

The FARMACY

"Agriculture is our wisest pursuit because it will in the end contribute most to real wealth, good morals and happiness"

- Thomas Jefferson -

From the Ag Agent's Desk:



Summertime is officially winding down and fall is here! We have a lot of great events coming up that I hope everyone can participate in- these events are great opportunities to learn something new, meet someone new or get an idea from. When I worked in Scott County I was fortunate enough to work with

Mr. Bob Hall, owner of Hallway Feeds, a nationally renowned animal nutrition company. With all the experience and knowledge that Mr. Bob had it always impressed me when he would recite his motto that his goal was to learn something new every day. If that is his goal, I think it should be everyone's! So my challenge to you is to make it a goal for you to try and learn something new every day and always keep learning!

Michelle Simon

Michelle Simon
Campbell County Extension Agent
for Agriculture and Natural Resources

CCCA hosted the Cattleman's Cheese Coney Booth at the Fair

The CCCA hosted the Cattleman's Cheese Coney booth at the Alexandria Fair serving Empress Chili cheese coney and donated coney to the exhibitors following the cattle show.



Herdsman Award

Campbell County Cattleman's Association sponsored a Herdsman Contest to the Campbell County youth beef exhibitors this year at the Alexandria Fair. This award was judged on several factors throughout the course of the fair: originality of the exhibit, neatness and attractiveness of the exhibit, appearance of animals at all times, exhibitor's friendliness towards other exhibitors and their behavior at all times while at the fair. Colton Rust was awarded the 2023 Campbell County Cattleman's Herdsman- Congratulations, Colton!

Everyone had a great time at the Alexandria "World's" Fair!



CCCA Board members (L to R): Chad Bezold, Jonathon Neltner, Jarred Martin and Tim Lauer with award recipient, Colton Rust.

Northern Kentucky Horse Network Update



The Northern Kentucky Horse Network had a great showing of horses and riders in the Alexandria

Fair Parade- this has become a tradition for the group to get together and ride through town celebrating the Fair! Their annual Hamburger Ride & Membership Drive was held at AJ Jolly Park this year with 20 riders participating and enjoying the trails. Board member, Donnie Orth, and other NKHN volunteers work diligently to maintain the trails throughout the year for everyone to enjoy. Mark December 2 on your calendar for the upcoming Horsemen Helping Horsemen Clinic at Wanderlust Acres.



One of Campbell County's beginner farmers, Grayson Bezold, selling his produce this summer. Grayson has logged more hours in the tractor than most grown farmers have! It's never too early to get youth involved on the farm and learn about agriculture and where their food comes from. Grayson helped in the garden and on the farm and enjoyed it so much that next year he plans to grow a bigger garden!

UK Forage News

Forage Timely Tips: October

- Feed hay to allow cool-season pastures to accumulate forage growth for winter grazing.
- Do NOT harvest or graze alfalfa fields in Oct.
- Inventory and test each hay lot for nutritive value and consult a nutritionist to design a supplementation program as needed.
- Remove ruminants from pastures that contain Johnsongrass when frost is expected (also sorghum-sudangrass and sudangrass) Even small patches of johnsongrass that have been frost can cause prussic acid poisoning.
- Begin strip grazing early planted small grain and brassicas (turnips and rape) mixes by the end of this month.

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Getting Implant Application Correct

Source Warren Rusche, Assistant Professor & SDSU Extension Feedlot Specialist
Courtesy of extension.sdstate.edu

How would you like to make a few thousand dollars per hour (legally)? Numbers like that get people's attention but might also trigger a "if it sounds too good to be true it probably is" response.

When cattle backgrounders and feeders use growth promoting implants correctly those returns are not a pipe dream. Consider that implants can increase ADG by 20% in growing cattle. A set of backgrounded steers that would have gained 2 pounds per day non-implanted now should gain 2.4. Over a 100-d feeding period the additional 48 pounds of liveweight could be worth an additional \$40 to \$50 per head, depending on the price slide. Implants in feedlot cattle increase carcass weight by approximately 80 pounds, representing an additional \$120 to \$150 per head. The fact is that implanting cattle correctly offers more return for time invested than almost any task in cattle feeding, with the possible exception of tarping the silage or high-moisture corn pile.

The key is administering the implant correctly. That is especially true when using one of the longer-acting implants such as Revalor-XS or -XH or Synovex One Feedlot where there is only one opportunity to accomplish the task correctly. Reviewing implanting procedures is an excellent opportunity to make certain that everyone on the team understands the importance of the process and what needs to be accomplished.

What tools are needed?

Making sure that all the necessary equipment is on hand helps make sure that there are no unnecessary

delays and to increase the odds that every animal is implanted correctly. Here are some items that should be on hand:

- Extra needles, possibly a backup implanting gun
- Scraping tool to remove dried mud
- Brush to clean ears
- Tray to hold disinfectant solution
- Disinfectant

Cleanliness is the first step.

Remember that we are inserting a foreign body into the animal, so any contaminants on the ear that are carried along with the needle increase the risk for abscesses.

Using a brush dipped in disinfectant to remove external contamination reduces abscess risk, especially in wet or muddy conditions.

Place the implant in the correct location.

Implants need to be placed in the middle one-third of the ear under the skin.

The location may be moved to alternative sites above or below the cartilage ribs to avoid ear tags or tissue damage, if necessary.

Avoid placing in blood vessels or cartilage. Either mistake negatively affects how the animal responds to the implant.

Avoid crushing the implant.

Some newer implanting guns on the market automatically withdraw the needle as the trigger is depressed, reducing the risk of crushing the implant. Some guns require the operator to partially withdraw the needle while depositing the implant pellets.

Crushed implants release too rapidly, increasing the risk of

bullers or negative effects on carcass quality.

It is a good idea to run your finger over the implant and squeezing the needle hole shut prior to releasing the animal. This gives an opportunity to correct a missed implant and to help prevent pellets from working themselves out.

Clean equipment before the next animal.

Wiping the needle in a sponge soaked in a disinfectant solution removes any contamination that may have come from the last animal and reduces the risk of transferring that to the next.

At the same time, check the needle on the gun to make sure that the end has not developed a burr or other defect.

Defective needles increase tissue irritation and should be replaced as soon as they are noticed.

Use ear audits to monitor performance.

A great way to make sure everything is on track is to check for proper implant placement. This could be a planned audit where about 20 head are pulled from their home pen 3 weeks after implanting, or a more informal process where cattle are checked the next time they are brought to the chute. Even experienced processing crews can benefit from refreshers and periodic checks. Consult with your animal health providers, consulting nutritionist, or Extension personnel to assist with evaluating implant accuracy.

How do I Test for BVD Virus in Cow Herds?

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

“BVD” or “Bovine Viral Diarrhea” virus is one of the most common and costliest viruses affecting KY cow/calf herds and backgrounding operations. Control of the BVD virus is best accomplished through implementation of three equally important practices: 1) surveillance testing to detect and remove persistently infected cattle, 2) vaccination to increase herd immunity and 3) implementation of biosecurity measures to reduce virus entry into the herd.

As a reminder, a “persistently infected” or “PI” calf is the result of a pregnant female (cow or heifer) becoming infected with the BVD virus between 42-125 days of gestation. The mature cow or heifer will experience a “transient” BVD virus infection, lasting from a week to 10 days, which is often mild with no overt symptoms of disease. However, the virus will also cross the placenta, infecting her unborn calf. When this calf is born, it is “persistently infected” or “PI” and is a “carrier” and “spreader” of the virus for its lifetime. Although it is often assumed PIs will die young, some survive well into adulthood and can be fed out to slaughter weight or, if female, may become pregnant. If a PI positive mature cow calves, the calf will always be persistently infected, too. This route of transmission accounts for less than 10% of total PI calves born.

A BVD-PI calf is born with the BVD virus and sheds virus particles everywhere it goes for its entire life. Identification and removal of PI calves is critical to stop long-term survival of the virus.

Testing for persistently infected (PI) cattle is easy and inexpensive with the BVD ELISA test. The most commonly used sample for

identifying PI cattle is an “ear notch” skin sample. Blood (serum) can also be used although not in calves less than 3 months old. If the ear notch or serum test result is negative, that animal is negative for life and will never need testing again. Any BVD ELISA positive test result should be confirmed by first separating the animal away from the herd and then retesting a second ear notch or blood sample taken 3 weeks after the first sample. True PI animals will still be positive after 3 weeks while those animals with a short-term infection (transiently infected) will test negative on the 2nd sample.

There are several laboratories in Kentucky that offer BVD PI testing as well as many veterinary practices that work with cattle. There is also a cow-side test available for use on farm: <https://www.idexx.com/en/livestock/livestock-tests/ruminant-tests/idexx-snap-bvdv-antigen-test/>

Laboratories:

University of KY Veterinary Diagnostic Laboratory (UKVDL):

Home page: <http://vdl.uky.edu/>

Ear Notch Procedure: <http://vdl.uky.edu/bvd-ear-notch-collection-guideline>

Dependable Livestock Testing (near Smiths Grove, KY):

They will send supplies for testing and a pre-paid box for shipping. Results generally in 24 hours or less. <http://www.dependablelivestocktesting.com/bvd>

If you suspect BVD virus may be in your herd, work with your veterinarian to come up with a plan for testing and, more importantly, what actions will be taken with the results. To test the herd, the following steps are recommended:

1. Test all calves at an early age- It is recommended for calves to reach at least 2 weeks old before taking an ear notch sample. If using a controlled breeding and calving season, test all calves after the last calf is born but before placing the bull in a breeding group in order to remove PI calves from pasture before breeding begins. Ear notches can be stored in the freezer and submitted at one time if desired.
2. If a calf is confirmed positive, then test the dam. Remember, a calf can be positive for PI but, in over 90% of cases, the dam will be BVD negative. If calf is negative, then the dam can be assumed negative and does not need to be tested. **(See Figure 1).**
3. Test any cow/heifer without a calf at her side.
4. Test all bulls and replacement heifers (purchased or raised).
5. Purchased Pregnant Cows and Heifers-Quarantine and test purchased pregnant females and, if negative, they can join the home herd. However, bear in mind that any of their unborn calves could be a PI and all calves must be tested at 2 weeks of age or older, the sooner the better. A better option is to calve out purchased pregnant females away from the home herd and test their calves for BVD virus prior to any mixing with the home herd.
6. Remember PIs are considered defective and there is a legal, moral and ethical obligation to either feed them out for personal consumption or euthanize and dispose of these animals without sending/ returning them to commerce. *Animals that test positive are not*

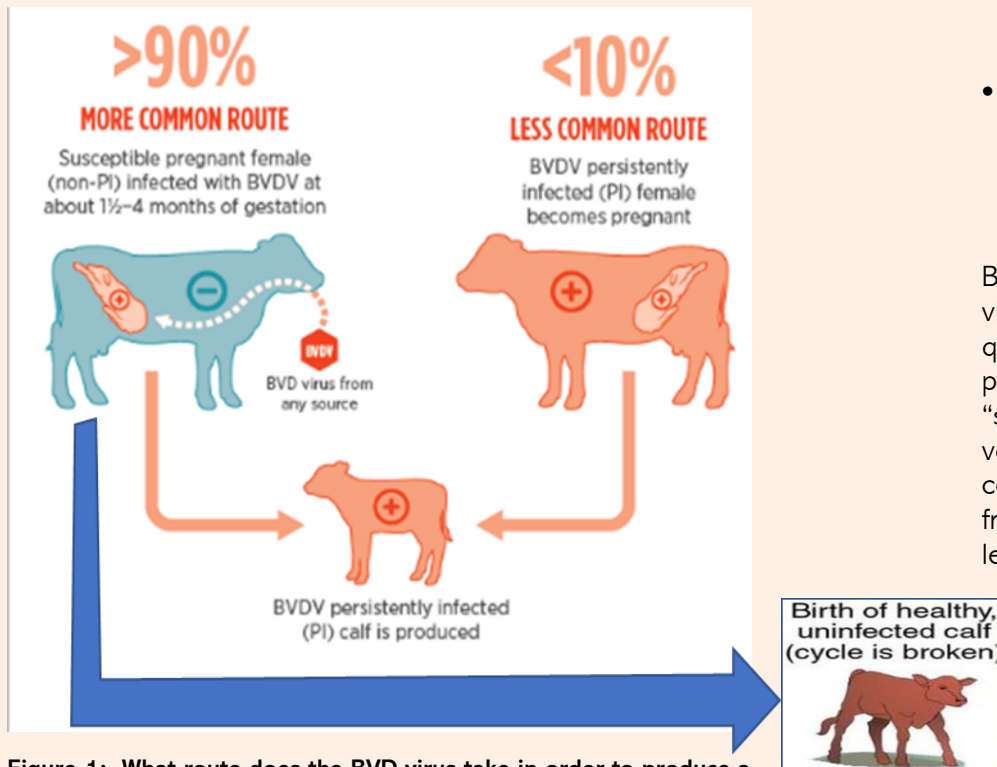


Figure 1: What route does the BVD virus take in order to produce a PI calf? Over 90% of the time, it is through a PI negative dam.

to be sold, given away or transported without approval of the State Veterinarian.

In addition to detection and removal of PI animals, prevention of BVD virus in a herd depends on a sound vaccination program to increase herd immunity and biosecurity measures to reduce the opportunities for virus exposure. Vaccines against BVD (including those with Fetal Protection from BVD-PI claims or “FP” vaccines) will reduce the chances of creating a PI calf but protection is never 100%. Vaccines may fail due to problems with the vaccine itself, the cattle to be vaccinated, and/or management errors. The BVD virus is classified into 2 genotypes, BVD virus-1 and BVD virus-2, each of which contains distinct subtypes with genetic and antigenic variation. BVD vaccines may not contain the subtypes of the virus currently circulating in a region and are therefore not fully

protective. Problems within the animals themselves may prevent good vaccine response. Cattle that are sick or stressed when vaccinated, in poor nutritional status or too young to produce antibodies will not be protected with vaccination. Finally, management errors are an all-too-common cause of vaccine failure.

These may include:

- Not giving 2 doses of killed vaccine as described on the label.
- Improper mixing of vaccine (shaking violently rather than swirling).
- Failure to use modified live vaccine within 1 hour of mixing (VERY COMMON ERROR)
- Inappropriate storage temperature either before or during use of the product.
- Use of expired vaccine.
- Use of soap, detergent, or disinfectants to clean the inside of multi-dose syringes used to inject

modified live vaccine (inactivates vaccine).

- Poor timing: The immune system needs two weeks to develop a protective response from a vaccine before challenged with the virus.

Biosecurity measures to reduce virus exposure extend beyond the quarantine and testing of new purchases. The BVD virus is a “single-stranded RNA virus” which is very stable under moist and cool or cold conditions. It is not affected by freezing and can easily survive at least a week in the right

environment. It can be spread short distances through large “droplets” (especially saliva and nasal discharge) and is easily transmitted through nose-to-nose contact. Most farm fences are good for marking property

lines but not for preventing virus spread. Double boundary fencing with space in-between or installing offset hot wires on both sides of a fence will significantly reduce the risk of transmission. Other potential virus sources include mechanical vectors such as shared farm machinery or contaminated veterinary equipment. Thoroughly cleaning equipment with soap and water is an effective means of killing the BVD virus.

When testing calves for PI:

- If the calf is positive, test the dam. The dam’s result may be either negative or positive.
- If the calf is negative, no need to test the dam. The dam will be negative.

When testing cows (dams) for PI:

- If the dam tests positive of PI, her calf and every calf she has will always be positive.
- If dam tests negative for PI, must test her calf. The calf may be either positive or negative.

Defining Horse-Quality Hay

Kylee Jo Duberstein, Associate Professor – Equine Science | University of Georgia Department of Animal and Dairy Science



Photo by Philip Warren.

Forage is an extremely important component of the equine diet, as it should make up the majority of what the horse consumes.

Growing and producing horse-quality hay can be both a rewarding and frustrating experience. On one hand, horse owners are often willing to pay a premium for what they consider “horse-quality” hay, but on the contrary, they can be much more selective as compared to other clientele. It is important to understand the needs of the horse industry when producing hay for this market. The horse industry is diverse, which makes their needs difficult to pinpoint. Age, production status, workload and overall health of horses greatly influence their requirements, particularly in regard to their forage needs. Because of the diversity of clients in the horse industry, there are many opportunities for hay producers to find a niche and serve some part of this community.

Before discussing the hay needs of horses, it is important to understand how the horse's gastrointestinal tract is unique from our other hay-

eating farm animals. The horse is considered a monogastric animal, meaning that it has a single stomach. Food moves fairly rapidly through the stomach into the small intestines, where the horse's enzymes digest and absorb much of the food that it eats. The food that is left undigested after the small intestine is typically the fibrous component, which then moves to the hindgut of the horse. Bacteria in the hindgut break down the fiber that the horse cannot digest on its own and in the process release volatile fatty acids (VFAs) that the horse uses for energy. The hindgut of the horse is larger and more developed as compared to other monogastric animals (e.g., pigs, humans, etc.) which allows the horse to better digest and utilize fiber as compared to other monogastric species.

However, the hindgut fermentation process is not as efficient when compared to ruminant animals (cows, goats, sheep, for example) where fiber is digested for a longer period of time in the foregut of the animal. For this reason, horses are

typically thought to need a higher-quality forage with more digestible fiber as compared to ruminant animals.

Quality feed

What makes the forage higher quality? This is primarily determined by maturity of the plant at harvest as well as harvest practices. While it can be tempting to cut hay on longer intervals to increase the yield of each cutting, it is a better practice to cut hay at an earlier stage of maturity. While the yield per cutting may not be as great, more cuttings can be made per growing season, and the hay will be higher quality. As plants mature, the fiber becomes more lignified and less digestible to the horse.

If we were to analyze hay via a forage report, what we see is an increase in acid detergent fiber (ADF) and neutral detergent fiber (NDF) as the plant matures. As these fiber measures increase, the digestibility of the forage decreases, and the horse's intake of the forage (willingness to eat it) also decreases. (If a horse refuses to eat your hay, the owners are much less

likely to buy it again!) Guidelines for upper thresholds for ADF and NDF vary slightly and are somewhat arbitrary, but are generally referenced at approximately 45% ADF and 65% NDF. Hay above this is typically labeled as unsuitable for horses, and lower values for these measures would make hay more desirable for those horse owners seeking high-quality hay.

Once hay reaches the growth stage of producing seedheads, it is typically more mature than what is desired for horses. As fiber becomes less digestible to the horse, it is also more likely to cause gastrointestinal issues such as colic and diarrhea in part due to disruption of the fiber-digesting microbes in the hindgut. (If a horse colics or develops diarrhea on your hay, the horse owner is not likely to buy it again!)

Cutting approach

In addition to the stage of maturity at harvest, there are other harvesting practices that affect the quality of hay produced. A recent study in our lab investigated fiber content of bermudagrass hay over a two-year period. Bermudagrass typically has a high NDF level (greater than 65%) which frequently leads to it being cautioned against in the horse industry. In our research, we harvested bermudagrass at different intervals ranging from four to eight weeks. Growth rate of the plant obviously varied based on temperature, rainfall, etc., so an ideal cutting interval will vary based on these external factors.

However, we noticed that approximately half of our samples fell below the 65% NDF threshold, which was somewhat surprising given that the majority of

bermudagrass forage reports that are sent to me for interpretation are above 65% NDF. Upon reflection of potential differences that may have accounted for this higher quality in our samples, we believe it is likely due to differences in cutting heights. Mower height in our research was set to an approximate 5-inch cutting height. Cutting at a higher location on the plant results in better-quality forage due to an increased leaf-to-stem ratio. The stems of plants are much more fibrous and less digestible to the animal as compared to the leaf, and the base of the stem is particularly lignified and indigestible. Therefore, raising cutting height of the mower should result in a higher-quality forage. It also should allow for faster regrowth of the plant by allowing the plant to retain more aboveground material for photosynthesis. For many species of forage, this also helps prevent root dieback and allows stands to persist longer.

How much quality?

It is important to recognize that not all horses need the highest-quality hay. While growing, lactating and performance horses all have high energy demands that need to be met with high-quality forage, many horses in today's society are idle. Obesity and obesity-related health issues such as insulin dysregulation and insulin-mediated laminitis are problems that many horse owners are grappling with today. For this reason, there is an increased demand for hays that are low in nonstructural carbohydrates (NSC). NSC refers to the sugars and starches in the plant that are enzymatically digested in the small intestine of the horse and result in higher blood glucose and insulin levels. Because higher blood insulin levels may trigger laminitis in

affected horses, owners of these horses frequently seek hay that has low NSC levels (10% is the targeted NSC level for obese horses with metabolic issues).

Because these horses may still be adversely affected by overly mature hays with high NDF, ADF and lignin levels, horse owners are faced with a dilemma of finding hay with fiber that isn't too indigestible in order to prevent gastrointestinal upset, but that also has a low NSC level and a somewhat lower calorie level to manage obesity and blood insulin levels. In my experience, horse owners in this predicament most commonly select either a high-quality warm-season grass hay such as bermudagrass (bermudagrass typically has a low NSC but must be cut properly to achieve reasonable NDF levels) or a somewhat lower-quality timothy or orchardgrass hay. (These typically fall within recommended ADF and NDF levels but are higher in NSC – however, many harvest practices can affect the NSC levels.) Alfalfa, though low in NSC, is typically highly digestible and provides too many calories for obese horses.

As you can see, providing appropriate hay for horses can be a complex and multifaceted issue. Forage is an extremely important component of the equine diet, as it should make up the majority of what the horse consumes. Hay producers are a valued part of the equine industry and contribute greatly to the health of the horse. Hay producers seeking to get involved in the equine industry can consult (at no charge) their local county extension agent who can put them in touch with an equine nutritionist to help answer more specific questions regarding the production of hay for horses.

Halloween Hay is Often a Losing Proposition

By Mike Rankin, Managing Editor of Hay & Forage Grower

The calendar has flipped to October, and I'm sure a lot of farmers have already mothballed their hay equipment. I also know there are plenty of farmers who are at least thinking about an extra cutting of alfalfa, if not already making plans for it.

After a killing freeze, alfalfa quits growing. Conventional wisdom is that this is a safer time to cut than four to six weeks before a growth-stopping frost or freeze. With the late-fall cut, plants are unlikely to use stored root reserves to initiate new growth.

To be sure, growing seasons are longer than they used to be. There are also many areas of the U.S. that are finally getting consistent rain, if not too much. These factors may add to dry matter accumulation, but it may still be not enough to make an extra late-fall cutting a winning economic strategy. There are several reasons for this.

Yields of alfalfa after a killing frost are typically low; they will be even lower if the cutting height is raised to help catch snow, as is often recommended. Alfalfa fields in the fall present a deceiving appearance. What looks like a bumper crop can seemingly disappear through the mower-conditioner. During my experience in Wisconsin of measuring late-fall cuttings, rarely did fields yield over a half ton per acre. This puts the harvest cost per ton through the roof.



Also consider that fields cut in late fall generally break dormancy later during the following spring and have a lower first-cut yield compared to not being fall cut. Research had shown that the gain in fall yield is about equal to the loss in spring yield. This is not to say that the fields are winter injured; rather, they are just less vigorous come spring.

Leaving the fall aftermath growth over winter is beneficial to not just catching and holding snow cover, but it also has the effect of moderating soil temperature fluctuations during winter and early spring. It is extreme soil temperature fluctuations that may cause alfalfa to break dormancy too early or cause plant heaving. This soil temperature moderation is beneficial both during a winter warm snap and in times of polar vortexes.

Why do it?

In my experience, there are three primary reasons why farmers cut alfalfa late in the fall. First, they don't like to waste perfectly good forage. In the case where favorable weather has contributed to significant fall growth, it's hard to leave an apparent high-yielding, high-quality crop out in the field,

but in reality, it most likely isn't high yielding. That said, a late fall-cut forage is almost always excellent quality. With the extended cool temperatures, there is low lignin deposition and fiber digestibility is tremendous.

There's been a long-held concern by

some farmers that fall alfalfa growth will smother and kill a stand over winter. This simply does not happen with a legume such as alfalfa. Rather, leaves freeze and eventually drop off the plant. Stems, for the most part, stand erect. The old, fall aftermath growth may impact forage quality in the next year's first cutting, but if harvested early enough, the reduction in quality is minimal.

Following a year of severe winterkill, drought, or excessive rainfall, sometimes alfalfa is cut in late fall simply to meet a need for additional high-quality feed. It's difficult to be critical of this thinking, but it will remain expensive forage.

If you're currently weighing the decision of whether to cut or not, consider the condition of the alfalfa stand before greasing the mower. If it's already been stressed by intensive cutting, pest issues, or low soil fertility, stress from an additional cutting will likely accelerate stand decline. All factors considered, the need for feed prior to the next year's harvest may be the only good reason to cut Halloween hay.

USDA Updates Livestock Disaster Payment Rate to Assist Producers Hard-Hit by Heat and Humidity

Contact: FPAC.BC.Press@usda.gov

The USDA's Farm Service Agency (FSA) announced today it is updating the [Livestock Indemnity Program \(LIP\)](#) payment rate to support livestock producers in the Midwest who have lost cattle to the extreme heat and humidity experienced this summer. To help indemnify ranchers to reflect a trend towards higher cattle weights in feedlots, the 2023 LIP payment rate for beef calves over 800 pounds will increase from \$1244 per head to \$1618, an increase of \$374.

"The recent heat domes plaguing many parts of the country have proven to be unsurvivable for some animals and temperatures are not expected to let up any time soon. This is one of the latest, many examples of how a changing climate is creating immediate challenges for farmers and ranchers, and we're finding that our emergency relief programs need to adapt accordingly," said FSA Administrator Zach Ducheneaux. "Given these circumstances and the trend towards higher weights in feedlots, it became clear that USDA's Livestock Indemnity Payment rates were not reflective of the true market value for cattle. This change will better indemnify the investments producers have in the livestock they raise, and we will continue to find flexibilities where possible to help our farmers and ranchers in the wake of climate-related impacts."

LIP provides benefits to livestock owners and some contract growers for livestock deaths exceeding normal mortality from eligible adverse weather events, certain predation losses and reduced sales prices due to injury from an eligible loss. Indemnity payments are made at a rate of 75% of the prior year's

average fair market value of the livestock.

The updated LIP payment rate is effective immediately and will be applied retroactively starting Jan. 1, 2023, for all eligible causes of loss including excessive heat, tornado, winter storms, and other qualifying adverse weather. Producers who have already received LIP payments for 2023 losses will receive an additional payment, if applicable, commensurate with this updated rate. For details on eligibility and payment rates, review the [LIP fact sheet](#).

FSA recognizes that an annual update of LIP payment rates does not account for the volatile nature of livestock markets and is further exploring flexibilities to establish more current payment rates.

More Information

On [farmers.gov](#), the [Disaster Assistance Discovery Tool](#), [Disaster Assistance-at-a-Glance fact sheet](#), and [Loan Assistance Tool](#) can help producers and landowners determine program or loan options. For assistance with a crop insurance claim, producers and landowners

should contact their [crop insurance agent](#). For FSA and NRCS programs, they should contact their [local USDA Service Center](#).

USDA touches the lives of all Americans each day in so many positive ways. In the Biden-Harris administration, USDA is transforming America's food system with a



greater focus on more resilient local and regional food production, fairer markets for all producers, ensuring access to healthy and nutritious food in all communities, building new markets and streams of income for farmers and producers using climate smart food and forestry practices, making historic investments in infrastructure and clean energy capabilities in rural America, and committing to equity across the Department by removing systemic barriers and building a workforce more representative of America. To learn more, visit [usda.gov](#).

USDA is an equal opportunity provider, employer and lender.



Northern Kentucky Horse Network members rode their horses in the 2023 Alexandria Fair Parade for the Kick off and opening of the Alexandria "World's" Fair.

Can I Afford to Buy a Farm?

Brashears, Kayla. "Can I Afford to Buy a Farm?" *Southern Ag Today* 3(38.3).
Kayla Brashears, University of Kentucky

A goal of many pursuing the American dream is home ownership. Similarly, the goal of a farmer is often to become a landowner. Like buying a home, the financial decision to purchase farmland is clouded by emotional, social, and familial influences. How can a farmer clearly evaluate their financial position to purchase farmland



when these influences are at play? The answer is, going back to the basics – analyzing the numbers. Most farmers will seek financing to complete a farmland purchase, and it's important to have an idea of your purchasing position before you approach lenders. There are two important angles when it comes to considering cash requirements for a land purchase:

- Cash needed immediately for a down payment (and/or land and building improvements)
- Recurring annual cash flow needed to make the farm loan payment.

Depending on the size of the farm, a high purchase price per acre will result in a substantial chunk of cash needed for a down payment. In some instances, buildings in disrepair, nutrient depleted soil, and/or a neglected water mitigation (or irrigation) system may create additional upfront cash requirements. Also remember to plan for soft costs like surveying, appraising, and bank fees that will increase either your down payment or your total loan amount.

Healthy working capital and a current ratio of 1.5 or greater are

good indicators of cash availability (liquidity), and it is important to consider the status of your remaining liquidity after making a down payment. Many lenders will require a 15-20% down payment on quality farmland, and subpar land may require an even larger down payment. There are programs that exist for beginning farmers that require as low as a 5% down payment.

If you don't have the cash available, you may consider accessing equity in other assets. Keep in mind, the smaller the down payment, the larger the loan payment each year. Many lenders may offer a lower interest rate for a larger down payment upfront.

As the source of the down payment is being solidified, a concurring step should be calculating the loan payment amount and how it will impact your future cash flow. This can be intimidating if you aren't a numbers person, but it's powerful information to know before you begin meeting with lenders. A simple Google search will yield multiple tools to calculate a loan payment. Specifically, limiting the

search to a "farmland" loan calculator will result in a semi-annual or annual payment option, the most common payment structures for farmland loans. Understanding the payment options and financing structure will position the farmer to better negotiate terms, and plan for the impact on cash flow.

Lenders want to see that the operation can pay back the money loaned to the farm. They will often use a ratio called a Debt Service Coverage Ratio (DSCR) as one tool to determine the repayment capacity of the farm. This ratio compares the Net Operating Income, or cash you have available to make your debt payments, to existing debt payments and the new loan payment. Learning how to calculate the DSCR yourself can be a great way to determine your purchase power.

An example DSCR calculation is below:

Net Operating Income	\$390,000
Current Debt Payments	\$185,000
New Farm Payment	\$55,000
Total Debt Payments	\$240,000
\$390,000 / \$240,000 = 1.67 DSCR	

There isn't a firm financial standard for DSCR. A DSCR of 2.0 or more is considered very strong, and a DSCR of less than 1.0 means there isn't enough income to make debt payments. Many lenders set a

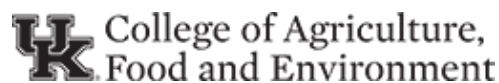
threshold of 1.2 or 1.25 as a minimum requirement. This is one of the most basic calculations to determine repayment capacity, but it isn't perfect. It can vary widely from year to year, as it starts with Net Farm Income – which we know is volatile! For a more thorough understanding, also calculate the five-year average of net operating income and debt payments.

If you're buying a farm that you are paying rent for, recognize that your net farm income will increase by that rent amount, and you'll have it available to apply towards the debt payment. If the farm to be purchased is new ground, include a projection

of crop or livestock revenue & expenses that the farm will generate in your calculation. There needs to be enough money left after your debt payments to fund any family living requirements and satisfy your tax liabilities, so don't forget to include those figures – and be realistic about the family living number!

Even if you aren't actively looking to purchase a farm, understanding your debt capacity is important in managing your farming operation. This process can be applied to other purchases as well, like building grain bins or purchasing equipment. An unexpected death or life change in

your area may present an opportunity to purchase land, equipment, or buildings. If you know your financial position, you can evaluate clearly whether the deal is a good one, outside of the emotions involved. Is the land good quality? Is the equipment in good shape? Is it truly a good financial decision for my farming operation? Knowing that you can afford a purchase creates room for you to consider the other details. As always, talking with trusted professionals like your accountant, financial advisor, tax preparer, and banker can help you understand your financial position.



BEEF AND BROCCOLI STUFFED POTATOES

Servings: 4 Serving Size: 1 stuffed potato Recipe Cost: \$6.54



Ingredients:

- 4 large potatoes, baked
- 8 ounces lean ground beef
- 1 teaspoon onion powder
- 1 teaspoon garlic powder
- 1 10-ounce package frozen chopped broccoli
- 1 cup low-fat shredded cheddar cheese

Nutrition facts per serving:

520 Calories; 13g total fat; 6g saturated fat; 0g trans fat; 65mg cholesterol; 280mg sodium; 71g total carbohydrate; 7g fiber; 3g sugar; 0g added sugar; 34g protein; 0% Daily Value vitamin d; 25% Daily Value calcium; 35% Daily Value iron; 40% Daily Value potassium.

Directions:

1. In a skillet, cook ground beef over medium heat, breaking up beef until coarsely chopped; cook until no pink remains.
2. Drain fat off browned beef.
3. Return ground beef to skillet; add onion powder, garlic and frozen broccoli.
4. Cover and cook beef and broccoli mixture 8-10 minutes over medium heat.
5. Sprinkle cheese over mixture; cover pan until cheese melts.
6. To serve, place one baked potato on each plate; cut potatoes widely open.
7. Top each potato with one-fourth of the beef broccoli mixture.
8. Serve immediately.

Source: Brooke Jenkins, Extension Specialist, University of Kentucky Cooperative Extension Service

What Do Higher Profit Farms in Kentucky Have in Common?

Lauren Omer Turley | KFBM Area Extension Specialist | lauren.o.turley@uky.edu

In today's farming culture, the farm is run just as a business. It is important for producers to make progress and always look for ways to improve the operation. The goal of most producers is to be at the top of the profitability curve in order to stay competitive. In Kentucky, we have had a record three-year period from 2020 to 2022. There were excellent yields combined with decent prices and low input costs. Everything combined resulted in very positive net farm incomes over the period. Looking at the current year, the 2023 crop, input costs have risen drastically and commodity prices are lower. Yields are still unknown, but this will most likely be a year of tight margins although producers' efficiencies are being maximized. Crop yields do play a major factor in management returns; however, the diversity of the operation also has an impact. It is interesting to examine the characteristics of the higher profit farms over the past five years.

Data from the Kentucky Farm Business Management program for 2018 through 2022 were used to analyze differences between the highest profit grain farms (high one-third) and the lower profit grain farms (low one-third). The analysis was done for 2022 and for the 2018 through 2022 five-year average on a per acre basis. Farms in the higher profit group were larger, had higher corn and soybean yields, cash rented a larger percentage of their acres, had a larger percentage of their acres in corn, and had higher gross returns and lower costs. Management returns, a profit measurement, were significantly greater for the higher profit farms. Management returns are calculated using gross returns, cash costs, economic (rather than



tax) depreciation, and imputed costs for interest and owner labor.

Farm size was a consistent factor in the profitability, as the higher profit farms were 574 acres to 1640 acres larger than the lower profit farms over the five-year period. In 2022, livestock returns (primarily poultry) were a factor in the higher profit farms. Beef cattle also had positive returns in 2022, which was a change from the past five years. The larger farms are able to spread the fixed costs over more acres. Over the five-year period, the average difference in farm size was 1215 acres. This is a large difference as the average size of the farms only ranged in size from 1261 acres to 2920 tillable acres.

Another consistent factor of the higher profit farms was yield. Both corn and soybean yields were higher over the five years. As the table shows, for the five-year average, corn yield was 15 bushels higher and soybean yield was 5 bushels higher. This would obviously result in higher gross returns per acre. In 2022, their yield advantage was a considerable 17 bushels for corn and 9 bushels for soybeans. Weather is one major contributor to the higher yields, but management practices also impacted the yields across the state. The higher profit farms also had a larger percentage of their tillable acres planted in corn

and less in full season soybeans. More corn acres will also add to the higher gross farm returns as an acre of corn will produce more returns than an acre of soybeans.

Management practices also impact the costs. The crop costs include seed, chemicals, and fertilizer. An acre of corn is more expensive than an acre of beans, thus one would assume the costs should be higher for the farms that have a larger percentage of their land in corn. However, crop costs for the higher profit farms (with a larger percentage of their land in corn) were \$16 lower than the lower profit farms on average over the five-year period. Less inputs to generate

	Kentucky
Corn Yield (bu)	17
Soybean Yield (bu)	9
Operator Tillable Acres	1117
% Owned	-6%
% Crop Share	4%
% Cash Rent	2%
Gross Farm Returns	\$267
Crop Costs	(\$20)
Power & Equipment Costs	(\$16)
Total Economic Costs	(\$65)
Management Returns	\$324
% Acres Corn	6%
% Acres Soybeans	-1%

Table 1: Differences Between High and Low Thirds - 2022

higher returns resulted in these farms being at the top. In 2022, the crop costs were \$20 lower per acre for the higher profit farms. The largest crop input factor over the past five years, and most likely for the 2023 crop as well, was fertilizer. In 2022, on an average grain farm, crop input costs have been 35-40% of total costs. It is difficult to reduce overall costs when such a large percentage of costs are tied up in inputs that really can't be reduced without impacting gross returns. Input prices have been very volatile over the last year, thus monitoring input costs has been a top priority for producers.

As expected, the higher profit, larger farms had lower power and equipment costs. This category includes utilities, equipment repairs, fuel, machine hire and lease, and equipment economic depreciation. The largest costs are repairs, machine hire, and economic depreciation. Spreading these costs over more acres allows for more efficiency. Total economic costs include crop costs, power and equipment costs, building costs, labor costs, miscellaneous costs, and land costs. In 2022, total costs were \$65 per acre lower for the higher profit farms, which you can see over half of that difference is a result of crop and equipment costs. In 2022, labor was \$36 more for the lower profit farms. One reason for this is more tobacco on

the lower profit farms. Tobacco is labor intensive and since the lower profit farms were smaller, there were fewer acres to spread the labor costs across. Economic costs were \$78 less for the five-year average, and 54% of that difference is a result of crop and equipment costs.

Another interesting factor to discuss is the ownership and rental agreements of the higher profit farms. Different areas of the state have primarily different rental agreements. Some landlords prefer cash rent and a guaranteed set price, while other landlords are willing to take a risk for higher returns and possibly share in some crop expenses. In 2022, the higher profit farms owned 6% less of their land, crop shared 4% more of their land, and cash rented 2% more of their land. The average cash rent for these farms was only \$203, a very economical cash rent. Over the five-year period, the average difference for the higher profit farms was crop sharing 7% less, and cash renting 7% more. With the economical cash rent average, the crop share farms have been a larger cost to the producers over the period.

The larger gross farm returns and the lower costs have resulted in significantly larger management returns for the higher profit farms. In 2022, the higher profit farms averaged \$324 more per acre in management returns. Over the

five-year period the average difference was \$314 per acre.

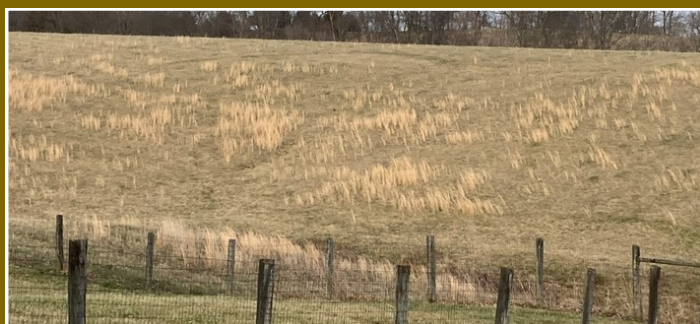
There are many factors that contribute to the profitability of the farms. Some factors, such as weather, cannot be controlled, but the management practices of each operation impact many other factors. Forward planning and knowing breakeven costs are more important now than in the past. With the volatilities of the commodity markets and the fertilizer markets, producers should be aware of their costs in order to "pull the trigger" when the time comes. Not one single factor will be the consistent main contributor to the difference in profitability. The goal of all producers should be to analyze personal trends and work toward improving their individual operation.

	Kentucky
Corn Yield (bu)	15
Soybean Yield (bu)	5
Operator Tillable Acres	1,215
% Owned	0%
% Crop Share	-7%
% Cash Rent	7%
Gross Farm Returns	\$229
Crop Costs	(\$16)
Power & Equipment Costs	(\$26)
Total Economic Costs	(\$78)
Management Returns	\$314
% Acres Corn	5%
% Acres Soybeans	-10%

Table 2: Differences Between High and Low Thirds - 5-Year Average

Have you Seen Me?

This light, tan-colored plant is Broomshedg- it only grows where the soil pH is low or the nutrient balance is off kilter. If you see this plant in your fields, take a soil test and I will work with you on applying the fertilizer and lime needed to eliminate this plant and improve the forage production in your fields.



FSMA PSA GROWER Training (REMOTE / ZOOM)

Registration for the December 5, 2023 Training

Location: Remote / Zoom 8:00 a.m. - 5 p.m.

Who Should Attend

Fruit and vegetable growers and others interested in learning about produce safety, Good Agricultural Practices (GAPs), co-management, and the FDA's Food Safety Modernization Act (FSMA) Produce Safety Rule. Any growers who would like to meet the Produce Safety Rule requirement outlined in §112.22 (c) At least one supervisor from the farm must complete food safety training at least equivalent to the standardized curriculum recognized by the FDA. Note: Completion of this course is a regulatory requirement for all Kentucky fruit and vegetable growers with over \$25,000 in yearly sales and those growers seeking a Qualified Exemption.

What to Expect at the PSA Grower Training Course?

The trainers will spend approximately seven hours of instruction time to cover the content contained in these seven modules:

- Introduction to Produce Safety
- Worker Health, Hygiene, and Training
- Soil Amendments
- Wildlife, Domestic Animals, and Land Use

- Agricultural Water
- Postharvest Handling and Sanitation
- How to Develop a Farm Food Safety Plan.

Parts of the FSMA Produce Safety Rule requirements are outlined within the modules. There will be time for questions and discussion, so participants should come prepared to share their experiences and produce safety questions they have.

Benefits of Attending the Course

The course will provide a foundation of Good Agricultural Practices (GAPs) and co-management information, FSMA Produce Safety Rule standards, and details on how to develop a farm food safety plan. Individuals who participate in this course are expected to gain a basic understanding of:

- Microorganisms relevant to produce safety and where they may be found on the farm
- How to identify microbial risks, practices that reduce risks, and how to begin implementing produce safety practices on the farm
- Parts of a farm food safety plan and how to begin writing one
- Expectations in the FSMA Produce Safety Rule and how to meet them.

After attending the entire course, you will be eligible to receive a certificate from the Association of Food and Drug Officials (AFDO) that verifies you have met the requirement of section §112.22(c)

(detailed above). To receive an AFDO certificate, you must submit the appropriate paperwork to your trainer at the end of the course.

Registration Requirements for the Training

- Must have a valid email id.
- Must have a computer (mike, speaker, and video) with steady internet access.
- Must be available throughout the training. Participants will be monitored and failure to miss a chapter will result in automatic cancellation of the registrant from the training and no certificate will be provided.

Last Day to Register for the Training November 3, 2023

Costs: \$ 100 per person (Kentucky Residents), \$120 (Out-of-State)

Cost covers Training Manual, Certificate, and Shipping

For Additional Information, Please contact:

**Dr. Paul Priyesh
859-257-1546
E-mail: paul.v@uky.edu**

Campbell County Extension Community Celebration hosted an Interactive Ag Experience offering **Goat Yoga** to participants! Family and Consumer Science Agent, Kate Thompson, taught the yoga sessions and Toni Lauer, YoGoat Cincinnati, brought her goats for everyone to enjoy!



The Weaning Process, and Assuring Quality

Steve Boyles, OSU Extension Beef Specialist

THE WEANING PROCESS:

Weaning can be one of the most stressful events in the life of a calf. Once these stressors occur within a matter of days, you are asking for trouble. Calves are the most susceptible to shipping fever (Bovine Respiratory Disease) when they are 6-8 months of age. Earlier in life, calves are protected from disease by maternal antibodies from colostrum. When calves are yearlings, they have a fully developed immune system and are better able to respond to a disease challenge.

Based on one survey (NAHMS) fifty percent of us wean calves based on age and weight. Typically, we take a 7-month old calf when it is most susceptible to disease and we put a whole bunch of stress on it. Weaning, trucking, vaccination, no feed, no water, crowding, comingling, new pathogens, new source of feed, and new source of water.

The best way to keep calves healthy is to vaccinate before calves are stressed and to reduce, eliminate, or spread out the stress calves are exposed to. Bottom line is that stressed calves don't respond as well to vaccines. If you don't vaccinate prior to these stresses, some calves may not develop antibodies soon enough to be protect them from respiratory disease upon entering the feedlot. To implement a vaccination program for calves is there a time you are working the cows prior to weaning. If you are doing pregnancy checking of cows this might be a convenient time to do some vaccination of calves. Work with your veterinarian in developing a feasible system for your operation.

An interesting twist you might consider is "weaning the cows." The first step is moving the cow-calf pairs to small pastures near the corral or pens that you have good quality forage. This allows the calves to become accustomed to the environment. The cows are then put in the pens for a few days and the calves remain on pasture and are provided a supplement. The better the pasture, the less supplement may be needed. The pasture is probably less dusty than the pens and the calves have become accustomed to the pasture. This may not reduce bawling by the cows but may reduce the bawling by the calves. The cows are then moved out of the corral after 3 days. Like the other systems the source of water and feed for the calves is kept close to the corral at least for the first few days. Another option is to use a combination of pen and pasture weaning.

Regardless of the system used, weather is a major factor for success. Watch the weather reports to locate a good window for at least the first 3-4 days of the actual weaning process.

HEALTH MANAGEMENT AT WEANING:

Heifers should be vaccinated against *Vibrio fetus*, Leptospirosis, and the respiratory disease complex which includes PI3, BRSV, BVD, and IBR. A modified-live vaccine is preferred because it generally stimulates a better immune response. A typical strategy is to vaccinate using killed vaccines 3 weeks before weaning and then follow up with MLV booster. Heifers also may need to be dewormed at this working.



Annual Meeting

Tuesday, November 7, 2023 — 6:00 p.m.

Campbell County Extension Environmental Education Center
1261 Race Track Road, Alexandria, KY 41001

**Call the Extension Office to register
859-572-2600 or online at:
<https://campbell.ca.uky.edu/>**



Sponsored by:

- Y Tex Tags
- S & B Cattle Company
- Kentucky Cattleman's Association
- Campbell County Cattle Association
- Campbell County Extension Service

Program: 6:00 p.m.

- Welcome & Introductions
- CCCA Annual Business Meeting
- Cattle Industry and Market Update
- KY Cattlemen's Association Update
- Cooperative Extension Service Update

Speakers:

- Rick Schweitzer, S & B Cattle Company
- Michelle Simon, Campbell County Extension Agent for Agriculture and Natural Resources
- Andy Bishop, Kentucky Cattleman's Association

Please pay your 2024 KY Cattle Association and CCCA dues (\$30) online at kycattle.org

