

**COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES****August 18 Issue (Edition #108)**

Sponsorship for Fall Foliage & Farm Tour Sought  
Farm Science Review Tickets Now on Sale  
It's Time to Clean Your Grain Bins  
Remember Soybean Aphids?  
Agronomy Field Day at Durbin Farms  
USDA Forecasts US Corn and Soybean Production  
Confined Spaces: The Invisible Farm Hazard  
Employee vs Independent Contractor: When is an Ag Employer Responsible?  
Science Based Weaning Methods for Beef Calves  
Grazing and Forage Field Day in Licking & Knox County on August 28  
That Time of Year Again  
BQA Re-certification Sessions Planned

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Hello Coshocton County! The rain over the past week has been a welcomed sight. There is really great yield potential out in our area corn and soybean fields. So now, we look for sunny skies and ideal temperatures to finish the crop!

This past weekend, two great agriculturally related events were held at Porteus Farms. Congratulations to the Coshocton County Farm Bureau for their very successful Dinner on the Farm on Friday evening. Then on Sunday afternoon, the Cultivating a Cure event for cancer research was also held at Porteus Farm. Thanks to all who are fighting for a cure and a special thank you to the entire Porteus Family for being true champions for the fight against cancer.

I know many are looking forward to a full Coshocton County fair from October 1<sup>st</sup> through the 7<sup>th</sup> and then on the weekend of October 16-17 we will see the return of the Coshocton County Fall Foliage and Farm Tour. I hope your business considers becoming a sponsor for our 50<sup>th</sup> tour map (see sponsorship details in the newsletter).

Sincerely,

*David L. Marrison*

Coshocton County OSU Extension ANR Educator



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AND ENVIRONMENTAL SCIENCES

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## ***Sponsorship for Fall Foliage & Farm Tour Sought***

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

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

Approximately 27% of participants were from outside Coshocton County.



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

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

## ***Farm Science Review Tickets Now on Sale***

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

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

## ***It's Time to Clean Your Grain Bins***

By: Curtis Young

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2021-27/it%E2%80%99s-time-clean-your-grain-bins-and-everywhere-else-around-your>

Late spring, summer and early fall are the times of the year that insects are most active, flying and walking around to disperse to new locations near and far, reproducing, building in populations and infesting new food resources. The stored grain infesting insects take advantage of these times of the year as well. With only a few exceptions, most of the store grain infesting insects can fly in the adult stage to move from location to location. If they find a food resource when they arrive at a new location, they can infest that food resource and begin building in population through the rest of the growing season. These food resources can include, but are not



limited to stored grain still in grain bins from last year that has not been moved off the farm yet, empty grain bins with remnants of the last crop still in the bin, spilled grain, grain stuck in pits, augers, grain wagons, trucks and combines, wasted livestock feed, leftover seed that did not get planted this year, and grain stuck in empty feed and seed bags.

As individuals finish moving last year's and possibly older crops out of their on-farm storage, they may be surprised to find some serious insect infestations in their grain. It is preferred not to find any type of insect in our stored grain, but some are more significant than others. Many insects that are associated with stored grain are there to feed on broken grains, grain dust and molds that grow on these materials. These insects are classified as secondary pests of stored grains. Of much greater concern are those insects classified as primary pests of stored grains. These are the insects that attack sound grain (uncracked, unbroken, non-moldy grains) and make them unsound by boring into the grains. These primary insects are the grain weevils (snout beetles) and grain borers. Not only do they directly damage the grain, they are also very difficult to control.

With these facts in mind, now is the time to start prepping your grain bins for the harvest to come. If the grain bins are already empty, they need to be thoroughly cleaned on the inside and outside. The walls and the floors need to be swept clean. It would be best to use a shop vacuum to reach and remove all grain remnants that are tucked into cracks and crevices as well as the central feed out auger. Be sure to clean off ledges above hatch doors and if there is a ladder on the interior of the bin, be sure that hollow rungs are cleaned out. While working in the bin, look for holes and cracks to the outside are detected and fixed.

On the outside of the bins, clean up any spilled grain, remove or mow weeds from around the base of the bin, and if there is an aeration fan, check the plenum for any accumulation of grain and remove it.



Other areas that should be cleaned to remove any accumulations of grain include augers, grain pits, grain elevator belts, grain driers, grain carts and truck beds, and combines and combine heads. Grain accumulations in any of these pieces of equipment could have been infested during the summer months. The rule of thumb is, if you can look into any of these pieces of grain handling equipment and be able to tell what the last grain crop that was run through it, it is not clean enough.

If a bin has had a known insect problem in the recent past where a residual population of the insect(s) could be hidden under the perforated aeration floor, fumigation might be the only option to destroy these hidden insects. The most likely product to be used for this purpose is aluminum phosphide (phosphine gas) which is sold under a number of different trade names such as Phostoxin, Fumitoxin and Weevil-Cide. When determining the proper dosage for treating the empty bin, one has to remember that the dosage is based on the total volume of the area into which the fumigant is being released.

There are several precautions to be addressed when using aluminum phosphide as a fumigant:

1. The phosphine gas released by aluminum phosphide is only slightly heavier than air and will sink through a perforated aeration floor into the void below, however any air flow that is allowed to pass through the grain bin will easily carry off the phosphine gas from the intended target area. Thus, to accomplish a successful fumigation of the volume of the targeted area within the bin, the area must be completely sealed! If one is not willing to put forth the effort to properly seal the structure, don't use this product!
2. The entire empty bin does not need to be fumigated if the true target is below the perforated aeration floor. Plastic sheeting sealed around the walls can be used to restrict the gas below the floor.
3. Phosphine gas is a highly toxic compound and must be handled with care following all safety requirements listed on the label and in the applicator's manual. Phosphine gas is a colorless, odorless

compound. For safety purposes, the manufacturer of aluminum phosphide includes an indicator compound to warn persons of the potential presence of phosphine gas. The indicator compound is described as smelling like, garlic, fish or carbide. If a person smells this indicator compound, they should leave the area immediately. Unfortunately, a person's sense of smell will become accustomed to the odor very quickly and be undetectable. Thus, absence of the odor does not mean safety.

4. The aluminum phosphide label and applicator's manual have gone through major revisions recently. Thus, one must read both very closely to use this product correctly.
5. Once the fumigant is aerated out of the bin, there is no residual protection. Another insecticide would need to be applied to extend protection against re-infestation.

There are very few products left registered for use around and on stored grains. Thus, the list is short. For corn and popcorn bins, products registered for interior surfaces of empty storage bins include:

- Tempo SC Ultra (active ingredient (a.i.) is cyfluthrin) used as a liquid spray
- Centynal (a.i. is deltamethrin) used as a liquid spray
- Pyronyl (a.i. is pyrethrin) used as a liquid spray
- Diacon-D IGR (a.i. is s-methoprene) used as a dust application
- Insecto (a.i. is diatomaceous earth) used as a dust application

For soybean bins, products registered for interior surfaces of empty storage bins include:

- Tempo SC Ultra (a.i. is cyfluthrin) used as a liquid spray
- Diacon-D IGR (a.i. is s-methoprene) used as a dust application
- Insecto (a.i. is diatomaceous earth) used as a dust application

Before using any product to treat grain bins, always read the most current label for the product to assure that the product is used correctly. This is for the protection of the grain to be stored in the bin as well as for the protection of the applicator of the product. Labels for products are subject to change from one year to the next, product registrations can be changed and/or canceled and rates may be changed. Errors made because of not reading the most current label could result in injury to the applicator or contamination of the grain with a non-labeled product making it unsalable.

## **Remember Soybean Aphids**

By: Andy Michel & Kelley Tilmon

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2021-27/remember-soybean-aphids-they-might-be-your-fields>

Soybean aphids have always been around Ohio, but it has been a while since we have had many fields with high populations. Based on recent scouting, we have noticed increasing populations of soybean aphids. As we go into the critical growth stage of soybean, this is also the most important time to check your fields for soybean aphids and see if you have exceeded the threshold of an increasing population of 250 aphids per plant.

To scout for soybean aphid, walk at least 100 ft from the field edge and count the number of aphids from 5 plants in 10 different locations. If your average is greater than 250 per plant, you'll need to come back and re-scout 3-4 days later. If the aphid population increased in that time, an insecticide application is recommended. Keep in mind that to accurately determine the threshold, scouting should be performed at least weekly and multiple times a week if aphids are active in fields.

Soybean aphids can cause yield loss up to the late R5 to early R6 growth stage. If an application is necessary, there are several effective insecticides available. Although some



soybean aphid populations in the western corn belt are resistant to pyrethroids, we have not seen any evidence of this in Ohio. If you make a pyrethroid application and suspect resistance, contact us ([michel.70@osu.edu](mailto:michel.70@osu.edu), [tilmon.1@osu.edu](mailto:tilmon.1@osu.edu)) or your local extension educator.

## ***Agronomy Field Day at Durbin Farms***

By Chris Zoller, Extension Educator

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2021-25/agronomy-update-scheduled>

The Tuscarawas County office of Ohio State University Extension will sponsor an Agronomy Update on Thursday, August 26, 1pm to 4pm at Durbin Farms. The farm is located at 4227 Durbin Road SE, New Philadelphia, Ohio 44663.

Many agricultural products continue to be in short supply, and this shortage may continue. What will these supply shortages mean for harvest? Will the shortages continue into planting season next year? Dr. John Fulton, OSU Food, Agricultural, and Biological Engineering, will discuss the situation and provide management recommendations.

Carbon sequestration, carbon credits, and carbon markets are popular terms right now. Nearly every farm publication has an article about the role agriculture can have in this arena. There are many factors to consider prior to entering into a carbon market agreement. Mike Estadt, OSU Extension Educator, ANR, has studied this topic and will address factors farmers must consider.

The program will wrap up with a discussion of agronomy and farm management resources available from Ohio State University Extension and a presentation by Matt and Luke Durbin discussing lessons they learned from building a farm shop.

The agenda includes:

- Parts and Equipment Shortages are Real – Be Prepared: Thoughts on 2021 Harvest & 2022 Planting
  - Dr. John Fulton, OSU Food, Agriculture, and Biological Engineering
- Are You Ready for Carbon Markets?
  - Mike Estadt, OSU Extension Educator, ANR, Pickaway County
- OSU Extension Agronomy & Farm Management Resources
  - Chris Zoller, OSU Extension Educator, ANR, Tuscarawas County
- Lessons Learned from Building a Farm Shop
  - Matt & Luke Durbin, Durbin Farms

There is no fee to attend, but pre-registration is requested no later than August 24. To register, please email [zoller.1@osu.edu](mailto:zoller.1@osu.edu) or call 330-339-2337.

## ***USDA Forecasts US Corn and Soybean Production***

The Crop Production report issued on August 12 by USDA's National Agricultural Statistics Service (NASS) forecasted soybean and corn production up from 2020. Soybean production is up 5% from last year, forecast at 4.34 billion bushels; corn growers are expected to increase their production 4% from 2020, forecast at 14.8 billion bushels.

Average corn yield is forecast at 174.6 bushels per acre, up 2.6 bushels from last year. NASS forecasts record-high yields in California, Illinois, Indiana, Michigan, New York, Ohio, Oklahoma, and Pennsylvania. Acres planted to corn, at 92.7 million, are up 2% from 2020. As of Aug. 1, 62% of this year's corn crop was reported in good or excellent condition, 10 percentage points above the same time last year.

Area for soybean harvest is forecast at 86.7 million acres with planted area for the nation estimated at 87.6 million acres, up 5% from last year. Soybean yields are expected to average 50.0 bushels per acre, down 0.2 bushel from 2020. If realized, the forecasted yields in Illinois, Indiana, Maryland, Mississippi, Missouri, New

York, Ohio, Pennsylvania, and Texas will be record highs.

Wheat production is forecast at 1.70 billion bushels, down 7% from 2020. Growers are expected to produce 1.32 billion bushels of winter wheat this year, down 3% from the previous forecast but up 13% from last year. Durum wheat production is forecast at 34.7 million bushels, down 50% from 2020. All other spring wheat production is forecast at 343 million bushels, down 41% from last year. Based on Aug. 1 conditions, the U.S. all wheat yield is forecast at 44.5 bushels per acre, down 5.2 bushels from 2020.

Today's report also included the first production forecast for U.S. cotton. NASS forecasts all cotton production at 17.3 million 480-pound bales, up 18% from last year. Yield is expected to average 800 pounds per harvested acre, down 47 pounds from 2020.

NASS interviewed approximately 18,600 producers across the country in preparation for this report. NASS is now gearing up to conduct its September Agricultural Survey, which will collect final acreage, yield, and production information for wheat, barley, oats, and rye as well as grains and oilseeds stored on farms across the country. That survey will take place during the first two weeks of September.

The Crop Production report is published monthly and is available online at [nass.usda.gov/Publications](https://nass.usda.gov/Publications).

### ***Confined Spaces: The Invisible Farm Hazard***

By Haley Zynda and Dee Jepsen

Farm and Dairy - Dairy Excel Article for August 19, 2021

As we continue to process the tragedy that occurred in Western Ohio last week, my heart and prayers continues to go out to the affected family. Confined spaces on farms are hazards, and difficult ones to recognize at that, because of the normalcy of their presence on both grain and livestock operations. Confined spaces are defined as an area that is large enough for a person to enter and perform work but has limited or restricted means for entry or exit. These spaces have unfavorable ventilation and often contain or produce dangerous air contaminants. Examples include upright silos, manure pits and grain bins.

There are four primary dangers for working in confined spaces, the major risk being chemicals and gases that displace or consume oxygen, causing breathing difficulty for the worker. Another danger is the presence of toxins that can damage the respiratory and nervous systems and even cause death. Fires and explosions typically caused by the presence of methane, physical dangers from moving parts and equipment, or falls from or within the structure are the final three dangers of working in confined spaces. Each confined space has its own specific dangers as well. For example, hazards specific to manure pits include hydrogen sulfide gas, oxygen displacement by gases, and drowning. Meanwhile in silos, the specific hazard is displacement of oxygen by nitrogen dioxide gas. All other hazards of confined spaces can still occur in manure pits and silos.

Even with the danger that confined spaces pose, unfortunately, entering them is almost always imminent. The most frequent reason workers enter a confined space is to conduct repairs or maintenance. The second reason they may enter is to rescue another person entrapped or overcome by gases.

The gases in manure pits and silos pose a particularly difficult hazard because they are invisible. We as humans have a hard time responding to dangers we cannot see or touch. If you were to map the gases in a manure pit, you would see they appear in layers; they stratify based on weight compared to atmospheric air. Heavier gases sink to the bottom, while those lighter than atmospheric air will be found at the top. Hydrogen sulfide, carbon dioxide, carbon monoxide, and methane are all gases found in manure pits. Going back to our air map, we would see hydrogen sulfide near the bottom, carbon dioxide between the hydrogen sulfide and air, carbon monoxide mixing with air because of their similar weights, and methane above atmospheric air.

Of the manure pit gases, hydrogen sulfide and carbon monoxide are the only truly toxic gases, whereas carbon dioxide and methane have displaced and used oxygen for their formation, depriving the "air" in a manure pit of oxygen for respiratory use. However, all have maximum concentration thresholds that can be found in the



accompanying table.

Silo Gases, although different in chemical makeup, still pose the same invisible threat. Nitrogen dioxide gas causes respiratory distress and can cause death within minutes if present in great enough concentration. It is also heavier than air, so will settle near the silage surface.

Confined spaces are a necessity on grain farms and livestock operations. Maintenance of these spaces is also a necessity. The last necessity we also need to remember when working in confined spaces is the safety of ourselves, our families, and our workers. Talking and educating the members associated with the farm can be the first step in preventing confined space emergencies. Stay safe, and prayers to Mercer County, Ohio.

#### Hazardous Gases and Concentration Thresholds\*

Gas	Weight	Human Health Threshold
Methane	Lighter than air	Death at 500,000 PPM
Carbon Monoxide	Similar to air	50 PPM
Carbon Dioxide	Heavier than air	1,500 PPM
Hydrogen Sulfide	Heavier than air	5 PPM
Nitrogen Dioxide	Heavier than air	5 PPM

\*Created from Ohio State University Factsheet AEX-591.9.3 and Michigan State University Factsheet "Beware of Manure Pit Hazards."

### ***Employee vs Independent Contractor: When is an Ag Employer Responsible?***

By: Jeffrey K. Lewis, Friday, August 13th, 2021

Source: <https://farmoffice.osu.edu/blog/fri-08132021-1013am/employee-v-independent-contractor-when-ag-employer-responsible>

Agricultural workers are usually categorized in two ways. They are either an "employee" or an "independent contractor." Depending on how an agricultural worker is labeled determines the duties and liabilities of the agricultural employer.

Generally speaking, if an ag employer has the right to control the work of an ag worker, then the ag worker is probably an employee. This means that the ag employer must abide by a whole host of federal and state laws that relate to labor and employment and can be found liable for any damages caused by their employees under the doctrine of vicarious liability. Vicarious liability is a legal doctrine that may hold an employer responsible for the actions of an employee -- so long as the employee was acting in the ordinary course of business. A good example of the vicarious liability doctrine in action is when a court decides to hold a farmer and/or farm business responsible for any spray drift damages resulting from an employee's application of herbicide. On the other hand, ag employers that use independent contractors are usually not liable for any damages that result from the actions of an independent contractor. This obviously makes the use of independent contractors very appealing but comes at a higher cost than using an employee to do the work.

Simple enough right? Be careful with employees and spray drift or use independent contractors and be worry free. Not really. Although a big concern for ag employers are the liability issues that stem from employees' actions, having employees requires ag employers to fulfill multiple obligations under state and federal labor and employment laws, obligations that otherwise would not exist if an ag employer used an independent contractor to complete the work. Those obligations can include wages, overtime pay, hour restrictions, migrant and seasonal worker protections, tax concerns, and others. So, you see, labeling a worker as an employee or independent contractor goes far beyond just preventing a lawsuit against the ag employer.

Ag employers often think they are using independent contractors to complete work around the farm. But innocently, the ag employer may actually be using an employee to complete work around the farm and is probably violating federal and state law and exposing itself to fines and lawsuits. An ag employer must be careful when determining who is an employee and who is an independent contractor when looking for help on the farm. Below is a brief summary of Ohio and federal law that determine when an ag worker is an employee

and when an ag worker is an independent contractor.

How do I determine who is an employee and who is an independent contractor?

The simple answer to that is, it depends. Different tests are used at the federal level and in Ohio. However, one thing that all these tests have in common is the ag employer's right to control the work being done. This means that if an ag employer can direct, monitor, correct, or otherwise control how the work is being done, then the ag worker is likely an employee. Even if an ag employer never exerts or directly controls how the work is being done, courts only care that the ag employer has or had the ability to do so.

What are the tests to determine if a worker is an employee or independent contractor?

The Economic Realities Test. The Fair Labor Standards Act ("FLSA") is the federal law that governs minimum wage, overtime pay, recordkeeping, and youth employment standards. "Employee" is defined very broadly under the FLSA and more often than not, a worker is found to be an employee rather than an independent contractor. To help determine who is an employee and who is an independent contractor, the FLSA uses an Economic Realities Test. The Economic Realities Test looks at the reality of the economic relationship between the parties and if a worker is more reliant on the employer for economic gain and security, then the worker is more likely an employee. Factors under this test include:

1. The degree of control that an employer can exert over the worker and the work being performed.
2. Whether the work being performed is an integral part of the employer's business.
3. The permanency of the relationship.
4. The amount of the worker's investment in facilities and equipment.
5. The worker's opportunities for profit and loss.
6. The amount of initiative, judgment, foresight, and skill required for the worker's success.

The Internal Revenue Service ("IRS") Standard. The IRS has a separate test to help taxpayers determine whether an individual should be considered an employee or independent contractor for tax purposes. The IRS analyzes three areas – behavioral control, financial control, and the relationship of the parties.

1. Behavioral Control – a worker is an employee when the business has the right to direct and control the work performed. Factors include: (a) the type of instructions given; (b) degree of instruction given; (c) evaluation of work done; and (d) training.
2. Financial Control – If a business has the right to direct or control the financial and business aspects of the worker's job, then the worker is likely in employee. A major factor is how the worker is paid. Employees are guaranteed regular pay whereas independent contractors are paid by the job.
3. Relationship of parties – the IRS takes into consideration what the parties think their relationship is. The IRS will look at written contracts, whether any benefits are offered, the length and permanency of the relationship, and whether the worker is performing work that is an integral part of the business of the employer.
- 4.

Ohio's standard. Ohio uses two separate, yet very similar tests to determine employee or independent contractor status. For wage and hour purposes, Ohio uses the Economic Realities Test that is used by the FLSA.

However, for workers' compensation, unemployment insurance, and Ohio's vicarious liability law, Ohio uses a "right to control" test. Under Ohio's "right to control" test courts consider the following factors:

1. Whether the worker is engaged in a distinct occupation or business;
2. Whether the worker or the employer supplies the place and tools to complete the work;
3. Whether the work is done by a specialist requiring a particular skill;
4. How the worker is paid;
5. The length of time a worker is employed;
6. Whether the work performed is part of the regular business of the employer;
7. Whether the employer controls the details and quality of the work to be performed; and
8. The terms of any agreements or contracts between the parties.



### Why is determining who is an employee and independent contractor important?

First and foremost, determining who is and is not an employee defines an ag employer's obligations under the law. If an ag employer has employees, then the ag employer must abide by federal and state wage, hour, antidiscrimination, unemployment insurance, workers compensation, and safety laws. Those same obligations do not arise when using an independent contractor.

Secondly, misclassifying a worker as an independent contractor when they are actually an employee can lead to severe legal fines and penalties. Some of the consequences for incorrectly classifying a worker could include:

- Lawsuits for unpaid wages;
- Fines for failing to comply with federal and Ohio antidiscrimination laws;
- Discrimination and wrongful termination claims;
- Lawsuits for the negligence or other civil wrongs of the worker; and
- Fines for failing to maintain Ohio Workers' Compensation Insurance and Unemployment Insurance.

Conclusion. Determining who is and isn't an employee defines an ag employer's legal obligations, so it is always important to ensure that whenever someone is doing work for you, you categorize them correctly. If you have any doubts, it's always best to air on the side of caution and treat a worker as an employee. If you should have any questions contact your attorney to help you determine what your legal obligations are as an employer, it can save you time, money, and stress.

To learn more about distinguishing between an employee and an independent contractor visit:

[U.S. Department of Labor Wage and Hour Division, Fact Sheet 13: Employment Relationship Under the Fair Labor Standards Act \(FLSA\)](#)

[U.S. Department of Labor Wage and Hour Division, Fair Labor Standards Act Advisor: Independent Contractors](#)

[U.S. Department of Labor Wage and Hour Division, Misclassification of Employees as Independent Contractors](#)

[U.S. Internal Revenue Service, Understanding Employee vs. Contractor Designation](#)

[Ohio Administrative Code § 4141-3-05, Definition of Employment](#)

### ***Science Based Weaning Methods for Beef Cattle***

By: Kirsten Nickles, Graduate Research Associate and Anthony J. Parker, Associate Chair and Associate Professor. Department of Animal Sciences, Ohio State University

Source: <https://u.osu.edu/beef/2021/08/18/science-based-weaning-methods-for-beef-calves/>

Weaning strategy should be designed to reduce stress in order to avoid BRD (photo credit:

[http://www.angusbeefbulletin.com/extra/2014/05may14/0514hn\\_sm-pneumonia.html#.YP7ekOhKiUk](http://www.angusbeefbulletin.com/extra/2014/05may14/0514hn_sm-pneumonia.html#.YP7ekOhKiUk))

Weaning is the start of an independent life for the beef calf. Though weaning can be a stressful time for the calf, beef cattle producers can minimize the stress at weaning by using science based weaning methods. A negative weaning experience can be a catalyst for disease and death in feeder calves, however, a positive weaning experience can help minimize disease and stress through the marketing system.

The most common weaning strategy in the U.S. beef industry is the abrupt removal of calves from their dams at approximately 180-220 days of age (Rasby, 2007). Abrupt weaning is not a good weaning method because it places a great deal of stress on the calf. The immediate cessation of milk in the diet of a calf and the complete maternal separation associated with abrupt weaning are often exacerbated by other stressors that have negative effects on the calf. An unfamiliar environment, a new diet, transportation, co-mingling with unfamiliar calves, and pain from husbandry practices such as castration while also being denied social contact and care by the cow will stress a calf. When calves undergo prolonged periods of stress they are predisposed to disease and a failure to thrive in later stages of the marketing chain. There is scientific evidence to indicate that multiple stressors at weaning is physically and psychologically stressful for calves and should be avoided.

There are several alternative weaning methods to choose from apart from abrupt weaning, including: fence-line, two-stage, and the use of a trainer cow. Fence-line weaning keeps the calf from nursing, but still allows for social contact between cows and calves through a fence-line. Calves are typically separated from the cows by a fence-line for anywhere from 3-7 days until the calf and cow adopt independent activities. To perform fence-line weaning, a good fence that will keep cows and calves separated is necessary. Calves will likely try to find a way back to their mothers and may attempt to go through the fence; the right fencing material is therefore important. Barbed wire is not ideal for this weaning method. High tensile wire, wood, or woven wire are better fencing materials for the fence-line weaning method and will help to keep cows and calves separate without putting calves at risk of injury and misadventure.



Fence-line Weaning (photo credit: <https://nwdistrict.ifas.ufl.edu/phag/2018/12/14/implementing-low-stress-fence-line-separation-for-calf-weaning/>)

Exploratory behavior is common in cattle, and calves will commonly pace the fence-line at weaning. Weaning calves into a familiar pasture is one way to help reduce their pacing and walking behaviors. Pasture size is another consideration when fence-line weaning to help reduce walking behaviors. While there has not been any research performed to evaluate an ideal pasture size, reducing the length of the fence line is preferable at weaning because this will decrease the area available for fence-line walking. Another option is to perform fence-line weaning in a dry lot. If calves are fence-line weaned in a dry lot, however, there can be some negative consequences. One negative consequence is that calves will walk the perimeter of the lot. A dry lot may cause dusty conditions that can further predispose a calf to bovine respiratory disease (Beef Cattle Research Council, 2019). Additionally, if calves are weaned in a dry lot, they must adjust to both a feed bunk and a new type of feedstuff. If calves are weaned on pasture, supplements can still be provided to ensure that they are meeting their nutritional requirements, but they are already accustomed to grazing forage. Weaning on pasture reduces the number of novel experiences that the calf will have to adjust to while being weaned from their mother, however, pastures rich in energy and protein and total digestible nutrients should be grazed to maximize nutrient intake during this stressful time.

Two-stage weaning utilizes anti-suckling nose-flaps that are placed in the nostrils of a calf and prevent nursing, while still allowing social contact with the cow. The nose flaps are usually left in the calf for 7-14 days and are then removed when the calf is completely separated from the cow. Two-stage weaning is a viable option, however, to insert the nose flaps you will need to process calves through the chute and then a second time when you are ready to remove the nose flaps. While it is not common, it is a possibility that some calves may lose their nose flaps. Nose flaps are approximately \$2.25/unit, and these can be disinfected and used again the following year. One important consideration similar to fence-line weaning is calf nutrition. If you are leaving calves on pasture, but they cannot nurse, they need to be on forage rich in digestibility and nutrients or be provided supplements to ensure that they are receiving the recommended amounts of nutrients.



Two-Stage Weaning (photo credit: <https://www.grainews.ca/cattlemans-corner/two-stage-weaning-reduces-calf-stress/>)

The use of a trainer cow at weaning is a method in which calves are abruptly weaned, but a mature, non-lactating cow is placed with the calves to help encourage calves to find the feed bunk and water faster, and to help decrease separation distress. Cattle are gregarious animals, therefore a further source of stress for calves at weaning is the disruption of their normal social hierarchy. In a cow-calf hierarchy, the brood cows are the dominant figures in which calves follow and model their behaviors. It has been proposed that using mature animals as “trainer animals” or “social facilitators” will have positive effects on performance, health, and behavior of feedlot calves (Loerch and Fluharty, 2000). The use of a trainer cow is a non-invasive, non-labor intensive management strategy that is a viable option for producers to implement. This method can easily be done in both pasture and feedlot settings, depending on availability of resources. This is also an ideal weaning method if a cull cow is used as the “trainer cow”, as it is an easy way to supplement the cull cow and add body condition before marketing this cow. There are, however, considerations that should be made prior to using a trainer cow as an alternative weaning method. If a cull cow or non-pregnant cow is used as the “trainer cow”, producers must control the cow’s estrus cycle in order to prevent her from displaying estrus as this can increase walking behaviors in calves, especially bull and steer calves. If weaning calves in a feedlot, or if supplementing calves and the trainer cow on pasture, producers must provide enough bunk space such that calves are not intimidated by the trainer cow at the bunk in the early stages of weaning. If insufficient bunk space is provided, the mature trainer cow may intimidate calves from coming up to the bunk and could negatively impact eating behaviors.

While weaning is inevitably stressful for calves, these alternative methods have been shown to minimize the amount of stress placed on calves during weaning. By using low stress handling techniques and decreasing the number of stressors simultaneously place on calves at weaning, you will be setting your calves up for success in the next phase of production.

### ***Grazing and Forage Field Day in Licking & Knox County on August 28***

By Dean Kreager, Licking County Extension

Extension in Licking and Knox Counties are teaming together with the Ohio Forage and Grasslands Council to provide a drive it yourself tour of two locations in Licking County and one in Knox County on August 28th. Our tour will begin at Lightning Ridge Farm in Granville where Bill O'Neill raises Longhorn cattle utilizing intensive grazing. With twelve divided lots and the capability to increase divisions into twenty-four paddocks, cattle are moved daily and have access to portable piped water. We will also discuss the value of hay quality preservation while touring a new hoop barn constructed for hay storage. The second stop in the tour will move six miles north to a field managed by Ned Campbell who has provided space to plant about twelve varieties of forages following wheat harvest. Attendees will be able to observe and discuss the value of these forages for grazing or harvesting. For the final stop, we will move further north into Knox county to learn about the use of Conservation Reserve Program (CRP) approved warm-season grass production. This field day will begin at 6817 Cat Run Rd. Granville, OH 43023 at 11:00 a.m. and conclude at 3:00 p.m.

There is a \$10 registration fee per person. Lunch is included with registration. A \$5 discount will be applied if the person registering is an OFGC Member or a resident of the host county. Payment will be collected at the field day. Please register within one week of the event you plan to attend by completing a quick [registration form here](https://osu.az1.qualtrics.com/jfe/form/SV_0jRpxTFYnCsHtd4) at [https://osu.az1.qualtrics.com/jfe/form/SV\\_0jRpxTFYnCsHtd4](https://osu.az1.qualtrics.com/jfe/form/SV_0jRpxTFYnCsHtd4)

Questions about the Summer Forage Field Day can be directed to Gary Wilson by calling 419-348-3500, Dean Kreager 740-618-6332, or Sabrina Schirtzinger 740-397-0401 .

## ***That Time of Year Again***

By: [Haley Zynda](#), OSU Extension Educator ANR, Wayne County

As the days get shorter and the nights cooler, many shepherds are thinking about the upcoming breeding season. That is, if they haven't already let their rams introduce themselves to the ladies. Breeding season is the exciting precursor and indicator of what kind of lamb crop you will have come spring. To ensure a successful lamb crop, there are a few things to consider and potentially remedy prior to letting the rams in with the ewes.

### Rams

Just as bulls have breeding soundness exams (BSE), rams can go through a similar process to identify which rams should or should not be used. The Merck Veterinary Manual published a list of characteristics that need to be evaluated, the first of which is a semen analysis using an electroejaculator. Sperm are examined for morphology (physical appearance) motility. Total motility is the percent of sperm making any sort of movement, whereas progressive motility is the percent of sperm progressing forward in their movement. Progressive motility is the measurement you need to be most interested in, because if the sperm are only swimming in tight circles and not forward, chances of egg fertilization are quite low. Semen with 70% progressive motility or greater is considered exceptional and 30% – 70% is considered satisfactory. Greater than 50% of sperm need to be morphologically normal to be considered as satisfactory and greater than 80% for exceptional.



(Image Source: Michigan State University Extension)

Other points of measure in the ram BSE are body condition, physical evaluation of the external genitalia and scrotum, and scrotal circumference. Rams should be a body condition score (BCS) of 3 – 4 going into breeding season. Breeding is strenuous, therefore thin rams may not have the energy and it may be too laborious for fat rams to perform their jobs. A physical examination should prove the ram clear of any irregularities in testes or epididymal masses. Lastly, scrotal circumference is directly related to sperm production. A breeding-age ram of 8 to 14 months should have a circumference of at least 28 centimeters; rams older than 14 months should be at least 32 centimeters.

Classifications for each point of measure include “exceptional,” “satisfactory,” “questionable,” or “unsatisfactory. Please note that a ram scoring a “questionable” or “unsatisfactory” rating in any category is automatically rated as that score overall. A ram can be “exceptional” if he scores such a rating regarding sperm motility and morphology and scrotal circumference.

### Ewes

Ewes do not have the same rigorous testing that rams have, but one similarity is that they also need to be of good body condition. A BCS score of 3 is ideal heading into breeding season and will improve their likelihood of producing twins. Thin ewes may only produce singles or not breed at all, and fat ewes may have issues at lambing with difficult births. Assessing BCS prior to adding rams to the mix allows you to flush the ewes with the proper amount of nutrition instead of over- or underfeeding. Ewes can be fed one half to a full pound of grain per day or offered high quality hay or grass pasture. Notice how it says “grass.” Legume pastures are rich in phytoestrogens or estrogens found in plants. By adding a reproductive hormone similar in structure but incorrect to the species, ewe cyclicity and conceiving ability can be impaired.

Vaccinating ewes against abortion-causing diseases should also occur before rams are introduced. Chlamydia and vibriosis are two such diseases that can be prevented with vaccines. You can find them in combination or individually and ewes should be inoculated 30 days prior to breeding.



### One Big Happy Family

Once the ram(s) are in with the ewes, watching for breeding is important. Making sure the rams are sniffing out the females and trying to mount is a good indication of ram libido. If you can't always have eyes on the flock, using a marking harness can help you visualize where the ram has been and how the ewes are cycling. A ewe's cycle is 17 days, therefore changing marker colors, every 17 days can also help you see which ewes are catching on the first cycle and which aren't. If only a couple ewes are remarking, chances are the ewe is not reproductively sound. If a majority of the ewes are remarking with multiple colors, chances are the issue is stemming from the ram.

Remember that weather and decreasing daylight is the trigger for ewes to start cycling and there are breeds that more readily end their anovulation and start cycling. Fine wool breeds will likely start cycling before some of the medium and coarse wool breeds (think Suffolk, Border Leicester, etc.) Also remember that ewe lambs and mature ewes will come into estrus differently. Ewe lambs will have a shorter estrous period than their mature counterparts and the estrus will be less intense.

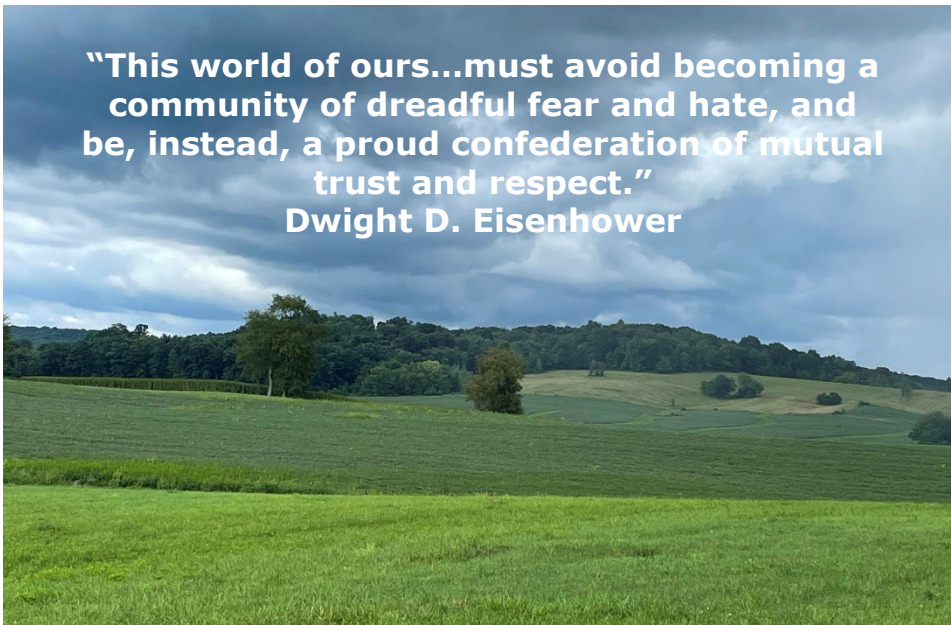
In summary, prepare yourself and your flock for breeding season before it is too late. Just a few small examinations and nutritional adjustments will likely make the 2022 lamb crop more profitable and that much more exciting.

### ***BQA Re-certification Sessions Planned***

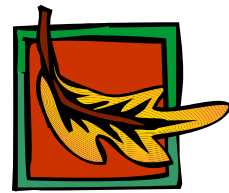
The Coshocton County Extension office will be offering a series of **Beef Quality Assurance (BQA)** re-certification meetings throughout the remainder of this year as a total of 179 producers will need to obtain re-certification before the end of 2021.

To help producers obtain their certification, we have scheduled a series of re-certification sessions for the remainder of the year. These sessions will be held in Room 145 at the Coshocton County Services Building located at 724 South 7<sup>th</sup> Street in Coshocton County. Producers can choose the session which best fits their schedule. Sessions will be held on: September 13, October 11, November 3, December 1 & 14. Each will be held from 7:00 to 8:30 p.m. Pre-registration is required for each session as space is limited. There is no fee to attend. Call 740-622-2265 to pre-register. These sessions also qualify for anyone who is seeking a first time certification. A program flyer is also attached to this newsletter.

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



**"This world of ours...must avoid becoming a community of dreadful fear and hate, and be, instead, a proud confederation of mutual trust and respect."  
Dwight D. Eisenhower**



Dear Fall Foliage & Farm Tour Supporter,

We very much appreciate your support of the annual Fall Foliage Tour! Below, please find a remittance slip for your ad purchase- and don't forget to include your business card, if you haven't already. The cost of your advertisement goes toward the printing of 750 Fall Foliage brochures. Last Tour, **1835 people** registered and attended the tour from 29 Ohio counties and 8 different states. Approximately 27% of participants were from outside Coshocton County. You can see how far your ads have reached and how far your ads will reach!

If you would like to have a flyer so that you may promote the tour at your place of business, contact me at [michael.jacob@usda.gov](mailto:michael.jacob@usda.gov) and I will send you one when they have been printed. Again, thank you for your support and we look forward to another great Fall Foliage and Farm Tour!

Sincerely,

Mike Jacob

2021 Tour Committee

David Marrison, OSU Extension	622-2265	Mike Jacob, Farm Service Agency	622-8087
Dan Markley, Historian	545-6743	Ryan Medley, SWCD	622-8087
Maureen Sturtz, Dairy Services Unit	829-2488	Alonna Hoffman, OSU Extension	545-6002
Zach Wallace, SWCD	622-8087		

2021 Fall Foliage & Farm Tour Brochure Advertisement

Name of Business \_\_\_\_\_ Amount Enclosed \$ \_\_\_\_\_

- Please remit \$30.00 and your business card (if not previously used), to be used in the 2021 Fall Foliage and Farm Tour brochure by August 27, 2021.
- Please mail payments made payable to: Ohio State University Extension  
724 South 7<sup>th</sup> Street  
Coshocton, OH 43812
- *Please note any changes to be made to your business card on the back of this sheet or mail a new card with payment.*
- \_\_\_\_\_ Please check here if you wish to receive a Fall Foliage brochure

**CFAES**

OHIO STATE UNIVERSITY EXTENSION

# BEEF QUALITY ASSURANCE

## *Re-certification Trainings for Livestock Producers*

Coshocton County will be hosting a series of Beef Quality Assurance re-certification programs to allow beef and dairy producers to re-certify their beef quality assurance. Pre-registration is required for each session as space is limited.

### **Sessions Will Be Held:**

July 12, August 9, September 13, October 11, November 3, December 1 & 14  
7:00 to 8:30 p.m.

Coshocton County Services Building  
724 South 7<sup>th</sup> Street - Room 145, Coshocton, OH 43812  
Seating is limited, so please RSVP  
Register by calling: 740-622-2265

Other Sessions are being offered in neighboring counties or can be completed on-line anytime at [bqa.org](http://bqa.org).

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For an accessible format of this publication, visit [cfaes.osu.edu/accessibility](http://cfaes.osu.edu/accessibility).





# Agronomy Update

Thursday, August 26, 1pm - 4pm at Durbin Farms  
4227 Durbin Rd. SE, New Philadelphia, OH 44663

Please pre-register by **August 24** in order to have materials prepared.  
Call 330-339-2337 or email [zoller.1@osu.edu](mailto:zoller.1@osu.edu) to register.

- **Parts & Equipment Shortages are Real - Be Prepared: Thoughts on 2021 Harvest & 2022 Planting**
  - Dr. John Fulton, OSU Food, Agriculture, and Biological Engineering
- **Are You Ready for Carbon Markets?**
  - Mike Estadt, OSU Extension Educator, ANR, Pickaway County
- **OSU Extension Agronomy & Farm Management Resources**
  - Chris Zoller, Extension Educator, ANR, Tuscarawas County
- **Lessons Learned from Building a Farm Shop**
  - Matt & Luke Durbin, Durbin Farms



Chris Zoller, Associate Professor, Extension Educator, Agriculture & Natural Resources  
OSU Extension, Tuscarawas County 419 16<sup>th</sup> St SW, New Philadelphia, OH 44663  
Email: [zoller.1@osu.edu](mailto:zoller.1@osu.edu) Office: 330-339-2337 Direct: 330-365-8159

**[Tuscarawas.osu.edu](https://tuscarawas.osu.edu)**



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