stands

Jeff Semler, University of Maryland Extension

It's the time of year when our alfalfa fields are just waking from winter slumber, or at least we hope they are. We are hopeful that a combination of favorable moisture and thoughtful management will have fields greening up with a strong stand.

Unwelcome are brownfields or something close to it. Fortunately, this doesn't happen often. Yet, when it does, the decision of what's to follow is painful but an easy one to make — time to put this field out of its misery and plant something else.

Of course, there is another possibility between dead and alive; the thin, marginal alfalfa stand. Perhaps a better outcome than the dead field but certainly more agonizing from a decision-making standpoint. These are the fields that have been uniformly thinned or have areas of dead plants and the other regions of productive plants.

On a typical alfalfa and corn silage-based dairy farm, the marginal alfalfa field generally offers four alternatives:

1. Keep the field for the duration of the season and accept the reduced yield.
2. Take just the first cutting and then plant a short-season corn hybrid for silage.
3. Terminate the field early and plant a full-season silage corn.
4. Interseed the field with non-alfalfa species such as red clover, cool-season grass, which can also be followed with a warm-season annual.

### Two corn options

By planting corn for silage early, you give up all alfalfa production on the field for the current year, but you ensure maximum silage yields from early planting and using a full-season hybrid. Still, this choice may not seem too appealing if you need the alfalfa in the short run or if it's a relatively new stand and you want to capture more return on the establishment investment.

By waiting to take the first cutting before planting corn, you get some alfalfa production to fill a short-term need; however, this is done at the expense of potential reduced corn silage yield. Receiving adequate moisture and controlling weeds after the corn is planted are the keys to success.

## Strengthening the stand

Interseeding other forage species into a marginal alfalfa stand is a strategy that has been done with regularity for many years. As most alfalfa growers know, autotoxicity makes it nearly impossible to seed alfalfa back into alfalfa successfully.

When considering interseeding options, you must decide if you want fast or permanent forage. In the latter case, a cool-season grass such as orchardgrass or novel endophyte tall fescue works well. Of course, additional forage yield won't be realized until later in the growing season.

Perennial forage is the right choice for younger alfalfa stands where you want to extend the life of a currently marginal alfalfa stand. Some producers do this regularly after two or three years, even when alfalfa winterkill isn't an issue. Another biennial option is to use red clover, but realize it is slow to dry if you plan to bale hay.

For fast forage that is high quality, annual or Italian ryegrass is pretty hard to beat. It is easily interseeded and grows rapidly. As a one-year fix, Italian ryegrass checks all the boxes as long as adequate precipitation is received throughout the summer.

Another option to consider is to interseed oats early and follow it with warm-season annuals such as sudangrass or millet after first cutting. Once established, these annuals can be cut on an alfalfa schedule. They complement alfalfa well, bringing an energy component to the protein in the alfalfa.

### Continually monitor alfalfa growth

As the season progresses, you will need to consider what is next for the stand. If the stand is still worth a little kick in the pants, no-till a winter cereal such as rye or triticale after the early fall harvest. Then chop it next spring and follow with corn to take advantage of the residual nitrogen from the alfalfa stand.

If forage is short, another option is to plant forage oats into the stand in late summer for a late fall harvest. If you want to double down plant spring oats with triticale, you will have both a late fall and spring forage harvest. You will need to rotate out of the exhausted stand with corn or a sorghum species by this time.

The right thing to do varies with each year and each farm situation. The problem is that the best choice is almost always dependent on future weather conditions that can never be predicted at the time of the decision.

## Grazing Mistakes to Avoid

Dr. Amanda Grev, University of Maryland Extension

Fortunately or unfortunately, people are creatures of habit. Over the years, we've developed behaviors and habits that will stick with us for a lifetime. This applies to our daily routines and the choices we make, both good and bad. Whether it's not getting enough sleep, skimping on the sunscreen, or neglecting to floss on a daily basis, we often find ourselves guilty of making the same mistakes again and again. Unfortunately, this same phenomenon also holds true when it comes to grazing livestock. As you make plans for the upcoming growing season, here are a few of the more common grazing mistakes that we often fall prey to. Let's do our best to break that habit and avoid these mistakes moving forward.

### 1. Not understanding the plant's needs

There is a reason grazing heights and rest periods are so frequently discussed when it comes to forage management. Plants need to maintain enough stored energy to regrow following a grazing bout. Removing too much of the photosynthetic factory (i.e. the leaves) severely limits the plant's ability to recover and regrow and sets the stage for further energy depletion and overgrazing the next time through the rotation. That being said, it is important to recognize that not all plants store their energy reserves in

the same place. For example, while legumes like alfalfa store their energy in below ground structures, grasses like orchardgrass store their energy reserves in the base of the stem. Removing these storage structures by grazing too closely limits the plant's capacity not only to regrow after grazing, but also to generate new tillers and persist long term. This is the basis behind recommendations on beginning and ending grazing heights and the reason a field of alfalfa will persist at a lower grazing or cutting height compared to orchardgrass or other cool-season grasses, most of which need at least 3 to 4 inches of post-grazing residual to maintain sufficient energy reserves.

### 2. Not managing for even forage utilization

Pastures often develop areas with heavy usage and low forage availability, while other areas have less grazing pressure and abundant forage. As a result, the areas that are heavily grazed become more overgrazed while the areas that are left alone are understocked and the remaining forage becomes mature and declines nutritionally. Several management strategies exist to promote more even forage utilization across the field. Making water and shade available in other areas of the field to attract livestock to less desirable areas, mowing or clipping low-use or overgrown areas to keep forages vegetative, and subdividing the field into smaller sections for rotational grazing can all help alleviate this issue and result in greater forage utilization and productivity long-term.

### 3. Not investing below the soil surface

Practices like soil sampling and maintaining appropriate soil fertility are an investment but cannot be overlooked. Soil tests

are a critical component in pasture management because they are the only way to determine limiting nutrients and soil pH. Soils will naturally become more acidic over time, and if the pH is too low certain nutrients will become less available to plants and toxicities may occur. Liming as needed and keeping up with soil nutrient status are essential investments to the health and productivity of a forage stand. Although it is true that under a pasture setting a large portion of nutrients are retained and recycled through the deposition of manure and urine, consider where those nutrients are being spread. They may not always be deposited evenly across the pasture and are likely more concentrated around water and shade sources or in laneways and other highly trafficked areas. Implementing some form of rotational grazing can help achieve a more even distribution of manure across the pastures and can be used together with any necessary lime or fertilizer to maintain soil fertility and keep forages productive.

### 4. Not maintaining flexibility in your operation

Flexibility is key when environmental and growing conditions vary from year to year and season to season. Good managers have to allow for flexibility and adaptive management in grazing systems to achieve desired outcomes. Examples of flexibility include adjusting stocking rates, changing rotational frequency and/or order of rotation, and potentially supplementing pastures with other forage sources as needed. For example, hotter and drier weather during the summer means grass growth rates will slow down and the amount of rest required may be much longer than that required during the spring when rapid growth is occurring; adjust your

rotational schedule accordingly by rotating faster when the pastures are growing faster and slower when the pastures are growing slower. Maintaining flexibility in your system will allow you to balance the length of the rest period with the plant growth rate and is fundamental to successful grazing management.

### 5. Not keeping good records

With variables like forage growth rate and animal consumption constantly changing from day to day it can be a challenge to balance supply and demand for maximum efficiency. While it does require additional time to complete, putting together a grazing plan and keeping records on things like forage production and the timing of graze/rest periods allows you to more accurately evaluate how things went, assess your goals and limitations, and make plans to adjust for the coming year. A successful grazing plan can also help you be better prepared for weather-related issues and make sure you have enough forage to get you through the grazing season. There are an abundance of planning and monitoring tools available to help you accomplish this, including everything from paper charts to web-based tools to smart phone apps or technologies. If you're interested and looking for something to get you started, check out one of the free grazing charts available at <https://onpasture.com/2021/03/08/get-your-free-2021-grazing-planning-chart-and-instructions-here/>.

# UNIVERSITY OF MARYLAND EXTENSION

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## DATES TO REMEMBER

**April 6** Grain Marketing Workshop. 8am. Free.  
Call 410-310-0103 to register

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**April 13** What Vaccines Do My Horses Need? 5  
pm. Free. Register [https://go.umd.edu/  
springvaccines](https://go.umd.edu/springvaccines)

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**April 16** Common Poultry Diseases. 12 pm. Free.  
Register <https://go.umd.edu/happyhen>

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**April 23** Seed Saving Webinar Series. 10 am. \$5-  
\$20. Register [https://  
www.eventbrite.com/e/seed-starting-  
webinar-series-tickets-137455726779](https://www.eventbrite.com/e/seed-starting-webinar-series-tickets-137455726779)

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**April 27** Developing a Fly Control Plan for your  
Farm. 5 pm. Free. Register [https://  
go.umd.edu/flycontrol](https://go.umd.edu/flycontrol)

### Check out these additional online resources

[Agronomy News](#)

[Ag Marketing](#)

[Ag Law Initiative](#)

[Extension Website](#)

[Fruit & Vegetable News](#)

[Nutrient Management](#)

[Sheep & Goat Newsletter](#)

[Women in Ag](#)

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