Hello Coshocton County! This week has allowed us to get a good run at corn and soybean harvest. It appears we will have another few days of good harvest weather.

This warmer stretch has also helped the development of the next round of fall armyworms. We have heard reports of a few heavy breakouts in the southwest portion of the county. We recommend getting out and scouting especially if you have alfalfa or hay fields or have planted wheat or cover crops.

This weekend will see the return of the very popular Coshocton County Fall Foliage & Farm Tour. We hope that you have time to attend this year’s event as we visit farms in Franklin, Linton, and Lafayette Townships.

We had another great Beef Quality Assurance Re-certification session on Monday evening. If you need to recertify before the end of the year, we have sessions scheduled for November 3, December 1 and 14. Enjoy this week and as always, be safe!

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information visit: go.osu.edu/cf aesdiversity.
Coshocton County Fall Foliage & Farm Tour this Weekend

OSU Extension, Coshocton Soil & Water Conservation District, and the USDA Farm Service Agency invite you to participate in the 50th Coshocton County Fall Foliage & Farm Tour scheduled for Saturday, October 16 and Sunday, October 17. This year’s drive-it-yourself tour will highlight the southeast townships of Franklin, Linton, and Lafayette. The tour attracts nearly 1,500 people each year and is a great way to enjoy Coshocton’s fall foliage and to visit various farms and businesses.

This year’s tour will include stops at a beef farm, winery, park, dam, dairy farm, training and competition facility, as well as a popular farm market and pumpkin patch. The stops will be open on Saturday, October 16 from 10:00 a.m. to 5:00 p.m. and on Sunday, October 17 from 12:00 to 5:00 p.m.

Just a reminder the tour map will not be released until the weekend of the tour. The map pick-up location has been changed this year to the Coshocton County fairgrounds located at 707 Kenilworth Avenue in Coshocton. Maps can be picked up from 10:00 a.m. to 3:00 p.m. on Saturday and from 12:00 to 3:00 p.m. on Sunday. More information about the tour can be obtained by calling the Coshocton County Extension office at 740-622-2265. We hope to see many of you on this year’s tour!
**Lamb Committee Meeting on October 14**

Area lamb producers are invited to attend a planning meeting of the Coshocton and Tuscarawas Lamb and Fleece Improvement Committee tomorrow Thursday evening, October 14 beginning at 6:30 p.m. in Room 110 of the Coshocton County Services Building beginning at 6:30 p.m. Any interested producer is invited to attend this meeting. One of the items on the meeting agenda are details about the 5th Annual “For the Love of Lamb Dinner.”

**Farm Office Live Webinar Slated for October 13 & 15**

OSU Extension is pleased that two Farm Office Live webinars will be held this week. Join OSU Extension Faculty and Staff as we discuss current farm management and legislation issues. Sessions will be held on Wednesday, October 13 from 7:00 to 9:00 p.m. and on Friday, October 15 from 10:00 a.m. to 12:00 noon.

Details and registration link are available at [https://go.osu.edu/farmofficelive](https://go.osu.edu/farmofficelive). Below are this week's topics:

- Introducing......Seungki Lee, new Ag Economist
- Federal Legislative Update
- Farm Tax Implications from Federal Legislative Proposals
- State Legislative Update
- Ohio Farm Business Analysis 2020: Costs & returns for corn, soybeans and wheat
- Crop Costs and Margins for 2022
- Farm Office Program Updates
- Panel Discussion: Considerations for End of Year Tax Planning with returning Special Guest Robert Moore, Esq.
- Q&A

We hope to see you at one of these virtual sessions!

**Fall Armyworm Still Active in Some Fields**

By: Andy Michel, Kelley Tilmon, Curtis Young, Mark Sulc & Aaron Wilson


Despite the cold snap a couple of weeks ago, we have continued to catch large numbers of fall armyworm moths (we caught >10,000 moths the last week of September), have found eggs, and have even had reports of damage in cover crops, alfalfa and other forage. The good news is that the extent of the damage is less than we saw during late August and early September. However, the continued warmth over the next week or so may allow fall armyworm caterpillars to do a bit more feeding until the first frost. We recommend to scout all alfalfa, forage, cover crops, winter wheat and other crops that still may be risk from fall armyworm feeding.
Check-up on Your Alfalfa Agronomics
By: Clifton Martin, Extension Educator, Muskingum County, OSU Extension
Originally Published in the Farm & Dairy Newspaper, October 7, 2021

As trends go this fall, questions about alfalfa rose to the top of the list. It seems the fall armyworm outbreak, which turned leafy fields into landscapes of leafless stem left many of us scrambling to figure out what to do about it. It was almost an overnight occurrence. We still find ourselves scouting to see if we will see a second generation before cold weather sets in, but I am hopeful cooler nights will prevail. Not everyone had an issue, but it is easy to find farms with large acres impacted. Because of all the attention given to the fall army worm problem, its been a good year to review our guidelines and recommendations for growing alfalfa.

A recent soil test sparked several questions about nutrient recommendations, what fertilizer sources to use, and timing the fertilizer application. At OSU, we have three great resources for dialing in on agronomic and fertilizer guidance: the newly updated Tri-State Fertilizer Recommendations, The Ohio Agronomy Guide, and the Corn, Soybean, Wheat, and Forages Field Guide (Co-branded with Penn State Extension). I also look at the Penn State Agronomy Guide from time to time to see how they discuss recommendations, also.

Fertilization is generally best in the fall or after a first cutting. Phosphorous and potassium are essential to manage for vigorous plant growth and stand persistence. Split applications can be useful to spread the cost in high demand situations and to feed more gradually, avoiding luxury consumption of potassium. We often look for pH to be slightly higher than recommended for corn. A pH of 6.5 to 6.8 is recommended for Alfalfa, where a pH of 6.0 to 6.5 is recommended in a corn field.

At OSU Extension, we use a build and maintenance approach to make a fertilizer recommendation, and phosphorus and potassium recommendations for alfalfa follow that model. When phosphorus soil test levels are between 30-50 ppm Mehlich 3, we apply fertilizer based on nutrients removed during harvest. When soil test levels on a soil test report are below that range, we make a calculation to apply more phosphorus to raise soil test level phosphorus. The good news is there are simple tables that help make a phosphorous application determination a fairly simple process. These tables exist in the Tri-State Fertilizer Recommendations document. A balanced P&K program is needed to maintain yields and stand persistence.

Nitrogen is extremely important for good production of grasses, but generally not needed on alfalfa. In fact, any field with greater than 35% legume content should be managed without a nitrogen application. That being said, we may find ourselves in markets where something like an 18-46-0 fertilizer are most convenient and available to us, and put down a little nitrogen as we go. This soil test for the field in question tested at 9 ppm. At that rate, OSU tristate recommendations suggest 150 pounds of phosphorus (P205) to meet a yield goal of 4 tons per acre. If the field had tested in the maintenance range, the recommended application of phosphorus (P205) is 50 lbs per acre. We remove about 12 lbs of available phosphorus per ton of harvested forage biomass and 49 lbs of potash.

We minimize fall harvest of tall legumes in order to mitigate heaving and winterkill. In central Ohio, September 12 is the recommended last regular harvest date. Maybe you choose to push a little further and harvest closer to the end of September, but history tells us risk of winterkill is greater. I have had a few conversations where for one reason or another, the final cut gets pushed back. I will always give you the book answer so at least you know the risk.

While we can find fall armyworms in some capacity most years, many of us were surprised by how widespread and abundant the infestation was this fall. It was unusual to see the alfalfa fields stripped of their leaves in so great of an area. One outbreak is not necessarily detrimental, but it all comes down to timing and environmental conditions. Alfalfa will regrow, but there will be concern about the ability of the stand to provide the reserve carbohydrates and risk of the new generation feeding off the new growth.
I do think there is probably a little bit of art scattered into the science. Agronomic guidelines like these come from years for solid research, but we know there is field variability and years of experience lead to adjustments and finetuning. If you are starting out, find the Extension resources mentioned here and they will help get you well on your way.

**Delayed Wheat Planting**  
By: Laura Lindsey  
Source: [https://agcrops.osu.edu/newsletter/corn-newsletter/2021-35/delayed-wheat-planting](https://agcrops.osu.edu/newsletter/corn-newsletter/2021-35/delayed-wheat-planting)

In general, the best time to plant wheat is the 10-day period starting the day after the fly-free safe date. When wheat is planted more than 10-days after the fly-free safe date, there is an increased chance of reduced fall growth and reduced winterhardiness. The effect of planting date on wheat yield is shown in Figure 6-2 of the Ohio Agronomy Guide. A free pdf of the guide is available by clicking here: [https://stepupssoy.osu.edu/wheat-production/ohio-agronomy-guide-15th-edition](https://stepupssoy.osu.edu/wheat-production/ohio-agronomy-guide-15th-edition) (Download the pdf by clicking on the picture of the guide.) Currently, with funding from Ohio Corn and Wheat, we are re-examining the effect of wheat planting date…so stayed tuned next year for those results.

When wheat is planted 3-4 weeks after the fly-free-safe date, the same yield can be achieved as earlier planted wheat if freezing weather does not occur until late November or early December. However, a higher seeding rate is recommended. For wheat planted 3-4 weeks after the fly-free-safe date, use a seeding rate of 1.6 to 2.0 million seeds per acre. The actual number of seeds per pound and germination rate are important for determining the correct seeding rate and drill calibration (Table 1). There are fewer seeds per pound of large seeds than pounds of small seeds. The number of seeds per pound can be found on the seed bag.

Additionally, late planting also means plants will be smaller than normal when entering dormancy and have smaller, more shallow root systems, making them more susceptible to heaving next March. The best heaving control is to get the seed placed between 1.0 and 1.5 inches deep when planting and to plant no-till. These two practices combined will reduce heaving potential.

Table 1. Pounds of seed needed to plant from 1.2 to 2.0 million seeds/acre with seed of varying size.

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<th>1.6</th>
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Recognizing the Risks of Broadleaf Weeds in Pasture
By: Christine Gelley, Agriculture and Natural Resources Educator, Noble County OSU Extension
Source: https://u.osu.edu/beef/2021/10/06/recognizing-the-risks-of-broadleaf-weeds-in-pasture/

It is often said that, “Any plant in the wrong place is a weed.”

Well, in a pasture situation, there tend to be quite a few plants that weren’t intentionally planted there but thrive there regardless. It can be challenging to determine if these weeds are threatening or adding beneficial diversity to our pasture sward. Broadleaf weeds tend to be easier to identify and control than grassy weeds in a pasture setting, but can still be puzzling depending on lifecycle, growth stage, flower arrangement, and growth habit.

One that commonly confuses land managers in Southeast Ohio is spotted knapweed. Spotted knapweed is a detrimental weed that shares similarities to many less threatening pasture plants. The color of the flower is similar to that of red clover, the growth habit is similar to chicory, and the flower shape is similar to Canada thistle and ironweed. However, the combination of growth habit, color, and flower shape is unique to spotted knapweed. Spotted knapweed may possess as many as 200 pink to purple blooms per plant. The mature seed heads resemble Canada thistle, a tight cluster of seeds with a fluffy pappus attached. The pappus helps the seed move with wind, water, animals, and vehicles.

This weed is similar to a biennial, in that the first year of growth there is no flower, just a rosette of five to twelve irregularly lobed hairy leaves. The plant will flower in the second year and continue to flower in the years following. Mature plants may be one to four feet in height, slender or bushy, and will have a deep taproot. It is quite attractive to a variety of pollinators but should not be propagated or preserved in the landscape for this purpose. Many other wildflowers with fewer risks are equivalent food stocks for pollinators.

Spotted knapweed is a prolific seed producer, so if knapweed is not addressed in year two, a population explosion may occur in year three. It gets the name “spotted” because the flower receptacle bracts have dark brown tips. Knapweed is aggressive because it has few natural predators in Ohio. Allelopathic compounds have been isolated from knapweeds, which are chemical substances that can leach from plants and weaken competitors, but the severity of the allelopathic potential remains under investigation. Animals are unfamiliar with it, so grazing as a control is ineffective and it thrives on marginal soils. It can easily out compete weak stands of desirable plants for nutrients.

Step #1 for treatment of pasture weeds is accurate identification. Spotted knapweed (far left) is often confused on first glance with other flowers like red clover, chicory, or ironweed. Growth habits are drastically different between all of these plants. (Photo Sources: Steve Dewey of Utah State University and Christine Gelley of OSU Extension)
There are 21 knapweed species and three hybrid knapweeds present in North America. All of them are exotic. They originally arrived with settlers from Europe and Asia in the late-1800s and early 1900s in contaminated hay. Contaminated hay continues to be one of the leading ways seed spreads throughout ecosystems. It is how we suspect it was introduced in our region as well. Spotted knapweed is just one of six especially problematic knapweeds that now colonize over five million acres of rangelands, pastures, crop fields, and waste spaces across the continent. It is also the most prevalent and has been detected in 46 states as of 2015.

Mowing for control is marginally successful. It does help prevent the development of seed, but the plant is able to flower below the height of a mower deck. Biological control using various insects has proven beneficial in western systems but are difficult to secure in the eastern part of the United States. Chemical treatment with readily available broadleaf herbicides and glyphosate for spot treatment has been successful in grass pastures of our region if timed appropriately. Adequately fertilizing pastures can be helpful for increasing the health and competitiveness of desirable plants against the onslaught of this invader.

- Some commonly used broadleaf herbicides that are also effective on spotted knapweed include:
  - Aminopyralid
  - Aminopyralid + 2,4-D
  - Clopyralid 3,
  - 2,4-D amine or ester
  - Dicamba
  - Dicamba + 2,4-D
  - Picloram 22K
  - Others may work as well, but effectiveness is unknown or only considered fair in comparison.

The best control tools for spotted knapweed and many other weeds are early detection and early action. Hand pulling and spot spraying young plants that are few and far between can be effective on new invasions. However, heavy infestations will likely take a more creative and lengthy approach to treat including a combination of management tactics.

If you come across something you suspect might be spotted knapweed or another broadleaf weed that is unfamiliar, please contact your county Extension office for assistance with identification and corresponding treatment, especially for those with toxicity concerns for livestock. Examples of other high-profile weeds include: poison hemlock, the nightshades, pokeweed, cress-leaf groundsel, milkweed, hemp dogbane, buttercup, and more. There are some ways that you can streamline the identification process and improve the swiftness of a determination when seeking assistance.

If you bring in a plant sample to an office for identification, bring a whole plant- roots, stems, leaves, flowers, and all. Also, take a photo of the environment it was taken from. When submitting a photograph or video sample take a shot from far away including the surrounding location where the plant was found. Then take shots up close and in focus that capture all sides of the specimen- top side, under side, and side view. Also include an “element of scale”. This is a common item that everyone should have in their home that can be used to compare size (ex: a ruler, a pop can, a business card, etc.).

In pasture systems, I define a weed as a plant that has the potential to harm livestock either by poisoning, suppressing the growth of desirable plants, destroying fence, causing skin irritation or injury, and those that reduce by-product value by contaminating hair and hide.

In all cases, getting a confirmed weed I.D. is critical for appropriate treatment, early detection will minimize damages, and integrating multiple control methods into the treatment plan will yield the best results.

References:
Developing a Winter Feeding Program
By: Steve Boyles, OSU Extension Beef Specialist
Source: https://u.osu.edu/beef/2021/10/06/developing-a-winter-feeding-program/

Winter feed costs are the largest single expense in most livestock grazing production systems. Extending the grazing to reduce the cost of feeding stored feed will greatly increase profits. Labor can be reduced 25% or more. Rotational grazing takes about three hours per acre per year as opposed to hay production, which takes seven hours per acre per year. The cost for grazing a cow per day is $.25 compared to $1.00 per day to feed hay to a cow.

The first step is to evaluate the potential, available, existing feed. Crop residue can be an abundant winter feed. Corn stalks can maintain a spring calving cow in good body condition for about 60 days after corn harvest. The feed value will decline quickly after the 60-day period. Cattle will select and eat grain, then husks and leaves, and last cobs and stalks. Strip grazing increases utilization, rations the feed, and reduces the need for supplementation. The crop fields should be grazed so that adequate residue remains soil erosion control.

Stockpiled perennial grasses can be grazed in the late fall/early winter. The general recommendation is to clip or make hay in the field during the end of July and apply 30 to 50 pounds of nitrogen per acre. High-producing, clean, well-drained fescue and orchard grass meadows would be a good choice. Let the forage grow until you need it. Strip grazing will increase utilization.

Winter annual forage crops can be used to provide grazing. Brassicas are easy to establish, fast-growing, high-yielding, and high-quality and can withstand cold temperatures. Turnips can reach maximum quality in as little as 60 days. The tops can tolerate temperatures down to 20 degrees and the bulbs down to 10 degrees. Cows and sheep will eat both the tops and bulbs.

Grazing and presetting round bales prior to feeding can reduce trampling and extend the grazing season. Setting rounds 20 feet on center in the fall when the weather is fit and moving a temporary electric fence to feed them reduces winter feeding time. Hay should be fed away from drainage ways and near livestock watering sources. Feeding hay in low fertility areas will improve the fertility and future pasture quality.

Livestock heavy use areas or pads should be located outside the flood plains. If the pad is located close to a watercourse, run off and manure from the pad should be managed to protect the stream from pollution. These areas should be located at least 300 feet away from neighboring residences and away from wells. A manure management system should be designed to handle any accumulated manure on the pad.

More details on these options can be found in OSU Extension Bulletin 872: Maximizing Fall and Winter Grazing of Beef Cows and Stocker Cattle

Continue to Stage Pasture into Fall
By: Victor Shelton, NRCS State Agronomist/Grazing Specialist

My wife has been splitting open persimmon seeds. For those who don’t know what this is supposed to mean – it is an old wives’ tale method of predicting the upcoming winter weather. For clarity, I’m not saying my wife is old, but she does like to read persimmon seeds! Traditionally, you split the persimmon seed open to reveal the whitish sprout inside. It may require a bit of imagination, but they are supposed to resemble a spoon, a fork or a knife. The spoon is said to predict lots of heavy, wet snow. A fork means you should expect a mild winter. A knife indicates an icy, windy and bitter cold winter. Surprisingly or luckily, it is often correct. She split open several seeds this year – all were spoons.

What kind of winter do you persimmon seeds predict?
Now, I would not bank on that information, but it is a reminder that we need to be prepared ahead of time for whatever the weather decides to throw at us. Each year is a little different, so strategy and planning must be adjusted as needed as the season progresses. It is also important to have a game plan on how to deal with unplanned circumstances.

I like to try and think ahead of the next livestock move – often calling it staging. Early in the season, the term staging is easier to understand. It is the planned and predicted, yet adjustable, allocations for a set time frame. During spring growth, you want to keep forage as vegetative as possible to provide quality feed for grazing animals and to maintain that solar panel in order to increase forage yield as much as possible with adequate rest. A lot of that is timing of when to go back to the first paddock and start over. It requires a watchful eye to know when to do that too.

By late summer, and into early fall, the growing days for forages start getting numbered. The impact of this is intensified around the Sept. 22 when fall equinox kicks in – daylight is now less than 12 hours per day. This slight change in daylight does slow forage growth. Staging now has more to do with allocating out grazable forage/fodder that is present, allowing as much time as possible for plants to continue to grow to get maximum yield to graze later, and knowing when to graze what in order to maximize all of it and graze longer while meeting livestock nutritional needs.

What should you be grazing right now? If you still need to stockpile forage or rest pasture, then annuals or crop residue can certainly work. Corn stock residue can provide at least 30 days of decent grazing after harvest date. After 30 days, the quality of that fodder will decrease quickly and only maintenance animals should really graze them, unless higher quality annuals have been planted into the stalks, raising the nutritional value and they are ready to graze. If you have annuals such as oats and brassicas that were planted a few weeks ago, some of those can now be grazed. You would not want to graze them too hard if you don’t have to; you will want to save some for later so leaving sufficient residual is important, ideally about four inches.

Some areas still have an abundance of forage available for grazing. Deferring this forage for later use provides an opportunity for more growth in the declining daylight days and more opportunity for grazing later. Once we have a good killing freeze, which will be coming soon in the northern part of the state, you can feel comfortable to start grazing stockpiled forages without worrying too much about stressing the plant too much. You want the plant to build both the top and new roots to store energy for next spring. If you continue grazing into late fall the plant will be weakened some next spring.

As we proceed later into October and approach November, forages that don’t hold their value very well, or for very long, need to be grazed first. Orchardgrass, hay aftermath, perennial ryegrass and even smooth brome grass once it has for sure gone dormant should be first on the menu. I would then move back to any annual small grains if soil conditions permit.

The backbone dominating stockpiled forage for the rest of the winter here in the Midwest is most certainly tall fescue. Whether old Kentucky 31 or an endophyte-friendly tall fescue like Max-Q, if it is dominantly new fall regrowth it will hold its nutritional value better than anything for as long as it lasts. The fescue should be the last thing normally grazed in the winter…so save it for late use. It will hold up to some abuse, maintain decent quality and is basically standing hay.

Summer annual warm-season grasses, such as sudangrass or sorghum-sudangrass hybrids often have some late season value, but caution should be taken in utilizing these forages this time of year, Johnsongrass included. Once frosted, these forages quickly start shutting down and can start producing a cyanide-containing compound commonly called prussic acid. This acid is the same compound that is produced by these same plants under stressed conditions. Livestock should be removed from these forages for 10-14 days to allow for the forages to “dry down” and the prussic acid to dissipate before grazing again. Frosted sudangrass or sorghum-sudangrass hybrids can be harvested for balage right after being frosted and later fed if they are allowed their normal fermentation process time period of three or four weeks. Frosted areas may only be “pockets” in a field to start with. Any regrowth from the base of the plant after a frost can also be very
high in prussic acid. If in doubt about nitrates or prussic acid – test before feeding or grazing!

I would strongly recommend doing an animal to forage/hay/feed balance right now to see how you are set for the winter. Better to figure out now that you may be short than later when finding and moving hay/feed is more difficult. In dry areas, consider trying to buy yourself a little time for more forage regrowth by feeding some hay or other stored feed now to maximize any potential growth while you can.

Last year most producers would have appreciated a little more free concrete, or rather, frozen ground. It is best to be prepared. Mud is certainly worse around feeding, watering and other concentrated areas. One of the best solutions for these concentrated areas is to install a heavy use protection area or HUAP if you like acronyms, or more simply, rock pads. These areas are fairly simple to construct and better yet, very economical and one of those items I consider “money well spent” for animal well-being.

The rock pad should ideally be placed in a well-drained area. Sometimes you are better off to consider moving your winter-feeding area if drainage is an issue. The ideal site would also have wind protection associated with it. Sometimes, this could be just a row of strategically placed round bales. The pad should also be located away from major drainage areas and water bodies, so you don't have to worry about contaminating them with possible runoff. You would certainly not want to create a resource concern with these areas, so they need to be located appropriately, managed properly and be a part of a planned system. Information on how to build a rock pad can be found at any USDA service center.

Remember, it's not about maximizing a grazing event, but maximizing a grazing season! Keep on grazing!

**BQA Re-certification Sessions Planned**
The Coshocton County Extension office will be offering a series of Beef Quality Assurance (BQA) re-certification meetings to help producers renew their BQA certification. These sessions will be held in Room 145 at the Coshocton County Services Building located at 724 South 7th Street in Coshocton County. Producers can choose the session which best fits their schedule. Sessions will be held on: November 3, December 1 & 14. Each will be held from 7:00 to 8:30 p.m. Pre-registration is required for each session as space is limited. There is no fee to attend. Call 740-622-2265 to pre-register. These sessions also qualify for anyone who is seeking a first time certification. Online certification and recertification is also available and can be completed anytime at [https://www.bqa.org/beef-quality-assurance-certification/online-certifications](https://www.bqa.org/beef-quality-assurance-certification/online-certifications).

**Time for Peony Clean-Up**
By: Joe Boggs
Source: [https://bygl.osu.edu/index.php/node/1880](https://bygl.osu.edu/index.php/node/1880)

Garden Peonies (Paeonia spp.) have been used in Ohio landscapes for a long time. It's not unusual to find clumps of these non-natives growing where old homes once stood. However, this old group of perennial flowering plants has seen a resurgence in recent years.

The taxonomy of these natives of Asia, Europe, and the western U.S. remains in flux. The exact number of species ranges from 25 to 40, depending on the taxonomic scheme; however, the current consensus is that there are 33 species. There are both "woody" (= tree peonies) and herbaceous species (= garden peonies), but this Alert focuses on the herbaceous types. It's an important distinction relative to management.
Garden peonies provide beautiful displays with their short, shrubby growth; dark glossy foliage (some species); and showy blooms even though the blooms may not last long. Unfortunately, beautiful peony displays are sometimes marred by several diseases with the most notorious being Peony Leaf Blotch disease caused by the fungus Graphiopsis chlorocephala (formerly Cladosporium paeoniae). The fungus is also responsible for producing other diseases with different common names depending on the symptoms.

Leaf blotch occurs when infections produce large, shiny, brown, or purple leaf lesions. Peony Red Spot and Peony Measles occur when fungal infections produce distinct red to reddish-black spots on the stems. Typically, the measles symptoms appear before the leaf blotch symptoms with the stem lesions expanding as the season progresses.

Peonies are also susceptible to up to 14 species of Botrytis including a gray mold fungus specific to peonies, B. paeoniae. Indeed, research conducted at Washington State University as part of a Ph.D. thesis revealed that there may be as many as 9 additional undescribed Botrytis species found on peonies.

The gray mold fungi may infect newly emerging shoots in the spring covering them in a fine, velvety gray mold. The Botrytis can also infect flower parts later in the season to produce disease symptoms labeled "bud blast" with flower buds failing to open and "flower blight" with opened flowers collapsing and becoming blackened. Fungal infections can also move down the stems to produce a "shoot blight."

Unfortunately, web searches may yield reports with images that clearly show peony leaf blotch but are mislabeled "Botrytis blight," or images of Botrytis infections that are blamed on the leaf blotch fungus. These fungi have very different disease cycles. Of course, it's not unusual to find both diseases on the same peony plant.

The occurrence of powdery mildew on peony adds to the challenge of making an accurate "field" diagnosis. Various online university resources identify the fungus behind powdery mildew on peony as Erysiphe polygoni. Although it's common for powdery mildew fungi to be host-specific, apparently this species can infect several species of flowering plants used in landscapes.
Of course, you should never depend on a field diagnosis as the final word on a disease diagnosis. If you want to know exactly which disease(s) is at work, sending samples to our OSU C. Wayne Ellett Plant and Pest Diagnostic Clinic can provide answers for making an accurate diagnosis.

The good news is that these diseases are not considered to be killers of garden peonies. Symptoms tend to escalate as the season progresses meaning plants apparently have enough time to produce and store enough carbohydrates to support regrowth the following season.

The bad news is that these diseases can seriously detract from the aesthetic value of peonies in landscapes. Equally important, infections commonly escalate over time meaning that disease symptoms tend to worsen year after year unless something is done to break the disease cycles.

Management
The Disease Triangle illustrates the three conditions that must be met for a plant disease to develop: the pathogen must be present, the plant host must be susceptible to infection, and environmental conditions that support infection and disease development must be present. Removing only one of these conditions will prevent disease development.

Various web reports on peony leaf blotch recommend planting less susceptible varieties; however, I have found no scientific publications presenting data from plant trials that assessed disease susceptibility. There are anecdotal accounts that susceptibility varies among the different peony varieties and I've observed this in peony plantings. Of course, other factors may be responsible for varying levels of infections such as micro-environments acting to increase or decrease infections within the plantings.

Some disease suppression may be achieved by environmental management such as avoiding overhead irrigation. However, it's difficult to manage natural overhead irrigation in the form of rainfall. Suppression of the pathogen by fungicidal applications can be effective; however, success is generally problematic. Multiple applications are required over a significant portion of the growing season and heavy rainfall events can mean a shortening of the intervals between applications. Relying on fungicides alone is not likely to be successful for home gardeners and can even present a serious challenge for landscape management professionals.

Removal of plant pathogens through sanitation is one of the effective management strategies for both of these garden peony diseases. This approach focuses on getting rid of infectious tissues that harbor the fungi throughout the growing season or over the winter.

Fall (right now!):
1. Cut, remove and destroy all of the top growth down to the soil line.
2. Rake, remove and destroy all mulch and plant debris that was beneath the infected plants.
3. Redistribute new mulch for the winter to a depth of no more than 2 – 3". This will suppress the release of fungal spores next spring from infectious debris that may have been missed during the fall clean up.

Spring:
Protect new shoots using an appropriately labeled fungicide. The product label must include the site (e.g. landscape, nursery, etc.) and make certain peonies are not listed as being sensitive to the product. This is an added protective measure and requires just one or two applications. I have heard several anecdotal accounts of peony leaf blotch being successfully managed without these fungicidal applications in the spring. However, these applications should be considered if there were heavy Botrytis infections this season.
During the Growing Season:
1. Remove and destroy bloom buds, flowers, and stems showing signs of Botrytis infections. "Dead-heading" spent flowers is also recommended.
2. Selectively prune plants to improve air circulation which will enhance leaf and stem drying.
3. Avoid overhead irrigation; use drip irrigation if available.

Our deep respect for the land and its harvest is the legacy of generations of farmers who put food on our tables, preserved our landscape, and inspired us with a powerful work ethic.

James H. Douglas, Jr.
50th Coshocton County Fall Foliage & Farm Tour

Drive-It-Yourself Tour

Details: Tour route maps are released on tour days. Maps are available on Saturday from 10:00 A.M. - 3:00 P.M. Sunday from 12:00 P.M. - 3:00 P.M.
The Coshocton County Fairgrounds 707 Kenilworth Ave. Coshocton, Oh 43812

Cost: Free and open to the public. Donations are welcome.

Contact Information: OSU Extension Coshocton County 724 S. 7th Street, Room 110 Coshocton, Oh 43812 740-622-2265 http://cosh octon.osu.edu

Saturday, October 16 10:00 A.M.-5:00 P.M.

Sunday, October 17 12:00 P.M.-5:00 P.M.

2021 TOUR STOPS INCLUDE:
• Dairy Farm
• Beef Farm
• Winery
• Wills Creek Dam
• Fall Produce Farm: Mums & Pumpkins
• Coshocton County Master Gardeners
• Lunch Stop: Plainfield UMC
Plainfield, Ohio Hosted by: Plainfield UMC and Isleta UMC ...and More!

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