Hello, Harford County!

Quarantining new and sick animals is a practice that most livestock producers are familiar with. With the spreading avian flu predicted to reach Maryland in the coming months, it’s also something that’s been on the forefront of my mind recently. We all know that quarantine is important in reducing the spread of disease, but it must be done properly to be effective. Does your quarantine protocol follow each of these essential guidelines?

- Quarantine all animals new to your farm for at least 21 days. (Quarantining for 28 days is even better.) Some diseases have a long incubation period, and you might not see symptoms of a disease in less time. Pay special attention to the animals in quarantine by observing feed and water intake, amount and consistency of manure, and behavior, and check for any signs of illness daily.

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- Ensure that your quarantine area is far enough away from areas where your current herd or flock is housed. At the very least, provide separate pens and don’t allow quarantined and non-quarantined animals to share a fence line. If you must house quarantined animals in the same barn, keep the quarantine area at the end of the barn that receives the least amount of traffic. It’s best to have at least 14 feet of separation between the quarantine area and the rest of your herd or flock.

- Consider placement of your quarantine area. It’s best to put quarantined animals down slope and downwind so that any contaminated manure or aerosolized pathogens aren’t moving in to areas where your healthy animals are kept.

- Take care of your current herd or flock before taking care of the animals in quarantine. This will help to reduce the amount of possible cross contamination.

- Keep designated equipment in the quarantine area. Don’t use the same buckets, wheelbarrows, pitchforks, etc. in the quarantine area that you use with the rest of your animals. This also applies to your boots! Have designated boots to wear in the quarantine area, use disposable boot covers, or clean and sterilize your boots after working in the quarantine area.

- Practice good personal hygiene – be sure to wash your hands directly after leaving the quarantine area. It’s best to completely change your clothes, too, before working in areas where your current herd or flock is housed, but this isn’t always practical. Alternatively, you can keep a designated pair of coveralls to wear in the quarantine area.

Quarantining is a crucial part of a good biosecurity plan, but don’t forget about other practices intended to prevent diseases from coming on to your farm. If you visit other farms or come in contact with other livestock, you could possibly bring disease home on your boots or even on your trailer tires. Be sure to clean and disinfect any potential vectors upon arriving home. (Remember, only clean surfaces can be disinfected, so always remove manure or dirt by scrubbing before disinfecting with a chemical solution like bleach.) It’s a good idea to keep a designated pair of boots for use on your own farm and wear different shoes when you visit elsewhere.

Sincerely,

Photo: Edwin Remsberg

Extension.umd.edu/harford-county facebook.com/HarfordAg
Sara BhaduriHauck Ag Extension Educator sbh@umd.edu
According to the Federal Aviation Administration, the lawful use of Unmanned Aerial Vehicles (UAV), also known as Unmanned Aircraft Systems (UAS), or more commonly as drones, are currently limited to military, research, and recreational applications. Under the FAA’s view, commercial uses of drones are illegal, unless approved by the federal government. This will change in the future. Congress authorized the FAA to develop regulations for the use of drones by private parties in the U.S. by September 30, 2015 (FAA Modernization Act of 2012). Currently, the FAA is working to develop those regulations, but there is doubt that the FAA will meet the deadline (Whitlock, 2014).

Companies are already seeing the potential benefit of drones. Amazon CEO Jeff Bezos discussed on 60 Minutes earlier this year how Amazon is looking to drones to deliver purchases. UPS also sees a future in package delivery using drones (Stern, 2013). San Diego Gas & Electric (SDG&E) was recently granted FAA permission to use drones for research and testing. SDG&E plans to test the drones in areas off-limits to helicopters and difficult to access from the roads in order to inspect power and gas lines (McNeal, 2014).

Drones also have potential uses in agriculture (Green, 2013). A corn or soybean producer could use drones to monitor a field checking for bugs, disease, and other pests more efficiently compared with traditional scouting methods. Drones can also be used to monitor irrigation effectiveness or assist in gathering precise data for use in prescriptive planting. Livestock producers could check their stock more efficiently. Drones could provide producers better information on crop/livestock conditions and allow them to quickly react to an outbreak before it is too late.

It is important to note here that currently only recreational unmanned aircraft, such as model airplanes, are approved for use by the FAA at altitudes below 400 feet (Unmanned Aircraft (UAS) General FAQs, 2014). Non-recreational users are required to get FAA approval before using the drone (Nicas and Pasztor, 2014). Currently there is uncertainty as to whether an agricultural producer using a drone on the farm would be considered a commercial use (Doering, 2014). It is equally uncertain whether drones could be used by private groups to monitor agricultural operations without first seeking FAA approval.

FAA does not regulate drones considered “model aircraft” (§ 336(a) 2012 FAA Reauthorization Act). A drone is considered a model aircraft if it weighs less than 55 pounds and is operated in compliance within certain safety guidelines. These guidelines include flying within the operator’s line-of-sight, below 400 feet, and providing prior notice to air traffic control operators if flying within a 5-mile radius of an airport. Another critical requirement of the definition of model aircraft is that the aircraft must be “flown strictly for hobby or recreational use” (§ 336(a)).

Most drones used, or contemplated for use, for agricultural applications are small, weighing less than 55 pounds and intended for flight below 400 feet. However, the use of these drones for agricultural applications disqualifies them from consideration as model aircraft because they are flown for a commercial purpose. Whether FAA currently has the authority to prohibit the use of small drones for commercial purposes is unclear. While FAA has multiple guidance documents declaring that the commercial use of drones is unlawful, the agency has not yet promulgated regulations to that effect.

But the use of drones will spark some privacy concerns. I often hear, “Well, if we can use a drone then that means (fill in the blank) group can use drones to monitor us.” Animal rights groups have already said they plan to use drones to monitor farms for cruelty to animals (Lee, 2013). Agricultural producers also worry that environmental groups will use drones to monitor their operations.

Privacy concerns will only increase once FAA approves all commercial drone use. Producers will have concerns about the ability of government entities or environmental or animal rights groups to use photographs and other evidence gathered from drones flying over farms. As we will discuss, these are areas of that law which may need changing in order to provide any property owner (farmer or non-farmer) privacy protections from drones.

Many of you often ask first, “Can I shoot down a drone flying over my property?” The answer to that question is simple: no. Please do not shoot it down, no matter how annoying. That said, there are potentially two existing legal theories which may help: 1) trespass and 2) nuisance.

Trespass is entering an owner’s property without permission. Under common law theories of property ownership, you owned land from the center of the earth to the heavens. But as the use of airplanes become more
prevalent in the mid-20th century, courts severely limited the idea of owning land to the heavens. As a property owner, you have no right to exclude aircraft from flying over your property because that airspace is not considered part of the public domain (Md. Code, Transp. § 5-1001 (LexisNexis 2014)).

At this point, it is unclear how a court would apply a claim of trespass to an unwanted drone flying over your property. A Maryland court has never dealt directly with the issue of an aircraft committing trespass. Courts in other states have found that aircraft can commit trespass (Schronk, 1964). Courts in those states have adopted the rule that an aircraft can commit trespass only if “it enters into the immediate reaches of the air space next to the land,” and needs to substantially interfere with the owner’s use and enjoyment of their property (Schronk, 1964). This is a very fact-specific standard. Schronk involves a crop duster which accidentally sprayed chemicals on the wrong landowner’s crops. The court found the crop duster to have substantially interfered with the use and enjoyment of the landowner’s property.

On the other end of the spectrum, a news helicopter hovering over a house gathering footage for a story did not substantially interfere with landowner’s use and enjoyment of their property (Bevers, 2002). In Bevers, the court found that a helicopter hovering over a property for 10 minutes at 300 to 400 feet was not a substantial interference. At this point, without further development of court decisions on drones, it is unclear what would be considered trespass by a drone and what would not be.

The next theory would be nuisance, an unlawful interference with your use and enjoyment of an owner’s property. A nuisance is defined as “[a] condition or situation (such as a loud noise or foul odor) that interferes with the use and enjoyment of property” (Black’s Law Dictionary, 2001). An example of a nuisance would be a neighbor who might not want to use her deck because of the manure smell coming from the farm next door.

A review of case law in Maryland finds that the majority of the cases involving aircraft and nuisances are limited to appeals of zoning and planning board decisions to allow for the construction of private airports. Maryland does have a statute making it illegal for aircraft to fly at “so low an altitude as to interfere with any lawful existing use of the land or water or the space above the land or water” (§ 5-1001). Other states have found repeated violation of similar language could be considered a nuisance (Litwin, 1977).

A drone could potentially be noisy, frighten livestock or young children, and could repeatedly fly too low to the ground. Drone users may repeatedly fly the drone over your property and spook livestock or cause other issues. This potentially could be a nuisance, but only time will tell as we see continual adoption of drones for agricultural and non-agricultural uses. Currently, there is little case law to guide us in determining if flying drones over your property would be considered a nuisance.

Maryland currently has no laws on the books limiting the ability of drone users to fly the drones over private property and take photos. Maryland law, as is the case with the majority of states, has not kept up with changing technology. Laws not keeping up to date in many cases hamper courts in being able to offer worthwhile protections to those who may feel victimized by drone flyovers.

During the 2014 session of the Maryland General Assembly, legislation was introduced to update the state’s privacy laws to take into account drones. HB 847 and SB 926 would have updated Maryland’s privacy laws to account for drones. Both bills received unfavorable reports from the Judiciary Committees in the state House and state Senate.

Both proposed bills would have limited the ability of government officials to utilize drones in gathering information and evidence in Maryland. In order to utilize a drone, state government officials would need to meet one of the following exceptions: get the written consent of the person whom the drone will be used to collect information on; gather information based on a valid warrant; or refrain from using information gathered as part of a court proceeding or grand jury (HB 847).

Data collected in violation of these exceptions would have to be deleted within 24 hours of collection (HB 847). For example, as a poultry producer you are regulated by Maryland Department of Environment (MDE). If the bills had become law, MDE would need to receive an administrative warrant before using a drone to gather information that you are violating MDE’s regulations. MDE could get around the warrant requirement by including language in any paperwork you sign that says you consent to MDE using drones to monitor your farm.

The state constitutional warrant requirement is important due to prior rulings by the U.S. Supreme Court. Previously the Court had ruled that the following are not Fourth Amendment searches (meaning law enforcement officials do not need to secure a warrant before conducting the search): police could look in a backyard from an airplane flying at 1000 feet using a powerful camera (California v. Ciraolo), or a helicopter flying 400 feet above the property and not violating any law (Florida v. Riley). Setting this requirement clearly defines when state law enforcement need to show probable cause to secure a warrant before flying a drone over a landowner’s property.

The warrant requirements do not apply to federal officials (such as from USDA or EPA) using drones to gather data about your farm. Federal officials would need to comply with federal warrant requirements and not those imposed by state law (Turner, 1977).

Although these proposed pieces of legislation would not limit the rights of private groups to collect data, the bills do represent starts that many states, not just Maryland, will need to consider in a changing world of technology. Not limiting the rights of private parties to gather data from drones could lead to interesting examples. For example, your farm is regulated by MDE and an environmental group has been using a drone to monitor farms in your area. The group takes photos of alleged violations on your farm and presents those photos to MDE. Those photos may potentially be enough for MDE to receive a warrant to do its own monitoring of your farm with a drone.

Ten states -- Florida, Idaho, Illinois, Iowa, Montana, North Carolina, Oregon, Tennessee, Texas, and Virginia -- have passed legislation to restrict drone use or update privacy laws for drone uses (ACLU, 2014). Similar to the proposed bill in Maryland, these 10 states also clearly define that law enforcement officials would need to get a warrant before flying a drone over a landowner’s property (ACLU, 2014).
The Maryland Horse Industry Board (MHIB), a program within the Maryland Department of Agriculture, will begin accepting grant applications on August 2 for research, educational and promotional projects that support horses or the equestrian community, or develop new opportunities for the Maryland horse industry. Application deadline is October 2. Among the organizations eligible for MHIB grants are non-profit organizations, clubs and associations, businesses, farms and stables, government entities, schools and educational institutions. Projects of interest to the Board include (but are not limited to) those that develop new opportunities for the Maryland horse industry. Projects will be evaluated for their value to the industry, degree of industry promotion, size and scope of activity, financial need, potential for matching funds, benefits, and quality of the written presentation. Grant requests should not exceed $3,000. The average grant amount is about $1,200. In 2015, 28 projects received $30,000 in grant allocations. Grant recipients will be announced no later than January 1, 2016. Funding will be available after that date. Projects should be completed by June 30, 2016. Funding for these grants and for MHIB is provided by the Maryland Feed Fund, which collects $6 on every ton of horse feed sold in Maryland. Since the feed fund was established in 2002, MHIB has awarded nearly $350,000 in grants to more than 275 projects throughout Maryland.

**Horse Pasture and Hay Management Seminar**

The University of Maryland Equine Studies Program will host a pasture management seminar, with a special focus on hay production, at the Central Maryland Research and Education Center in Ellicott City on Saturday, September 19. The morning session will include classroom lectures by university specialists. After lunch, participants will visit the Equine Rotational Grazing Demonstration Site for a hands-on component. Further details are still being finalized, but mark your calendar now! Check next month’s issue of “Ag Notes” for registration information, or contact Jennifer Reynolds, coordinator of equine Extension activities, at 301-405-1547 or jenreyn@umd.edu.

**Pasture Walk at Jack Straw Farm**

Join us for an evening of hands-on, informal pasture management discussions and Q&A! The evening’s topics will include soil fertility, weed control, soil conservation, and grazing and grass management. We’ll also hear from the owners of Jack Straw Farm about strategies and challenges in managing their beef and horse operation. Dr. Les Vough, University of Maryland retired forage specialist, and representatives from the Harford Soil Conservation District will be in attendance. The pasture walk is free to attend and open to anyone with livestock or an interest in establishing and maintaining pastures. The farm is located on the Harford County side of White Hall at 3038 Green Road. The program will be held rain or shine! Registration in advance is requested; for more information or to sign up, contact Sara BhaduriHauck at the Harford County Extension Office at 410-638-3255 or sbh@umd.edu. This program is a joint effort between the Harford and Baltimore County Extension offices.

**Pasture Site Tour and Hay Evaluation Workshop**

If you have livestock, you are most likely feeding hay at least part of the year. Do you know how to tell whether your hay is high quality? If you buy hay, are you sure you’re paying a fair price for the quality of product? If you’ve got questions about hay, we’ve got answers! Dr. Les Vough, University of Maryland retired forage specialist, will present a program on hay quality evaluation to help you learn the skills you need when it comes to hay. The program will also include a tour of the newly-established rotational grazing demonstration site at the Baltimore County Ag Center. Dave Martin, ag educator for Baltimore County Extension, will conduct a tour and lead discussion on cool season grasses commonly used in hay production. Registration is $10 per person. A limited number of spots are available, so registration is requested by September 11. Light refreshments will be provided. For more information or to register, contact Sara BhaduriHauck at the Harford County Extension Office at 410-638-3255 or sbh@umd.edu. This program is a joint effort between the Harford and Baltimore County Extension offices.
Toxic Plant Profit: *Prunus* Species

By Sara BhaduriHauck, University of Maryland Extension—Harford County

All 400-plus *Prunus* species are toxic to livestock. *Prunus* is a genus comprised of both deciduous and evergreen plants, but the most commonly recognized species are the stone fruits: cherries, peaches, plums, almonds, apricots, and nectarines. All parts of the plant are toxic except the mature fruits. All species are toxic, whether of the fruiting or ornamental/flowering variety. The black cherry is considered the most toxic of the *Prunus* species.

The toxic compound in *Prunus* species is a host of cyanogenic glycosides (a cyanide molecule attached to a sugar molecule). These compounds are stored in plant cell vacuoles. If the vacuoles are ruptured, however – such as by chewing or when a branch breaks – the glycosides are released. Once these compounds come in contact enzymes in other parts of the plant cell, they break down into their constituent molecules: sugar and hydrogen cyanide, a poison.

Partially wilted plants are generally more toxic than live, healthy plant tissue because stress has caused vacuoles to rupture and the cyanogenic glycosides to be released. Fully dried plant parts are usually not dangerous because the concentration of cyanogenic glycosides decreases as drying occurs. There are several conditions which may cause plant production of cyanogenic glycosides to increase and thus cause the plant to become more toxic: when growing conditions are cool and wet, after plants are fertilized with nitrogen, in low phosphorus soils, after frost, during drought, and following applications of herbicides containing 2,4-D.

Cattle, sheep, goats, and other ruminants are more likely to be poisoned by *Prunus* species because bacteria in the rumen speed up the process of releasing hydrogen cyanide from the cyanogenic glycosides. Furthermore, the acidic stomach or non-ruminant animals inactivates some of the enzymes that facilitate the break down process.

Hydrogen cyanide acts as a poison by preventing red blood cells from releasing oxygen, essentially causing an animal to suffocate. Adult cattle can be killed by eating just 2 pounds of leaves. Death typically occurs within minutes; affected animals are usually found dead. If the animal has eaten a lesser amount, clinical signs may include excitement, rapid pulse, muscle tremors, rapid and labored breathing, salivation, and runny eyes. Sometimes veterinary intervention can save an affected animal but only when the signs are detected early and the intervention is initiated almost immediately.

Like with most toxic plants, animals are not likely to eat plant tissues from *Prunus* species when there is other forage available. Be sure to provide adequate forage at all times, especially when pastures are sparse due to drought or overgrazing.

Check your pastures to determine if any *Prunus* species are growing. It’s generally not realistic to remove them all, but it’s important to be aware if they are present. You may decide to fence the animals away from them, at least during times of the year when you suspect they may be more highly toxic or when animals are more likely to sample them. Monitor fields after storms and after any tree work is performed (such as by the power company) to ensure downed branches haven’t fallen into pastures or hay fields.

To do everything possible to mitigate the risk of High Path Avian Influenza (HPAI) from infecting Maryland poultry flocks, the Maryland Department of Agriculture (MDA) will prohibit poultry exhibitions at all fairs and show after August 25. MDA has also issued a quarantine order requiring all hatching eggs and poultry entering from out of state to be tested within 10 days or come from certified clean sources. This quarantine order will remain in effect until at least June 30, 2016.

“This strain of avian influenza could very well bring economic disaster to our largest agricultural sector if we don’t take steps to protect the birds now,” said Agriculture Secretary Joe Bartenfelder. “We have every reason to believe that HPAI will enter Maryland this fall, and we are making every effort to keep it out of our commercial chicken houses and backyard flocks. I strongly encourage all flock owners and managers to take this disease as seriously as they have ever taken anything and to practice enhanced biosecurity at all times.”

HPAI entered the Pacific Northwest of the United States in December 2014 and has been marching east ever since. It is carried by migratory waterfowl, such as ducks and geese, among others. To date, HPAI has been confirmed at 223 locations in 15 states and has impacted 48 million birds. The virus does not live in hot temperatures so incidents of HPAI have declined over the summer, but animal health experts expect cases to appear again during the fall migratory season, which starts in Maryland in early September.

HPAI is not known to threaten human health. It can, however, wipe out flocks of chickens in days. MDA encourages all flock owners of all sizes to exercise enhanced biosecurity measures and to be vigilant in ensuring others
The prohibition on poultry exhibits will impact the Maryland State Fair as well as at least seven other major fairs scheduled after August 25. Many poultry exhibits will be replaced with poultry displays. MDA’s requirements for shows and fairs were revised in May. Those guidelines prohibited all waterfowl from being shown at fairs and shows, and required all poultry to be tested within ten days if they did not come from a clean or monitored flock.

Poultry auctions are not currently impacted by the order because MDA Animal Health officials are onsite at auctions, examining and testing birds. However, if HPAI is suspected in the region, poultry auctions will be closed down as well.

MDA has created a page on its website dedicated solely to HPAI information and news. It also contains information on biosecurity measures flock owners should take to protect their birds. For more information, visit www.mda.maryland.gov/AvianFl.

Source: Maryland Department of Agriculture (MDA)

The American Poultry Association (APA) is aware of and concerned about the recent avian flu outbreaks in various locations throughout North America, and we are monitoring the situation as closely as possible. We strongly advise that all breeders and exhibitors use their common sense and follow strict biosecurity practices for their own good and the benefit of the exhibition and commercial industries.

Biosecurity is everyone’s responsibility. Although it is very important to keep your birds in clean coops with fresh food and water and free from lice and mites, this may not be enough to protect them from avian influenza (AI). It’s bad enough to think a wild bird could fly over and infect your property, but if you don’t think biosecurity, you could personally bring Avian Influenza into your own poultry yard. Here are some of the ways that AI can be brought on to your property:

- Shoes:
- Clothes:
- Any part of a car or truck that has been contaminated by driving through an infected area, especially the tires and undercarriage.
- Feed bags from a store where they may have been left outside.
- Infected feed or water dishes outside the “enclosed coop” for the convenience of your birds.
- Outside bathing pools for your waterfowl or letting your waterfowl swim in ponds that have been contaminated by wild birds.

You want to do everything you can to keep your birds safe, be they a backyard flock of layers, meat birds, or those expensive exhibition birds. The following are suggestions on how to do so.

- **Shoes:** Use disposable shoe covers or have a pair of boots or shoes that you use only in and around your poultry yard. If you use the shoe covers, make sure to properly dispose of the used covers, preferably by burning them.
- **Clothes:** Now this one is harder. It is important that any clothing worn around poultry or at any poultry-related activity be kept separate from other clothing and laundered in hot water and detergent.
- **Truck/car tires:** The tires of any vehicle that has been near a poultry yard or has had close contact with poultry in any way should be disinfected. One way to accomplish this is to use a garden sprayer with a good disinfectant or a mixture of chlorine bleach and water to spray the tires when returning home. It is also important to clean and disinfect any bird droppings that may be on your vehicle.
- **Feed bags:** Feed should be placed into clean feed barrels as soon as possible and the feed bags disposed of properly.
- **Feed and water dishes:** Keep them under cover, either in the barn/coop or build a cover over them if you leave them outside. This will make it much harder for wild birds to contaminate them.
- **Ponds or bathing pools:** If you have a pond on your property, you should keep your waterfowl away from it. It is best to have some wading pools in an enclosed area and change the water daily.

Source: American Poultry Association
Biosecurity, as practiced in the poultry industry, is a means to keep poultry operations as free from contaminants as possible. Viruses, bacteria, parasites, and fungi, can be kept to a minimum and sometimes be eliminated if effective biosecurity measures are followed. As a poultry fancier, there are ways that you can protect your valuable show birds, breeding operation, or simple backyard flock from the diseases and parasites that can rob your birds of their good health and sometimes their life. As poultry enthusiasts, practicing an active biosecurity program is also one way that we can illustrate to all concerned our commitment to preventing the spread of disease from our flocks to others.

In the commercial industry, it’s not uncommon for someone visiting a poultry house to be required to take a full shower and put on protective clothing that you would normally see in a medical facility. And this is required even before that visitor is allowed to enter a building. There’s usually a footbath containing a disinfectant to walk through as well. Even feed delivery trucks sometimes have their tires sprayed down with disinfectant before they enter a commercial facility, and the drivers are discouraged from leaving their vehicles.

The types of things that can be carried in can be devastating to a commercial grower. Entire flocks sometimes have to be destroyed to be sure that a contaminant has been fully removed from a facility and does not pose a threat to a neighboring facility or a geographic region as a whole. Once an outbreak of disease occurs, a massive disinfection process has to take place with testing before a new flock is brought in.

For many exhibition poultry fanciers and backyard flock owners, however, such biosecurity measures to prevent the spread of disease may not always be realistic. The APA recognizes that you are probably not going to go through the extreme measures of a commercial grower. However, we believe that there are some things that you can do that are both reasonable and relatively inexpensive. So for those fanciers who wish to do their part as a responsible member of the poultry community, the APA now offers these suggestions/recommendations.

Precautions a fancier can take to minimize his flock’s exposure to disease, without creating a lot of work for the fancier and causing him to incur considerable expense:

Set rodent traps. Rodents can range from the tiniest deer mouse on up to the Norway rat. Telltale signs are tiny black droppings in the feed cups. Rodents transfer disease and bacteria via their feet from cage to cage, and from the wild population to your coop. Salmonella enteritis is an example of a disease that can be avoided when the poultry’s feed and water are clear of rodent droppings.

Use disinfectants. When people come to visit your coop, ask them if you can mist the bottom of their shoes with disinfectant. In so doing, you’ll be eliminating anything they could carry in on their shoes from their coop to yours. Since almost all soil samples contain coccidia, even a non-fancier could bring a different strain of coccidia into your coop than your birds have been exposed to.

Separate birds. If you have birds that free-range, keep them separated from your confined birds. Always work in the free-range pen last, after you’ve tended to all other pens and cages.

Take precautions. When you move from pen to pen or cage to cage to clean out water bowls and the like, use disposable towels and discard after each use. Caged birds should have their own water and feed cups.

Keep wild waterfowl out. Don’t expose your birds to wild birds or wild waterfowl. This is especially true for wild waterfowl, which can carry disease.

Keep wild backyard birds out. Don’t expose your own poultry to the backyard bird feeder, and don’t allow wild birds to nest in your coop.

Separate old and young birds. Keep your young birds separate from your older birds. At about six months of age, you can begin to co-mingle old and young birds. Natural immunities develop by then that will somewhat protect them against possible carriers in your adult flock.

Fog and/or spray. Keep airborne viruses, bacteria, and fungi in check by fogging or spraying your coop at recommended intervals with a product suitable for this purpose. It’s best to fog your coop with a product approved for use while the birds are present. Most products cannot be used this way and you must be sure before you begin, whether your birds need to be removed. Your goal should be to disinfect hard surfaces and to knock any airborne pathogens out of the air—and kill them in the process.

Vaccinate. If you don’t already have one, begin a vaccination program to protect your flock from general and region-specific diseases. Check with your state or province’s agricultural department before proceeding to ensure that you are following their guidelines for your specific area. Also be sure not to vaccinate your birds with live or modified-live vaccines that have the potential to set up a carrier state in your birds if you plan to show them. Vaccination programs can be a complicated subject and one that you must research before beginning.

If you identify an illness in your flock, quarantine sick
As part of soil testing, we have an option to choose to test soil level Organic Matter (OM). In general, folks know that higher OM levels are more desirable. However, in many cases, there is an extra charge. So why is it important to know the levels of organic matter in our soils?

**Organic Matter Defined**

Jenny Hans, a late pioneer soil ecologist, when asked to define organic matter said: “Any organic carbon assembly, large or small, dead or alive, is classified as soil organic matter.”

There are three different groups of organic material:

- **Biomass**: This includes all living soil organisms. That is all creatures from the microscopic viruses and bacteria to earthworms and millipedes.

- **Residues and by-products of living creatures**: These are old plant roots, crop residues, manure and dead soil organisms. All this supplies soil organisms with food. The soil organisms leave behind nutrients they don’t need in a process called mineralization. These nutrients are available to the plants.

- **Humus**: Residues that are difficult for soil organisms to decompose contribute to the formation of humus. The end product of the humification process is the result of the activity of soil organisms upon residues. Humus is stable and resists further decomposition. It is not a source of nutrients for soil organisms. It is a mixture of very small and very reactive particles. It forms the majority of organic matter. It enhances the water-holding and nutrient-supply capacity of the soil, which significantly benefits crops.

Soil organisms also give off by-products that are sticky or gummy. These materials hold soil particles together in clumps, or aggregates, and form the basis for good soil structure and tilth. This is great for healthy soil.

**Managing Organic Matter Levels in the Soil**

Organic matter is affected by soil texture, soil type, tillage, crops, and crop residues.

Organic matter can be managed by adding additional organic matter and/or by reducing the loss of organic matter.

**Add organic matter**

- Create more organic matter by growing healthy and productive crops and planning a high-residue rotation. That may include sod crops that leave lots of roots in the soil (like small grains or forages), crops that leave a lot of surface residue (like grain corn), and cover crops that supply both.

**Maintaining Adequate Organic Matter Levels**: 

- Increases the nutrient holding capacity of soil (CEC).
- Provides a pool of nutrients for plants.
- Chelates (binds) nutrients, preventing them from becoming permanently unavailable to plants.
- Provides food for soil organisms.
- Improves water infiltration.
- Decreases evaporation.
- Increases water holding capacity.
- Reduces crusting, especially in fine-textured soils.
- Encourages root development.
- Improves aggregation, preventing erosion.
- Prevents compaction.

Source: American Poultry Association
This twilight tour will be focused on useful information for both new farmers interested in growing aronia and for veteran aronia growers. Drs. Victoria Volkis and Andrew Ristvey will give research updates on cultural management and aronia fruit phytochemical content, and Dr. Rohan Tikekar will present information about safe fruit processing practices including handling, washing, and storing aronia for sale. He will also present updates to Good Agricultural Practices and how the Federal Food Security Modernization Act will affect all fruit growers. Paul Goeringer, Extension Legal Specialist, will discuss his “right to farm” extension programs as a legal resource for farmers. Whether you are organic or conventional, a veteran aronia grower or just interested in possibly growing aronia, this is a program you don’t want to miss! Please note that the meeting will begin indoors but will continue in the field so please dress appropriately. A $20 registration fee per person will cover light fare (sandwiches, etc.) as well as aronia food samples. Please register with Debby Dant at 410-827-8056 or ddant@umd.edu by August 17. For program questions, contact Andrew Ristvey at 410-827-8056 or aristvey@umd.edu.

Aronia Twilight Tour

August 20, 2015
5:00 p.m.
Wye Research and Education Center
Queenstown, MD

Harford County Farm Fair

July 30 - August 2, 2015
Harford County Equestrian Center

From opening on Thursday morning until closing on Sunday evening, the Farm Fair offers something for everyone to enjoy! There will be Carnival rides every day, and Kidway will again offer a myriad of free games, entertainment, and activities for children, including a Straw Maze and inflatables like the Moon Bounce. There will be Racing Pigs and Climbing Goats. There will be an Antique Tractor Pull on Thursday evening, and the Lucas Oil Truck and Tractor Pulls on both Friday and Saturday evenings. Live on the Entertainment Stage will be a variety of local performers. And returning to the Farm Fair will be the Rodeo on Sunday afternoon. The Farm Fair also allows local residents to exhibit their home-grown vegetables and agricultural products, baked goods, crafts and needlework, photographs and artwork. We provide the opportunity for all ages to compete in pie and watermelon eating contests and a Spelling Bee. There are contests for Farm Babies and for Miss Harford County Farm Bureau. The Farm Fair Talent Contest will be held on Friday, July 31 and Saturday, August 1. Featured on Sunday, August 2 in the Pavilion will be the Seasonal Sensations Culinary Competition and the Buy Local! Eat Local! Event. The Fresh Baked Peach Pie Contest will also be held on Sunday afternoon. There are many ways for Harford Countians to share their skills and talents! For more information, visit www.farmfair.org.

Great resources are just a click away!

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