

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES**September 1 Issue (Edition #110)**

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Coshocton County Extension
724 South 7th Street, Room 110
Coshocton, Ohio 43812
Phone: 740-622-2265
Fax: 740-622-2197
Email: marrison.2@osu.edu
Web: <http://coshocton.osu.edu>

Hello Coshocton County! Late last week Ohio was invaded by an army---this being the fall armyworm. We are seeing hay fields and turf being totally decimated by platoons of very hungry armyworm caterpillars. Grass today and gone tomorrow. Much of today's newsletter is dedicated to sharing more about this pest.

On the home front, we harvested our Concord grapes on Monday (looking forward to a lot of grape jelly) and Emily made another great batch of spaghetti sauce. Our vegetable, fruit, and agronomic crops have flourished in Coshocton County this summer.

Congratulations to the Coshocton County Farm Bureau on their annual meeting this past Saturday at Coshocton Soy Processing. Despite the heat, attendees had a great tour of this amazing facility. Well done.

We are starting to sell quite a few Farm Science Review Tickets in our office---make sure to stop in to get your pre-sale tickets.

Make sure to get out and scout for the fall armyworm!

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator



THE OHIO STATE UNIVERSITY

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Fall Armyworms March Across Ohio

By: [Dave Shetlar](#), [Joe Boggs](#) and [Curtis E. Young](#)

Source: <https://bygl.osu.edu/node/1859>

OSU Extension county offices across the state are receiving e-mails and phone calls about Fall Armyworm (*Spodoptera frugiperda*, family Noctuidae) causing substantial injury to turfgrass. Thus far, it appears that fall armyworm is the dominant culprit rather than Yellowstriped Armyworm (*S. ornithogalli*) and Common Armyworm (*Mythimna convecta*).



Fall and yellowstriped armyworms are semi-tropical species that “fly” north each season. We often get both species in Ohio in August and September when they replace black cutworms that most superintendents see on their greens and tees. Both species also attack field crops, especially corn and small grains.



Every few years (usually 3-5 years), we get a massive buildup of these pests in the southern and transition turf zones. Reports of heavy armyworm activity have been coming out of Oklahoma to North Carolina for the last two months.

We believe adults from those outbreaks were picked up in the storm front that came from the south across much of Ohio about four weeks ago. The adults of these moths have been known to travel 500 miles, even more, in 24 hours. They can get into the jet stream and move vast distances, then drop down to find suitable host plants.

Adults tend to lay eggs on the flat leaves of trees and flowers that overhang turf, especially turf that has been recently fertilized. Each adult female can produce an egg mass that contains 100 to 500 eggs. The females are also attracted to night lights, and they will attach their egg masses to the light posts! If there are large areas where no plants or structures are overhanging the turf, the females will lay strips of eggs on grass blades.

The eggs hatch in 5-7 days and the larvae usually take three to four weeks to complete their 5-6 larval instars. The mature larvae dig into the thatch or upper soil and pupate without making a cocoon. The pupae take about two weeks to mature. So, the complete life cycle takes about 50-60 days.



Direct Control

Armyworms are so named because of their habit of moving en masse to greener pastures once they've depleted their food supply. It is not uncommon for the caterpillars to move from field crops into nearby turfgrass.



Once they move into turfgrass, the caterpillars will continue feeding until there is no more food or they complete their development, whichever comes first. If the plant food is exhausted, the armyworms will become meat-eaters with the larger caterpillars eating the smaller caterpillars to complete their development.

Turf that has had the canopy removed by the caterpillars will have the crowns and upper roots exposed to direct sunlight. The crown rests on the soil surface and is the growing point for both blades and roots. On sunny days, the area where the crowns are located can easily reach 120 to 130-degrees F which will “cook” them or dehydrate them. Loss of the crowns means the loss of the entire turfgrass plant; the turf is dead.

Thus, the first step in protecting the turfgrass plants is to kill the caterpillars before they completely devour the turfgrass canopy. This involves the direct application of insecticides.



Most turf managers are appearing to have success with their pyrethroid applications. However, we are getting reports from the agricultural markets that pyrethroids are not working well, so alternative chemistries should be considered.

Fall and yellowstriped armyworm populations often develop resistance to insecticide categories that are extensively used in the agricultural markets. Since our populations arrive from more southern regions, some moths may have arrived here in Ohio after their ancestors have been exposed to several applications of pyrethroids, carbamates, or organophosphates.

If you do not see a rapid kill of any fall armyworm population after the application of a pyrethroid, consider using an alternative. The diamides such as chlorantraniliprole (e.g., Acelepryn) or tetraniliprole (e.g., Tetrino) have excellent caterpillar-killing abilities. Both are registered for turfgrass usage and can be used at their lowest label rates for curative caterpillar control. Two combination products that contain a neonicotinoid plus a pyrethroid and seem to overcome any resistance are Aloft (clothianidin+bifenthrin) and Alucion (dinotefuran+bifenthrin).

Finally, azadirachtin-containing products are effective for control of all types of turfgrass-infesting caterpillars. Azatin O, Azaguard, and Neemex 4.5 are three such products and each is certified organic (OMRI). Note that Azatin XL is not registered for turfgrass use. These alternative insecticides are often difficult to find in over-the-counter outlets, but none are restricted-use insecticides (except for Aloft GC which is used on golf courses). Those that are not restricted use can be purchased by homeowners through internet vendors, but you will need the proper equipment to apply these commercial products.

Turfgrass Recovery

Turfgrass will recover with a little help from properly timed fertilizer applications if the insecticide applications were made quickly enough to protect a substantial percentage of the turfgrass canopy. However, if the canopy has been completely removed, the crowns need to be protected from dehydration through irrigation.

On golf courses, superintendents are used to syringing their greens and tees on such hot days as a method of cooling the turf crowns and keeping them hydrated. If possible, we also recommend watering damaged areas in the heat of the day to keep the crowns cooled down and hydrated. This should be kept up until a visible green cover returns to shade the crowns.

Home lawn recovery also involves watering to keep the crowns hydrated as well as fall fertilizer applications to support the regrowth of the blades. Fortunately, the first fall fertilizer application can be made right now. The fertilizer products should include a slow-release form of nitrogen to support turfgrass growth over a longer period.

If there is a concern that crowns are being lost, for example, if irrigation is not possible during high heat conditions, now is the time to look for grass seed as the supply of seed is down this year. However, here are a few points to consider.

While perennial ryegrass (*Lolium perenne*) will germinate quickly and provide rapid cover of damaged areas, we are also seeing a fair amount of grey leafspot which is killing perennial ryegrass. We recommend using a slit-seeder (= slice-seeder) to seed turf-type tall fescue (*Festuca arundinacea*). If possible, a blend of multiple cultivars should be used. The cultivars that have been developed in recent years have a color and texture that match Kentucky bluegrass (*Poa pratensis*).

Also, most turf-type tall fescues have endophytes that produce alkaloids that are toxic to armyworm and sod webworm caterpillars as well as other insects that feed on grass blades such as chinch bugs and billbugs. These seed products may have “endophyte-enhanced” on the bag or indicate the cultivars are resistant to insects.

NOTE: we do not recommend Kentucky 31 Tall Fescue (KY-31) for use in lawns. Although this was a naturally occurring variety found in Kentucky decades ago, it has very poor qualities for use as turfgrass. KY-31 is most suitable for soil stabilization such as along highways. It looks pretty good at 65 mph.



Unusual Armyworm Outbreaks are Taking Many by Surprise

Kelley Tilmon, Mark Sulc, Andy Michel, James Morris

We have received an unusual number of reports about fall armyworm outbreaks particularly in forage including alfalfa and sorghum sudangrass, and in turf. Certain hard-hit fields have been all but stripped bare (Figure 1). Armyworm is not typically a problem in Ohio in late summer, so we encourage farmers to be aware of feeding damage in their fields. Armyworms are much easier to kill when they are smaller, and feeding accelerates rapidly as they grow, so early detection is important. Look for egg masses glued not only to vegetation but to structures like fence posts. Egg masses have a fluffy-looking cover (Figure 2). When the cover is peeled back, eggs are pearly and tan when new, and turn darker as they approach egg-hatch.

Fall armyworm caterpillars vary in color from greenish to tan to dark brown with stripes along the body. They can be easily confused with other species, but a good identifier is an inverted white “Y” shape behind the head. (Figure 3). Another species, true armyworm, feeds at night but fall armyworm will feed during the day.

Insecticides will not penetrate egg masses well; it's best to spray caterpillars when they are less than $\frac{3}{4}$ inches long, at which point most armyworm-labeled pyrethroids will kill them reasonably well. For larger caterpillars, products containing chlorantraniliprole will provide longer residual which may help with control of the harder-to-kill caterpillars over $\frac{3}{4}$ inches.

In forages, a threshold that can be used is 2-3 fall armyworm larvae per sq foot. If larvae are smaller (less than $\frac{3}{4}$ inch), they can still do a lot of feeding and are worth treating with an insecticide application. An early cut can help limit damage, but check the field for survivors. If survivors are abundant, an insecticide application may be warranted to protect nearby fields. Armyworms get their name from moving in large bodies (marching) to new feeding areas.

In corn, armyworms can randomly feed on leaves, with holes occurring throughout the leaf surface. The more damaging stage is when they feed on developing silks and kernels after entering the ear. Once they enter the ear, control by insecticides is much more difficult. Most Bt corn varieties with above ground protection is labelled for armyworm control, but resistance to several Bt traits has appeared in the US. While we have not found Bt resistance in armyworms in Ohio, we would recommend growers scout ALL corn (Bt or non-Bt) for any evidence of damage or resistance. If feeding is found, please contact us (tilmon.1@osu.edu, or michel.70@osu.edu) or your local extension educator.

Fall armyworm does not overwinter in Ohio. Moths come up from the South early in the season and temporarily colonize the area, especially in grassy areas. The current caterpillars are second generation. If we have a warm fall we could possibly see a problem third generation, especially in forage, cover crops, and winter wheat planted before the fly-free date (see Figure 4).



Figure 1. Fall armyworm feeding damage. Photo by James Morris, OSU Extension Figure 2. Fall armyworm egg mass, with cover peeled back. Photo by Ric Bessin, University of Kentucky.





Figure 3. Fall armyworm caterpillar, with an inverted “Y” near the head. Photo by James Morris, OSU Extension

Figure 4. Fly Free Dates in Ohio. Wheat planted after this date have lower risks of damage from Hessian Fly as well as other pests, including fall armyworm and aphids that spread wheat viruses

Please visit the Forages chapter in the Michigan State/Ohio State Field Crops Insect Pest Management Guide for management notes and labeled insecticides in forages.

<https://aginsects.osu.edu/sites/aginsects/files/imce/MSU%20-%20OSU%20Insect%20IPM%20Guide.pdf>

Autumn Forage Harvest Management

By: Mark Sulc

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2021-29/autumn-forage-harvest-management>

Authors Note:

Since preparing this article last week, a severe fall armyworm outbreak has developed across Ohio. Here are some comments about managing hayfields in view of this fall armyworm outbreak:

If the hayfield is close to having enough growth for harvest, cut it as soon as possible. If there are large numbers of fall armyworms present (more than 2 to 3 per square foot) and they are $\frac{3}{4}$ -inch or larger, they will “cut” the entire field for you while you sleep another night or two. So be aware of what is in your hayfield! Be sure to read the accompanying article in this issue on the fall armyworm and how to scout for it and manage it.

If your hayfield is not quite ready for harvest, scout it now and continue to scout it every couple of days for fall armyworm presence until you do cut it. Be prepared to make a rescue treatment.

If an established hayfield has already been damaged by fall armyworm, cut it down and salvage what you can or mow off the stubble that is left. Established alfalfa should recover from having the leaves being stripped off. Whether or not the hayfield was damaged before cutting it, monitor the regrowth carefully for the rest of the growing season. In Kentucky, fall armyworms have been reported to be present in hayfields after harvesting the forage. There can be overlapping generations of fall armyworm and the numbers can grow exponentially



with each advancing generation. So, we aren't out of the woods even after cutting or after an insecticide treatment (see accompanying article on fall armyworms).

New summer seedings of grass, alfalfa, or red clover that are damaged severely by fall armyworm may likely be completely lost. Be especially attentive for fall armyworm in any new seedings you have made late this summer!

And now for the "normal" article about fall cutting of forages...

The best time to take a last harvest of alfalfa and other legumes is in early September in Ohio, for the least risk to the long-term health of the stand. These forages need a fall period of rest to replenish carbohydrate and protein reserves in the taproots that are used for winter survival and regrowth next spring.

Forage producers around the state have been finishing the third cutting of alfalfa and a few have taken the fourth cutting the past week or two. It will be ideal if these harvests are the last of the season. But some growers might try to squeeze out another late cutting, and others have fields that are not quite ready for harvest right now. Like most farming decisions, there are trade-offs and risk factors to consider when making a fall harvest of forage legumes after the first 10 days or so of September. This article reviews best management practices and risk factors affecting fall cutting management of alfalfa and other tall forage legumes.

The decision of when to take the last harvest with the least risk to the stand can be boiled down to two choices: 1) cut early enough in the fall (generally early September) to permit alfalfa to regrow and replenish carbohydrate root reserves, or 2) cut late enough so that alfalfa does not regrow and use up root reserves prior to winter dormancy. Cutting in between those times (mid-September to mid-October) means more risk to the stand. Factors such as previous cutting management, age of stand, soil fertility, variety, and soil moisture affect the level of that risk.

For those who are risk adverse, following the last cutting date recommendations offers the highest probability of promoting good winter survival and vigorous growth next spring. The recommendation in the 15th edition of the Ohio Agronomy Guide is to complete the last regular harvest of alfalfa by September 7 in northern Ohio, September 12 in central Ohio and by September 15 in southern Ohio. The corollary is to delay final harvest until a killing frost (25F for several hours) has occurred.

Another approach to fall harvest management uses growing degree-days (GDD) rather than calendar dates. Research conducted in Canada showed that alfalfa needs 500 GDD (based on degrees Celsius and base 5 C for alfalfa growth) between the last cutting and a killing frost to generate sufficient regrowth to provide good winter survival and yield potential the following year. Dan Undersander, University of Wisconsin Extension retired forage specialist, wrote in a 2012 article "...we do not need to wait for a killing frost to take the last cutting. We must only wait until it is so cool that little or no regrowth will occur. Thus, harvesting in late fall, when less than 200 GDD will accumulate, minimizes winter injury."

The period between likely accumulation of 200 GDD to less than 500 GDD is a DO NOT CUT period (GDD calculated from degrees Celsius scale with base 5C). During this time period, there will be enough warmth and GDD accumulation for alfalfa to grow back and in so doing it will burn some root reserves without enough time (or GDDs) to replenish the reserves before winter sets in.

This GDD approach provides more exact timing for the date of last harvest, but it involves more risk because the grower must predict or consider the probability of either accumulating enough GDD for energy replenishment or GDD not accumulating enough to trigger regrowth that uses up energy reserves. Historic weather data, like that available from the OSU weather stations (<http://www.oardc.ohio-state.edu/weather1/>), is useful to calculate those probabilities.

Based on this GDD approach, we studied 5 years (2013-2017) of weather data at Wooster, OH. The date of a killing frost (25 F for several hours) ranged from November 3 to 22. The no cut period of 500 to 200 GDD accumulation prior to those killing frost date was September 17 to October 13 for three of the five years, but

September 4 to 30 in 2014 and September 10 to October 4 in 2013.

So, the period of most risk for cutting alfalfa based on this GDD criterion agrees well with past recommendations to not cut alfalfa from early September to mid-October. Therefore, cutting in late October prior to a true killing frost of forage legumes, is likely to result in little to no regrowth and no significant depletion of root reserves. However, there is still the risk of frost heaving with the late removal of forage cover (discussed more below).

Previous harvest management should be a part of the risk assessment for fall cutting. The cutting frequency during the growing season affects the energy status of the plant going into the fall. Frequent cutting (30-day intervals or less) results in the plant never reaching full energy reserve status during the growing season. A short regrowth period just prior to the fall harvest can be especially risky if the fall harvest occurs between mid-September and early October because the regrowth uses root reserves and there won't be enough growing weather remaining for the plants to restore a high level of root reserves before cold weather shuts down the plants. This lower root reserve status may limit winter survival and spring regrowth, depending on the winter and early spring growing conditions. In general, there is more risk in taking a fourth and especially a fifth cutting of alfalfa during the fall rest period compared with taking a third cutting during that time.

Variety selection may also affect the fall cutting risk assessment. Today's top varieties have genetics selected to better withstand intensive cutting schedules. Alfalfa varieties with high disease resistance and good levels of winter hardiness will be more tolerant of a fall cutting. Adequate fertility, especially soil potassium, and a soil pH near 6.8 will improve plant health and increase tolerance to fall cutting. Stands under 3 years of age are generally more tolerant of fall cuttings than older stands where root and crown diseases are setting in. However, you have more productive stand life to lose if younger stands are harmed by fall cutting.

Soil drainage and soil moisture affect the risk of fall cutting. High soil moisture slows down the cold hardening process, increasing the risk of winter injury. Alfalfa on well-drained soils tolerates late fall cuttings better than on moderately or poorly drained soils. But a word of CAUTION - Removing the top growth of alfalfa plants going into the winter on heavy soils and poorly drained soils increases the risk of spring frost heaving. Heaving is a significant risk on many Ohio soils with higher clay content. This would be a concern when cutting very late after the 200 GDD threshold date.

Finally, consider the economics of a fall harvest. Often the lush fall growth of the alfalfa is deceptive and appears to have more tonnage than is actually there. The resulting windrow after cutting is often sparse. Thus, the cost of mechanical harvesting is high on a per ton of dry matter basis.

Fall cutting risk can be reduced but not eliminated. Nature bats last and alfalfa stand health and survival will suffer more from fall cutting when we have early fall freezes, open and very cold winters, early springs with ice, late spring freezes that hit alfalfa after it uses up energy reserves to initiate early spring growth, and/or extreme rainfall and temperature variations. If possible, I urge producers to observe the fall rest period for forage legumes. And if you do harvest during the fall rest period, leave some strips of uncut forage to compare next spring. You might see something useful that will inform future fall cutting decisions!

Watch for Fall Armyworm-Carefully Consider the Alternates

By: Victor Shelton, NRCS State Agronomist/Grazing Specialist

Source: <https://u.osu.edu/beef/2021/09/01/watch-for-fall-armyworm-carefully-consider-the-alternatives/#more-11435>

It has been another odd year with the weather. Some areas that were extremely dry early in the year are now enjoying abundant forages and rapid regrowth. Some areas that were wetter than normal during that same period are now on the dry side. No matter where you are located, you should always be prepared for changes in weather conditions and have some type of contingency plan in place. You buy insurance for those "just in case" circumstances, you need to do the same with forages.

I'm not saying you need to go and buy insurance for your forage base, but you should have some kind of contingency plan in place for any odd circumstances that might befall upon you. For most people, that is stored forage, e.g., hay, balage. It could also be stockpiled forage, annuals or crop residue as we go into the fall season.

It is not just weather you need to plan for either. You have probably already read that there have been problems with fall armyworms in some locations. As adult worms these masticating menaces can cause an enormous loss of forage/pasture in a very short time frame if numbers are high enough. What is that threshold? Most note two to three adult worms per square foot as enough to initiate some type of action.



By the time you see real damage and a threshold of more than two full size worms per square foot, they are a lot harder to control chemically. Scouting ahead and checking fields on a regular basis can allow more options for treatment, and chemicals may be needed. Organic producers and producers concerned about use of insecticides on pastures being utilized have limited option of what can be done besides spraying.

My first knee jerk reaction on a pasture or hay site — especially when you are relying on that forage for grazing or winter feed — is to mechanically harvest it, mow it, ASAP and then dry, rake and bale it as quickly as possible too. For a bit more impact besides just saving/salvaging some future feed, using a mower conditioner at a time of day with more fall armyworm activity “might” help to reduce the population a little. Tighten down those rollers! Fall armyworm activity is higher under the cooler conditions of morning or early evening.

But, before you just start cutting everything for hay, which will have its own consequences, make sure it is absolutely necessary and unavoidable because it could greatly reduce any potential grazing days for the remainder of the year. Mechanically removing those forages, plus reduced leaf matter from the fall armyworms, will slow regrowth tremendously and the plants may need the majority, if not all, of that regrowth to rebound for the next growing season.

Graze livestock where damage has not occurred badly yet. If you are hit hard by damage, treat the affected fields like a field that has been overgrazed or under droughty conditions. Provide adequate rest, clip if needed to recycle remnants and feed hay until there is sufficient regrowth to graze again.

If you scout and find them early enough to successfully use an insecticide, make sure to follow all label instructions and grazing/harvesting restrictions and consult with your local extension office. If all pasture acres must be treated, then contain livestock in a dry lot and feed accordingly until safe to return and sufficient regrowth is present.

Some livestock tend to not appreciate the leftovers of fall armyworms. They may also snub hay that was harvested containing very many worm carcasses. This may increase hay waste during feeding some and warrant feeding some of this hay back out on the field that it came from in order to return some of the nutrients to the site. Unrolling hay would be the ideal method of feeding this to get the best nutrient distribution from both wasted hay and manure. In some situations, the affected hay could be mixed with better hay in a total mixed ration to improve intake by dilution.

I suppose that if you also happen to have some poultry on pasture, that there could be something a bit positive from the whole situation, especially if the worms don't get too bad – some cheap high protein chicken feed! Enough wormy famine like talk. We are, give or take, 45-60 days from the first average frost depending on where you are located. I tend to not think about it, especially when we still are having weather with the heat index in three digits, but it's coming.

I actually put reminders on my calendar – 90 days until the first frost, 60 days, etc. Why, because it's a reminder that I only have so many days left to plant any annuals that will be either terminated or slowed down by that first frosty morning or where sufficient growth is needed prior to that time frame. Generally, the earlier you can plant annual forage crops, the higher dry matter production potential you have. This is especially important for annuals that are usually not winter hardy such as fall planted spring oats and turnips. The earlier planted, the more to utilize that fall. Those reminders also help me to remember to get fall garden items planted in a timely manner so fresh delectables for the dinner table can continue.

Quite a bit of the area has been blessed with enough moisture that forages have continued to grow well and that has certainly increased the ability or likelihood of stockpiling some forage for use later this winter. The percent legume in the sward and what legume(s) are present will be a good indicator of how much nitrogen might be beneficial to be applied to your stockpiled forage to boost yield and quality. The newer white clovers can produce unbelievable amounts of nitrogen, sometimes up to ~150 pounds or more during a season once established.

When clover percentage of the sward is 30 percent or higher, you may not need to apply much or any additional nitrogen to the stockpiled forage. When clover makes up about a third of the stand, nitrogen is usually not too much of a limiting factor, especially with the newer varieties.

If the percentage is 15-30 percent, then 30 to 40 units of nitrogen is beneficial and will certainly boost yields. I would consider grazing these areas a little harder, or what I would call "hammering" it, to help open up the sward to enhance the clover content the next spring once it is dormant.

If the percentage is less than 15 percent, then 40 to 70 units of nitrogen is needed to boost yields and increase feed quality. I would certainly "hammer" these areas some to thin the grass a little and then frost seed some clover into these areas sometime between Christmas and Valentine's Day.

Be careful not to "hammer" the fields too much. You just want to set the grass back a bit, not destroy it. In some cases, overdoing it can lead to excessive amounts of clover where there is a huge seedbank or an increase in weeds. You must have a good stand of desirable grasses; too many weeds will just promote more weeds doing this.

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

Are Foxtails Invading Your Fields & What Can You Do?

By: Marcus McCartney, OSU Extension Educator, Washington County
Originally published in the August 26, 2021 Farm & Dairy Newspaper

Is this weedy grass taking over your hayfield? Have you ever had hay bales rejected from a potential buyer because it contained green, yellow, or giant foxtail?

As the demand for high-quality hay has steadily increased, hay farmers have seen their product rejected due to foxtails, especially with horse clientele.

Why is this happening? Well, it has to do with the plant's anatomy, not a toxin found within the plant.

Danger to horse - The part of the plant causing problems is the seedhead. Each individual seed contains spikes with barbs called "awns," which can get lodged inside horse's mouth and gums (also scratch an eye), working their way through the tissue, causing lesions, blisters, and infections.



For this reason, it is not recommended to feed foxtail with seedheads to horses. Horse owners have been very careful when purchasing hay; avoiding bales contaminated with green, yellow, and giant foxtails. It is important to note that immature foxtail plants have no side effects since the seedhead has not yet developed. Over the past few years, I've been working with local farmers to control green, yellow, and giant foxtails in their hayfield. I typically don't start working with hay producers until after their hay has been rejected or declined by customers; some are even repeat customers they have known over the years.

By the time I get involved and make a farm visit, a producers' fields are usually polluted with foxtails. The information and recommendation I give for controlling this weed, is expensive and time-consuming, resulting in frustrated farmers. They are not frustrated at me, but rather the plant and sometimes themselves for letting it take over.

So, what can be done to control foxtails? Since this plant is a grass, it can be difficult to control. Depending on the size of the infestation, two of the best options for controlling foxtails are applying a pre-emergent herbicide or pasture renovation (reseeding).

Pre-emergent- In 2017, Prowl H2O (active ingredient pendimethalin) was registered for use on established pastures and hay fields. Previously, it was labeled for dormant bermudagrass only, but after the change in labeling, it now can be used on cool-season forage grasses grown for forage, silage, hay production, and grazing pastures.

Since green, yellow, and giant foxtails are summer annuals, you must apply Prowl H2O in the spring, before the foxtail seedlings emerge, so it will prevent them from growing. Prowl is also effective on other summer annual grasses, like crabgrass, and certain broadleaf weeds. As a producer, you must be aware this approach has some disadvantages. First, it is somewhat expensive and multiple application are needed to achieve maximum control.

Second, this active ingredient has a planting restriction of 10 months for grasses. Therefore, fields with large infestations will have exposed soil with no way to fill it in with desirable grass until the following spring. This gives weeds an opportunity to take over these areas. Also, exposed soil is at a higher risk for erosion. One strategy is to overseed the pasture in the fall (now) and apply the pre-emergent herbicide the follow the spring.

Pasture reseeding / renovating

If your fields have widespread infestations, it may require complete pasture renovation. Right now, August to early September, is a great time to plant cool-season grass seed. Although moisture is an issue in late summer seedings, weed pressure is less competitive.

If you want foxtail to be replaced by a strong healthy stand of competitive grass or grass/clover mixture, it is recommended to do the following: soil test, add appropriate lime and fertilizer amounts, make herbicide treatments to kill existing plants, work the ground to prepare a seed bed (includes plowing to bury foxtail seeds), reseed desirable species, proper grazing management (no grazing for at least 6 months), and monitor for success.

Conclusion: Remember, ridding your fields of foxtail may be difficult and can take several years. The best approach is to be proactive and scout your fields for foxtails to catch invading plants early, whereas a simple spot spray treatment will hopefully control the situation before it gets out of control!

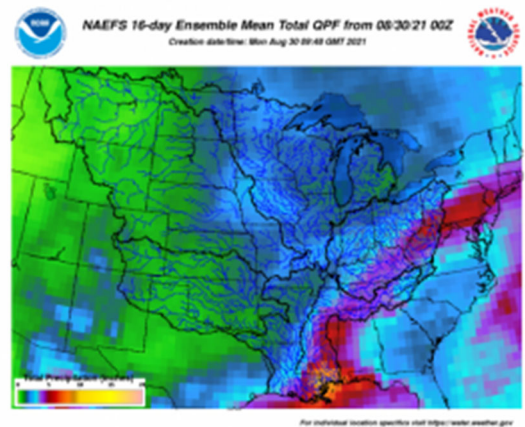
Climate Outlook for Autumn Harvest

By: Jim Noel

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2021-29/climate-outlook-autumn-harvest>

Summer saw hit and miss rains and warm temperatures so what will the harvest season bring?

As we close out summer and the growing season we expect some week-to-week swings in the climate pattern for September. This means expect a warm week followed by a cooler week followed by a warmer week. The same applies to rainfall. We expect dry and wet periods. Overall, September appears to favor normal temperatures and slightly wetter conditions especially in southern areas. The driest areas appear to favor northwest Ohio. The attached image is the 16-day mean rainfall outlook calling for rainfall for through middle September to range from well under an inch in northwest Ohio to 3 or 4 inches in the far southeast part of the state.



The ocean patterns are similar to last year but not quite as extreme so we may see an autumn pattern somewhat similar to last year which is a whole lot of typical conditions. With that said, there is no information in our climate signals to indicate anything else but a typical first freeze for this fall.

Looking ahead to October, most indications show a somewhat warmer and possibly drier period followed by about a normal November. When you put it all together, we anticipate a slightly warmer September to November period with precipitation close to normal. With the possibility of another weak La Nina this winter it may turn a bit wetter but confidence in that is low to medium at this time. Finally, for users of the NOAA Midwest Climate Center, please take note of the new website at Purdue University at: <https://mrcc.purdue.edu>

Brady Campbell Named Small Ruminant Specialist

By: CFAES Communications, The Ohio State University

Source" <https://u.osu.edu/sheep/2021/08/31/brady-campbell-named-small-ruminant-specialist-at-ohio-state/>

The Ohio State University Department of Animal Sciences has hired Brady Campbell as an assistant professor to focus on small ruminant management. Campbell begins his new position on September 15 in the College of Food, Agricultural, and Environmental Sciences (CFAES).

He will work with Ohio State Extension professionals to develop educational materials and programs for sheep and goat producers. In addition, he will conduct applied research on small ruminant production and management and assist with youth livestock sheep and goat programs.

“Brady will fill an important role for our department and the state. Ohio is the largest sheep production state east of the Mississippi,” said John Foltz, chair of the animal sciences department. “Lamb and goat production are on the rise in Ohio due to a variety of factors, including increased consumption in restaurants and increased ethnic populations in the state.”

He continued, “As we educate undergraduate students who are increasingly from urban backgrounds, they can more easily work with small ruminants.

They are safer for the students to handle than larger species, such as cattle or horses.”

Campbell is a Waterford, Ohio native and a 4th-generation sheep and swine producer. His family raises purebred Lincoln and Texel sheep, as well as crossbred sheep and commercial swine in southeastern Ohio's



Washington County.

He completed three degrees within the Department of Animal Sciences at The Ohio State University including a 2015 bachelor's with a bioscience specialization, a 2017 master's, and a 2021 Ph.D. In addition, since 2016 he has served as the program coordinator of the Ohio State Sheep Team.

Campbell's previous research focused on alternative management strategies to improve the growth and health of pasture-reared lambs and to reduce the economic losses resulting from gastrointestinal parasitic infection. Moving forward he intends to continue investigating alternative forage-based small ruminant production systems.

"Ohio sheep and wool producers, along with those that raise related species, are excited about working with Dr. Campbell in his new role," said Roger High, executive director of the Ohio Sheep Improvement Association. One way they may be working with him involves his ideas for implementing and adopting technologies new to small ruminant stakeholders, such as remote data collection devices, radio frequency identification, and ultrasound.

According to Campbell, these technologies can serve as an additional "farm hand" in either detecting the early onset of disease or identifying superior individuals within a flock or herd, thus reducing animal production losses with fewer labor inputs and improving system efficiency.

"Being an Ohio native and sheep producer myself, I am intimately familiar with the excitement and hardships of livestock production," Campbell said. "Now as a faculty member, it is my time to give back to the university that helped mold me into the person I am today, as well as help others, both students and producers, become more efficient, productive, and sustainable in their production systems."

Learn more about Campbell and other new faculty members in Ohio State's CFAES here: <https://cfaesfacultyandstaff.osu.edu/news/get-know-our-new-cfaes-faculty>

Sponsorship for Fall Foliage & Farm Tour Sought

OSU Extension, Farm Service Agency and the Coshocton Soil & Water Conservation are pleased to announce that the Coshocton County Fall Foliage & Farm Tour will return on October 16-17 (after a year pause due to the coronavirus pandemic). This year's event will be our 50th tour and our planning committee is working to make this year's tour the best ever.

This year's map pick-up will be at the Coshocton County fairgrounds and will take participants through Linton, Franklin and Lafayette townships. Over 1,835 people registered and attended the 2020 tour from 29 Ohio counties and 8 different states. Approximately 27% of participants were from outside Coshocton County.



Each year, the planning committee solicits local businesses to help defray the cost of putting out tour maps by purchasing advertising space in the brochure. Advertising space is available again this year for \$30.00 per business card size advertisement. We encourage businesses and local agricultural supporters to join on as sponsors of the 50th fall foliage and farm tour. Please consider sponsoring the tour maps. A separate flyer is enclosed with this newsletter for your convenience to remit your sponsorship payment.

Questions on this year's tour/brochure can be directed to either Mike Jacob at (740) 622-8087 (Extension 7234) or Alonna Hoffman at (740) 622-2265. Thank you for your support in promoting Coshocton County and for supporting the annual Fall Foliage and Farm Tour.

Farm Science Review Tickets Now on Sale

The Ohio State University's Farm Science Review, which was held online last year because of the pandemic, will return this year to be live and in person for the 59th annual event. Advance tickets for the Farm Science Review are available at all Ohio State University Extension county offices for \$7. This year's Farm Science Review will be held at the Molly Caren Agricultural Center in London, Ohio on September 21-23, 2021. Tickets are \$10 at the gate; however, presale tickets can be purchased at your local OSU Extension for \$7 per ticket through Monday, September 20, 2021. Children 5 and under are admitted free. The review hours are 8:00 a.m. to 5:00 p.m. on September 21 & 22 and from 8:00 a.m. to 4:00 p.m. on September 23.

Farm Science Review is known as Ohio's premier agricultural event and typically attracts more than 130,000 farmers, growers, producers and agricultural enthusiasts from across the U.S. and Canada annually. Participants are able to peruse 4,000 product lines from roughly 600 commercial exhibitors and engage in over 180 educational workshops, presentations and demonstrations delivered by experts from OSU Extension and the Ohio Agricultural Research and Development Center. More information about the Farm Science Review is at <http://fsr.osu.edu>

BQA Re-certification Sessions Planned

The Coshocton County Extension office will be offering a series of **Beef Quality Assurance (BQA)** re-certification meetings throughout the remainder of this year as a total of 179 producers will need to obtain re-certification before the end of 2021.

To help producers obtain their certification, we have scheduled a series of re-certification sessions for the remainder of the year. 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: September 13, October 11, 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. A program flyer is also attached to this newsletter.

Online certification and recertification is also available and can be completed anytime at <https://www.bqa.org/beef-quality-assurance-certification/online-certifications>. Producers can also attend a session hosted by the Tuscarawas County Extension office at the Sugarcreek Stockyards on August 25 (7 p.m.). Pre-registration is requested by calling 330-339-2337 or by emailing Chris Zoller at Zoller.1@osu.edu

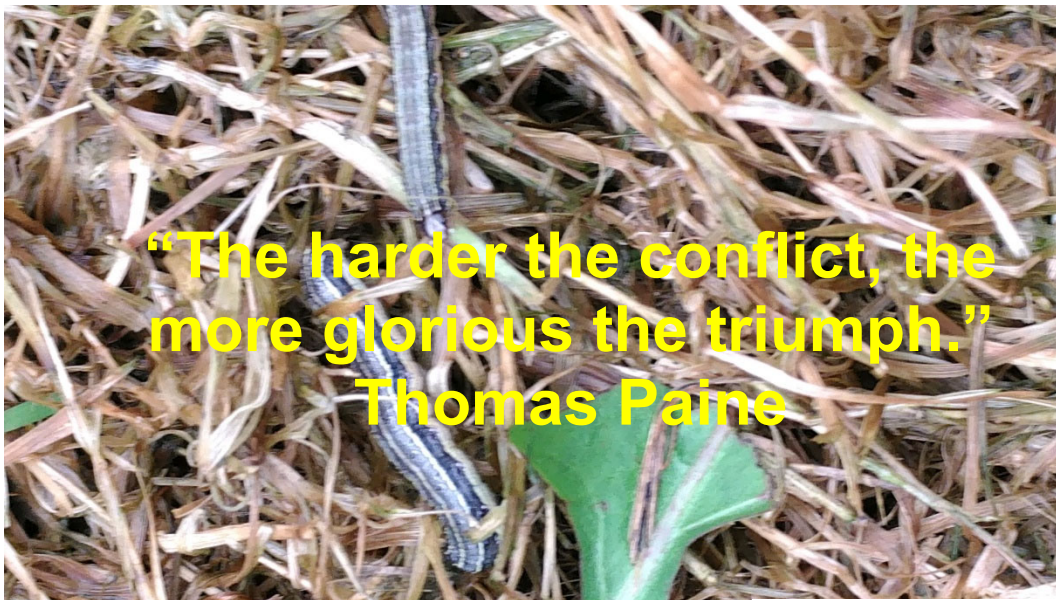


Photo by Mike Lower