# **Morrow County SCARLET & GRAY News**

Volume 18 Issue 2 • March/April 2022

## Update on Highly Pathogenic Avian Influenza in the USA

Highly Pathogenic Eurasian H5 avian influenza was recently found in wild birds in South & North Carolina. The species it was discovered in are migratory waterfowl.

Because migratory waterfowl in South and North Carolina or birds they encounter migrate through Ohio, precautions should be taken to prevent the potential exposure of both the commercial poultry industry and backyard poultry community birds to high path avian influenza

Biosecurity for backyard poultry includes preventing wild birds from mingling with the flock. Preventative measures include ensuring your domestic birds cannot access areas migrating birds may visit, such as ponds, puddles, other open water sources, pastures, fields, etc. Prevent interaction with other wild birds in your flock using fencing or bird netting. The aim is to keep your domestic birds from encountering migratory waterfowl.

The Ohio Department of Agriculture's Animal Disease Diagnostic Laboratory (ADDL) will test for high path avian influenza in birds suspected of being infected. Necropsy specimens should be submitted via a vet. See https://vet.osu.edu/extension/poultry-resources for a list of vets who see poultry in Ohio.

Source new birds from reputable sources such as an NPIP approved hatchery.

Please take biosecurity seriously!! Please watch and share the Biosecurity for Backyard Poultry short video created with The Ohio Poultry Association. https://www.youtube.com/ watch?v=bXFYCcy2zvU

#### USDA APHIS issued the following update on this topic on January 18, 2022:

WASHINGTON, January 18, 2022 - The United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) has confirmed two additional findings of highly pathogenic avian influenza (HPAI) in wild birds – one in Colleton County, South Carolina and one in Hyde County, North Carolina. These finds follow confirmation on January 14, 2022 of HPAI in a wild bird in Colleton County, South Carolina. All three findings are H5N1 HPAI.

These findings are not unexpected, as wild birds can be infected with HPAI and show no signs of illness. They can carry the disease to new areas when migrating. APHIS anticipates additional wild bird findings as our robust wild bird sampling program continues into the

APHIS will post these and all future wild bird find-



ings on its website on a weekly basis. Stakeholders should check the website on a routine basis, as no future stakeholder announcements are planned for wild bird findings.

Since wild birds can be infected with these viruses without appearing sick, people should minimize direct contact with wild birds by using gloves. If contact occurs, wash your hands with soap and water, and change clothing before having any contact with healthy domestic poultry and birds. Hunters should dress game birds in the field whenever possible and practice good biosecurity to prevent any potential disease spread. Biosecurity information is available https://www.aphis.usda.gov/publications/animal health/2015/fsc hpai hunte

Given these additional findings, anyone involved with poultry – commercial or backyard flocks alike - should review their biosecurity plan and enhance their biosecurity practices to assure the health of their birds. APHIS has materials about biosecurity, including videos, checklists, and a toolkit available for producers on our website.

In addition to practicing good biosecurity, all bird owners should prevent contact between their birds and wild birds and report sick birds or unusual bird deaths to State/Federal officials, either through their state veterinarian or through USDA's toll-free number at 1-866-536-7593. Additional information on biosecurity for backyard flocks can be found at http://healthybirds.aphis.usda.gov.

## **Morrow County 4-H is for you!**

## Joining a 4-H Club -

4-H Clubs are located all over Morrow County! Each club decides the best place and time to meet. Go to the link below for a list of our 4-H clubs.

#### Enrollment deadline is April 30.

Youth must be in third grade and at least 8 years old by January 1 OR 9 years old by January 1, any grade level.

#### 4-H Projects -

As a 4-H member, you will choose a project based on your interests. Your project is like a hobby that you work on and learn about the fun way - by doing!

See the hundreds of projects in the 4-H Family Guide of projects found at the OR Code.

Opportunities Available to 4-H Members -

Along with joining a club and completing 4-H projects, 4-H members have other opportunities:



Exhibiting

your project at the Morrow County Fair

- Attending 4-H Camp!
- · Project Clinics, Workshops, Teen Leadership Opportunities and Confer-

To find a club or to get more information, go to http://go.osu.edu/howtojoinmorrow4h, or call the OSU Extension Office at 419-947-1070, or use the OR

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# Upcoming OSU Agriculture and Horticulture Events:

#### Tuesday, March 15:

Beef Quality Assurance, Adults and Youth, 6:30 p.m. @ the Ag Credit Building

#### **Thursday, March 17:**

**Seeds To Start Early**, 10:30 a.m. @ Selover library in Chesterville

#### Wednesday, March 30:

**Seed Starting Class**, 2 p.m. @ Perry Cook Memorial library Johnsville

## Thursday, March 31:

**Seed Starting Class**, 6 p.m. @ the Ag Credit Building

## **Tuesday, April 5:**

**Opening Up Your Garden**, 6 p.m. @ Headwaters

### Tuesday, April 12:

Growing Your Own Food, 6 p.m. @ Headwaters

## Thursday, April 21:

**Container Gardening**, 10:30 a.m. @ Selover library in Chesterville

#### Wednesday, April 27:

**Companion Planting**, 2 p.m. @ Perry Cook Memorial library Johnsville

## Monday, May 2:

**Plant Swap** with Selover Library, 6:30 in Chesterville

## Tuesday, May 10:

**Hanging Basket Make and Take** with plants that attract hummingbirds, 6 p.m. @ Headwaters Cost: \$25.00

### Thursday, May 12:

Plant Swap with Selover Library, 6:30 in Marengo

## Wednesday, May 25:

**Creating a Pollinator Garden** with native perennials, 2:00 p.m. @ Perry Cook Memorial library Johnsville

## Wednesday, June 22:

**Common Garden Insects**, 2:00 p.m. @ Perry Cook Memorial library Johnsville

## Tuesday, June 28:

**How to Enter Flowers in the Fair**, 6 p.m. @ Headwaters

### Thursday, July 21:

Herb Garden Make and Take, 6 p.m. @ Bunkers Mill Winery (July 28th is the rain date) Cost \$20.00

#### Wednesday, July 27:

**Common Garden Diseases**, 2 p.m. @ Perry Cook Memorial library Johnsville

## **Be On the Lookout for Spotted Lanternfly**

#### By Carri J. Jagger, Ag & Natural Resources Educator, Morrow County

Spotted Lanternfly (SLF) was first discovered in Southeast Pennsylvania in 2014. It's a new non-native insect pest to the U.S. and is thought to be native to China, Japan, Vietnam and Taiwan. This invasive species preferred host is the Tree of Heaven (Ailanthus altissima) but it will also feed on a wide variety of plants throughout its life cycle. Spotted Lanternfly nymphs and adults have been found feeding on wild and domestic grapes, hops, fruit trees, willow, various hardwood trees, pines, shrubs and vines.

Spotted lanternfly made it's way to Jefferson County, Ohio in 2020, Cuyahoga County in 2021 and was found in Lorain County last week (February 10th, 2022). As you travel around Ohio keep an eye out for it. SLF looks like a butterfly



or moth but it is actually a planthopper. They have four wings and piercing-sucking mouthparts that are used to pierce their food source and suck out the nutritive fluids. The adults measure approximately 1 inch long and ½ inch wide at rest and 1½ to 2 inches wide with wings spread. When the insect is at rest the wings are in a tent like position over the body and when the wings are fully open you can see the red, black and white markings.

The SLF has a one year life cycle as the adults lay eggs in late fall through the first freeze. They lay eggs on host plants or any flat surface in clusters of 30-50 eggs arranged in 4-7 columns. The columns of eggs which measure about 1 inch in length, are covered by the female with a mud like substance. The first egg hatch begins in early May and the SLF will go through 4 nymph stages before it completes it's life cycle.

Spotted lantern fly is not a strong flyer but is a great hitch hiker. Hitch hiking is how this pest is being spread. It likes rusty objects and travels



on railroad cars. In Jefferson and Cuyahoga counties SLF was found near rail roads.

If you see a Spotted Lantern Fly, please call OSU Extension – Morrow County 419-947-1070 or the Ohio Department of Agriculture 614-728-6400

For more information: https://ohioline.osu.edu/factsheet/anr-83



# Soybean Growers are Invited to Participate in a New Study to Improve Honey Bee and Soybean Productivity

## By Laura Lindsey, Reed Johnson, Chia Lin

The corn-soybean cropping system dominates the landscape in much of the Midwest where one-third of US honey bee colonies reside. We are looking for soybean growers to help with a new study that will test whether a slightly different management strategy for soybeans can help support pollinators, improve honey production for beekeepers, and improve soil health while maximizing crop productivity.

This study was largely inspired by a pilot project led by Nate Douridas at the Molly Caren Agricultural Center, where a perennial wild-flower mix was planted in low-yielding areas in a large field (see video "Turning Red Acres Green" https://www.youtube.com/watch?v= Jp-PhLj-0Db0). During soybean bloom last year, we observed lots of bees foraging on the wildflowers and on soybeans near the wildflower zones. We would like to further investigate how this management strategy, along with planting soybean varieties that are attractive to bees, could improve productivity in both honey bees and soybeans.

We are seeking large fields (100 acres or

more) with some existing low-yielding areas identified by yield monitor data that can be replaced with wildflowers (we will provide wildflower seed). Wildflowers may also be planted in border areas of the field. The experiment will continue for four years with the following schedule:

Year 1: plant wildflowers and a **soybean variety of the grower's choice**.

Year 2: plant **corn**. No change to the wild-flower areas.

Year 3: plant a **nectar-rich soybean variety**. No change to the wildflower areas.

Year 4: remove wildflowers, plant a nectarrich soybean variety in the entire field.

We will be working with the Ohio Soybean Performance Trials to identify a list of nectar-rich soybean varieties (data will be available by the end of 2022). We will also monitor the growth of four honey bee colonies installed at one edge of the field with an automated hive scale throughout the study period. We will evaluate the diversity of insect pollinators in the wildflower zones and adjacent soybeans during bloom. Yield monitor maps and pod evaluations (from a small set of



hand-harvested plants) will be compared to evaluate any yield benefits. Soil samples will be collected to determine how the perennial wildflowers affect soil properties.

You can also participate without the wildflower experiment by just planting nectar-rich soybean varieties and allowing us to collect insect and plant samples in the field and monitor honey bee colonies housed near the soybean field.

If you are interested in participating in this research, please contact Chia Lin (614-247-4780 or email Lin.724@osu.edu).





# Considerations for managing P & K in 2022

#### By Greg LaBarge, CPAg/CCA, Steve Culman

During this period of high prices and uncertain availability of phosphorus and potassium fertilizer, a few basic soil fertility concepts can help guide application decision-making. Fortunately, the work during 2014-2020 that led to the Tri-State Fertilizer Recommendation for Corn, Soybean, Wheat, and Alfalfa-2020 is current information we use. Here are a few key points from the Tri-States plus some other principles that may help.

#### 1. Have a current soil test and use it.

What is the best investment when fertilizer prices are high, a recent reliable soil test! What is a recent reliable soil test? A recent soil test is no more than four years old. A reliable test is where you believe the number for pH, phosphorous, and potassium on the soil test represents that field you farm. If you question your soil report numbers, think about changing how you collect samples for soil testing. You want to consider three things: the size of the sampled area, does the sample area represent productivity and using a standardized sample depth. For more information on soil sample collection procedures, see the factsheet at https://go.osu.edu/soilsample.

Recent reliable soil test values for pH, phosphorus, and potassium will tell you if you need to apply lime or fertilizer this year or if we can wait. Comparing your soil test values to the Tri-State Fertilizer Recommendations will answer critical questions about your fertility needs. Get your copy of the Tri-state Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa at https://go.osu.edu/fertilizer. The publication is available for sale as a printed copy or a free pdf version.

#### 2. Apply lime if needed

The first thing to look at on your soil test reports is pH. Soil pH is the critical factor in nutrient availability. If soil water pH is less than 6.0, consider liming before applying fertilizer. When soil pH values are acidic (< 6.0), the lime investment will make more soil stored phosphorus and potassium crop available. Use buffer pH from the soil test report to determine how much lime you need. Apply enough lime to bring soil pH into the 6.5-6.8 range. Spend your first fertilizer dollars on lime.

#### 3. Suspend buildup P and K applications

Buildup nutrient recommendations are recommendations to increase below critical soil tests value and have no yield impact. The total recommendation shown in the Tri-State tables is crop removal plus and added buildup amount for any soil value below critical for the crop. Consider suspending this portion of the nutrient recommendation until we have more favorable fertilizer prices. Table 1 shows the critical soil test values for phosphorus and potassium.

## 4. Prioritize fertilizer application to soil test P and K areas below "critical" value

You have been using a build maintenance fertilization strategy if you have been following our Tri-state Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa. The build maintain strategy has the pricing and availability situation we are currently experiencing in mind. Comparing your soil test value for phosphorus and potassium to the critical value defines the need for annual fertilizer application. The text from the Tri-State bulletin states, "Soil test values above the critical value are "optimal," unlikely to be responsive to fertilizer application. Soil test values below the critical value are "deficient," more likely to have a yield response to fertilizer application."

Shown in Table 1 are critical soil test values for phosphorus and potassium in corn, soybean, wheat, and alfalfa. In summary, with a build maintenance approach, as long as soil test values are above the critical value, you can defer fertilizer applications when fertilizer prices are high, or weather conditions do not favor application.

than 5, use 100 ppm Mehlich as the critical value. If CEC is greater than 5, use the 120 ppm value. The crop removal for corn is 0.20 pounds of K2O per bushel, and for soybean, it is 1.15 pounds of K2O. Now scan your soil test reports for K soil values less than the critical value. Below the critical value is the situation where the risk of yield loss is more likely. Therefore, the recommendation would be to apply a crop removal rate of K. Determine expected yield based on-field productivity. Then multiply the expected yield by the crop removal for P for the crop. Crop removal is 0.35 pounds P2O5 per bushel for corn, and soybean is 0.80 pounds P2O5 per bushel.

Continue with our example of a field (or zone) with a 195 bushel per acre corn yield and a soil test K value of 110 and CEC of 15 meq/100g. The K2O need would be 39 pounds per acre. Therefore, the potash fertilizer recom-

Table 1. Critical Soil Test Values from Mehlich 3 Soil Test for Phosphorus and Potassium. (Tri-state Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa, 2020.)

		Potassium Mehlich 3	
	Phosphorus	oils with CEC	Soils with CEC
Crop	Mehlich 3	<5 meq/100g	>5 meq/100g
Corn & Soybean	20	100	120
Wheat & Alfalfa	30	100	120

If your crop for 2022 is corn or soybeans, here is how it works. First, scan your soil test reports for less than 20 ppm P soil values. Below 20 ppm is where the risk of yield loss is more likely. Therefore, the recommendation would be to apply a crop removal rate of P. Determine yield potential based on-field productivity. Then multiply the yield potential by the crop removal P rate for the crop. Crop removal is 0.35 pounds P2O5 per bushel for corn, and soybean is 0.80 pounds P2O5 per bushel.

Here is an example. A field (or zone) with a soil test P-value of 15 ppm Mehlich 3, and corn yield is 195 bushels per acre. Therefore, the nutrient needed is 68 pounds P2O5, 195 multiplied by 0.35. The amount of MAP fertilizer required to meet this need is 131 pounds found by taking 68 pounds P2O5 needed dividing by 0.52, which is the P2O5 percentage of MAP, 11-52-0. If you are using DAP, it would be 148 pounds found by taking 68 pounds P2O5 needed dividing by 0.46, which is the P2O5 percentage of DAP, 18-46-0.

Where your soil test reports show soil P values above the 20 ppm critical value, you can defer fertilizer applications to when fertilizer prices are more favorable. However, keep in mind that if your soil test values are near the critical value, you can only defer for a short time. Soil test P values decline over time, but change is not dramatic from one year to the next due to the soil's ability to buffer available P. Estimated change in soil test P values is only 2-3 ppm per year from crop removal.

Decisions for potassium are similar to phosphorus. The difference is we need to look at both the Cation Exchange Capacity (CEC) number and the soil test potassium value. If CEC is less

mendation would be 65 pounds. Fertilizer need is calculated by taking the 39 pounds K2O needed, divided by 0.60, the K2O percentage of potash, 0-0-60.

Where your soil test reports show soil K values above the critical value, you can defer fertilizer applications to when fertilizer prices are more favorable. However, keep in mind that if your soil test values are near the critical value, you can only defer for a short time. This is be-

cause soil test K values decline over time, while K is buffered like P, the soil changes from one year to the next due tend to be greater than with P. Estimated change in soil test K values are 6-10 ppm per year from crop removal for grain crop but are higher with forages.

We provide a spreadsheet that many folks have found helpful to do nutrient and fertilizer calculations. You can see that tool at https://go.osu.edu/ohiofertilitytool.

#### 5. Use banded placement with a lower rate

"For deficient soils, recommended rates of fertilizer should be applied annually. Placement and timing techniques to enhance nutrient availability, such as sub-surface banding, or spring application, may also be beneficial on nutrient-deficient soils. Applying 25 to 50 percent of the recommended fertilizer in a band to enhance early growth should be considered." Tri-State Fertilizer Recommendation for Corn, Soybean, Wheat, and Alfalfa-2020

#### 6. P & K in manure equal fertilizer pound for pound to maintain soil values, prioritize low soil test fields for manure

Livestock manure is a good P & K nutrient source for crop production. There are two things to know when comparing P2O5 and K2O availability in manure to commercial fertilizer. First, the pounds of available P and K nutrient shown on the manure test is equivalent to commercial fertilizer. Therefore, those manure nutrients are a one-to-one replacement for commercial fertilizer. Second, manure is not a good substitute when starter fertilizer is needed. The key to using manure in the fertility program is to get a manure nutrient test, then use that test to guide the application. Application rates should be determined using both the manure source's N and P content, being sure not to over-apply either nutrient.







## The Ohio State Phenology Calendar:

## **Understanding Nature's Biological Clock (Part 1)**

**By Gabe Karns** 

A special thanks to Denise Ellsworth from OSU's Department of Entomology for contributing her phenology expertise that makes this article possible!

Phenology, sometimes referred to as the world's oldest science, is the study of recurring biological events and their relationship to weather and climate. Examples of phenological events include bird migration, flowering of plants, and the seasonal appearance of insects. Because the growth and development of plants depend on temperatures, phenological events of plants, such as bud swelling or flowering time, may be useful for monitoring short-term weather patterns. Likewise, scientists can detect long-term changes due to climate change by tracking the pattern of phenological events over many years.



Insects emerge earlier in warmer years than in cooler years, and plants bloom earlier too. The critical assumption in the use of plant phenology to predict other biological events is that the phenological sequence (the order in which events occur) remains constant from year to year even when weather patterns differ greatly. It is no mystery, even to a novice sugar maker, why plant phenology matters in maple. The quality of maple syrup is at stake! Once the phenological calendar for a sequence is established, the biological calendar is easily monitored to anticipate when maple syrup quality drops. If phenology can be grasped, this can greatly simplify the logistics of planning and scheduling monitoring programs, post-season clean-up and sanitization, and other critical activities. And using phenological sequence is valuable to a whole host of applications beyond just maple—beekeepers, naturalists, and gardeners also use the predictable patterns of nature to predict plant bloom and other biological activity.

On The Ohio State University Phenology Calendar website ahttps://weather.cfaes.osu.

edu/gdd/), degree-day data and related plant bloom and pest emergence sequences are accessible for any location in Ohio. A degree-day is a measure of the amount of heat that accumulates above a specified base temperature during a 24hour period. A degree-day is also referred to as a growing degree-day (GDD), heat unit, or thermal unit. One GDD accumulates for each degree the average temperature remains above a specified base-temperature over those 24 hours. Several degree-days can accumulate during a 24-hour period. However, it is important to understand that degree-days have meaning only in relation to the base temperature that has been specified. The Ohio State Phenology Calendar uses 50 degrees F as the base temperature. To provide an example, if the average temperature over a 24-hour period is only 47 degrees F with a base temperature of 50 F, no GDDs would accumulate. However, if the 24-hour average temperature was 55 degrees F, 5 GDDs would be added to the phenology calendar (more on degree day calculation https://weather.cfaes.osu.edu/gdd/glossary.asp).

To inform The Ohio State Phenology Calendar, daily temperature data from 12 OARDC Research Stations and three USDA-ARS weather stations located throughout Ohio are used to calculate cumulative GDD in real-time. Calculations for locations between weather stations are extrapolated from climatic isotherms for Ohio. Upon entering a date and any Ohio zip code, degree-day accumulation for that location is calculated, and the user is directed to the appropriate spot on the phenology calendar to determine what plants are blooming and what pests are active in their locale. By scrolling through the full phenological calendar, it is possible to see what blooming and pest events have already occurred, as well as what has yet to occur. And by clicking on the Summary tab, you can get a year-by-year breakdown of GDD count for the same date and zip code location across the past 6 years.



It is important to define a couple terms as we launch into species-specific phenology. First bloom is defined as the first flower opening to expose sexual parts. Full bloom is when just one out of twenty buds is still closed while all others are open to expose sexual parts.

Of particular interest to maple producers, silver maple is listed first with 34 GDD at first bloom. A bit further down the sequence, silver maple reappears with full bloom at 42 GDD. Red maple first bloom follows at 44 GDD just after silver maple full bloom. Red maple full



bloom averages 75 GDD. Sugar maple is not currently listed on the GDD calendar; however, it is believed that sugar maple tracks very closely with black maple – another of the "hard" maples. While there is some uncertainty about the exact GDD timing for sugar maples, they are definitely "late bloomers" as compared to their "soft" maple counterparts.

Silver Maple - *Acer saccharinum*: first bloom

Cornelian Cherry Dogwood - *Cornus mas*: first bloom 40

Silver Maple - *Acer saccharinum*: full bloom 42

Red Maple - *Acer rubrum*: first bloom 44 Speckled Alder - *Alnus incana ssp. rugosa*: first bloom 52

Northern Lights Forsythia - Forsythia x intermedia: first bloom 58

Japanese Pieris - *Pieris japonica*: first bloom 60

Red Maple - Acer rubrum: full bloom 75

The consistency in phenological sequence from year to year demonstrates that even one year of observation is useful to expand the phenological sequence to other plants or insects not included on the OSU calendar. This means that users can readily create, expand, and customize their own biological calendars by observing plants in first or full bloom and taking note of the GDD for that date on the OSU calendar. Many observers use a journal or excel file to track plant and insect activity from year to year, adding in new plants or insects of interest. These calculations can even be made by referring to photographs that show first bloom or full bloom; the photo's date and location can be entered on the OSU calendar to determine the GDD for that event. Insect observations should be of developmental stages, such as egg hatch or adult emergence

For the maple producer, understanding the predictability of nature's patterns is crucial for better anticipating the end of each maple season. For years and years, sugar maple bud break was the traditional visual signal to take down buckets and end the sap season. Unfortunately, lots of poor-quality sap was made waiting for those first buds to break. Now we know that physiological changes occur within the tree prior to actual bud break that bring seasons to a close earlier. And sanitation issues that result in "sour" sap (due to bacterial build-up) halt most sap seasons before "buddy" sap is rampant. While we are excited to continue tracking sugar maple performance relative to GDDs, keeping an eye on the 100 GDDs mark is a rough indicator for when things are winding down. Some woods will shut down earlier and others will stretch a bit later, but when the Forsythia approaches full bloom in your yard - which occurs right around 100 GDDs depending on variety – you can be sure the end of your sugaring season is nigh.

# OSU Extension to Host 2022 East Ohio Women in Agriculture Conference

Ohio State University (OSU) Extension will host the 7th Annual East Ohio Women in Agriculture Conference. The conference is planned for Friday, March 25 from 9:00 a.m. – 3:30 p.m. at Ohio FFA Camp Muskingum, 3266 Dyewood Road SW, Carrollton, OH 44615. All women and young women (high school age) who are interested, involved in, or want to become involved with food, agricultural, or natural resources production or small business are encouraged to attend.

The conference program features a networking fair and sixteen breakout sessions presented by OSU Extension educators, producers, and partner agencies. Sessions this year are focused around four themes: Natural Resources, Plants & Animals, Home & Family, and Special Interest (includes break-out with Ohio FFA State Officers). The conference keynote will be led by Bridget Britton, OSU Extension Behavioral

Health Field Specialist. She and her team will lead participants through "Stoic or Stressed? Talking through difficult topics in a safe space."

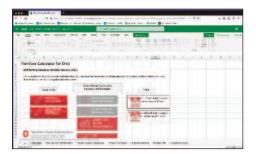
Registered participants, community organizations, or businesses interested in sponsorship can contact 740-461-6136.

Interested individuals can register for the conference online at go.osu.edu/eowia2022. Cost of the conference is \$55 for adult participants and \$30 for students. Conference fee includes conference participation, breakfast, lunch, and conference handouts. Deadline for registration is Friday, March 11. For additional information, please contact Emily Marrison, OSU Extension Coshocton County at 740-622-2265.

Stay connected with the Ohio Women in Agriculture Learning Network on Facebook @OHwomeninag or subscribe to the Ohio Women in Agriculture blogsite at u.osu.edu/ohwomeninag.







## Fertility Calculator for Ohio Recommendation

By Greg LaBarge, CPAg/CCA

A Microsoft Excel spreadsheet has been developed to support nutrient management education programs provided by Ohio State University Extension and for users who want to generate their own recommendation or compare recommendations provided to them to the Tri-State Fertilizer Recommendations for Corn, Soybeans, Wheat, and Alfalfa, 2020. The spreadsheet is designed to be compatible with Excel version, Excel 1997-2003 or later.

The tool generates recommendations for the following crops:

- 1. Corn
- 2. Corn-Silage
- 3. Soybeans
- 4. Wheat (Grain Only)
- 5. Wheat (Grain & Straw)
- 6. Alfalfa
- 7. Grass Hay
- 8. Grass/Legume Hay

### Overview of spreadsheet features:

- There are 21 data lines.
- Data can be copied from another spreadsheet or within the spreadsheet
- User controls whether recommendations are build/maintenance or maintenance only for phosphorus (P) & potassium (K) recommendations
- User can select when a field the critical level used for corn/soybean rotations or wheat, alfalfa, or grass legume hay for P recommendations
- $\bullet$  Can select a shorter or longer buildup period than standard 4 year for P & K.
- P & K recommendations are displayed with buildup and maintenance requirements separately.
- Total fertility need can be determined for a 1-, 2- or 3-year application on P & K Recommendation page.
- Lime recommendations are developed using target final soil pH and tillage depth.
- User can compare cost of two lime sources on lime recommendation page.
- User can determine total cost of P & K fertilizer needed to meet the nutrient recommendation
- User can determine total cost of Lime needed in the recommendation developed.

The spreadsheet is available at: https://go.osu.edu/ohiofertilitytool

A printed User Guide is available at: https://go.osu.edu/ohiofertilitytoolguide

A video demonstration at: https://go.osu.edu/ohiofertilitytoolvideo

## **Small Ruminant Management:**

## **Abortion Causing Diseases**

By Dr. Brady Campbell, Assistant Professor, State Small Ruminant Extension Specialist

For those raising sheep and goats in the Midwest, lambing and kidding season is in full swing. As we enjoy the victories and contemplate the challenges our management systems threw at us this year, it is important to note and document everything that happened so we can evaluate our outcomes at the end of the season. An important statistic to keep in any livestock operation is death loss. This number is valuable to quantify the efficiency of your operation, but without recording a reason for a loss or death in your operation, this statistic ends here. I know that it can be stressful and deflating when we encounter a loss, but understanding why it occurred and the reason behind it will pay dividends as you move forward. Although this discussion is a bit gloomy to talk about, it's an important one none the less. Below, I have outlined some of the common diseases in sheep and goats that are associated with pregnancy loss, abortions, stillbirths, and birth deformities. Be sure to read each of these and compare them to your operation. Even if you don't have issues today, these diseases can rear their ugly head at any given time. Keeping this information tucked away in your farming tool box will be well worth the read.

#### Campylobacter (Vibrio)

Campylobacter, or more commonly referred to as Vibrio, is caused by a bacterial infection with campylobacter jejuni or fetus. Ewes and does that contract this bacterial infection tend to abort during late pregnancy. For those that do not abort, lambs and kids may be carried full term and can be either born dead (stillbirth) or live. Those that are born live will be small and weak, thus needing further attention. Unfortunately, this disease is rarely detected and is not known until abortions occur. For those experiencing issues with this disease, there are a couple of options to prevent and control future losses. During an abortion storm, tetracycline antibiotics may be used to control current issues. Due note that a valid VCPR will be required to purchase over the counter antibiotics in 2023. For future concerns, commercially produced vaccines are available. Be sure to read vaccine use prior to purchase as initial treatment may consist of a booster. Once a vaccine as such is used with your flock, it must be repeated on an annual basis. Therefore, it is critical to have dead lambs and kids tested at your state diagnostic center to ensure that you are treating for the appropriate disease the reduce your chances of introducing a disease that is not already present.

#### Chlamydia

Chlamydia is also a bacterial infection caused by chlamydia psittaci. Ewe and does infected with this disease will also abort during the last ~50 days of pregnancy. For those that do not abort, live offspring will be weak and will require special attention to ensure survivability. Just as noted above, antibiotics and vaccines can

be used to control and prevent future outbreaks and issues. Some unique characteristics of Chlamydial infections is that it is easily spread from contaminated bedding that was previously exposed to infected placenta and birthing fluids. Therefore, it is critical to remove infected ewes from the flock and clean the area. Placenta and discharge from infected ewes is said to have a pungent and fowl smell. When purchasing ewes, be sure to acquire from clean flocks. Additionally, it is thought that mature ewe are immune to this disease if previously exposed.

#### **Toxoplasmosis**

Toxoplasmosis is an infection caused by the protozoa Toxoplasma gondii. These protozoal oocyst survive and remain active in the soil for several years and is therefore difficult to completely manage. Ewes and does that contract this disease during early pregnancy may abort or reabsorb the fetus. During late pregnancy, fetuses may be stillborn or live. Those that are live can either be weak or born normally. The vector that catches most grief due to association with Toxoplasmosis is the domestic cat. If you choose to keep cats in your barns for vermin control, keep only those that are spayed or neutered and those that are older as they tend to be less of an issue. Furthermore, storing feeds appropriately also ensures that vermin such as raccoons and opossum steer clear as they too are known to be carriers of the disease

## Cache Valley Virus (CVV)

Cache Valley has become a sour name over the past few years in the sheep industry. As the name states, this disease is caused by a virus and therefore is challenging to control. Animals contract CVV in the fall during or after the breeding season. Cache Valley is spread via mosquitos and biting midges. Ewes and does that are infected during early pregnancy may either reabsorb or abort their fetuses. Those that carry to full term usually result in stillbirth that have severe deformities. Unfortunately, at this time there is no vaccine available for this virus. It is however thought that animals that were previously infected will develop innate immunity to the disease. The best recommendation available at this point is to avoid wet, marsh like areas during and after the breeding season. Animals housed indoors should have access to proper ventilation to discourage insect accumulation.

#### **Listeriosis**

Although not a disease that we commonly associate with abortions and one that is typically human induced, Listeriosis is a bacterial infection caused by Listeria monocytogenes. This issue is most common in systems that feed fermented feeds (i.e., silage, baleage, haylage) or feed hay that is stored and/or fed out doors. If the infection is severe enough, ewes and does will abort. Other indicators that an animal is facing challenges with Listeriosis is neurological symptoms that are associated with this infection. Infected animals may circle, press their heads



against a wall as they attempt to relieve swelling of their brain, drooling, and incoordination. To avoid these issues, be sure to monitor feed spoilage by limiting the amount of time a fermented feed is offered before replacing with fresh feed. Additionally, fermented feeds should have a low ash content, a pH that is <4.5, and stored in an anaerobic (oxygen deprived) environment. Animals demonstrating signs of Listeriosis can be treated if detected early. Consult with your local veterinarian for the most appropriate treatment protocols.

## Noninfectious agents (toxic plants, genetic, nutrition)

Last, but certainly not least, producers may face noninfectious agents that result in abortions in their flocks and herds. Plants, both natural and cultivated, can have unique livestock challenges through out the year. Does anyone remember the herd of goats this past year that all perished because someone thought that feeding yard and Christmas waste that contained yew was appropriately? This seemingly kind gesture turned into a devastating loss for the producer. Poisons and toxins in plants can create serious issues that may result in abortions if the dose is low enough that does not cause death. To minimize your chances of facing these issues, scout your pastures regularly for downed trees after extreme weather events or toxic plants growing or thrown across the fence line.

It is my hope that you won't experience a loss in your flock or herd this year, but in the case that you do, please take a few minutes to truly investigate the cause of death. If you aren't able to do so or don't feel comfortable, find a mentor, neighbor, or fellow producer in the area that can assist. Determining the reason upon why a loss occurred is extremely important not only for your bottom line, but to also protect your animals and yourself from future challenges that could be more severe in the future. So the next time you have to dig a hole or turn the compost bin, make certain that you understand what happened to the animal that you lost and formulate a plan upon how you and your operation will over come the challenge

Happy Shepherding!



## 4-H NEWS



## Summer Intern/Student Worker Wanted

OSU Extension – Morrow County is looking for a summer intern to help in the area of Agriculture and Natural Resources. This summer intern would work 38 hours a week and complete a variety of tasks.

The tasks would include but are not limited to: monitoring and identifying pollinators that visit the native pollinator research gardens, maintenance of the native pollinator gardens, creating an educational video and signage about the native pollinator research gardens; updating the local foods list and visiting several of those local food producers to create a video featuring them;

helping with agronomy research plots and other agronomy related activities through out the summer; assist the educator with local farm visits.



This position might also include helping the other extension educators and office associates in our office with various projects throughout the summer. Please follow this link to apply: https://go.osu.edu/mo-coextsummer2022



## What's ahead for legal issues in 2022?

#### By Peggy Kirk Hall, Associate Professor, Agricultural & Resource Law

We've quickly reached the end of January, and several of the legal issues I've talked about in OSU's "Agricultural Outlook" meetings have surfaced this month. If the current pace keeps up, 2022 promises to be a busy year for agricultural law. Here's a review of three legal issues I predict we'll see that have already begun to emerge in 2022.

Water, water. From defining WOTUS to addressing Lake Erie water quality, water law will continue to be everywhere this year. The U.S. Supreme Court just announced on January 24 that it will hear the well-known case of Sackett v EPA to review whether the Ninth Circuit Court of Appeals used the proper test to determine whether wetlands are "waters of the United States" (WOTUS). The case is one example of the ongoing push-pull in the WOTUS definition, which establishes waters that are subject to the federal Clean Water Act. The Biden administration proposed a new WOTUS rule last December that would replace the Trump-era rule, and comments remain open on that definition until February 7. Ohio has wrangled with its own water issues, particularly with agricultural nutrient impacts on water quality. We'll see this year if the state will continue to rely on H2Ohio and similar incentive-based programs and whether the Ohio EPA will face additional litigation over its development of a Total Maximum Daily Load for

Pesticide challenges. The EPA announced a new policy on January 11 to more closely evaluate potential effects of pesticide active ingredients on endangered species and critical habitats. That was the same day the agency re-registered Enlist One and Enlist Duo pesticides, but with new label restrictions and prohibited use in hundreds of counties across the U.S., including a

dozen Ohio counties. An EPA report documenting dicamba damage in 2021 could form the basis for yet another lawsuit this year demanding that EPA vacate dicamba's registration. Meanwhile, we await a decision by the U.S. Supreme Court on whether it will review Hardeman v. Monsanto, one of dozens of cases awarding damages against Monsanto (now Bayer) for personal injury harms caused by glyphosate.

Opposition to livestock production practices. Ohio pork producers watching California's Proposition 12 will be happy with a recent California court decision prohibiting enforcement of one part of the law that went into effect on January 1. The provision requires any pork and eggs sold in the state to be from breeding pigs and laying hens that are not raised in a "cruel manner," meaning that the animals have a certain amount of usable pen space. The California court agreed with grocers and other retailers that the law could not be enforced on sales of pork meat because the state hasn't yet finalized its regulations. The law could be subject to further scrutiny from a higher court. Several agricultural organizations have unsuccessfully challenged the law as a violation of the Constitution's Commerce Clause, but one of those cases currently awaits a decision from the U.S. Supreme Court on whether it will review the case. Other livestock production issues we'll see this year include continued battles over Right to Farm laws that limit nuisance lawsuits against farms, and challenges to "ag gag" laws that aim to prevent or punish undercover investigations on farms.

There's more to come. Watch for more of our predictions on what 2022 may bring to the agricultural law arena in upcoming posts. Or drop into one of our Agricultural Outlook and Policy meetings to hear my Ag Law Outlook. As quickly as the year is moving, we'll soon know how many of those predictions are correct.

## **4-H General Information**

# **Project Enrollment for 4-H and FFA Members** and Showing Animals at the State Fair

- **4-H members** must be enrolled in their county in the project in which they enter to show at the Ohio State Fair Junior Livestock Shows (including poultry, rabbits, and dogs), regardless of whether that project is offered for county exhibition.
- (1) For example: To show in a gilt class at the Ohio State Fair, youth must be enrolled in project 140 Swine Breeding Project and Record Book.
- (2) For example: To show a dairy feeder at the Ohio State Fair, youth must be enrolled in project 117DF Dairy Beef Feeder (Market);
- (3) For example: To show breeding poultry (chickens) at the Ohio State Fair, 4-H members must be enrolled in project 150CE, Exhibition Chickens; to show breeding poultry (ducks), they must be enrolled in project 150DE, Exhibition Ducks, and so forth.
- (4) For example: To show a dog in agility at the Ohio State Fair, 4-H members must be enrolled in project 201P, Performance; to show the same dog in obedience, project 201O, Obedience, etc.
- **FFA members** must enter to show at the Ohio State Fair the same animal project they are taking through their Supervised Agricultural Experience (SAE).
- (1) For example: To show a market lamb at the Ohio State Fair, FFA members must be taking market lambs as one of their Supervised Agricultural Experiences.
- (2) For example: To show a beef breeding heifer at the Ohio State Fair, FFA members must

be taking breeding beef as one of their Supervised Agricultural Experiences.

Note: The same animal cannot be enrolled in two projects in the county (exception dog projects and 4-H PetPALS), with the youth planning to enter one or the other project at the Ohio State Fair. Decisions must be made by project enrollment deadline or county's animal identification deadline (whichever comes first).

- (1) For example: A youth is not permitted to enroll the same beef animal in a breeding project (117B Beef Breeding) AND in a market project (117M Market Beef).
- (2) For example: A youth is not permitted to enroll the same rabbit in a pet rabbit project (Pet Rabbit Project and Record Book 227) AND in a breeding rabbit project (Breeding Rabbit Project and Record Book 225). She/he must choose which project in which to enroll that animal by county deadlines for that species.
- (3) Exception dog projects: For example: Youth may enroll the same dog in multiple dog projects such as in You and Your Dog (201D); Obedience (201O); Performance (201P) and Showmanship (201S) provided that dog can perform the required exercises of each project at the Ohio State Fair.
- (4) Exception: 4-H PetPALS: Youth may enroll in a pet rabbit project (225) and 4-H PetPALS (230), or 150CE Exhibition Chickens and 230 4-H PetPALS, etc. with the same animal.

Questions? Call Becky Barker at 419-947-070

## Pork Producer's Scholarship & Ambassador Info

The Morrow County Pork Producers has a scholarship available for qualified candidates. They also have an application to be the 2022 Pork Ambassador. Both applications are available at the website listed below or you can stop

in our office to pick them up. They are due by March 7th.

https://morrow.osu.edu/program-areas/4-h-youth-development/ambassadorqueenking-princess-applications





## 4-H NEWS



## **4-H General Information**

## To celebrate 4-H Week!

Dear Moms and Dads, Your kids should experience 4-H and here is my story to tell you why!

#### By Sara Deakin, 4-H Alumni

When I first joined 4-H I knew only the advisor, I was a very shy and quiet kid, so I had to break out of my shell to make friends which was very difficult. I went to my first 4-H meeting with my dog, and I was nervous, I only talked to a few people briefly. My mom asked me how I liked it, and I was honest, I didn't enjoy it that much. When it was time for the next meeting, I didn't want to go but looking back now I'm very glad I did. I met people that have since become some of my best friends through 4-H and I would not have had that opportunity if I did not attend my second club meeting.

After two years of being in 4-H, I went to the county fair for the first time and as a dog club member we did not show at the fair we showed at a separate location as dogs we not allowed on the fairgrounds. When I did finally attend, I again didn't know anyone, but one 4-H friend and I walked around and I met a lot of new people. That same year I applied to be on the Franklin County Jr. Fair Board to get more involved.

The following year I attended 4-H camp as a camper and found my love for camp, I got to experience new challenges like team building, pushed myself to do things I had never done before like high ropes and ziplining, and continued to meet more people. I became a 4-H camp counselor the next year and had an amazing time with all my new friends. I wanted to be a counselor because I was asked to take on a few counselor responsibilities as a camper due to being a bit

older than most campers. As I got older and learned about the opportunities for teens in 4-H I did my best to experience these opportunities. In 2016 I was selected to attend Ohio 4-H State Leadership camp and in 2018 I returned to be a camp counselor at this camp because of the experiences I gained there. In 2017 I attended Citizenship Washington Focus in Washington D.C. This was another amazing opportunity that I would recommend to everyone.

Through 4-H I had the opportunity to care for and raise livestock. As someone who grew up in the city with little to no knowledge about livestock, this was huge for me. I had friends who had a farm and over the years I would go help them with chores when they needed it, but I finally got the opportunity in my last few years to have my own livestock, so I went all out. At first, I just had a hog project, then the following year, my last year in 4-H, I took a market hog, goat, rabbits, and a beef feeder. These were by far my favorite projects in my 4-H career.

4-H has taught me a lot about how to be a leader, has greatly improved my leadership skills and public speaking skills as well as sparking my interest in many different fields. With my experience in 4-H, I discovered that I truly love this organization and want to continue working with 4-H youth as a career, which is why I graduated with a degree in Extension Education. I will forever be grateful for all the friends I have made, and all the things 4-H has taught me. What started out as something I didn't want to do turned into a lifetime love and a career opportu-

## **Animal Project Born By/Hatch Dates**

A complete list of requirements can be found on the http://morrow.osu.edu "4-H Youth Development - Livestock Information"

Listed are our fair requirements for some of the animals born/hatched early in 2021.

Mandatory possession for these projects, all breeding type projects and horses is June 1st.

\* Market Feeder Calves - Born January 1 to fair

- \* Market Hogs Farrowed/Born after January 15th (New for 2022) Ideally no later than end of February
  - \* Market Goats Born after January 1
  - \* Market Lambs Under 1 year of age by fair
- \* Breeding Poultry Under 1 year of age by

## Thinking of Showing at State Fair?

Make sure you are enrolled in that livestock project, even if you are not taking it to the Morrow County Fair!

Example would be breeding gilts too old for Morrow County Jr. Fair but could be taken to State Fair. The youth would still need to be enrolled in the swine breeding project in Morrow County 4-H or FFA. OR A youth wanting to take Market Turkeys to State Fair and not to Morrow County because of the age difference.

## Thinking of Starting A 4-H Club or Just Volunteering?

Do you have special talent or interest that you want to would love to teach kids about? 4-H is more than 4-H clubs.

Contact Becky Barker for more information. barker.157@osu.edu or 419-947-1070

## A Reminder of 4-H Membership Eligibility

Just a reminder and clarification on membership eligibility for 4-H members.

\* Youth may join the cloverbud program (Non project/activity based) when they are in kindergarten and five years old as of January 1,

\*Youth may begin taking 4-H projects when they are 8 years old and in the 3rd grade. OR

Any youth age 9 or above is eligible for projects, regardless of grade level as of January 1,

\*The last year of 4-H eligibility is the year in which a youth turns 19 years old (example: if you turned 19 years old on July 12, 2021 your last year in 4-H was in 2021).

## **Still Project Judging Dates!**

Mark your calendar! We have set the following dates for still project judging. As like last year we will require youth to schedule an appointment for that day. Details to come! Check out your project requirements inserted in every book!! New this year, we listed the state fair judging date if selected.

Early Judging (only if needed) – Monday, June 20th, 6 p.m., RSVP by June 10th

Agriculture, Small Animal, Family and Consumer Sciences and STEM Judging -Monday, July 18th

Food and Nutrition Judging - Tuesday, July 19th, afternoon (new! Afternoon judging at same time with clothing)

Clothing and Quilt Judging – Tuesday, July 19, afternoon, style show at 7:00 p.m.



CFAES COLLEGE of FOOD, AGRICULTURAL, and ENVIRONMENTAL SCIENCES

## **Take the Leap** Career Readiness Day

SATURDAY, WHEN:

APRIL 2, 2022 12:00 PM - 4:00 PM

WHO: 4-H MEMBERS, **AGES 13-18** 

**COST:** FREE!

Thanks to the Ohio 4-H Foundation for their support of this event!



Come join us for Take the Leap: Career Readiness Day! All 4-H Members ages 13-18 are welcome to attend this day jam-packed with activities and speakers that will help them take their next step towards success. Participants will have the opportunity to engage with activities such as written communication skills, resume writing, interview skills and preparedness, entrepreneurship, goal setting, professional dress, and much more!

Because of the ongoing pandemic, health protocols and local guidance will be followed. Participants will be notified regarding any requirements or changes to programming.

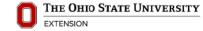
Location: Nationwide & Ohio Farm Bureau 4-H Center

2201 Fred Taylor Drive Columbus, OH 43210

**Details:** Registration due by March 19, 2022, go.osu.edu/taketheleap

Attire: Business Casual (dress shirt, blouse, polo shirt, nice slacks, khakis,

Contact Information: Frances Foos, foos.61@osu.edu, Sarah Longo, longo.79@osu.edu, or Kayla Oberstadt, oberstadt.1@osu.edu







## 4-H NEWS



## **4-H General Information**

## **2022 Quality Assurance**

Quality Assurance (QA) Rules, Test Out, and Sessions: (Quality Assurance is good from October 1, 2021 to September 31, 2022)

Morrow County Rules: All youth project members taking livestock (market and breeding) and horses are required to attend a quality assurance session annually or test out when eligible. NEW in 2020: Quality Assurance must be completed by July 14 to show at the Morrow County Fair State Fair first deadline will be June 6th.

Parents/Guardians are required to attend the first 2 years of a project member's required QA sessions.

\*\*Test out opportunities are only for youth in their 3rd year or beyond and 12 years old and older as of January 1, 2022. Test out age groups 12 to 14 and 15 and older. Youth who pass the test at age 15 or older will not need to test nor attend a quality assurance again.

#### **Test Out Opportunities:**

County - Monday, April 4th, Ag Credit

Building, 5362 US Highway 42, 1st Floor Conference Room, 4:30 - 6:30 PM

FFA Programs - Watch for announcements from the Ag. teachers.

Morrow County Quality Assurance Sessions and/or options:

County Quality Assurance Opportunities – March 15th, Beef QA, Ag Credit Building, 6:30, RSVP- 419-947-1070

April 26th, First and Second Year Member Only QA, 1 parent required to attend with member, Fairgrounds, 6:15 PM, RSVP Required!

May 9th, Livestock QA General, Fair Grounds, 6:15 PM

May 17th, Livestock QA General, Fair Grounds, 6:15 PM

May 23rd, Livestock QA General, Fair Grounds, 6:15 PM

State Quality Assurance Opportunities –

Ohio Cattlemen's Best Program (face to face), Dairy Palooza, Pork Quality Assurance (face to face, 14 and older only), BQA (face to face and approved program)

#### Online Option - Youth for the Quality Care of Animals (YQCA) (Optional)

http://yqca.org/

Youth who intend to show their project animal(s) at exhibition (e.g., county or state fair) have the option to complete an on-line YQCA session. For the training to meet the Ohio Youth Food Animal QA requirement for the project

- The on-line module completed MUST be for the correct 4-H age for the youth.
- 1st and 2nd year members parents must attend an in person QA in order for this online ver-
- The on-line session must be completed at least 45 days prior to the start of exhibition. July 14 for Morrow County.

Youth can go to the following website to take the age-appropriate on-line module for \$12: https://yqca.learngrow.io/Account/Login

- 4-H Youth will need their 4HOnline login and password or they can create their own login and password. Youth MUST send Becky your certificate of completion barker.157@osu.edu for it to count!!

Horse project members should follow their guidelines from their 4-H Advisors and/or check information the https://morrow.osu.edu/program-areas/4-hyouth-development/quality-assurance-dates-andinformation

Questions? Contact Becky Barker at 419-

## **Morrow County** 4-H Camp Dates!

The 2022 4-H Camp dates are scheduled for July 9-13th!!

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## **Career Exploration Workshop**

## **Construction Trade Careers**

Take the guess work out of whether you want to work in a construction trade career! Youth spend the day doing skills used in these trade fields to see if they like them.

During this hands-on workshop, youth complete the tasks listed below (activities are subject to

- Basic Construction Build a small project to
- **CNC Router Usage**
- Heavy Equipment Demonstration Operation & Safety
- Small Tool Safety
- Wall Framing (parts of a wall and how to



Each youth goes home with a toolset to continue their learning!

For more information and to register, scan the QR code or go to: www.go.osu.edu/careerexploration



Who - Youth in grades 5-12

9:00 A.M. - 2:30 P.M.

Cost - \$15 Morrow County Residents

Registration Due - April 1, 2022

Questions? Contact Amanda Staley

Where - Tri-Rivers Career Center Marion

\$40 Non-Morrow County Residents

staley.35@osu.edu, 419.947.1070

When - April 9, 2022

Comments from past participants: "Best day of my life!" vas a fun day and I learned a





## CFAES

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## **Career Exploration - Nursing**

Ever wonder if nursing is the career field for you or do you want to learn about what nurses do? If yes, this hands-on experience is for you!

Youth will shadow current nursing students and learn about:

- ✓ Pediatrics Respiratory care, medications, cerebral palsy, and more!
- Heart emergencies and shock.
- Preparing to become a nursing student.
- What kinds of opportunities are available for nurses.

Who: Youth in grades 8-12

When: April 14, 2022 9:00 a.m. - 3:00 p.m.

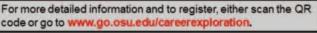
Where: Marion Technical College, Health Technologies Center

Cost: \$15 Morrow County Resident

\$30 Non-Morrow County Resident

Registration Due: April 8, 2022

Questions? Contact Amanda Staley staley.35@osu.edu, 419.947.1070











THE OHIO STATE UNIVERSITY



## **4-H NEWS**



## **4-H General Information**

## **Morrow County Cattlemen Looking for Volunteers!**

The Morrow County Cattlemen are looking for volunteers at their food booth on the follow-

April 1st, 2nd, 3rd – Shifts 8:00-12:00 noon, 12:00-4:00 p.m., & 4:00-8:00 p.m.

July 1st, 2nd, - Shifts 3:00-7:00 p.m. & 7:00-10:00 p.m.

If interested, please contact Dixie Shinaberry at 419.512.5644 or dixie694@gmail.com.

FFA & 4-H groups will receive \$75.00.

## **Morrow County Cattlemen Scholarships Available!**

The Morrow County Cattlemen's Association will be sponsoring two or more scholarships to qualified candidates. Applications are available at our office or on our website at:

https://morrow.osu.edu/program-areas/4-hyouth-development/ambassadorqueenking-

## princess-applications Deadline is April 1, 2022

## From the Junior Fair Office

## Blue Ribbons, Bright Lights at the 2022 Morrow County Jr Fair

The Morrow County Jr Fair Board is already hard at work preparing for this year's fair. The Steer Weigh-In took place December 4th. Thank you to all that helped it run smoothly. Also, thank you to all that supported our concession stand at the Consignment Sale on February 26th. This year's board is run by our new officer team: President- Myles Jordan, Vice President- Christina Beheler, Secretary- Kayla Hughes, Treasurer-Morgan White, Assistant Sec/Treas - Katelyn Votaw, Historian- Emily Zeger, and Parliamentary- Jada Mullins.

#### Morrow County Jr Fair Changes for 2022 Jr Fair Board Constitution Amendment to

Article VI: Two unexcused absences from meetings and/or mandatory activities/events will lead to an evaluation and potential dismissal from the Board.

Late Entries: Any entry entered after June 7th of the current year, will be accepted up to the First Monday of Fair (Move in Day). The exhibitor must have turned in all needed docuattended mandatory prefair check-in/weigh-in or submitted ID papers, attended Skillathon, and completed Quality Assurance. Exhibitors will pay per line to enter: Market projects \$50 per line and Breeding/Still projects \$25 per line. Late Fees must be paid to the Jr Fair Coordinator by the end of day, on (Move In) Monday of fair.

Family Animals: Revised to turn in a Family Identification Form, not entry. Entry must be made on Individual's Entry to show.

Showman of Showman Contest: Will start at 12:00pm

#### **Beef Department:**

- The top 3 in a breed will be brought back to show in champion cattle drive.
  - -Beef Classes will match up with Senior Fair

-No sign up required for Tents, one 10x10 per family can be set up after 1pm on Sunday, set up day before the fair. Tents or place markers stationed prior may/will be removed by the Jr Fair

Sheep Department: Added Babydoll Southdowns to Jr Fair Show.

Still Project Department: Ag Miscellaneous, Food, Science, and Clothing have been combined into one department.

Swine Department: Hogs must be born after January 15th.

#### **Important Dates**

March 31st - Jr Fair Books, Entry Forms, ID Paperwork, BBR Forms and Hog Tags will be available for pick up.

June 4th - Feeder Calf Weigh-In and Breeding Rabbit Check In

June 7th - Due Date for: Entry Forms, BBR Forms, Animal Identification Forms for Market Goats, Market Lambs, and Market Swine, and Living Arrangement Form for projects not at place of residence.

#### Office Hours and Contact Info

Normal Office Hours: Thursdays from 9am-

#### Extra Office Hours to help with Fair Book and Entry Form Pick Up/ Drop Off:

Sunday, April 10th from 12-4pm Sunday, May 1st from 12-4pm Saturday, June 4th from 7am-11am Monday, June 6th from 4pm -7pm Tuesday, June 7th from 2pm-7pm **Contact Information:** 

Lindsey Gallik: 419-560-7046 Lisa Duckworth: 419-560-7101 Morrowcountyjrfair@gm

## What is a 4-H Spark?

Projects help 4-H members find and nurture their spark. When you try something for the first time, you may be inspired to keep learning as much as possible about it. You might even want

a career related to that new interest. 4-H projects often spark young people to follow their passions, interests, and talents on a new path to career development, enjoyment, and belonging.

## Pies, Candy, and Cookies Oh My!! **County 4-H Projects!**

Did you know we have Morrow County only 4-H projects? When filling out your enrollment forms don't forget to consider these county projects not listed in the State 4-H Family Guide. Morrow County created and recently revised

these projects from members/advisors/parents suggestions and needs. These are beginning level projects with the basics to making pies, candy and cookies. They all have project books and are free to members!

## Dogs Project Possession by April 1st

any of the 4-H Dog Projects, the member is required to have physical possession by April 1.

If members are taking or planning on taking Also be sure to check with and receive from the Extension Office a veterinarian form to keep your dog up to date on shot requirements.





# FAMILY & CONSUMER SCIENCES



# Finding Fitness on the Back of a Horse Pressure

#### By Marcy Crouch PT, DPT, CLT, WCS

Following my joy in the stables has allowed me to reap more health benefits than going to the gym ever could. I hate going to the gym. I loathe it. BLASPHEMY, I know. Especially coming from a physical therapist. Take my license away.

I don't hate working out, though, or getting exercise, or being healthy and fit, or being outside. I just really don't like boring, gym-based, exercise routines. So what's a girl to do? Well, get creative, I guess. If there's one thing I've learned from years of treating patients who promise to do their PT homework but don't follow through, it's this: If exercise doesn't excite you, you won't do it — and you definitely won't stick with it long term. My chosen fitness routine might surprise you, but there's only one activity that keeps me coming back for more — even after a 20-year hiatus.

#### Back in the saddle

Ever since I was a young, carefree, wild child, I've had a profound and deep love of horses. I feel a connection to them, and I love everything about them: the way they look, how they smell, the sound of leather and buckles, the clip-clop of horse hooves on the ground, the sounds of hay munching, soft nose kisses, and the rhythmic motion of brushing them.

After a 20-year break to get married, get my doctorate, finish residency, have kids, and move all over this country for work, I finally have found myself back in the saddle at almost 40 years young. During that 20 years, I tried to replace riding with other activities. Yoga, Pilates, running, triathlon, and spinning were all short-lived experiences for me. I enjoyed them and felt good doing them, but something was missing. Looking back, I think I was trying to convince myself to love them. And we all know the truth comes out in the wash. Nothing was able to fill the void until I got on the back of a horse.

#### Making it look effortless takes effort

The barn is my happy place, and I am able to fill my figurative cup just by being there. I would rather spend my day at the hot (or freezing), dirty, smelly barn, mucking out

stalls, cleaning water buckets, sweeping up barn aisles, oiling my saddle and bridle, hauling rocks out of pastures, and caring for my horse than spending time at a gym. Any day.

Aside from finding joy and being able to participate in something that is just for me (which is SO important as a mom), riding provides fitness benefits that most people never realize. This is clear if you've ever taken a 20-year hiatus and then tried to walk around Target the day after your first ride back. Cue the Bambi on ice scene.

I have been told over the years, by non-riders, that riding is "easy" and that "you just sit there," but that couldn't be further from the truth. The best riders make it look easy and effortless, have beautiful riding posture, and steady hands and legs. They look soft, strong, and perfectly balanced. You know how they do it? Years of practice, hours upon hours in the saddle, and a remarkably strong core.

Horses respond to "contact" or "aides." The slightest shift in weight, a gentle tap on the reins with one finger, moving your leg a centimeter behind the girth, or moving your seat all tell the horse what you want them to do. Now imagine doing all of that on a moving animal, at different speeds, while steering, navigating obstacles, and staying balanced, without holding your breath, for hours at a time.

#### Riding offers a holistic approach to fitness

The best attributes of all sports can be gained on the back of a horse: strength, balance, coordination, flexibility (ever try to get on a horse from the ground?), mental toughness, endurance, cardiovascular fitness, a clear mind, and trust. Riding requires an unbelievable amount of core strength, coupled with a high level of cardiovascular endurance. It has also been shown to increase both static and dynamic balance.

Studies have shown that healthy adults and older adults, who are not experienced riders, see an improvement in balance, coordination, and strength after participating in riding programs. These improvements can decrease the risk of falls, which we know can be serious for older adults.

But the research shows that the benefits of equestrian activities extend into mental health, too. Hippotherapy is the use of horses to help enhance neuromotor, sensory, and cognitive outcomes in rehabilitation settings. Children with cerebral palsy, adults recovering from stroke, patients with psychiatric disabilities, and veterans with post-traumatic stress disorder (PTSD) all experience decreased stress and anxiety, improved balance and strength, and report improved quality of life through hippotherapy.

Studies have also shown improvement in mood and concentration in adults and children with schizophrenia and attention deficit hyperactivity disorder, or ADHD.

These benefits align with what I feel on a horse, too. I get so much more out of riding for an hour than I do at the gym, both physically and mentally. I leave the barn dripping in sweat, sore, exhausted, starving, and HAPPY. And I keep coming back for more, day in and day out, rain or shine.

#### Find the fitness that brings you joy

Horses, and the connection they provide, are magical. There just isn't another word for it. Sharon Ralls Lemon said, "The essential joy of being with horses is that it brings us in contact with the rare elements of grace, beauty, spirit, and fire." I feel this in my bones when I ride my horse. When I'm riding, I feel truly free and truly my own. I get lost in my thoughts while cleaning out a stall. The entire experience is meditative and joy-inducing, and I can't get enough.

As a result, I am stronger, happier, more patient, and WAY more fit than I was just 2 years ago. I have hay in my car, dirt under my nails, white horse hair stuck to my clothes, and mud on my boots. And I wouldn't have it any other way.

https://www.healthline.com/health/fitness/feel -good-fitness-riding-horses



Abbey Kelly, Morrow County 4-H Alumni

# Possible Resources Available for Purchase at OSU Extension Morrow County:

- · Beginning Horse Management
- · Light Horse Selection
- Horse Training: How to Talk To Your Horse
- Learning To Jump
- · Draft Horse
- · Small Equine
- Standardbred Horses
- Equine Reproduction & Genetics
- Trail Riding
- Dressage
- Horse Nutrition

# Pressur canner testing

Does your pressure canner need tested? Schedule an appointment with OSU Extension today to keep your household safe!

It's just about time to fetch canners out of the basement or garage. Fresh summer produce is on its way. When was the last time your dial gauge pressure canner was tested for accuracy? If it's been more than one year, it's time for a re-check. Register for an appointment at the link below or call for assistance.

Home canning is a relatively simple process, but many variables can affect your finished product. There are so many resources with unsafe information that it is important to make sure you are following the most recent safe home canning guidelines.

One guideline for home canning foods safely is using a pressure canner to process low-acid foods, such as vegetables, meat, poultry, and fish. These low-acid foods must be pressure canned at the recommended time and temperature to destroy Clostridium botulinum, the bacterium that causes botulism food poisoning. Home canning low-acid foods in boiling water canners is absolutely unsafe because 212 degrees F is not high enough to destroy botulinum bacteria.

With good reason, most people have a healthy regard for the possible dangers of pressure canners. Usually, this respect is based on an old story of a pressure canner "blowing up" in someone's grandmother's kitchen. Regardless, it is important to realize that pressure canners are safe if the safety precautions are followed, and the canner is used properly. Dangers arise when the unit isn't maintained and/or used properly. To make sure your pressure canner is working properly, all dial-gauge pressure canners should be tested for accuracy each year.

During each 30-minute appointment, the dialgauge will be tested against a calibrated Master gauge for accuracy. I will also do a safety check on the canner. Educational materials will be available, and I will be happy to answer your food preservation questions. Remember, home food preservation can be safe, simple and easy to learn!

- \$5 fee per canner lid for non-residents of Morrow County
- No fee per canner lid for residents of Morrow County (levy funds)

Dates and times are provided for April, May, June, and July - select appointment times at this link: https://go.osu.edu/cannertestingmorrow 2022 or call our office at 419-947-1070 to register for an appointment.



## FAMILY & CONSUMER SCIENCES



# "Surprise" Medical Bills Healthy Options for

By Barb Wollan, Family Finance Program Specialist, Iowa State University Extension and Outreach

I have been hearing over the past several months about a new law that reduces the likelihood that we consumers would get medical bills saying we owed more than our normal co-payment or deductible because a health provider was not part of our insurance plan's network. The law is called the "No Surprises Act." It went into effect January 1 (2022), but I haven't had a chance to study it like I would wish.

This morning's issue of Kaiser Health News (which is a highly-reputable source of information on health policy and the health industry) linked to a podcast where the No Surprises Act was discussed. It's an 18-minute listen — I scanned the transcript, and pulled out a few key points. Please note that I am not including everything — just some highlights. I'd encourage you to check it out yourself to get the full story.

The No Surprises Act is good news — it is designed to protect us from the extra costs we might incur when an out-of-network provider gets involved in our care, even though our initial contact for care was with an in-network provider. Examples? It could be that our doctor sends our blood samples to an out-of-network lab for testing, or the anesthesiologist our hospital brings in to assist is an out-of-network provider — situations like that.

Of course, nothing is perfect, including this law. There are still things we need to know in order to protect ourselves.

1. The No Surprises Bill applies mostly\* to hospital care. If you are getting care at a clinic or doctor's office, you are likely not protected from surprise out-of-network bills. That means you

still need to ASI

\*Why did I say mostly? Because there are some urgent care clinics that might be covered, but it is hard to find out. So it's safer to assume a clinic is not covered.

- 2. The law does NOT cover ground ambulance trips, so we may still get big bills for those. (Happily, it does cover air ambulance rides).
- 3. When asking if a provider is in network, the correct question is: "Are you in-network for my insurance plan?" And be sure they know the detailed name of your plan. Note: the WRONG question to ask is "do you take my insurance?" They might accept your insurance, but still be out of network.
- 4. Be cautious if a hospital asks you to sign a "Surprise Billing Protection Form." The name makes it sound helpful, but you need to read the details. This form is used if the hospital is bringing in a provider who is not in your network. By giving you the form, they are disclosing the out-of-network provider, giving you an estimate of the extra cost you'll incur, AND telling you the names of in-network providers you could use instead. If you sign the form, you are agreeing to pay the extra charge for an out-of-network provider.

This is a starting point for understanding your rights under the new law. Since it is new, everyone (including providers and insurance companies) will need to be learning new processes and rules. The law creates a hotline for reporting or appealing violations: 800-985-3059. The staff on this line will also be learning, but it's still wise to report and appeal. Just recognize it may not be a fast or easy process to resolve disputes.

https://blogs.extension.iastate.edu/moneytips/

## Closer to Zero: Partnership to Protect Our Food

Posted by Dr. Pamela Starke-Reed, Deputy Administrator, Agricultural Research Service and Dr. Melanie Abley, Senior Advisor, Office of the Chief Scientist in Research and Science

USDA is collaborating with the Food and Drug Administration (FDA) on the Closer to Zero (C2Z) initiative. C2Z provides a crucial framework for the work that must be done to reduce heavy metal content in foods, but particularly in foods consumed by infants and children, our most vulnerable group. USDA has a wealth of expertise to support FDA in solving this challenge that impacts all Americans.

The Agricultural Research Service studies every facet of how plants uptake heavy metals from the soil so that we can find ways to mitigate heavy metals in foods to the greatest extent possible. The National Institute for Food and Agriculture's vast partner and stakeholder network plans to collaborate in developing and sharing targeted communications on how women who are pregnant and/or lactating, infants, and young children can reduce their exposure to toxic elements in foods.

Its investments in agricultural research, edu-

cation, and extension will help develop data-driven approaches to reduce toxic elements in the food production system. The Food Safety and Inspection Service will provide essential oversight for assessing metal contamination in foods. FSIS serves as a critical link in notifying appropriate USDA and FDA offices if elevated levels of a concerning substance are detected in food.

As part of their overall mission, the Food and Nutrition Service (FNS) encourages consumers to follow a healthy dietary pattern, which is important at every stage of life. The benefits of a balanced diet can help minimize adverse effects of consuming excess of any one food.

FNS continues to coordinate with its FDA partners to ensure that USDA nutrition assistance program policies, guidance, and education are informed by current food safety regulations and guidance. As USDA continues its focus on ensuring all

Americans have access to nutritious and safe foods, Closer to Zero efforts bring us closer to that goal

https://www.usda.gov/media/blog/2022/01/21/closer-zero-partnership-protect-ourfood

# Healthy Options for your Charcuterie Board

By Shannon Smith, RD, CDCES, Program Coordinator, OSU Extension, Wood County

Charcuterie boards have recently become one of my favorite ways to create a meal. I have created a charcuterie board for various meals and snacks. According to Eat Cured Meat, the modern definition of a charcuterie board is, "a selection of food that offers contrasts, various textures and different colors. Consumed in a group, the focus of the charcuterie board is food that is easy to eat, finger food is the goal." In other words, it's simply a mixture of numerous foods, all artfully arranged on a serving board. They are fun, easy to assemble, and can be filled with all sorts of delicious and nutritious foods!

When I assemble my charcuterie board, my goal is to make it colorful and nutritious. Portion sizes are often smaller but include a variety to choose from. One of my favorites is a portable "breakfast charcuterie board." The great thing about preparing it ahead of time is it's already assembled and ready to grab from the refrigerator before work. In the picture, you'll see I have included an egg bite with veggies, 2 whole wheat mini pancakes, vanilla Greek Yogurt, and berries. I also put any sauces or additional add-ons in souffle containers with lids to keep them separated. I have also included all 5 food groups from MyPlate! I prepare my portable board the night before so I can quickly grab it before heading to work

Another favorite I like to make is a snack charcuterie board. You can customize it based on how many you're serving, what you have on hand, what's on sale, and personal preference. This snack charcuterie board includes a variety of foods that support good brain and heart health. The board includes the following foods:

- Veggies paired with hummus: I used cucumbers, carrots, and celery. Peppers and cherry tomatoes would add even more color. Hummus can also be replaced with a spinach artichoke dip or other dip of choice.
- Black olives have plenty of healthy fats in them that support your heart and brain health. I recommend rinsing under water prior to serving to reduce the salt



- Berries are quick an easy finger food that are loaded with fiber, antioxidants, and other important nutrients. You can also add grapes into the mix!
- Trail mix made with dark chocolate, mixed nuts, and whole grain cereal. Dark chocolate contains Flavanols that have anti-inflammatory and antioxidant effects. This is satisfying treat full of protein.
- Pistachios research suggests consuming about one palmful or ½ cup of nuts at least five times per week for optimal health. Pistachios, as well as trail mix can also help you meet this recommendation.
- Tuna salad is great to use as a spread on a whole grain cracker. According to the 2020-2025 Dietary Guidelines for Americans, 90% of American's don't meet the seafood recommendation. This is a great way to boost your seafood intake
- Yogurt topped with granola yogurt provides calcium and protein and can be topped with granola!
- Turkey and cheese are nice to roll up and add to the board. Instead of rolling the cheese, another option is to use various sliced cheeses to your board.

Next time you are hosting a gathering, try creating a snack charcuterie board for your guests. Also, challenge yourself to create portable charcuterie board for one of your meals. Breakfast ones are great to make ahead since we are often short on time in the morning. It's a fun way to plan ahead, while incorporating MyPlate into your meal planning.



## OSU EXTENSION CALENDAR OF EVENTS

## **MARCH 2022**

- 6-12 Ohio 4-H Week
  - 7 ServSafe Food Protection Manager Certification Program, 9-3 p.m., Ag Credit Building Conference Room
  - 7 Jr. Fairboard Meeting, 7 p.m. Fairgrounds
- 10-13 National 4-H Youth AgriScience Summit, Washington, D.C.
  - 12 Ohio 4-H Conference Greater Columbus Convention Center
  - 15 Cake Decorating 101 Registration Due
  - 15 BQA Re-Certification & Certification, 6:30 p.m., Ag Credit Building Conference Room
  - 17 Seeds To Start Early Program, 10:30 a.m., Selover Library in Chesterville
  - 4-H Horse & Pony Committee, 7:30 p.m., Ag Credit Building Conference Room
- 17-20 Ohio Beef Expo, Ohio Expo Center, Columbus
  - 19 Cake Decorating 101, Ag Credit Building Conference Room, 10 a.m. or 1 p.m.
  - 22 4-H CARTEENS, Ag Credit Building Conference Room, 6:30 p.m.
  - 23 Pesticide/Fertilizer Recertification, 5:30-9:30 p.m., Ag Credit Building Conference Room
  - 24 Sr. Fairboard Meeting, 7:30 p.m., Fairgrounds
  - 30 Seed Starting Class, 2 p.m., Perry Cook Memorial Library, Johnsville
  - 31 Seed Starting Class, 6 p.m., Ag Credit Building Conference Room

## **APRIL 2022**

- 1 Career Exploration Workshop Construction Trades **Registration Due**
- 1-3 Showstick Wars, Morrow County Fairgrounds, Check out facebook or contact Kyndall 419-571-6623
- 4 Jr. Fair Board, 7 pm, Fairgrounds
- 4 County Quality Assurance Test-out, see article
- 5 Opening Up Your Garden Class, 6 p.m., Headwaters Education Center

- 6 Morrow County Cattlemen's Meeting, 6:30 pm, Ag Credit 2nd Floor Conference Room
- 8 Career Exploration Workshop Nursing Registration Due
- 9 Career Exploration Workshop Construction Trades, Tri-Rivers Career Center, 9 a.m.-2:30 p.m.
- 12 Growing Your Own Food Class, 6 p.m., Headwaters Education Center
- 12 New 4-H Volunteer Training, 6:30 pm, RSVP Required
- 14 Career Exploration Workshop Nursing, Marion Technical College, 9 a.m.-3 p.m.
- 21 Horse and Pony Committee, 7:30 pm, Ag Credit Building Conference
- 21 Container Gardening Class, 10:30 a.m., Selover Library, Chesterville
- First & Second Year Members QA (Parent Required), 6:15 p.m., Fairgrounds, RSVP Required
- 27 Companion Planting Class, 2 p.m., Perry Cook Memorial Library, Johnsville
- 28 Sr. Fairboard, 7:30 p.m., Fairgrounds
- 30 4-H Project Enrollments Due!!!!! Join 4-H!

## **MAY 2022**

- 2 Plant Swap Class, 6:30 p.m., Selover Library, Chesterville
- 2 Jr. Fair Board, 7 p.m., Fairgrounds
- 2 Youth Photography Workshop Registration Due
- 4 Morrow County Cattlemen, 6:30 p.m., Ag Credit Building Conference Room
- 7 Youth Photography Workshop, Ag Credit Building Conference Room, 10-1:30 p.m.
- 9 Quality Assurance, 6:15 p.m., Fairgrounds
- Hanging Basket Make & Take Class, 6 p.m., Headwaters Education Center
- 12 Plant Swap, 6:30 p.m., Selover Library, Marengo
- 17 Quality Assurance, 6:15 p.m., Fairgrounds
- Horse and Pony Committee, 7:30 pm, Ag Credit Building Conference Room
- 23 Quality Assurance, 6:15 p.m., Fairgrounds

- 24 4-H CARTEENS, Ag Credit Building Conference Room, 6:30 p.m.
- 25 Creating a Pollinator Garden with Native Perennials Class, 2 p.m., Perry Cook Memorial Library, Johnsville
- 30 Happy Memorial Day Office Closed

## **JUNE 2022**

- 1 Morrow County Cattlemen, 6:30 p.m., Ag Credit Conference Room
- 6 Jr. Fairboard, 7 p.m., Fairgrounds
- 7 Jr. Fair Entries Due
- 17 Illustrated Talks & Public Speaking Contests Registration Due
- 20 Early Project Judging
- 20 Ohio State Fair Entries Due
- 21 Illustrated Talks & Public Speaking Contests, Ag Credit Building Conference Room, 6 p.m.
- 22 Common Garden Insects Class, 2;00 p.m., Perry Cook Memorial Library, Johnsville
- 28 How To Enter Flowers in the Fair Class, 6 p.m., Headwaters Education Center
- 29-July 1 S.T.E.M. Camp, Ag Credit Building Conference Room, Times TBD

## **JULY 2022**

- 6 Morrow County Cattlemen, 6:30 p.m., Ag Credit Building Conference Room
- 21 Herb Garden Make & Take, 6 p.m., Bunkers Mill Winery, Cardington
- 23 Cloverbud Fun Day, Ag Credit Building Conference Room, 9 a.m.
- 26 4-H CARTEENS, Ag Credit Building Conference Room, 6:30 p.m.
- 27 Common Garden Diseases Class, 2 p.m., Perry Cook Memorial Library, Johnsville

CFAES provides research and related educational programs to clientele on a nondiscriminary basis. For more information: http://go.osu.edu/cfaesdiversity.

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