Hello Northeast Ohio Counties!

The Portage County Randolph Fair was last week! Even though it was a hot fair attendance was up.

Check out the first article today, there have been reports of unusual fall armyworm outbreaks here in Ohio. Ashtabula County confirmed the pest in two separate hay fields.

Have a great week!
Fall Armyworm Advances on Ashtabula County, and the Rest of Ohio

By: Andrew Holden
Photos by: Lee Beers

Over the last weekend of August, Fall Armyworm (*Spodoptera frugiperda*) started to appear across the state of Ohio. On Monday, Lee Beers and I received a report of possible Fall Armyworm in a hay field in Ashtabula county and went out to investigate. We ended up confirming the pest in two separate hay fields that were many townships apart. Our assumption is that the infestation is not isolated to just those two hay fields. While Fall Armyworms can attack just about anything and scouting is recommended for all crops, it is highly recommended that producers in NE Ohio scout for them in hay fields, pastures, and second crop soybeans as major damage can occur. So far most of the reports in Ohio have been in forages from turf grass to hay fields. Corn with Bt traits should be protected, but there has been cases of resistance in other states. We do recommend scouting both Bt and non-Bt corn crops. If this pest is found in any of your crops, please contact your local Extension Office.

Scouting information

In the fields we observed, we saw brown patches in areas of otherwise healthy hay. The brown patches were larger where the Armyworm was more established. Fall Armyworm have a distinctive ‘Y’ shape on their heads and 4 dots arranged in a perfect square on the other end of their body. They can range in color from green to brown to black and size from a couple millimeters to an inch. If you have any question or need assistance identifying a caterpillar, contact your county’s Extension Office.

Where did they come from?

As was mentioned, the Fall Armyworm came rapidly across the state. It is also uncommon to see it so well established so far north. The Fall Armyworm Moths come from semi-tropical locations and move north each year. Moths have the ability to travel 500+ miles in 24 hours and may have been carried in by weather patterns. The good news is that they do not overwinter in Ohio and will only be an issue until temperatures drop. The bad news is if we have a warm fall we could see another generation appear. This could be an issue for those planting winter wheat or cover crops. Planting after the fly free date and scouting often is highly recommended.

How to stop them
Control of Armyworm is possible, but effectiveness starts to decrease as they grow in size. This means scouting and catching the caterpillars early is crucial. Start scouting your fields now for Fall Armyworm.

If Armyworms are present, make sure to use an insecticide that is labeled for the appropriate crop. There is also research to suggest a dual mode of application will provide better control of the pest. For insecticide recommendations and management options consult the forages chapter in the Michigan State/Ohio State Field Crops Insect Pest Management Guide.


Expect more information on this pest from Ohio State University Extension and our NE Ohio offices. Please contact us with any questions, help identifying, or possible sightings of the Fall Armyworm.
Unusual Fall Armyworm Outbreaks are Taking Many by Surprise

By: Kelley Tilmon, Andy Michel, Mark Sulc, James Morris, Curtis Young, CCA
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2021-29/unusual-fall-armyworm-outbreaks-are-taking-many-surprise

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).

True or common armyworm is a different species than the fall armyworm. The true armyworm is the species that causes problems in cereal crops in the spring of the year.

Fall armyworm migrates into Ohio during the summer and could cause problems into late summer. It is not or maybe we should say has not typically been a problem in Ohio. Also, unlike the true armyworm that only feeds on grasses (i.e., corn, wheat, forage grasses), the fall armyworm has well over 100 different types of plants upon which it feeds including many grasses but also alfalfa, soybeans, beets, cabbage, peanuts, onion, cotton, pasture grasses, millet, tomato, and potato. Obviously, a few of these crops are not produced in Ohio, but several of them are. As a result, we encourage farmers to be aware of feeding damage in their fields, especially forage crop fields that’s where a lot of the action seems to be right now. Fall armyworms are much easier to kill when

Figure 1 Fall armyworm feeding damage. Photo by James Morris, OSU Extension
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 ¾ 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 ¾ inches.

In forages, a threshold that can be used is 2-3 fall armyworm larvae per sq foot. If larvae are smaller (less than ¾ inch), they can still do a lot of feeding and are worth treating with an insecticide application. An early cut can help limit damage to the alfalfa, but one must 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

![Figure 2 Fall armyworm egg mass, with cover peeled back. Photo by Ric Bessin, University of Kentucky.](image-url)
Northeast Ohio Agriculture

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). Because of this, scouting for fall armyworm should continue for the rest of the season. Closely observe hay and pasture crops even after cutting or grazing, especially where the crop was heavily damaged. Additional treatment later might be necessary. Moths prefer light-colored surfaces for egg-laying. Check fence rails, fence posts, and tree limbs in and around pastures and hayfields.

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


Hay fields that are near harvest should be harvested now, and then the regrowth closely monitored for fall armyworm activity. In Kentucky, the fall armyworms have been reported to be present in hayfields after harvesting the crop off. This and the fact that we could get another generation are reason to continue monitoring closely.
Badly damaged alfalfa or grass hay fields should be cut and then rested the rest of this fall with no fall cutting. Fertilize according to soil test recommendations. Monitor the regrowth closely to catch any re-infestation that occurs. Established alfalfa should come back from fall armyworm damage. Recovery of the cool-season perennial grasses will depend on the relative severity of the damage, the overall health of the stand going into the infestation, and how many young tillers were not consumed. It is hard to predict how they will recover, time will tell.

**Autumn Forage Harvest Management**

B: Mark Sulc

Source: [https://agcrops.osu.edu/newsletter/corn-newsletter/2021-29/autumn-forage-harvest-management](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 ¾-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 5C 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.
A Close Look at the Growing Climate Solutions Act.
By: Jeffrey K. Lewis, Attorney and Research Specialist, Agricultural & Resource
Source: https://farmoffice.osu.edu/blog/thu-08262021-606pm/close-look-growing-climate-solutions-act

By: Zach Ishee, J.D. Candidate '23, University of Mississippi, Research Fellow, National Agricultural Law Center
Zach has been working with OSU’s Agricultural and Resource Law Program thanks to our partnership with the National Agricultural Law Center.

A major piece of environmental legislation currently making waves is the Growing Climate Solutions Act (GCSA), S. 1251. The GCSA passed through the Senate with overwhelming bipartisan support, by a final tally of 92-8. The bill sponsored by Senator Mike Braun (R-IN) had 27 Democratic co-sponsors, 26 Republican co-sponsors, and one independent co-sponsor. Although it has been criticized by some for not doing enough, the final vote shows a willingness by this Senate to grapple with the issues surrounding the environment and the climate.

Purpose of the Growing Climate Solutions Act
The goal of the GCSA is to ease the burden on farmers, ranchers, and foresters entering the voluntary carbon markets through the creation of the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Certification program. The program’s efforts will be focused on removing the technical barriers of entry into the marketplace. The program calls for certification of certain entities to improve accurate information flow to farmers, ranchers, and foresters.

Timeline and Advisory Council
The Agriculture Secretary will have eight months from the bill’s passage to create the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Certification program. If the Secretary decides against the program, he must publish a detailed explanation of why he has decided against the program.

An advisory council will be established to help the USDA create protocols for calculating, sampling, accounting, verification and reporting methodologies. The advisory council will be comprised of United States Department of Agriculture (USDA) representatives, Environmental Protection Agency (EPA) representatives, and agriculture industry representatives, among other qualified participants. The council must have at least twelve members from the agriculture industry and at least six active farmers or ranchers. The council is also required to have at least four members from the forestry industry. Other groups of participants are capped between two and four members but include members from the scientific research community, members of the private sector who deal in voluntary credits,
and experts/professionals in the verification field. In total, over half of those serving on the council will be farmers, ranchers, and private forest owners.

**Certification**
Once the protocols have been created, the USDA must provide information for how entities self-certify and instructions on how to assist the farmers, ranchers, and private forest owners. The bill will require the creation of a website exclusively dedicated to assisting the potential market participants on best practices.

The certification granted by the USDA will allow an approved entity to claim they are a “USDA-certified technical assistance provider or third-party verifier for voluntary environmental credit markets”. Other entities, not approved by the USDA, that claim this certification or something substantially similar are subject to a monetary fine of $1,000 and become ineligible to participate in the program for five years. The certified entities will be audited at least annually to ensure compliance with USDA guidelines.

**Funding**
The GCSA will receive $1 million in funding from 2022-20226 along with $4.1 million rescinded from the American Rescue Act of 2021. This relatively small amount of new funding is likely one of the reasons for such strong bipartisan support for this bill.

**Public Reception**
Although this bill is a welcome start to addressing climate issues through agriculture participants, a few large questions remain. The bill does nothing to address some of the main concerns that industry experts have, for example the bill does not directly mention farmer data. Of course, data is an extreme concern for the participants in voluntary credit markets because of how much data must be turned over prior to verification of their created credits. It seems the advisory council will certainly address this issue, among others, but this bill does not create certainty with respect to data. It will be extremely important to keep track of the recommendations made by the advisory council and the USDA’s final decision on best practices as they will set the standard for voluntary credit markets moving forward.

Multiple organizations have come out in opposition of this bill. Family Farm Action has criticized the GCSA for playing into the hands of the major agribusinesses, stating “Without strong, preemptive antitrust protections, a carbon credit program would pay these agribusinesses for their pollution, compounding the already-substantial challenges they pose to the food system and the planet.” Senator Jeff Merkley (D-Ore) has also vocalized his reasoning for being part of the minority voting against the bill saying, “I don’t believe that an offset...
system that subsidizes corporations’ continued pollution in front-line communities is the best strategy. Let’s set incentives that reduce pollution in both agriculture and front-line neighborhoods.” The opposition to this bill has almost completely been in the camp that the bill does not do enough, rather than outright opposition against the overarching theme of combating climate change.

On the other hand, support for the GCSA has been easy to find. Kameran Onley, the Director of North American Policy and Government Relations for The Nature Conservancy has come out in support for the bill stating, “American farmers know that sustainability and profitability go hand in hand. This bill will help farmers improve their operations, build new revenue streams, and implement climate-smart practices to safeguard our environment for the future.” American Farm Bureau Federation President Zippy Duvall thanked lawmakers for the bipartisanship and further said, “The Growing Climate Solutions Act acknowledges the potential of climate-smart farming while ensuring farmers would be respected as partners who can build on our strong foundation of environmental stewardship.” The support for the bill has been focused on the Senate’s ability to work across the aisle to begin structuring a unified approach towards carbon credit markets.

What’s next?
Clearly the bill still awaits a vote in the House of Representatives to make it to the President’s desk to become law. Although no timeline exists for a house vote at this point, good reason exists to believe it could make its way through the House quickly. As of right now a companion bill exists in the house, H.R. 2820, which goes by the same name, Growing Climate Solutions Act. The companion bill is substantially the same as the Senate bill, calling for the same advisory council and certification process. The House bill is sponsored by Rep. Abigail Davis Spanberger (D-VA-7) and co-sponsored by 33 Democrats and 19 Republicans, which is only further proof of the bipartisanship seen in the climate arena. The latest action on the House version of the Growing Climate Solutions Act was its referral to the House Committee on Agriculture April 22nd of this year. The Senate bill was received and held at desk in the House as of June 24th of this year. Although the House Agriculture Committee has yet to schedule a markup if the legislation, the bipartisan Problem Solvers Caucus has endorsed the bill.

**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.

https://mrcc.purdue.edu
Hello, Ashtabula County! August has flown by, and it will be autumn before we know it! We saw a lot of wet humid weather in August with the last week providing some extreme heat and drier conditions. The water and heat was helpful to the county’s corn crop but was less helpful in other crops as moisture promoted disease to spread in the soybeans and vegetable gardens. Hopefully the dry weather we have had recently will set us up for a great harvest.

If you are looking at attending this year’s Farm Science Review from September 21st to the 23rd, our office has pre-sale tickets for $7. Save money at the door and call our office and reserve yours today or stop in and pick them up. Don’t miss the chance to experience the premier agricultural education and industry exposition.

Today I would like to share some information on our new Master Gardener Volunteer Training and opportunities to learn about the program with current volunteers at a library near you and take a look at some historical photos found in our office.

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We are continuing to look for New Master Gardener Volunteers who wish to join or group and complete the next training. Some of our volunteers have been visiting libraries sharing information on our upcoming Master Gardener Training. So far they have been to Henderson in Jefferson, Andover, Kingsville, and Topky in Ashtabula.

If you missed them, there are plenty of opportunities to talk to current MG Volunteers and learn about becoming a Master Gardener yourself!

Upcoming library dates:
- September 1, 9-11 and 4-6, Ashtabula
- September 7, 2-5, Grand Valley
- September 8, 12-4, Geneva
- September 9, 12-3, Conneaut

We are accepting applications for the 2022 Ashtabula County Master Gardener Volunteer Training Class until Sept 30, 2021. The application can be filled out online at https://go.osu.edu/acmgvapp

For paper copies of the application or any other questions, please contact Andrew Holden with questions at 440-576-9008 or email Holden.155@osu.edu

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Finally, I wanted to share a few photos found in our office recently while doing some reorganizing. These photos, both over 90 years old, included the glass plate negatives and a copy of each photo. The two included in this article are from 1927 and 1929. The
A photo from 1927 has a subject listed as ‘27 year sprout growth red oak’ and seems to be part of a forestry study or program. The photo from 1929 is listed as a ‘planting demonstration, Ashtabula County’.

Agriculture has changed significantly over the last 90 years in Ashtabula County. In 1930, Ashtabula County had 4,333 farms, with 337,303 acres in agriculture with an average size farm was 77.3 acres. Compare that with more recent NASS data that shows Ashtabula County has 1,212 farms, with 153,654 acres in agriculture 127 acres. Farms have decreased in number and increased in size over time, much less land is in production than it was 90 years ago. When looking at corn statistics, in 1930 we planted roughly 20,000 of corn that yielded an average of 32.6 Bu/acre. In 2020, Ashtabula County planted just around the same acreage of corn (23,000) but saw a yield average of 165.6! I find it interesting to look at our agricultural past in the county and compare it to present day agriculture production. It’s impossible to predict what the future holds, but I’m sure agriculture will look extremely different 90 years from now like we see in these photos.

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Andrew Holden is an Agriculture & Natural Resources Extension Educator for Ohio State University Extension. Andrew can be reached at 440-576-9008 or Holden.155@osu.edu
CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit cfaesdiversity.osu.edu
Precision Agriculture and Career Exploration with Drones

Please join us for a 2-part series on precision agriculture and career exploration with drones. In our first session we will discuss what precision ag is and how drones can be used in precision agriculture. Our second session will include professionals from the Ag industry and beyond explain how drones help them in the workplace. Each session will also include a drone challenge.

DATES: Session 1 - August 31, 2021 & Session 2 – September 7th, 2021
TIME: 5:30PM – 7:00PM
AGE: 13-19 yrs

LOCATION : Portage County Fair Grounds,
4215 Fairground Rd, Atwater, OH 44201

For more information: Scan the QR code, go to https://go.osu.edu/portagedrones or call the Portage County Extension Office at 330-296-6432
Learn about Chestnut Production in NE Ohio

Are you interested in starting or diversifying a farm and looking for a niche crop market? Join us on September 11th to learn how Wintergreen Tree Farm has become one of the largest chestnut producers in the US.

DATES: Saturday, September 11th  
TIME: 9:30 AM  
LOCATION: Wintergreen Tree Farm  
3898 Winchell Rd Mantua, OH 44255  

For more information and to RSVP: Scan the QR code, go to https://go.osu.edu/portagechestnut  
or call the Portage County Extension Office at 330-296-6432
In an effort to serve our members and ag community, Farm Bureau is partnering with the Mark Bruns Agency and Erie County (PA) Farm Bureau to provide bus transportation to the 2021 Farm Science Review. Featured at Farm Science Review will be more than 100 educational sessions, including “Ask the Expert” talks; 600 exhibits; the most comprehensive field crop demonstrations in the United States; a career exploration fair; and immersive virtual reality videos of agricultural activities.

WEDNESDAY, SEPTEMBER 22, 2021
Flying J- Austinburg
2349 Center Road, Austinburg, OH 44010
Bus departs Flying J at 7 AM

A limited number of seats may be available on Tuesday, September 21 with the PV FFA. Please call our director Mandy at 440.812.6709 for details.

WHAT’S INCLUDED?
- Farm Science Review ticket ($7 value)
- Commercial bus ticket to and from the event
- Morning refreshments

DETAILS
- 7 AM: Bus departs Flying J- Austinburg, OH
- Please arrive at Flying J BEFORE 7 AM
- 5 PM: Bus departs Farm Science Review

COST
- Farm Bureau Members: $10
- Non-members: $20
- Does not include meals

RESERVATIONS & PAYMENT REQUIRED - SPACE IS LIMITED
Payment can be made with credit card or by sending a check or cash to 8460 Ridge Rd, North Royalton, OH 44133

There are only 26 seats available!
Reserve your seat today by calling 440.426.2195
Ashtabula County Master Gardener Volunteer Training

Do you love to garden? Would you like to learn more about gardening? Do you enjoy helping others in your community?

Became an Ashtabula County Master Gardener Volunteer!

You get 50 hours of training in vegetables, flowers, trees, shrubs, soil, insects, diseases, and more. In turn you share your knowledge with others by answering questions, collaborating on service projects, presenting programs for both adults and children, etc.

Join other gardeners now by registering to become an Ashtabula County Master Gardener Volunteer

www.go.osu.edu/acmgvapp

Application Deadline is September 30th, 2021
Who are Ashtabula County Master Gardener Volunteers and what do we do?
We are the OSU Extension trained volunteers empowered to education others with timely research-based gardening information. Some of our projects include:

- Educational field trips to gardens and nurseries
- Hotline – Assist home gardeners with research-based answers to their questions
- Ag Day – Teaching all first-grade students in the county about local agriculture
- D-Day Conneaut – Hosting a booth to teach the public about gardening during World War II
- NE Ohio Pollinator Symposium - Planning and teaching various pollinator subjects online
- Support for various learning gardens around the county advising planting and maintenance
- Provide speakers and programs to interested community groups
- And many other activities that enrich the community and our own lives

How do you know if you’d make a good Ashtabula County Master Gardener Volunteer?

- Do you want to learn more about plants and gardening?
- Are you eager to participate in a practical and intensive training program?
- Do you enjoy sharing your knowledge with others?
- Do you have the time to attend training and serve your community as a volunteer educator?

If you answered “Yes” to these questions and would like to know more about the OSU Extension Master Gardener Volunteer Training, please e-mail Holden.155@osu.edu or call 440-576-9008 and we will have a Master Gardener Volunteer call you! Or you can call during MGV Hotline Hours Tuesday’s from 9:00 AM to Noon to speak directly with a MGV!

Master Gardener Volunteer Training Information:

- Training includes a minimum of 50 hours of instruction. This year's training will be online with a new lesson each week for 10 weeks. A physical training manual will also be included.
- Mentors will be assigned to each new trainee to assist them once accepted to the program.
- Live zoom meetings will be held each week to discuss the material.
- Field trips will be planned the end of the training to various locations.
- A required 50 hours of horticultural-related volunteer time within the first 12 months following training. This is required to become a certified Master Gardener Volunteer. This may include up to 10 hours of Continuing Education.
- Dates: Training will begin January 17th, 2022, and end in April 2022
- Cost: Cost for this training and materials will be $250.00

FOR MORE INFORMATION, CONTACT:
Contact Andrew Holden at: 440-576-9008
Find us on Facebook: Ashtabula County Master Gardeners