

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES**November 17 (Edition #121)**

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Hello, Coshocton County! The month of November has seen a little of everything with regards to the weather. From warm and sunny to cold and gloomy. This past Sunday's snow flurries and our recent time change are clear indications that fall is in the home stretch and winter is right around the corner.

Despite the first snow, our harvest continues. Nearly all the soybean harvest has been completed and corn harvest keeps progressing. Hopefully most of the corn will be harvested by the time we pause to give thanks next week.

Lots of discussion of input prices for next year. The lead-off article in this newsletter challenges hay producers on fertilization practices. Now is a great time to soil test your hay fields so you can develop a plan for 2022.

We are also moving into the Extension season of workshops, webinars and trainings. Some great farm management webinars are available this week (check out details in today's newsletter). We are also busy planning our in-person workshops for this winter---stay tuned for the complete line-up. Stay safe!

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator

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THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Can I Afford to Fertilize My Hay?

By: [Stan Smith](#), OSU Extension PA, Fairfield County and [Chris Penrose](#), Agriculture and Natural Resources, OSU Extension, Morgan County

Source: <https://u.osu.edu/beef/2021/11/17/can-i-afford-to-fertilize-my-hay/>

With fertilizer prices on the rise and reaching levels not seen in years, some are wondering if they can afford to fertilize hay ground. Realizing we can't starve a profit into a cow, or a hay crop, the answer is simple. We can't afford not to properly and strategically fertilize a hay crop.

The operative word here is "strategically." Let's look at what that word might mean in the coming 2022 hay season.

First and foremost, now more than ever is the time to make sure we have up to date soil tests. We can't manage what we haven't measured and knowing the nutrient content of forage fields is critical to knowing which soil nutrients will offer the most return on investment.



While you can't starve profit into a hay field, there may be some options.

Lime has gone up little if any, in price, in recent years. To optimize the efficiency of the fertility we do have, correcting soil pH should be high priority during times of expensive soil nutrients.

Don't just spread manure on the most conveniently located field. Apply it where the soil test indicates it's most needed. Not sure what the nutrient content of your manure is? Perhaps having your manure analyzed for nutrient content this year might be dollars well spent.

What kind of hay are you growing . . . grass or legume? If it's a field full of legume or field heavily mixed with legume, nitrogen is likely not needed at all. On the other hand, if the goal is to optimize the productivity of stands that are predominantly grass, yields will be benefited by properly timing the application of a correct amount and source of nitrogen.

Strategically timing nitrogen might mean foregoing an early spring application since it's not uncommon to grow more first cutting hay than we can make and harvest in a timely fashion. However, 50 units of nitrogen applied to a grass hay field immediately after first or second cutting can significantly boost yield of the subsequent cutting.

Applying nitrogen after a first cutting onto warm soils at times of high air temperatures increases the risk of volatilization of urea-based nitrogen sources. Use a stable source of nitrogen such as ammonium sulfate. If using urea and rainfall is not on the horizon, including a nitrogen stabilizer or urease inhibitor is likely warranted. If phosphorus is being applied at the same time, the nitrogen that comes along with a phosphorus source like 18-46-0 is stable and effective.

Perhaps the most difficult decision will be what to do about phosphorus and potash needs. Each ton of harvested hay removes with it 12 pounds of P₂O₅ phosphorus and 49 pounds of K₂O potash. If soil nutrient levels of phosphorus and potash are at critical minimum levels, perhaps the only phosphorus and potash that needs to be applied this year are the amounts removed through harvest. If levels are at the minimum critical levels of 30 ppm for phosphorus when using the Mehlich-3 extraction method, and 120 ppm for potash on loam and clay soils, phosphorus and potash could wait to be replaced at the end of next growing season if you are of the opinion fertilizer prices may moderate before then.

If soil test results indicate phosphorus and potash levels are above the minimum critical level mentioned above for forages, it may be cost effective to skip a year of phosphorus and potash application. Regardless, now may not be the best time to proceed with an aggressive soil nutrient build up program.

And, if you do choose to replace all the phosphorus and potash removed by a hay crop, how much will that cost per ton of hay removed? Using crop removal rates suggested earlier and when assuming phosphorus and potash cost near 60 cents per pound, a ton of forage is removing from the field between \$35 and \$40 dollars' worth of fertility. If it's predominantly grass hay and you add 20 units of N per ton of hay produced, at today's fertilizer prices you'll add about \$15 to that total.

If you value hay at \$100 or more per ton and harvesting optimum yields of high-quality hay is essential to the success of your operation, fertilization, even despite very high soil nutrient cost becomes a no brainer. You can't starve profit into a cow, or a hay field!

Reduce Forage Losses During Winter Feeding

By: [Garth Ruff](#), Beef Cattle Field Specialist, Ohio State University Extension

Source: <https://u.osu.edu/beef/2021/11/17/reduce-forage-losses-during-winter-feeding/>

Now that we have had nearly a week of hard frost, the end of the grazing season is in sight. Previous authors of this column have talked about having a plan for feeding hay in terms of how long and when to start. This week let's look at different approaches to winter feeding and the pros and cons of each system.

Feeding hay is expensive, if you waste it, you lose money. Consider the following to minimize waste during feeding.

1. **Feed hay in a feeder to minimize waste.** Feeding hay in a feeder or ring reduces the amount of feed trampled and soiled, especially when feeding large round bales that provide several days of feed.
2. **Feed hay in well-drained areas.** If you intend to feed hay in a single location all winter, consider feeding on crushed gravel or even concrete pad can help minimize problems with mud. If feeding on a pad, manure management is another part of the equation.



Bale feeders with tapered cone design have proven to be "hay savers." Photo: Oklahoma State University

Large round bales with ring: A better system for feeding large round bales is to set the bale in the pasture or feeding area but limit access to the hay with a feeder or hay ring. This system requires an initial investment in hay feeder or rings, but feeding losses are lower. Feeding hay in racks or rings is crucial for producers who do not or cannot feed hay to their cattle daily.

Consider bale feeders with tapered cone design as another option. These "hay savers" come in a variety of makes and models but the general design has been tested with regards to winter feeding.

Data from a three-year study at North Dakota State University, looking at mature third trimester cows used an economic analysis model with budgets for 100- and 300-cow reference herds and determined that feeding in a tapered cone round bale feeder versus unrolling bales or grinding hay and feeding on the ground led to the following:

- significantly increased cow weight gain;
- resulted in greater positive rib fat depth change;
- reduced hay consumption an average of 10.2%; and
- reduced hay waste in the two years of the study when alfalfa-grass hay was fed, but not in the year when oat hay was fed.

Unrolling large round bales: Another popular system is to unroll the bale and feed it on the ground as loose hay. When fed daily, feeding losses run about 12 percent. In Eastern Ohio this method is often used during calving season to provide laying area for young calves, in this instance expect greater feeding losses.

Processing or grinding hay: Grinding or chopping hay can reduce waste, sorting, and refusal of long-stemmed hay. Processing also allows for the inclusion of lower quality, less palatable hay in total mixed rations. Processed hay is best when fed in a bunk of some sort. One must evaluate the equipment cost of a bale grinder or processor.

Summary: Research from NDSU showed that feeding round bales in a tapered-cone feeder reduced wintering cost by 21% for the 100-cow herd and 17.6% for the 300-cow reference herd compared to feeding processed bales. Rolling out round bales was in between in cost (Landblom et al. 2005 NDSU Cattle and Range Research Report).

No matter what, some hay will be lost or wasted, and mud will be ever a present challenge. Proper feeding management minimizes these losses. Since hay is often the most expensive feed used on beef operations, there is incentive to minimize waste via implementing management practices.

Rising Food Prices and Beef Demand

By: James Mitchell, Livestock Marketing Specialist, University of Arkansas

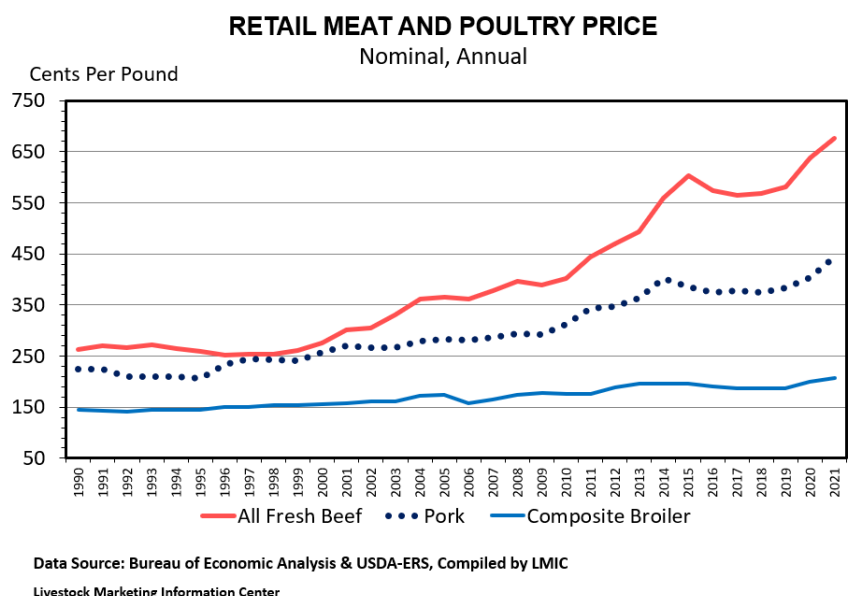
Source: <https://u.osu.edu/beef/2021/11/17/rising-food-prices-and-beef-demand/>

By now, most of us have probably seen articles in the popular press about food price inflation and the cost of this year's Thanksgiving dinner. A quick Google search will yield dozens of articles about the topic. Kenny, Josh, and I have colleagues at other institutions who have spent a significant amount of time providing commentary on the issue. Rather than reiterate their comments and analysis, which I largely agree with, I thought I would use this week's article to discuss the implications for U.S. beef demand.

According to BLS data, food prices in 2021 are averaging 3% higher year-over-year. Beef, pork, and poultry prices are all averaging 3.5-6.5% higher in 2021. The most recent data shows that October was another record-setting month for choice retail beef prices, averaging \$7.90/lb or 24% higher year-over-year. The all-fresh retail beef price declined 9% from its high in September but remained 8% above year-ago levels in October.

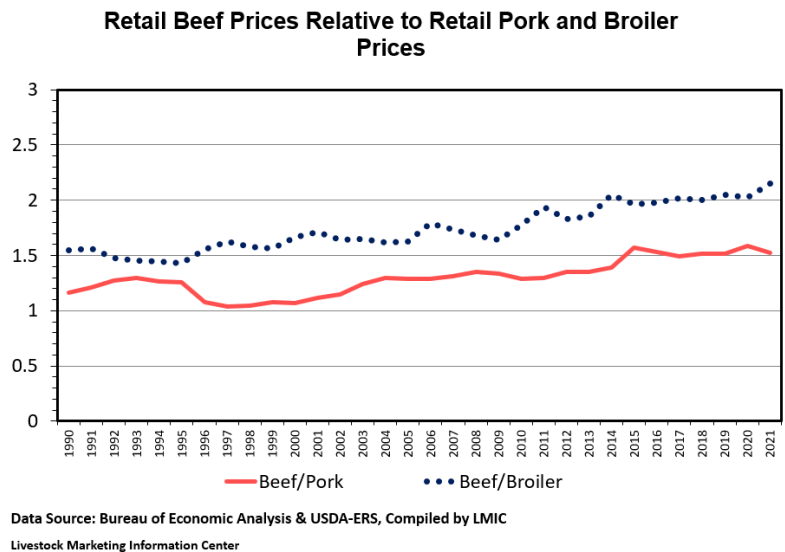
Some context for the figures cited above is helpful. The 20-year historical average increase in the price of food is 2.4%. The 3-4% increase in 2021 that USDA is forecasting is not out of the realm of what we have observed historically. The 20-year historical average for beef, pork, and poultry prices is 4.4%, 2.2%, and 2.1%, respectively. The increase in meat prices this year is noticeably higher. However, USDA expects retail meat prices to moderate in 2022, averaging 2.5% higher compared to 2021.

A common concern is that the record-setting beef prices in 2021 will hurt beef demand. Unfortunately, without context, nominal meat prices provide few insights about beef demand. For demand analysis, what we really care about is relative prices. The textbook demand



graph illustrates the relationship between quantity and the relative value of a good. For example, per capita beef consumption and the relative price of retail beef.

One way to determine how the relative price of beef has changed is to calculate price ratios between beef and other proteins like pork and poultry. The second figure in this article plots the all-fresh retail beef price relative to retail pork and composite broiler prices. In general, the price relationships have remained stable for the 2014-2020 period, with beef prices averaging 1.5 times the price of pork and 2.0 times the price of broiler meat. In 2021, the retail beef/pork and beef/broiler price ratios have averaged 1.5 and 2.1, respectively. I would be more concerned about beef demand prospects if the relative value of beef changed dramatically in 2021. The data shows that it has not.



The Ag Law Harvest

By: Jeffrey K. Lewis

Source: <https://farmoffice.osu.edu/blog/fri-11122021-1031am/ag-law-harvest>

Did you know that white sturgeon are North America's largest fish? [The largest white sturgeon on record was caught in 1898 and weighed approximately 1,500 pounds.](#) Sturgeon is the common name for the species of fish that belong to the Acipenseridae family. The largest sturgeon on record was a Beluga sturgeon weighing in at 3,463 pounds and 24 feet long. Talk about a river monster! Swimming right along, this edition of the Ag Law Harvest brings you some intriguing election results from across the country, pandemic assistance for organic producers, and a lesson in signatures.

Maine first state to have “right to food.” Earlier this month, Maine voters passed the nation's first [“right to food” constitutional amendment](#). The referendum asked voters if they favored an amendment to the Maine Constitution “to declare that all individuals have a natural, inherent and unalienable right to grow, raise, harvest, produce and consume the food of their own choosing their own nourishment, sustenance, bodily health and well-being.” [Supporters of the new amendment claim](#) that the amendment will ensure the right of citizens to take back control of the food supply from large landowners and giant retailers. Opponents claim that the new amendment is deceptively vague and is a threat to food safety and animal welfare by encouraging residents to try and raise their own products in their backyards without any knowledge or experience. The scope and legality of Maine's new constitutional amendment is surely to be tested and defined by the state's courts, but until then, Maine citizens are the only ones in the United States that can claim they have a constitutional right to food.

New York voters approve constitutional environmental rights amendment. New Yorkers voted on [New York Proposal 2](#), also known as the “Environmental Rights Amendment.” The proposal [passed](#) with overwhelming support. The new amendment adds that “[e]ach person shall have a right to clean air and water, and a healthful environment” to the New York constitution. New York is one of a handful of states to have enacted a [“green amendment”](#) in its state constitution. Proponents of the amendment argue that such an amendment is long overdue while opponents argue that the amendment is too ambiguous and will do New York more harm than good.

USDA announces pandemic support for certified organic and transitioning operations. The U.S. Department of Agriculture (“USDA”) [announced](#) that it will be providing pandemic assistance to cover certification and education expenses to agricultural producers who are currently certified or to those seeking to

become certified. The USDA will make \$20 million available through the [Organic and Transitional Education and Certification Program \(“OTECP”\)](#) as part of the USDA’s [Pandemic Assistance for Producers initiative](#). OTECP funding is provided through the Coronavirus Aid Relief, and Economic Security Act (“CARES Act”). Producers can apply for expenses paid during the 2020, 2021, and 2022 fiscal years. For each fiscal year, OTECP will cover 25% of a certified operation’s eligible certification expenses, up to \$250 per certification category. Crop and livestock operations transitioning to organic production may be eligible for 75% of eligible expenses, up to \$750 for each year. Both certified organic operations and transitioning operations are eligible for 75% of eligible registration fees, up to \$200, per year for educational events to help operations increase their knowledge of production and marketing practices. Applications are now open and will be available until January 7, 2022. Producers can apply through their local Farm Service Agency office. For more information on OTECP visit <https://www.farmers.gov/pandemic-assistance/otecp>.

A signature case. In 2018 Margaret Byars died intestate survived by her 5 children. After Byars’s death, one her sons, Keith, revealed that Margaret had allegedly executed a quitclaim deed in 2017 giving her Dayton home to Keith. The other siblings brought this lawsuit claiming that the deed was invalid and unenforceable because the facts surrounding the execution of the deed seemed a little odd. In 2017, Margaret was diagnosed with breast cancer and moved into a nursing facility. Shortly after entering the nursing home, Sophia Johnson, a family friend and the notary on the deed, showed up to notarize the quitclaim deed. Trial testimony revealed that the quitclaim deed was prepared and executed by a third party. Margaret did not physically sign the deed herself. In fact, the trial court noted that the signature looked like the handwriting of the person that prepared the deed and that no one saw Margaret authorize another to sign the deed for her. Sophia testified that when she showed up to notarize the deed, the deed was already completed and signed. Sophia also testified that Margaret seemed to intend to transfer the house to Keith and understood the nature and consequences of the deed. After hearing all the testimony, the trial court concluded that the deed was enforceable, and the house belonged to Keith. However, on appeal, the [Second District Court of Appeals found the deed to be invalid](#). The Second District stated that in Ohio a grantor need not actually sign a deed in order to be valid, however, the court concluded that the “signature requirement may be satisfied by another affixing a grantor’s signature on a deed so long as the evidence shows that the grantor comprehend the deed, wanted its execution, and authorized the other to sign it.” The court concluded that the evidence showed that Margaret comprehended the deed and perhaps even wanted its execution. But the evidence did not show that Margaret authorized anyone to sign the deed for her. Because it could not be established that Margaret authorized the preparer or anyone else to sign the deed for her, the Second District court held that that deed was invalid under Ohio law. This case demonstrates the importance of attorneys and the work they do to make sure all asset transfers and estate planning documents are in compliance with the law to help avoid unnecessary lawsuits and prevent any unintended outcomes.

Manure Pit Safety

Denny Riethman, ANR Educator Mercer County
Originally Written for the November 18 Issue Farm and Dairy Newspaper

Harvest is wrapping up across Ohio. A common practice of livestock farmers is to apply manure nutrients following harvest before cover crops might be planted. This is an important time to remind operators and applicators about the importance of following safety precautions when working around manure storage facilities. Planning ahead, developing standard operating procedures (SOPs), ensuring everyone is well-trained, and good communication helps reduce risks and keep everyone safe.

Manure pit gases are the biggest concern for health and safety around manure handling and storage pits. Hydrogen sulfide, methane, carbon monoxide and ammonia are gasses of concern. Pit gases from any storage pit, whether closed, open, or under barn storage, can be toxic to both humans and livestock.

Hydrogen sulfide (H_2S) gas is the biggest risk and is extremely dangerous and highly unpredictable. Hydrogen Sulfide gas is released when agitating and pumping manure. The gas is colorless, flammable and extremely hazardous with a rotten egg smell. The gas is heavier than air, and will collect in low lying areas without good air movement. If it is in the breathing area for people or animals, it can be immediately dangerous to life and health.

Manure applicators and individuals working around the barn and confined spaces should be equipped with H_2S monitors or multi-gas detectors that will provide alerts when levels are increasing. The alert system gives workers time to move away from higher gas concentration areas. H_2S gas concentration levels of 2 to 20 ppm will cause symptoms of nausea, headache, and dizziness. H_2S levels greater than 100 ppm will cause altered breathing, collapse, and death.



Exposure to ammonia results in immediate burning sensation and redness in the eyes. Methane and carbon monoxide are odorless and difficult to detect by smell. The dangerous consequences of exposure to any or all of these gasses increases the importance of having multi-gas monitors in livestock buildings with manure pits below or around them.

Person protective equipment

It is important to understand the different types of personal protective equipment (PPE) available and the levels of protection they provide. Having a self-contained breathing apparatus or supplied air respirator on hand is recommended. Establishing a “Buddy System” in your operating procedures is important when working around manure pits in the event something happens, and someone collapses. A safety belt or harness should be worn as a lifeline should a worker need to enter a manure pit. This allows a co-worker to stay in the peripheral area, keeping a safe distance away and pull them to safety should the need arise. The second person can also call for emergency help if needed.

Properly operating ventilation systems are very important for enclosed barns with manure pits below. The ventilation system needs to exhaust the gases out of the barn, especially while stirring and agitating the manure. This is important for people working in the area, as well as the animals, to keep them from being fatally exposed to gases.

Think ahead about the process, making sure you are working with partners when maintenance work needs to be done in these areas. If you need to enter a confined space, ventilate the area for a period of time before entering the area. Follow the “Lock Out, Tag Out” procedure when doing maintenance or fixing equipment to ensure no one else accidentally starts equipment you are working on or repairing.

An ounce of prevention

Fencing and signage are important considerations around open manure pits to ensure that children, visitors, and animals are kept out. Placing signage that indicates hazardous gases are present provides a visual warning and helps alert people to the risks in the area.

Producers and workers do not often see the susceptibility or severity of manure gas hazards. Building awareness and communication for everyone in the operation is key. Developing SOPs, training, and communication when working around manure pits is important. Along with making safety a mindset and part of the thought process as you go through daily tasks, these actions will reduce risks, and keep people and animals safe.

Find more information about farm safety at <https://agsafety.osu.edu/>.

Woolly Bears and the Winter's Tale

By: [Joe Boggs](#)

Source: <https://bygl.osu.edu/index.php/node/1887>

Popular folklore holds that bristly "woolly bear" caterpillars are like the Oracle of Delphi for predicting winter weather. Of course, this is a myth, but it's still a good story.

Woolly bears (woolly worms in the south) are the caterpillar stage of medium-sized moths known as tiger moths (family Erebidæ; subfamily Arctiinae). The caterpillars are so-named because of their short, stiff bristles. The sharp-pointed bristles serve to defend the caterpillars. However, they are not stinging hairs; they do not inject venom. Still, some people suffer severe localized reactions if the hairs penetrate their skin.

Woolly bears will roll themselves into a tight ball when disturbed to bring to bear their defensive bristles. Their resemblance to hedgehogs is referenced by the alternate common name "hedgehog caterpillars." You may see this defense posture in response to various wasps such as yellowjackets (family Vespidae) that attack and feed on caterpillars.

Four of the most common woolly bear species found in Ohio are the banded woolly bear which develops into the Isabella tiger moth (*Pyrrharctia isabella*); the yellow woolly bear which develops into the Virginia tiger moth

Yellow Woolly Bear Caterpillar
(*Spilosoma virginica*)



Joe Boggs, OSU Extension©

(*Spilosoma virginica*); the salt marsh caterpillar which develops into the salt marsh (tiger) moth (*Estigmene acrea*); and the giant leopard moth caterpillar (*Hypercompe scribonia* (syn. *Ecpantheria scribonia*)).

Giant Leopard Moth Caterpillar
(*Hypercompe scribonia*)



Joe Boggs, OSU Extension©

The caterpillars of all four species may be found feeding on a wide range of plants including some field crops. In fact, crop harvests commonly produce an early flush of caterpillars crawling across nearby roads.

All four species of moths have two generations per season in Ohio with the largest number of caterpillars occurring in the second generation. This is one reason we typically see more caterpillars in the fall. The other reason is their mass fall crawl-about. Large numbers of caterpillars may be seen shuffling along on their stiff thoracic legs and fleshy prolegs in search of protected winter quarters.

Research conducted by Jack Layne, Department of Biology, Slippery Rock University, revealed that the woolly bear caterpillars of the Isabella tiger moth and the giant leopard moth produce antifreeze-like chemicals, collectively known as "cryoprotectants," to prepare themselves for winter. The cryoprotectants prevent sharp-pointed ice crystals from forming inside their bodies which would puncture cell membranes.

Prognosticators, Bristly Imposters, or Innocent Bystanders?

The banded woolly bear (*P. isabella*) is the species most often referenced as the "official" predictor of winter weather for obvious reasons; it's banded. Giant leopard moth caterpillars are completely black which provides a good excuse to spend the winter in Florida.

According to folklore, the greater the amount of black on a banded woolly bear, the more severe the winter weather. Also, the position of the widest dark bands predicts which part of the winter will be the coldest. If the dark band is widest at the head end, the beginning of winter will be severe. If the dark band is widest at the tail end of the caterpillar, winter will go out like a lion. The predictive ability of the caterpillars is further fine-tuned by "reading" the 13 segments of the caterpillar's body which are said to correspond to the 13 weeks of winter.

The folklore that banded woolly bear caterpillars can predict winter weather dates back to the American colonial days. However, we can thank Dr. Charles Howard Curran for giving credibility to this myth; perhaps inadvertently.

Curran was a noted entomologist who served as Curator of Insects and Spiders for the American Museum of Natural History (AMNH) in New York City (NYC) until his retirement in 1960. On October 27, 1948, Curran and fellow AMNH entomologist Mont Cazier, along with their wives, traveled to (Woolly?) Bear Mountain State Park about 40 miles north of NYC. They collected 15 banded woolly bear caterpillars and dutifully measured the lengths of the black end bands and rusty brown middle bands.

Curran was a respected scientist who published widely in scientific journals, most often on Diptera. There remains much debate as to whether or not this expedition was a serious attempt to test the theory wrapped in folklore that the caterpillar bands predict winter weather.

Instead of producing a scientific paper to be perused and parsed by his entomology colleagues, Curran's "survey results" predicting the winter weather for 1948 were announced by news reporter John O'Reilly on the front page of the October 28, 1948, issue of the New York Herald Tribune. The caterpillars predicted a mild winter ... which turned out to be correct.

Of course, this produced a demand by the Tribune readers for an annual winter weather prediction by Curran's caterpillars which continued for seven more years. I couldn't find information on how often the caterpillar prediction was correct. However, I found several reports that Curran recognized his sample size was always too small to be of any scientific value. One may assume he may have simply used the caterpillars for their entertainment value.

More rigorous research has subsequently debunked the weather prognostication value of banded woolly bears. The caterpillars commonly show high variability in their coloration based on their age, food sources, and moisture levels in the area where they develop.

You can see the variability in the image below. These banded woolly bears were collected on the same date from around a building in southwest Ohio that is surrounded by landscape flower beds as well as nearby crop fields or fallow ground with a wide range of native and non-native vegetation. It was not a scientific study, but no color form was excluded during the collection.

Of course, caterpillar coloration also varies between woolly bear species. If weather prognosticators accidentally use the "yellow color-form" of the yellow woolly bear, they would assume there will be no winter. Conversely, the all-black giant leopard moth caterpillars could create mass panic causing folklorists to flee to the south for the winter!



Farmland and Farmland Owner Tax Webinar

Source: <https://farmoffice.osu.edu/tax/farmer-and-farmland-owner-income-tax-webinar>

Are you a farmer or farmland owner wanting to learn more about the recent income tax law changes and proposals? If so, join us for this webinar. If so, please plan to attend the Farmer and Farmland Owner Tax Webinar on Thursday, December 9, 2021 from 6:30 - 8:30 p.m.

This webinar will focus on issues related to farmer and farmland owner tax returns, COVID-19-related legislation introduced in 2020 and 2021 and federal legislative proposals and possible tax changes that may impact the farm sector. This two-hour program will be presented in a live webinar format via Zoom by OSU Extension Educators Barry Ward and David Marrison along with Purdue faculty member Dr. Michael Langemeier. Individuals who operate farms, own property, or are involved with renting farmland should participate.

Topics to be discussed during the webinar include (subject to change based on tax law change):

- Tax Planning for Higher Income Years
- Sale of Farm Assets
- Tax Issues related to COVID-related legislation
- Federal Legislative Proposals and Possible Tax Impacts
- Like Kind Exchanges (farm machinery and equipment no longer are eligible for this provision) how this change may affect state income tax, Social Security credits and eventual payments
- New 1099-Misc and 1099-NEC

The registration fee is \$35 per person. Additional details can be found at:

<https://farmoffice.osu.edu/tax/income-tax-schools> For more information, contact Julie Strawser at strawser.35@osu.edu or call the OSU Extension Farm Office at 614-292-2433.

2021 Agricultural Policy & Outlook Conference Slated for November 18-19

Source: <https://u.osu.edu/ohioagmanager/2021/10/21/2021-agricultural-policy-and-outlook-conference-slated-for-november-18-19/>

You're invited to the premier forum for Ohio's food and agriculture industry as the Department of Agricultural, Environmental and Development Economics will be hosting the 2021 Agricultural Policy and Outlook Conference on November 18-19, 2021. This conference will be held virtually over the course of two days, with experts covering issues important to producers, agribusinesses and elected officials. The schedule for this conference is:

Thursday, Nov. 18 (Day One) Schedule

- (9 a.m. – 10 a.m.): "Consumers, Shopping, and Local Food: What's Next?" presented by AEDE Assistant Professor Dr. Zoë Plakias.
- (11 a.m. – 12 p.m.): "Now Hiring: An Ohio Food & Agricultural Labor Update," presented by AEDE Assistant Professor Dr. Margaret Jodlowski.
- (1 p.m. – 2 p.m.): "US Trade Policy and Prospects for Agricultural Trade," presented by AEDE Professor and Andersons Chair of Agricultural Marketing, Trade and Policy Dr. Ian Sheldon.

Friday, November 19 (Day Two) Schedule

- (9 a.m. – 10 a.m.): "Agricultural Commodity Markets: Trends and Prospects," presented by AEDE Assistant Professor Dr. Seungki Lee.
- (11 a.m. – 12 p.m.): "Ag Finance Recovery," presented by Dr. Nathan Kauffman, Vice President and Omaha Branch Executive with the Federal Reserve Bank of Kansas City
- (1 p.m. – 2 p.m.): "A Conversation about the Next US Farm Bill," presented by Assistant Professor Jonathan Coppess, J.D., University of Illinois

Registration can be made at: <https://aede.osu.edu/programs/2021-virtual-agricultural-policy-and-outlook-conference>

Farm Office Live Fall & Winter Edition

by: Barry Ward, David Marrison, Peggy Hall, Dianne Shoemaker, Julie Strawser – Ohio State University Extension

Source: <https://u.osu.edu/ohioagmanager/2021/11/10/farm-office-live-fall-and-winter-edition/>

“Farm Office Live” returns virtually this fall and winter as an opportunity for you to get the latest outlook and updates on ag law, farm management, ag economics, farm business analysis and other related issues from faculty and educators with the College of Food, Agriculture and Environmental Sciences at The Ohio State University. Two sessions of Farm Office Live will be held this week. Our first session is tonight from 7:00 – 8:30 pm and it will be repeated live on Friday from 10:00 – 11:30 am.

This month’s topics include:

- Introducing Margaret Jodlowski, new Ag Economist, and the work she is doing in AEDE
- Update on the Build Back Better Act
- State and Federal Legislative Updates
- Federal Farm Program Update
- Farm Business Analysis Report

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**Join us for the next
FARM OFFICE LIVE**

November Topics:

- Introducing....Margaret Jodlowski, new Ag Economist
- Update on Build Back Better Act
- State and Federal Legislative Updates
- Federal Farm Program Update
- Farm Business Analysis Reports (continued)
- Q&A

**OSU Extension's
Farm Office Team**

Peggy Kirk Hall
David Marrison
Dianne Shoemaker
Barry Ward

**November 17, 7-8:30 pm
November 19, 10-11:30 am**

Register or watch replays at
go.osu.edu/farmofficelive

Register once and receive links to join future programs

*Each session includes timely updates and Q&A time on topics of interest.
Email your questions or suggested topics to strawser.35@osu.edu.*

Save the date!
We will be back Dec. 15, 7-8:30 pm
Dec. 17, 10:00 – 11:30 am

*Farm Office is your farm's
ag law and farm management
resource center.*

**THE OHIO STATE UNIVERSITY
EXTENSION**

farmoffice.osu.edu

The full slate of offerings for this fall and winter:

- November 17th 7:00 – 8:30pm
- November 19th 10am – 11:30am
- December 15th 7:00 – 8:30pm
- December 17th 10:00 – 11:30am
- January 19th 7:00 – 8:30 pm
- January 21st 10:00 – 11:30 am
- February 16th 7:00 – 8:30 pm
- February 18th 10:00 – 11:30 am
- March 16th 7:00 – 8:30 pm
- March 18th 10:00 – 11:30 am
- April 20th 7:00 – 8:30 pm

Register at: <https://go.osu.edu/farmofficelive> We look forward to you joining us this fall and winter!

BQA Re-certification Sessions Planned

The Coshocton County Extension office will be offering two **Beef Quality Assurance (BQA)** re-certification meetings during the month of December to help producers renew their BQA certification. These sessions will be held on December 1 and 14 from 7:00 to 8:30 p.m. in Room 145 at the Coshocton County Services Building located at 724 South 7th Street in Coshocton County. 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.

If you cannot attend one of our local sessions, our friends down in Tuscarawas County will also be holding a Beef Quality Assurance class on December 9 beginning at 7:00 p.m. at the Sugarcreek Stockyards. Call 330-339-2337 to pre-register. Online certification and recertification is also available and can be completed anytime at <https://www.bqa.org/beef-quality-assurance-certification/online-certifications>.

Upcoming Programs

2021 Beef Quality Assurance Re-certifications- Coshocton County
December 1 & 14, 2021 (7:00 to 8:30 p.m.)

2022 Private Pesticide & Fertilizer Re-Certification

January 12 from 8:30 a.m. to 12:30 p.m. at Locke Landing in Roscoe Village

January 20 from 9:00 to 10:00 a.m. in Room 145, Coshocton County Services Building (Fert Only)

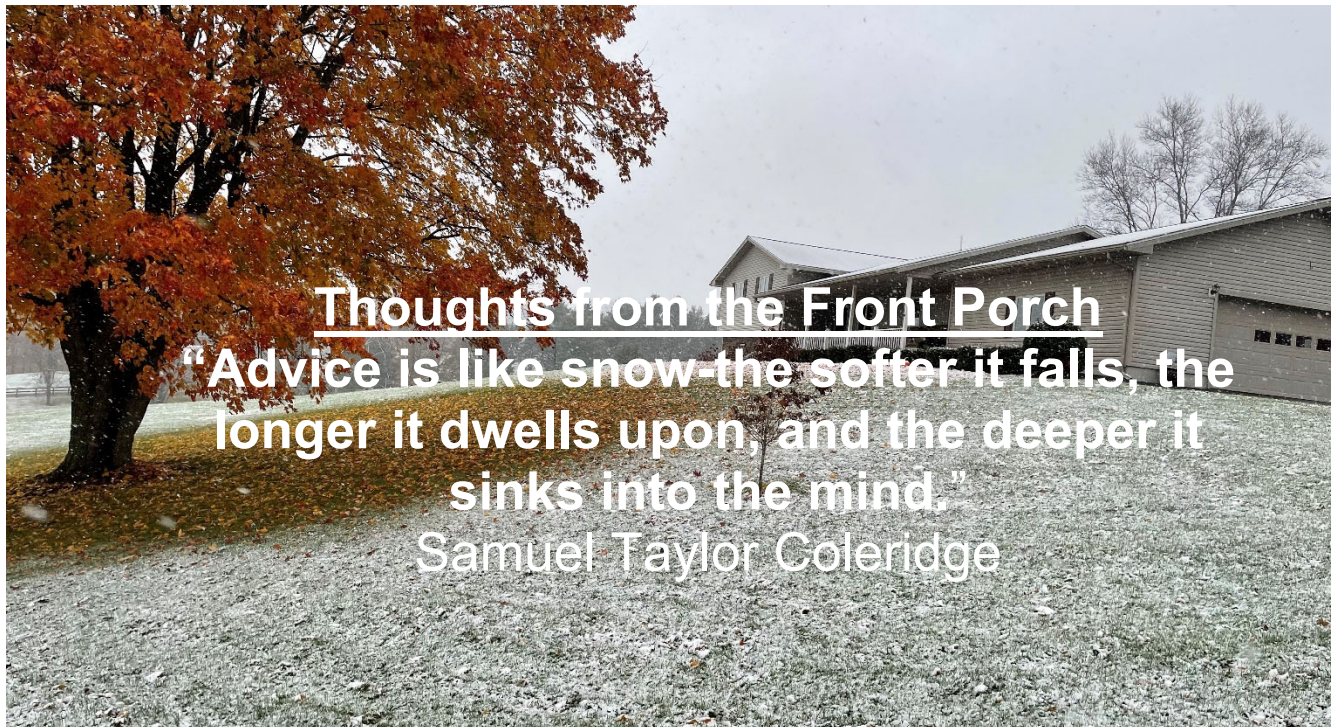
February 10 from 5:30 p.m. to 9:30 p.m. in Room 145, Coshocton County Services Building

2022 Agronomic Weeds School

February 2 from 9:00 a.m. to 4:00 p.m. in Room 145, Coshocton County Services Building

2022 Tiverton Institute

March 1 & 2, 2022



A Basic Approach to Winter Supplementation of the Beef Cow Herd

Francine Henry, Ph.D.

It is that time of the year again! As temperatures begin to drop, warm-season pastures are not so green anymore, and as we approach the Winter months, beef cattle producers scratch their heads and question marks start popping up. "Let me give a call to my county extension agent and reach out to the specialists, I have some questions about Winter Supplementation". If this scenario does not sound familiar to you, congratulations! But if I had to guess, most of you are already there and this is actually an annual conundrum every beef cattle producer in the southeast faces.

As the "new Beef Extension Specialist in town", I am here to help you out to identify the best strategies for your specific operation. I will start with: there is not a "one size fits all" answer when it comes to supplementation strategies and the most important thing to begin with is to not mistake supplementation for feeding. If we can assure that, a lot of dollars can be saved. Then, let's address the term supplementation. By definition, supplementation, in nutrition terms, refers to "something added to complete a diet or make up for a deficiency". When we consider the herd nutrition, the use of supplementation indicates that a free-choice supply of forage is available, being grazed or provided as conserved (i.e. hay or haylage). However, such forage may not necessarily contain adequate amounts of nutrients needed to meet the cowherd's nutritional requirements during critical periods such as calving, lactation, and breeding.

Question #1: How do I know if the forage my cows are consuming does not have adequate nutrients? If I had a penny for the number of times I heard "Oh, I know this hay I have is really good!" without an actual test report with accurate numbers on crude protein and energy values, I would be rich! So, first things first, it is very important to get our forage sources tested so we can come up with a game plan to identify the deficiencies and alternative sources to make up for them. Only a forage analysis can provide us with exact energy and protein contents of such forage.

Question #2: How much of the cow's nutritional requirements are being met by the forage consumed? In general, a cow's nutrient requirement increases as she approaches late gestation and calving. Approximately 60 days after calving, she will reach peak lactation, when nutritional demands will also be at its peak. Now, we have in our hands a cow that needs to maintain herself, produce good quality milk for her calf, and most importantly, get ready to breed again in less than 3 months so she can still be a part of the herd. Wow, if motherhood has taught me anything it was that multitasking is not easy, but when we have the resources we need, challenges become a little more manageable. Back to the question, Table 1 has some real numbers we can use to serve as a guide when it comes to energy (Total digestible Nutrients; TDN) and protein (crude protein; CP) requirements of cows at different mature body weights and peak milk production. Note that if



a cow is on the high milk producer end of this scenario during peak lactation, her nutritional requirements are even greater, compared to a moderate milk producer. With these values, and Question # 1 answer, we can move forward.

Question #3: How much supplement should I provide to my cows?

In general, when supplementing a forage-based cow diet, supplements can account for 5 to 20% of the total daily dry matter intake, with the lower end representing strategies focused on protein and the higher end representing strategies focused on both protein and energy supplementation. If we assume a 1200 lb cow has a daily dry matter intake of 2.5% of her body weight, the amount of supplement needed would range from 1.5 to 6 lb daily. However, forage quality will play an important role on voluntary dry matter intake, and as quality declines, a decrease in intake will take place due to poor ruminal digestion caused by the consumption of the poor-quality forage. To put things into perspective, let's use a few different scenarios. Consider forages of three different qualities: high (56% TDN; 10% CP), medium (50% TDN; 7% CP), and poor (45% TDN; 5% CP). Now consider daily voluntary dry matter intake of such forages to be 2, 1.75, and 1.5% of body weight, respectively, in a 1200 lb cow. That leads us to 24 (13.44 lb TDN and 2.4 lb CP; high quality), 21 (10.5 lb TDN and 1.47 lb CP; medium quality), and 18 (8.1 lb TDN and 0.9 lb CP; poor quality) lb of forage dry matter consumed daily. If we refer to Table 1 again, a 1200 lb cow, producing 10 lb of milk at peak lactation needs 56% TDN and 8.79% CP daily, which in pounds translates to 13.94 lb of TDN and 2.2 lb of CP. In our three scenarios here, the high-quality forage most likely can support this cow with very little energy supplementation and no protein supplementation should be needed; however, if we are providing forages on the medium and poor-quality range, this cow is consuming a diet that is deficient in energy (3.44-5.84 lb deficit) and protein (0.73-1.3 lb deficit). I would say that the medium quality forage scenario is a very common one for many cow/calf producers in the Southeast in the Fall and early Winter.

Question #4: What is the best supplement to address deficiencies? Are liquid supplements better than dry ingredients, or vice-versa? The first thing to consider here is the market in your area and evaluate what is available. Byproducts from other

industries such as molasses, whole cottonseeds, cottonseed meal, soybean hulls, dry distiller's grains, corn-gluten feed, and many others, are all great sources of sometimes both energy and protein (i.e. whole cottonseeds). Both liquid and dry sources have advantages and disadvantages. Liquids may have the ability to be offered free-choice with the presence of intake limiters, which will reflect on reduced labor costs. However, if the product is formulated for average intake of 3 lb/day and your cows only need 1.5 lb/d, the outcome can weigh in your pocket. The opposite is true, when in fact the cows actually need 5 lb/d, and under supplementation happens. Dry ingredients can offer more flexibility by providing options that can match requirements more closely, but such advantage comes with a greater cost associated with increased labor for handling and delivery.

Take home message: Winter supplementation of energy and protein are crucial to maximize the herd's performance. Fall-calving herds are typically near peak lactation this time of the year meaning that cows are at their greatest nutrient requirements. The strategy for your herd will be based on: 1) forage quality, 2) cow stage of production, 3) cow body condition score (supplementation strategy should be chosen to support a cow body condition of 5 or 6, which is another important topic for another edition), and lastly 4) what is available in my area and what are my labor options. The majority of forages grown in the Southeast tend to be poor-to-medium quality, with energy being the first most limiting nutrient for beef cattle. However, both energy and protein requirements need to be addressed, and one cannot be effectively used in the herd's diet without considering the other.



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Table 1 . Nutrient requirements of beef cows at different mature weights

Cow Mature Weight	Nutrient	Months since calving											
		1	2	3	4	5	6	7	8	9	10	11	12
1,000 lb (10 lb peak milk)	TDN (%)	55.8	56.6	54.3	53.4	52.5	51.8	44.9	45.7	47.0	49.1	52.0	55.7
	CP (%)	8.70	9.10	8.41	7.97	7.51	7.14	5.98	6.16	6.47	6.95	7.66	8.67
1,000 lb (20 lb peak milk)	TDN (%)	59.6	60.9	58.6	57.0	55.4	54.0	44.9	45.7	47.0	49.1	52.0	55.7
	CP (%)	10.54	11.18	10.38	9.65	8.86	8.17	5.98	6.16	6.47	6.95	7.66	8.67
1,200 lb (10 lb peak milk)	TDN (%)	55.3	56.0	53.7	52.9	52.1	51.5	44.9	45.8	47.1	49.3	52.3	56.2
	CP (%)	8.43	8.79	8.13	7.73	7.33	7.00	5.99	6.18	6.50	7.00	7.73	8.78
1,200 lb (20 lb peak milk)	TDN (%)	58.7	59.9	57.6	56.2	54.7	53.4	44.9	45.8	47.1	49.3	52.3	56.2
	CP (%)	10.10	10.69	9.92	9.25	8.54	7.92	5.99	6.18	6.50	7.00	7.73	8.78
1,400 lb (10 lb peak milk)	TDN (%)	54.9	55.5	53.3	52.5	51.8	51.2	45.0	45.8	47.3	49.5	52.6	56.6
	CP (%)	8.23	8.56	7.91	7.55	7.19	6.90	6.00	6.20	6.53	7.04	7.80	8.88
1,400 lb (20 lb peak milk)	TDN (%)	58.0	59.1	56.8	55.5	54.1	53.0	45.0	45.8	47.3	49.5	52.6	56.6
	CP (%)	9.76	10.31	9.56	8.94	8.29	7.73	6.00	6.20	6.53	7.04	7.80	8.88
1,600 lb (10 lb peak milk)	TDN (%)	54.5	55.0	52.9	52.1	51.4	51.0	45.0	45.8	47.5	49.7	52.9	56.9
	CP (%)	8.03	8.33	7.69	7.3	7.05	6.8	6.01	6.22	6.56	7.10	7.87	8.98
1,600 lb (20 lb peak milk)	TDN (%)	57.5	59.0	56.7	55.3	54.0	53.0	45.0	45.8	47.5	49.7	52.9	60.0
	CP (%)	9.5	10.10	9.30	8.70	8.05	7.50	6.05	6.25	6.55	7.10	7.90	8.95

Adapted from the Nutrient Requirements of Beef Cattle, Eighth Edition, published by the National Academies of Sciences, Engineering, and Medicine, 2016.





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 7th 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.



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