

Ag Notes

Harford County Newsletter

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EXTENSION

University of
Maryland Extension

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Agricultural Center

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M—F 8:00 a.m.—4:30 p.m.

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Hello, Harford County!

June is National Dairy Month! Last June I wrote about the dairy industry in Maryland and Harford County, and this year I'd like to take another look at the industry from a national perspective.

As most of you know, 2017 was another tough year for the US dairy industry. Nationwide, we lost an additional 600 dairies, 13 of which were from Maryland, bringing the total number of Maryland dairies to 411 as of October 2017. Harford County is holding on to 22 remaining dairy farms. This trend is likely to continue through 2018, and the number of US dairy farms will likely drop below 40,000. To put this in perspective, many of you reading this have been around long enough to see more than 3.5 million farms milking cows in the US in 1950. Heck, the number of US dairies has declined by 100,000 farms in just my lifetime. The trend in the US dairy industry is similar to that of other agriculture commodities; which is towards consolidation. In 1970, the average dairy farm milked about 20 cows; today the average dairy milks nearly 250 cows, with herds as small as a few cows to as large as 10,000+ cows. These are quite staggering statistics, but what is even more interesting, is overall milk production.

According to USDA, US fluid milk consumption per capita has been declining steadily since 1970, driving down the demand for milk. Ironically however, US milk production has been steadily increasing. In just the past 10 years, US milk production has increased by 30 billion pounds. So even though dairies are rapidly closing due to their financial situation, driven by a surplus of milk, we can't seem to get away from producing



more milk; a catch twenty two. While the demand for dairy products like cheese has increased significantly since 1970, it doesn't seem to be making up for the decrease in demand for fluid milk.

This fact is both unfortunate and astonishing at the same time. I believe that the science and technology advancements made in agriculture rival those of any industry in the world, and the dairy sector is no exception. Advancements in breeding, genetics, feeding, crop production, and livestock production has made it possible for us to become more efficient with fewer resources, allowing the US dairy farmer to boost milk production from less than 10,000 lbs per cow to over 20,000 lbs per cow in less than 40 years.

In agriculture, we are often asked to do more with less. Efficiency improves the bottom dollar, and the dairy industry is getting more efficient by the day, unfortunately requiring fewer and fewer farms to increase milk production. Throw in a decline in milk consumption, and you have the perfect storm that has led to the demise of hundreds of thousands of farms. For so long, dairy farmers have been asked to produce more with less; less feed, less fuel, less manure, less fertilizer, fewer cows; and now, are being asked to do it without a profit.

In honor of dairy month, enjoy some ice cream, cheese, or a cold glass of milk. The health benefits of dairy have been well documented, and provide superior nutrition than plant-based juices inappropriately marketed as "milk." Hopefully someday soon we'll see the demand for milk increase and we can retain a few dairy farms before it's too late.

Until next time,
-Andy

Peter Coffey, Agriculture Extension Educator
University of Maryland Extension, Carroll County



Figure 1. Adult *Helicoverpa zea* moth. Image: Peter Coffey, University of Maryland.

If you're a farmer in the United States, then you're acquainted with the corn earworm, *Helicoverpa zea* (Figure 1). Maybe you know it as cotton bollworm, tomato fruitworm, sorghum headworm, soybean podworm, or maybe you remember when scientists used to call it *Heliopsis zea*. To keep things from getting confusing we'll just call it *H. zea*. No matter what you call it, it's the same tan colored moth with caterpillars we all remember picking out of the tip of an ear of sweet corn as a kid. As you can guess from the variety of names, *H. zea* feeds on a lot of different crops. It's actually been documented to eat over 100 different plants, usually the reproductive part of the plant (the fruit/grain/bean part).

While *H. zea* is a devastating pest throughout North and South America, it has a bigger, badder older brother. In Europe, Africa, Asia, and Australia they also call this moth the cotton bollworm, but it's a different species, *Helicoverpa armigera* (we'll call it *H. armigera*). In fact, *H. armigera* is the parent species to our *H. zea*. Scientists estimate that about 1.5 million years ago some *H. armigera* moths made their way over to the Americas, and over time they evolved enough that does we consider them to be a different

species, *H. zea*. To put it another way, if dogs evolved from wolves, then *H. zea* is a bulldog, and *H. armigera* is the wolf. This is important because *H. armigera* as the older original species is more genetically diverse, which is probably why it's better at evolving pesticide resistance.

In recent years, increasing global trade has increased the occurrence of introductions of invasive pests worldwide, and *H. armigera* has been one of the species that people are the most worried about. It has been caught at the borders several times in North America, but unfortunately in 2013 it was confirmed to be established in Brazil. Additionally, scientists have known for a while that *H. armigera* and *H. zea* could mate and create viable hybrids in the laboratory, and just this winter a paper was published documenting the first wild hybrids discovered in Brazil.

Hybrid moths are concerning, because even though *H. armigera* is the more genetically diverse species, *H. zea* has spent the last 1.5 million years developing its own unique set of genes. This means that the hybrids combine the genetic diversity of both species. If you're wondering why genetic diversity is important, remember that when a population lacks genetic diversity we call it inbred, so you could think of hybrids as the opposite of inbred. Scientists worry that these hybrids could attack an even wider range of crops, and that they could evolve pesticide resistance even faster. There's no reason to think that individual caterpillars would be more damaging, both species are cannibals, which is why you rarely see more than one worm in an ear of corn.

So what does this mean for you? It means that sometime in the future, if these hybrids make it here, pesticide resistance may become even more of a concern than it already is. For now, if you're spraying corn, remember to rotate your chemical families. You can also check out what the corn earworm population is doing at www.mdmothmap.com, or call your local extension office and ask.



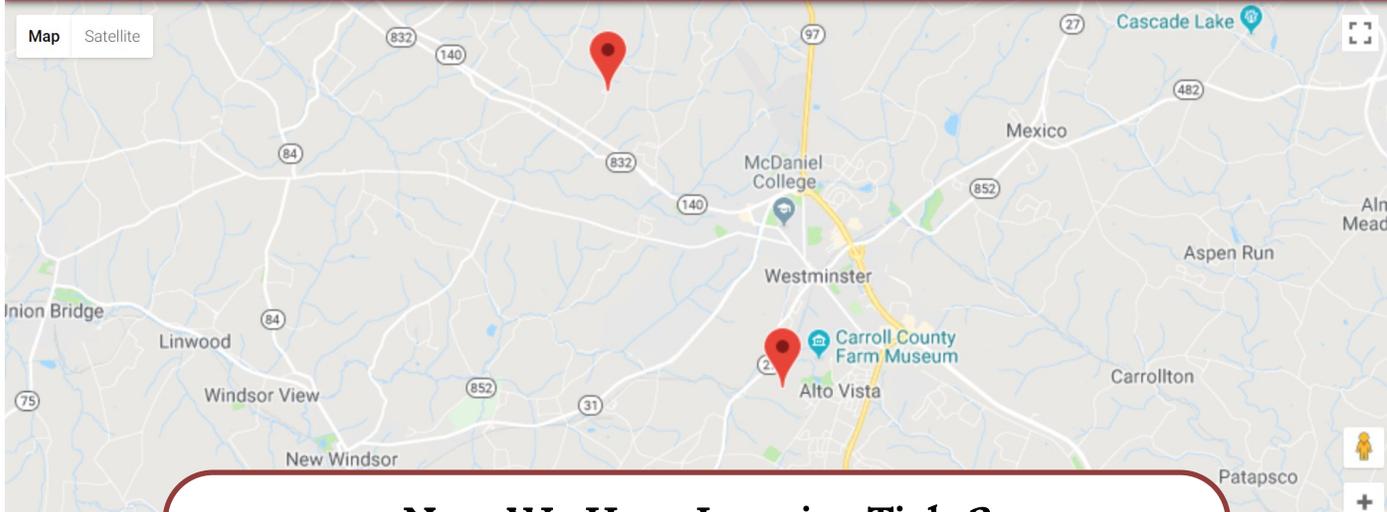
Maryland Moth Map

If you're spraying for corn earworm, then check out our new website for monitoring populations at www.mdmothmap.com. There you'll find up-to-date catch counts for pheromone traps in Baltimore, Carroll, and Harford Counties. Just click on a red pin and you'll see the most recent 5 day total. These 5 day totals are used to calculate your recommended spray interval, which you can see by clicking "Spray Rate" in the top right corner. This website also works on mobile devices. If you have any questions or problems with the website please contact Peter Coffey at the Carroll County Extension office at (410) 386-2760. You can also still see moth counts on Twitter @mdmothcount.

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Maryland Moth Count

Spray Rate Corn Earworm UME



Now We Have Invasive Ticks?

Peter Coffey, Agriculture Extension Educator
University of Maryland Extension, Carroll County

Unfortunately it's true, there's a newly introduced invasive species, and this time it's a tick. *Haemaphysalis longicornis*, the Asian longhorned tick, has been captured several times at US border quarantine sites, but it wasn't until last fall that a population was detected living in the United States. A sheep in Hunterdon County New Jersey was found to be infested with hundreds of ticks of various life stages. The farmer contacted the county Health Department, and they identified the tick, and treated the sheep with multiple permethrin baths. They hoped the cold winter would kill any escaped ticks, but in April this year they announced that some had survived the winter. Additionally, in May, a calf on a beef farm in Albemarle County Virginia, and two separate farms in Hardy County West Virginia were found to be infested with the same species. At this time no known link exists between these farms or how widespread the populations might be.

This species of tick can reproduce without mating, so only a single female tick is needed to start a new population. At this point there's no reason to think this species is in Maryland, but it's important to be on the lookout. This tick is notable for occurring in very large

numbers often on a single animal, and has been reported to sicken or kill calves and sheep, and to decrease the milk production of dairy cows.

This species feeds on a wide range of mammals and birds, including wild animals, livestock, and humans, and transmits several diseases. In cattle, this species can transmit a bacterial disease called Theileriosis, which causes anemia, fever, swollen lymph nodes, and death. Humans cannot get Theileriosis. However, this species can also transmit the viral disease SFTS, which can be deadly to humans.

Neither of these diseases have been observed in the United States, but there are plenty of other diseases already transmitted by our native ticks, so remember to [protect yourself from ticks this summer!](#) If you're visiting or buying animals from affected areas, you should double check that you're not bringing any ticks home with you. If you do find any ticks behaving oddly, or in very large numbers, please bring them in to get identified at your local Extension Office, or the Maryland Department of Agriculture. Freeze them or drop them in rubbing alcohol to kill them.

Moving Farm Machinery: Safety & Liability Laws

Kelly Nuckolls, Agriculture Law Education Initiative
University of Maryland, College Park
Posted to [Maryland Risk Management Education Blog](#)

This article is not a substitute for legal advice

If your morning commute includes driving or following farm vehicles, it is always good to read a refresher on the rules of the road.

Rules of the Road

Maryland law requires farm equipment driven at a speed of 25 mph or less to have a slow moving vehicle emblem mounted on the rear of the vehicle, which meets the [American Society of Agricultural and Biological Engineers' \(ASABE\) standards](#). The emblem must be on the rear of the vehicle not less than 3 or more than 5 feet from the ground to the base. There are some lighting requirements for farm equipment as well:

- Farm equipment must have two single-beam or multiple-beam headlamps and at least two red lamps visible when lighted from a distance of 1,000 feet or more to the rear, and at least two reflectors visible from all distances from 100 feet to 600 feet to the rear when directly in front of lawful upper beams of headlamps.
- Towed farm equipment must have two red lamps on the rear visible from a distance of at least 1,000 feet and positioned to show from the rear the width of the vehicles (as close as possible). The combination of a tractor and towed farm equipment must have a lamp with a white or amber light, visible from at least 1,000 feet and placed as close as practical to show the extreme left projection of the tractor/ equipment combination.
- Slow moving farm vehicles may include yellow or amber lights or signal devices, which can be flashed to indicate that the vehicle is a slow moving vehicle.

There are also some size restrictions. A vehicle and

its load cannot be taller than 13 feet, 6 inches with one exception. If a vehicle combination is transporting farm equipment, the overall height of the vehicle combination and its load may be up to 16 feet, if:

1. Travel is on a highway for no farther than 75 miles, and
2. The load cannot quickly be reduced in height.

An escort vehicle may be required if the vehicle is over 85 feet long, 14 feet 6 inches high, or weighs more than 60 tons.

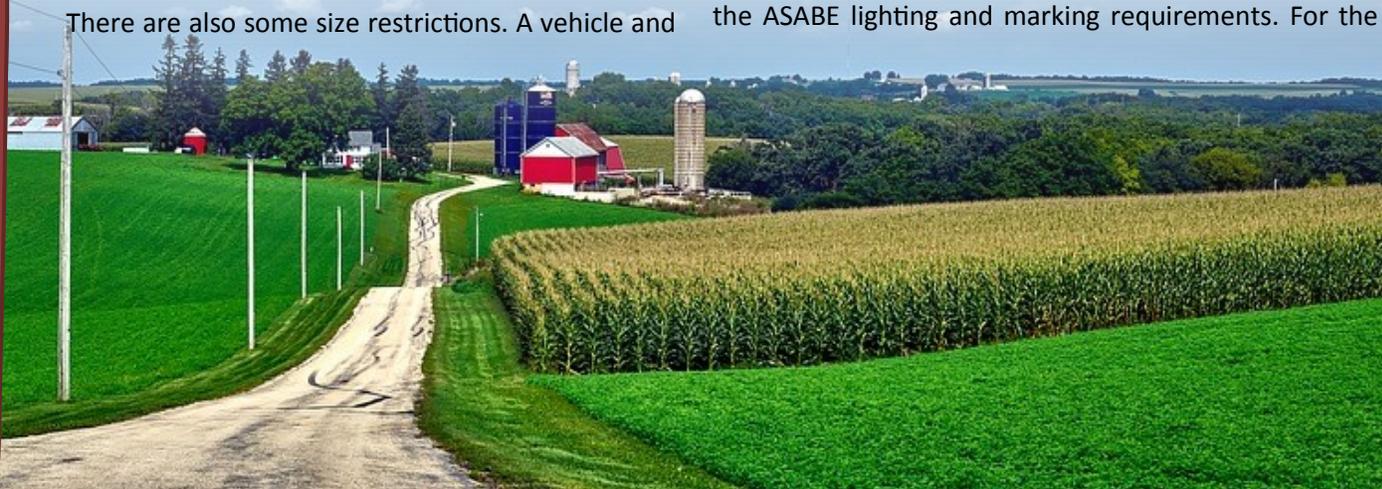
Except on interstate highways, a single unit vehicle with 3 axles, or a combination of vehicles with a trailer less than 32 feet long or a semitrailer less than 45 feet long, either registered as a farm vehicle or carrying farm products loaded in fields or other off-highway locations, is permitted an axle load limit tolerance of five percent from the tolerance limits set below, except during harvest time. During harvest, an axle load limit tolerance of 15 percent from axle load limit tolerance is permitted for a vehicle carrying:

- Wheat, for the period from June 1 to August 15;
- Corn, for the period from July 1 to December 1;
- Soybeans, for the period from September 1 to December 31; and
- Vegetable crops, for the period from June 1 to October 31.

[Maryland Transportation Code sections 24-109\(c\) and \(d\)](#) state the axle load limit tolerances.

Recent Federal Regulation

A new federal regulation requires new farm equipment manufactured after June 22, 2017 to meet the ASABE lighting and marking requirements. For the



5 new agricultural tractors, self-propelled machines, implements, and other equipment combinations, there will be new rules of the road. The new lighting and slow moving vehicle emblem requirements should be in place on the equipment before it is sold. On tractors and self-propelled equipment, however, the two flashing amber warning lights must be used if the equipment is 3.7 meters wide (12.14 feet) or more. If you own new equipment, take note of this change.

Moving Farm Equipment Liability

Liability from vehicle accidents, including farm vehicle accidents, is determined by four factors of a negligence claim: 1) duty of care, 2) breach of that duty, 3) cause-in-fact, and 4) actual harm. The first factor is based on the idea that you owe a duty to other drivers on the road to act as any reasonable person would act. The second factor requires you to act unreasonably. The court will look at whether or not you followed all of the laws of the road and took extra precautions when needed (i.e. weather conditions may require slower

speeds). If you break a law, such as speeding or not having the proper lighting on your farm vehicle, then the court will probably find that you acted unreasonably. The third factor requires that your unreasonable action while driving the farm equipment was the primary cause of the accident. Then, the fourth factor requires that the other vehicle and/or driver is harmed. If all four factors are proven, you will be liable for damages. Employers are liable for any accidents caused by their employees while they are acting within the scope of their employment.

Another legal claim, strict liability, could also be a concern for moving farm vehicles. Strict liability does not require you to be negligent; it does require you to make an abnormally dangerous activity, under your control, safe. As long as the farm machinery on the road is under your control, strict liability might apply if, for example, the machinery is transporting any hazardous materials (fertilizers) that could harm the public if spilled.

Excessive Rain, Delayed Planting, And Replanting

*Bob Kratochvil, Extension Agronomist
University of Maryland, College Park*

Article abridged; to view the article in its entirety, visit the [Maryland Agronomy News Blog](#).

I wrote this article a couple years ago when we had a very wet May (how quickly we have experienced the same type conditions). What I reported then continues as a guideline for either those who still have corn to plant or those who are considering replanting some of their earlier planted acres. In some cases, you may not have a choice about replanting because the corn has been under water too long and it is going to die. Most agronomists agree that corn can withstand being

submerged between 48 and 96 hours, the latter for mid-70's and lower temperatures and the former for temperatures mid-70's or higher.

Most agronomists also agree that May 15 is the date at which a yield decline begins if planting occurs after it. And, most also agree that the decline averages approximately 1% for each succeeding day that planting is delayed after May 15. For an anticipated yield of 200 bu/acre for timely planted corn, a delay until May 25 will result in yield decline of approximately 20 – 40 bu/acre depending upon the

MARYLAND AGRONOMY NEWS

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Want to stay up to date throughout the year and between Agronomy News postings?

Check out the Maryland Agronomy Blog. It is a searchable site that includes past and present articles. You can also subscribe to get emails when new information is posted. <http://blog.umd.edu/agronomynews/>

actual planting date. Hopefully, by the time you read this, you are well on your way toward completion of corn planting or replanting. However, there are some things to consider when planting later.

Don't forget about those acres that you planted prior to Mother Nature's forced vacation. Check those fields to make sure you have an acceptable stand. Remember that it can be costly to replant so accepting a less than optimum stand may be a better option than replanting. The information in Table 1 may help you make a replant decision. There are two steps to using this table. First get an assessment of your stand by taking 10-15 stand counts from across a questionable field. For 30-inch rows, measure 17.5

feet and count the number of plants. Multiply by 6 1000 to get your population/acre for a count. Add up all your counts and divide by the number of counts you made. Once the stand has been assessed, compare the expected yield from the current stand (find your initial plant date and population in table) with the expected replant yield (anticipated replant date and expected final population). For example, a field planted April 30 with a final stand of 20,000 plants/acre would out-yield a final stand of 30,000 plants/acre planted on May 29 (both are highlighted in green).

Table 1. Planting population and planting date response for corn (Source: Emerson Nafziger, Eric Adee, and Lyle Paul, University of Illinois).

Planting Date	Population (1000 plants/acre)						
	10	15	20	25	30	35	40
	----- % of maximum yield -----						
1-Apr	54	68	78	88	95	99	99
10-Apr	57	70	81	91	97	100	100
20-Apr	58	71	81	91	97	100	99
30-Apr	58	70	80	89	95	97	96
9-May	55	68	77	86	91	93	91
19-May	50	63	72	80	85	86	84
29-May	44	56	65	73	77	78	75
8-Jun	35	47	56	63	67	67	64

Spring PSNT Test Available At The Extension Office!

*Patricia Hoopes, Nutrient Management Advisor
University of Maryland Extension, Harford County*

Why test?

The PSNT is an important tool that can aid in the decision-making process about whether to apply sidedress nitrogen to corn. It measures the amount of nitrate-nitrogen present in the soil just before rapid N uptake by the crop begins. That is when the corn is 6 to 12 inches tall. Please note that this test is not designed for testing corn taller than 12 inches. If testing shows nitrate-nitrogen is adequate, the sidedress application can be skipped. If the nitrate-nitrogen is inadequate, a sidedress application will be recommended.

PSNT testing can be used:

- Where corn for silage or grain is being grown
- Where manure or biosolids have been applied.
- A forage legume was grown last year

- Less than 50 pounds per acre of commercial fertilizer nitrogen was applied prior to sidedress.

PSNT cannot be used on fields where:

- More than 50 pounds per acre of commercial fertilizer nitrogen was applied prior to sidedress.
- Commercial fertilizer has historically been the only nutrient source
- Irrigation is used.

This tool allows growers to confidently make good nitrogen management decisions. Call your Nutrient Management Advisor to inquire about availability for PSNT testing today.

Extension offices offer testing for clients, as well as for private consultants.

Call Tricia Hoopes at 410-638-3255.



Breakfast On The Farm

June 30

9-1:00 PM

Teabow Farms

10201 Glade Road

Walkersville, MD 21793

Breakfast on the Farm is an effort to show those who may have never visited a farm how food gets from the farm to the table. Breakfast on the farm is a free, fun and family-friendly event where people of all ages are welcome to visit a real farm, meet the farm family, ask questions of knowledgeable volunteers, and get a firsthand look at modern food production. Attendees will be able to learn about topics such as proper animal care, crop production, milk production and operation of farm equipment.

Visitors will also be able to participate in various hands-on activities, milking demonstration, sitting on tractors, and eating ice cream. Breakfast on the Farm is a fun way to get kids interested in their food and establish the importance of farms in modern agriculture.

Although the event is free, tickets are required for the breakfast, which is served until noon. You can RSVP for this event here: <https://go.umd.edu/breakfast-on-the-farm>.

Maryland Woodland Stewards

Woodland owners, managers, and others who would like to learn how to use sound forest stewardship practices to improve wildlife habitat and other forest benefits are invited to apply as Maryland Woodland Stewards. University of Maryland Extension in partnership with The Ruffed Grouse Society, a wildlife conservation organization, is offering this comprehensive three-and-a-half-day seminar, October 4-7 2018 at Shepherd's Spring Retreat Center near Sharpsburg, Md.

Join experts and other woodland owners for this dynamic educational opportunity that features both indoor and outdoor instruction from a variety of specialists in forest and wildlife management practices and outreach skills. There is a nominal fee of \$95, which covers instructional materials,

lodging, and food. Upon completion of this training, participants commit to apply these principles to property they own or manage, and actively encourage others to practice good forest stewardship using the principle of "Neighbor Helping Neighbor." This includes being advocates for sound forest and wildlife stewardship over the next year through outreach activities of their choosing.

Apply now to be considered for one of the 25 openings! The application deadline will be **June 29, 2018**. Applicants will be notified shortly thereafter. For more information or an application, contact Agnes Kedmenecz at 410-827-8056 or akedmen@umd.edu. Information, draft agenda, and application forms are available at: go.umd.edu/MDWoodlandStewards.

Do you have noxious or invasive weeds on your property?

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

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

Great resources are just a click away!



Andrew Kness
Extension Agent,
Agriculture and
Natural Resources



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Dates to remember

12 Jun. [Cover Crop Management Workshop](#). 5:30-8:15 PM.
Kent County Extension Office, Chestertown, MD. Free. Call
(410) 778-1661 to register.

13 Jun. Sheep & Goat Twilight Tour. Washington County Ag
Center, Boonsboro, MD. \$10, kids free. Register [online](#).

13 Jun. [Cherry Jam Hands-on Workshop](#). 11-2PM. Harford
County Extension Office, Street, MD. \$20. Call (410) 638-
3255 to register.

13 Jun. [Women in Agriculture Webinar: Holy Hashtag!](#) 12 PM.
Free. Register [online](#).

19 Jun. [Current Legal Issues Associated With Dicamba Drift](#).
12-1PM. Webinar. \$15. Register [online](#).

27 Jun. [Women in Agriculture Webinar](#): Facebook
Promotions. 12 PM. Free. Register [online](#).

23-28 July. [Harford County Farm Fair](#).

June 2018