

Ag Notes

Harford County Newsletter

UNIVERSITY OF
MARYLAND
EXTENSION

University of
Maryland Extension

Harford County
Agricultural Center

Suite 600
3525 Conowingo Rd.
Street, MD 21154
(410) 638-3255

M—F 8:00 a.m.—4:30 p.m.

Extension.umd.edu/harford-county

facebook.com/HarfordAg

Andrew Kness
Ag Extension Educator
akness@umd.edu

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Hello, Harford County!



February 2018

The Extension Office will be closed on
February 19 in honor of Presidents' Day



in the center of the Extension Suite where you'll find Caroline and Lynne. The 4-H educator offices are located to the right of the suite, along with our FCS and FSNE educator offices. Towards the left side of the suite you'll find the Master Gardener office, a workroom and then finally my office and Tricia's office.

Welcome to our new office! After months of anticipation and packing boxes, we're finally all moved in to the new Harford County Agricultural Center! This complex is at the corner of Route 1 and 136 in Dublin (officially, Street). All of Harford County's agricultural agencies will be under one roof offering clients greater efficiency and convenience between the agencies.

The other agencies that are currently moved in with us include: MDA Forest Pest Management, Harford County Soil Conservation District, Harford County Farm Bureau and the Harford County Government Agricultural Specialist. NRCS and FSA will join us at a later date once their leases expire in their current buildings.

I encourage you to visit the new complex if you get a chance! The property sits on 65 acres and will have plenty of room for demonstration gardens and agriculture BMP demonstrations and field crop demonstrations in the future.

If you plan on visiting us, enter through the main entrance by the road. Classes, workshops and meetings will be held in the teaching rooms and conference rooms located at the front of the building. If you proceed to the rear of the building, you will find the Extension Suite (suite 600). The administrative assistants offices are located

We hope that you'll find the new Harford County Agricultural Center a useful, one-stop resource for your agricultural needs. I can say from personal experience that it has been nice having everyone under one roof. So don't hesitate to pay us a visit; we are fully operational! Just ignore all the moving boxes.

Until next time,
-Andy



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

Palmer amaranth (*Amaranthus palmeri*) is a highly aggressive plant that is quickly spreading across the U.S. and Maryland, and is causing management nightmares for farmers. It has spread over much of the U.S. corn and cotton belts, and to many other areas of the country by hitching a ride in cottonseed feed, manure and used farm equipment. Without proper management, this weed will cause significant economic losses in any farming operation. As we begin to get ready for the 2018 growing season, be sure this weed is on your radar.

Palmer amaranth is a member of the pigweed family, which includes several ornamental species and other weeds that we currently have in Maryland including redroot pigweed, smooth pigweed, spiny pigweed and waterhemp. This particular species of pigweed is native to the Southwest United States in the Sonoran Desert. As a result, this plant is very well adapted to thriving in hot, droughty conditions in which most of our crop plants become stressed. This is one reason why this weed is especially hard to control; crops cannot compete with it. Corn is the best crop that can compete with Palmer; but even corn can be outmatched. The optimal photosynthesis temperature for corn is about 85°F; for Palmer amaranth it's 115°F. This means that as corn is beginning to slow down its growth rate, Palmer's is accelerating. As a result, Palmer is able to grow during the hottest part of the summer, virtually without competition from neighboring plants, and can do so with very little soil moisture.

The second factor contributing to this weed's aggressive nature is its resistance to herbicides. The ability for this weed to develop resistance to herbicides is a function of its biology. Palmer amaranth is a dioecious plant, meaning it has separate male and female flowers on separate plants. This means that a single female plant can be pollinated and fertilized by hundreds of different male plants, each contributing the genetic variation of the next generation. Furthermore, female plants can produce upwards of 500,000 seeds per plant and there can be multiple generations per year, as the plant can go from seedling to seed production in as little as two months under optimal conditions. Palmer amaranth's dioecious flower biology, high seed production and multiple generations per year all contribute to high genetic diversity, thereby allowing the plant to rapidly develop resistance to chemicals.

As with any pest, the first step towards managing it begins with proper identification. Palmer amaranth looks similar to the other common pigweed species in Maryland, so don't mistake it for something else. Here are a few tips you can use for identifying Palmer amaranth:

- One of the most diagnostic features of Palmer amaranth is its long petioles. Pull a fully emerged leaf off the plant and fold the petiole over the leaf blade (fig.1) . If you do this and the petiole is longer than the leaf blade, chances are that you have Palmer amaranth. If the leaf blade is as long or longer than the petiole, you more than likely have one of the other pigweed species.



Fig. 1. Palmer amaranth leaf. Note the petiole is longer than the leaf blade. Photo: Mark VanGessel, University of Delaware.

- Palmer amaranth will have a distinct rosette, poinsettia-like leaf arrangement when viewed from above (fig.2).



Fig. 2. Palmer amaranth viewed from above. Note the strong rosette, poinsettia-like growth habit. Photo: Mark VanGessel, University of Delaware.

- Female Palmer amaranth plants have very long seed heads. Remove individual spikes from the seed head; often they will reach 30 inches in length. If they are short (a few inches), you likely have a different *Amaranthus* species.
- Look closely at the stem. Palmer amaranth has smooth stems with no hairs, whereas redroot pigweed has fine hairs covering most of the stem.
- Look closely at the leaves (fig.3). Palmer amaranth has ovate to diamond-shaped leaves with a very tiny spur/hair on the very tip of the leaf blade. You may need a magnifying glass or a hand lens to see this. Leaves of common waterhemp are also ovate,

3 but are typically longer and the upper surface looks waxy. Redroot pigweed generally has much rounder leaves. About 50% of Palmer amaranth plants also have a white or purple chevron watermark on the upper surface of the leaf blade.



Fig. 3. Close-up of a Palmer amaranth leaf. Notice the tiny hair at the tip of the blade and the white watermark, which is present on about 50% of Palmer plants. Photo: University of Illinois Urbana-Champaign.

If you find a suspect weed in your field with a rosette structure, a hairless stem, ovate leaves with a spur on the tip and a petiole longer than the blade, it is likely Palmer amaranth. Call your local ag agent to get it confirmed. Once it has been identified as Palmer amaranth (or even before), it is time to take all necessary action to eradicate it from your field and do so quickly; Palmer can grow several inches in one day. One plant in any size field is too many.

When managing Palmer, assume that it is glyphosate and ALS resistant from the start, because it probably is. When using a chemical program it is imperative to start clean, utilize a multiple pass program, use residual herbicides and use multiple modes of action. You cannot and should not rely on a one-pass program for this weed; it will not work. For a comprehensive list of the latest herbicide programs for Palmer amaranth management in Maryland, see Ben Beale's publication, [Management of Palmer amaranth in 2017](#) (feel free to contact me for a copy). In addition to herbicides, here are some other management options that can be used in combination with each other and with herbicides to manage Palmer amaranth.

- **Tillage.** Deep tillage, including plowing, is an effective management practice for Palmer amaranth. Palmer seed is small (1 mm in diameter), thereby requiring shallow planting in order to germinate. Palmer cannot germinate under several inches of soil and seeds are only viable for about 3 years. Tillage is one of the only management options (besides hand-pulling) where plants exceed 4 inches in height.
- **Crop rotation.** Soybeans and nearly all other crops do not compete with Palmer amaranth. Rotating to

corn can help manage Palmer if it gets out of the ground quick enough to shade out young plants. An aggressive herbicide program will still be necessary.

- **Cover crops.** Because Palmer amaranth has such a small seed, a thick layer of mulch can be effective at reducing emergence. Additional research with Brassica cover crops indicate that they may have an allelopathic effect on Palmer, suppressing germination.
- **Mulch.** Similar to cover crops, using commercial plastic or biological mulches can be an effective management option. For organic mulch sources, make sure the mulch layer is at least a couple of inches thick.
- **Burning.** Research in Australia and Arkansas, laying and burning the chaff in a narrow windrow, has resulted in nearly 100% weed control, including Palmer amaranth. However, burning may not be a viable option here in the mid-Atlantic due to our wetter climate and burning ordinances/regulations.
- **Seed destructor.** Pull-behind or combine-mounted seed destructor machines that mechanically destroy weed seed in chaff are nearly 100% effective at destroying seed entering the combine but do not manage weed seed already on the ground. Additional management will be required to manage these escapes.
- **Hand-pulling/hoeing.** When all else fails, this is a viable and recommended option. In cotton and soybean fields in the South, they pay crews to hand-weed thousands of acres of cotton and soybeans because they did not properly manage this weed from the start and have no other viable management option. After pulling, it is recommended to burn the plants to completely destroy them because they often re-root if left in the field. If you find any escapes from your weed control program, it is imperative to remove them. Remember, just one plant will yield hundreds of thousands of viable seeds.

It is estimated that Palmer amaranth can cost upwards of \$75/acre to manage in heavily infested fields. It is important that we stay ahead of this weed and do all that we can to eradicate it from our fields, farms, lawns, gardens, waterways, roadsides, etc. So far, Palmer amaranth has been confirmed in every county on the Eastern Shore of Maryland, Southern Maryland, Carroll and Frederick County. Managing this weed demands a comprehensive approach; this is one weed that you do not want to have establish in your fields. For more information, or to get a suspect plant identified, call your local agriculture extension agent.

Pesticide Applicator Training

Training for private pesticide applicators will be given through the Harford County Extension Office on March 8. Optional training class for new applicators will be from 9-11AM, with exam on **March 15**, 9-11AM. Cost for the new certification class will be \$7, which includes your own copy of the *Maryland Pesticide Core Manual* to use as a study guide for the exam.

March 8

Harford County
Extension Office
3525 Conowingo, Rd.
Street, MD

Recertification training will be offered on March 8 from 1-3PM. Credits will satisfy Maryland continuing education credits (CEUs) necessary to renew your private applicator license. Class also satisfies 4 CEU credits for commercial applicators in categories 1A, 6 and 10. There is no cost for this class, but please register ahead of time.

Call the Extension Office (410-638-3255) or e-mail Andy to register (akness@umd.edu).

Herbicide Resistant Weeds Workshop

February 16

8AM-12PM

Chestertown Volunteer

Fire Department

211 Maple Avenue

Chestertown, MD

Come out to this free workshop to learn more about managing resistant weeds on your farm. Topics will cover: overview of weed resistance challenges; focus on palmer amaranth, common ragweed, marehail and others; integrated management strategies; and current research findings from area herbicide trials. This workshop is also approved for 8 credits in private applicator and 8 in commercial applicator. Call (410) 778-1661 to register or contact Matt Morris (mjmorris@umd.edu, 301-600-3578) for more information. An identical workshop will also be held in Fredrick on Feb. 23 (see the "dates to remember" section for details).



Instructional Videos For Pesticide License Renewal

Maryland Department of Agriculture (MDA) has recently moved to an online pesticide applicator license renewal system. After you've received credits for recertification you will get a postcard in the mail directing you to their new renewal website. Once you have renewed your license on their website they will process your renewal and

send you an email with instructions on printing your new license. They will no longer mail you a license. Because this is a new system, and may be confusing, we have partnered with MDA to put together instructional videos showing you how to use the website.

For instructions for renewing your license go to: go.umd.edu/renewinglicense

For instructions for printing your license go to: go.umd.edu/printinglicense

If you do not have internet access, you can request a paper renewal form from MDA at (410) 841-5710. If you don't have internet access but would still like to renew online, you may use one of our computers at the Extension Office, but please call ahead to schedule.



Calf Fed Holstein Beef Workshop

The University of Maryland Extension in cooperation with Penn State Extension will be holding a Calf Fed Holstein Beef Workshop Thursday, March 8, 2018 from 9:30am – 3:00pm at the Frederick County Extension Office: 330 Montevue Lane, Frederick, MD 21704. The workshop will be an educational program that will focus on the use of Holstein steer calves raised on high-grain feedlot diets to supply the beef market. Topics covered will include calf health, calf nutrition, feedlot nutrition and implantation, as well as the economics of feeding Holstein steers. The Speakers will include Dr. Lowell Midla - Veterinary Technical Services Manager with Merck, Cheryl Fairbarin - Extension Educator with Penn State Extension, Cassie Yost - Extension Educator with Penn State Extension and Dr. Tara Felix - Beef Extension Specialist at Penn State University. Registration will be \$10 per participant (includes catered lunch). Pre-registration is required. To register online go to: <http://umdcalffedholstein.eventbrite.com> or contact Racheal Slattery for registration: rslatt@umd.edu or call (301) 405-1392. For sponsorship opportunities or further information on the workshop, please contact Racheal Slattery, Beef and Dairy Extension Coordinator at The University of Maryland at rslatt@umd.edu or 301-405-1392.

March 8

*9:30AM-3PM
Frederick County
Extension Office
Frederick, MD*

Livestock

Maryland Beef Industry Producer Survey

University of Maryland Extension is conducting a comprehensive survey on the beef industry in Maryland in an effort to re-vamp beef programming in Maryland. The survey will remain open for response until March 3, 2018. Completing the survey should take no more than 10-15 minutes with the results being used to offer targeted educational outreach and training on topics related to beef production. All data will be stored on a secure server with access restricted to members of the research team. Your participation in this survey is voluntary and in no way affects your ability to take advantage of UME programs. This research has been approved by the University of Maryland Institutional Review Board (IRB #1158581-1).

The easiest way to complete the survey is to type the following link into a web browser on your computer: <https://tinyurl.com/MD-beefsurvey>. You can also request a paper survey if preferred at rslatt@umd.edu. If you need any further information on the survey or how the results will be used, please contact Racheal Slattery, at The University of Maryland at rslatt@umd.edu or (301) 405-1392. We thank you for your participation.

Harford County Mid-Winter Agronomy Meeting

The Harford County Mid-Winter Agronomy Meeting will be held on February 13, 2018 at the Deer Creek Overlook on 6 Cherry Hill Rd. in Street, MD. The meeting will satisfy the credit requirements for private applicator pesticide re-certification and nutrient management voucher training. Check-in begins at 8:30 and the program will begin at 9 a.m. This year's topics include: herbicide resistance and dicamba; soybean and disease update; seed saving laws and considerations; phosphorus cycling in soils; and grain bin safety. Participants will also have an opportunity to meet with local agribusiness vendors and sponsors. A full program agenda can be found [here](#). **Registration is \$12 by February 6 or \$20 at the door** and includes lunch. Please call the Harford County Extension Office at (410) 638-3255 or e-mail Andy at akness@umd.edu to register. Checks can be mailed made out to "HC EAC" and mailed to our **new office location** (Suite 600, 3525 Conowingo Rd., Street, MD 21154).

February 13

*9AM-3:30PM
Deer Creek Overlook
Street, MD*

Agronomy



Soybean Variety Trial Tests Posted

The results of the 2017 University of Maryland soybean variety trial tests have been published. The full report can be viewed [here](#), or call me at the office and I will print a copy for you. The purpose of the trials are to provide data to growers to aide in their seed selection. As a general rule of thumb, it is better to select a variety with good yield stability across multiple locations rather than the top-yielding variety at one location. I have pulled out some of the top performing varieties from the test based on overall average yield (average of full-season and double-crop across all test locations) and placed them in the table below as a quick summary. I highly recommend viewing the entire report because the data is difficult to summarize in a quick table. You can call or e-mail me with questions: (410) 638-3255, akness@umd.edu.

Group III		Group IV (early)		Group IV (late)	
Variety	Yield	Variety	Yield	Variety	Yield
Dyna-Gro S39XT08	69.2	Dyna-Gro S43X27	73.9	Doebblers RPM48R8	77.4
Mid-Atlantic Seed MAS3674	67.9	Unisouth Genetics USG7447XTS	71.5	Asgrow AG46X6	72.7
Agrow AG38X8	65.1	Asgrow AG43X8	69.3	Asgrow AG46X8	71.7
Unisouth Genetics	64.8	Armor Seed 44D51	69.1	Armor Seed ARX4607	71.0
Asgrow AG38X6	63.7	NK S43-V3X	69.0	Asgrow AG4835	69.8

Nutrient Management & MACs Cost-Share

Adapted from press release by Norman Astle – MACS Administrator

Agricultural operations participating in MACS cost-share programs will be required to certify that they have a current Nutrient Management Plan (NMP) beginning January 1, 2018. The [\[Current Nutrient Management Plan Certification Form\]](#), must be completed and submitted to the local Soil Conservation District office when applying to the MACS Program: capital, cover crop, manure transport, and/or manure injection. The form must be included with the MACS application package. Do not send separately. MACS applications received without this form will be considered incomplete.

The nutrient management consultant will need to sign the form and provide the requested information – certification and license numbers, the date the plan was written, and the period of time the plan covers. If the MACS applicant (landowner) does not hold the nutrient management plan the farm operator (tenant) must sign the certification.

This form replaces the “NMP Tracking Sheet for MACS Capital Projects” which will no longer be required. We suggest the landowner/operator keep the original form (file it with the NMP) in the event the applicant elects to participate in a MACS program in the future. A nutrient management plan should not be submitted with this form. For the cover crop program the form will be required beginning with the 2018/2019 program year. Although this form is required for all MACS programs, the form may be submitted at the claim stage rather than at the application stage for the Manure Transport and Manure Injection programs.

Finally, the form will be available at the MDA website as a fillable PDF document, posted on both the MACS and Nutrient Management pages (You may access this form at go.umd.edu/NMPCertification).



Farm Trucking & Equipment Forum

March 5

9:30AM-11:30AM

Clear Meadow Farm

3114 Troyer Rd.

White Hall, MD 21161

Representatives from the State Highway Administration, Maryland State Police, and Maryland Vehicle Administration will be on hand to answer questions. There will be discussion about the issues facing farmers on rural roads and state highways, you'll hear firsthand how the latest trucking rules and regulations can affect your business, and have questions answered about IRP's, permits, tags, and weight limits. Updated Farm Trucking Manuals will be available. For more information, contact Maryland Farm Bureau at 410-922-3426 or click [here](#).



Beginner Beekeeping Course

This beginner's beekeeping course is perfect for individuals who are curious about bee hives and the bees that maintain them. This course will help you build a framework to continue your education as a junior beekeeper, or simply a person who recognizes the irreplaceable value honey bees hold in our food system. The course will cover: beekeeping equipment; the biology of the honey bee; how to treat and deal with bee stings; what to do when a swarm occurs; general management of the bee hives; how to extract honey; how to identify and treat bee diseases. Tickets cost \$70 for one ticket or \$100 for two tickets. Everyone is expected to attend both days.

February 10 & 17

9AM-4PM

Baltimore County

Agricultural Center

1114 Shawan Rd.

Cockeysville, MD

Healthy Habitats For Native Wildlife

Join us for the workshop, "Healthy Habitats for Native Wildlife," at Oregon Ridge Nature Center in Hunt Valley. Expert speakers will provide you with answers to questions regarding the importance of native woody plants; characteristics and behaviors of Maryland mammals; what nectar and host plants attract butterflies and moths; information about bringing back the American Chestnut tree; and, how to identify some of our native trees in winter. The workshop includes a short walking tour to investigate woody plants in winter. Breakfast snacks, lunch, and all materials are included in the registration fee (\$50/person; \$80/couple). For more information and to register, contact Glenn Ferenschak (410-428-4748). Registration closes March 9.

March 24

9AM-3:15PM

Oregon Ridge

Nature Center

13555 Beaver Dam Rd.

Cockeysville, MD

Great resources are just a click away!

Andrew Kness

Andrew Kness
Extension Agent,
Agriculture and
Natural Resources



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akness@umd.edu

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

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3525 Conowingo Rd.
Street, MD 21154

Ag Notes

Harford County Newsletter

Dates to remember

- 9 Feb.** MD Dairy Convention. Clariton Inn, Fredrick, Fredrick, MD. Register [online](#) or call (301) 349-0750.
- 9 Feb.** [Women in Ag Conference](#). Dover Downs Hotel & Casino, Dover, DE. Call Shannon Dill (410) 822-1244.
- 10 Feb.** [Mid-Atlantic Small Flock Expo](#). 9-3 PM. Carroll County Extension Office. Call (410) 742-1178.
- 12 Feb.** [Update Your Nutrient Management Plan](#). 1-4PM
Baltimore County Extension Office, Register by contacting Paul Shipley at 301-405-2563 or prs@umd.edu.
- 13 Feb.** [Harford County Mid-Winter Agronomy Meeting](#). 9-3:30 PM. Deer Creek Overlook, Street, MD. \$12 by Feb. 6, \$20 at the door. Call (410) 638-3255.
- 14 Feb.** [Women in Ag Webinar: Divorce and Farming](#). 12 PM
extension.umd.edu/womeninag/webinars.
- 15 Feb.** [On-Farm Market Food Safety and Recall Readiness Webinar](#). 11-12:30PM. [foodsafetywebinars.eventbrite.com](#)
- 16 Feb.** [Western Maryland Regional Fruit Meeting](#). 18330 Keedysville Road, Keedysville. 8:30AM - 4PM. Register online or at (301) 432-2767 x301. \$30.00 (\$40 after Feb. 9).
- 16 Feb.** [Herbicide Resistant Weed Workshop](#). Chestertown Volunteer Fire Dept., Chestertown, MD. Free, but registration required. Register online or at (301) 600-3576.
- 22 Feb.** [Horse Management Workshop](#). 6:30-9PM.
Montgomery County Extension Office, Derwood, MD. Call (301) 590-2853.
- 23 Feb.** [Herbicide Resistant Weed Workshop](#). Frederick County Extension Office. Free, but registration required by Feb. 20th. Register online or at (301) 600-3576.
- 27 Feb.** Pesticide training. Baltimore County Extension Office, Cockeysville, MD. New training 9-11 AM (exam on **March 6**), re-certification training 1-3 PM. Call (410) 887-8090.
- 7 Mar.** Nutrient Management Voucher Training. Baltimore County Extension Office, 8:30-11AM. Call (410) 887-8090.
- 8 Mar.** Pesticide Training. Harford County Extension Office, Street, MD. New training 9-11 AM (exam on **March 15**), re-certification training 1-3PM. Call (410) 638-3255.
- 13 Mar.** Nutrient Management Voucher Training. Harford County Extension Office, 9-11AM. Call (410) 638-3255.

February 2018