

Ag and Natural Resources News

January 2023

Cooperative Extension Service
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Mark your calendars now!

► **The Extension office will be closed January 2, 2023 & will reopen on January 3. Our office will also be closed on January 16 in observance of Martin Luther King day.**

► **Cow-Calf School—X10D
Record Keeping**

January 9 · 6:30pm
Kenton County

► **Private Applicator Pesticide
Training**

January 17 · 10am or 6pm
Boone County Extension Office

► **Beginning Birders**

January 18 · 1pm
Extension Enrichment Center

► **N. Ky. Cattle Association
Annual Meeting**

January 28 · 11am
Extension Enrichment Center

► **Bird Houses**

January 26 · 1pm
Extension Enrichment Center

Cattle Producers New Year's Resolution

Every year I hear people talking about making resolutions to make the new year better. Whether it's lose weight, exercise more, or saving money, they usually don't follow through for the entire year. 2023 will offer much of the same and possibly new challenges to deal with. I believe that the best option for being successful as a cattle producer is constantly keeping yourself informed about the industry and having objectives for my operation that will help guide me through the year. Since resolutions sound a lot like objectives, I figured January would be the best time for us to discuss our resolutions for our cattle operations.

Resolution 1: Have the best-looking pasture and hayfields in the county. To do this, we need to develop a plan for our forages. That means we need to know the nutrient needs of our livestock. We need to know the nutrient availability of our forages/hay. Then determine the correct number of cows per acre based off that information. To get the best possible nutrients out of our forages we need to fertilize properly. We can't do that without knowing what nutrients are already in our soils. We do this by having a soil test done. Fertilizing and liming as recommended from your soil test will help ensure greater yield, higher quality, lengthen the life of the pasture, and reduce weed problems. Having legumes mixed in with grass pastures can help with fertility of your soil.



Resolution 2: Improve the reproductive efficiency in the Cow/Calf operation. Reproductive efficiency has shown to be the most important factor that affects gross returns from a Cow/Calf

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University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

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operation. It would be great to have every exposed cow and to have every cow to calve with 20 to 30 days from the start of the calving season. That would be the perfect world plan but realistically we would be able to wean a calf from 90% or more of the exposed cows. And of that we can easily have 80% of the calves born within the first month of the calving season. To do this we need to include the following practices in our cattle operations:

- Proper nutrition of the brood cow
- Estrus synchronization for either natural or artificial insemination
- Proper development of heifers and young cows
- Disease prevention
- Minimizing calf death loss
- Using fertile bulls
- Culling infertile cows

I don't have room to cover each of those topics, so learn more about each topic by getting a copy of the Kentucky Beef Book.

Resolution 3: Having the healthiest herd in the county. A healthy disease-free herd is a goal for all producers. One of the most important factors of maintaining a healthy herd is to have a good working relationship with your local vet. Your local vet knows what problems are occurring in the area and can help watch for initial signs of these issues creeping into your herd. Your Vet can also help keep your cattle up to date on needed vaccines if you haven't been doing that yourself. Other requirements for maintaining a health herd are things like having adequate handling facilities. Without good handling equipment it can make it difficult to bring cattle in and manage them safely during this process and good handling facilities have been shown to cause less stress on cattle while working them. Having proper nutrition available for your cattle is a must. We can't just leave



them on the pasture or bring in a bale of hay. We need to have forage analysis so that we know what we are feeding and how to supplement pasture and hay with what is missing from those forages.

It's difficult to put everything in this article that is need to maintain healthy cattle but this is a good start and next would be to learn what beef cattle practices are recommended throughout the year to manage your cattle herd. You can start that by reading UK Extension publications on the subject or schedule a visit to your farm with the Ag Agent and work together to learn more about maintaining a healthy herd.

Resolution 4 and our final one for this article: Have some of the best beef carcass grades possible. Everything we do on our cattle operations lead to producing beef for consumption. So why not put the best possible product on the market. This can be even more important to those of you selling freezer beef. You have a good product and you sale to that customer again. You have a lesser quality product and you won't sale to them again, plus they tell everyone they know about your beef and how it tasted.

To sum all of this up, there are many things that we need to do to keep our cattle healthy and disease-free. But 2 things that our a must is to have a relationship with your local vet and not just when you have a problem. And get to know your County Ag Agent and stay up to date with the most recent information available through our local Extension Service Office. To start on this call 859-586-6101 ask for Gary and let's schedule a visit to look at your operation and talk about what Extension can do for you.

Basics of On-Farm Animal Mortality Composting

Despite adequate care and management, animal mortalities occasionally occur on farms. When they do, Kentucky livestock producers have few options to safely dispose of the carcass. On-farm composting is a low-cost, effective way to dispose of dead animals without contaminating waterways or causing a smelly nuisance.

Two materials are needed for composting: the carcass and a bulking agent. Bulking agents are things like sawdust, wood shavings, and wood mulch. These materials provide a source of carbon to offset the nitrogen from the carcass. They soak up liquid produced during decomposition, regulate airflow through the pile and keep scavengers away. Usually, producers will layer 2 feet of bulking agent on the bottom, the carcass and at least another 2 feet of the bulking material on top of and on the sides of the carcass. A front-end loader is helpful to transport the carcass and bulking agent and create the pile.

Ideally, you will have an enclosed composting facility. A roof keeps the pile from getting too wet and prevents runoff. Sidewalls or fences can protect the decomposing carcass from scavengers and pests. Concrete floors keep compost from entering ground water. The size of the pile will depend on the type of facility size and the type of bulking agent and equipment you use. A typical pile for a large animal (more than 1,000 pounds) should have a height of approximately 6 feet.

Moisture and temperature control is critical to proper composting. If the material is too wet, it could pollute surface or ground water. You can check the moisture by squeezing material in your hand. If it drips, it is too wet. If your palm does not get wet when squeezed, the material is too dry. Temperatures inside the compost pile need to be between 140-160 degrees F. You can purchase a long-stemmed compost thermometer to make sure the pile is reaching the right temperature.

The compost should not emit foul odors at any point in the process. If it starts to smell bad, then something is wrong. You will need to check the pile's moisture content, temperature, airflow, carbon-to-nitrogen ratio and the amount of material covering the carcass to determine the problem and resolve the issue.

If done correctly, the carcass should decompose within three to six months. You can apply the compost to cropland as fertilizer or reuse it to compost other livestock mortalities.

More information on on-farm dead animal composting is available in the University of Kentucky Cooperative Extension Service publication ID 166: On-farm composting of Animal Mortalities. It is available online at https://afs.ca.uky.edu/files/on-farm_composting_of_animal_mortalities.pdf or by contacting the Boone County Extension office.



Managing Limited Hay Supplies

Having a limited hay supply can cause stress, but sound management will allow you to conserve hay without sacrificing animal productivity. Remember that the animals' nutritional needs should always come first. Here are a few tips to help you figure it out.

Determine your hay needs. If you know the mature weights of your cows, multiply the average weight by 3 percent and then by the expected number of days you will feed hay. If a cow at a body condition score of 5 weighs 1,300 pounds, it needs 39 pounds of hay per day. That cow needs about 5,850 pounds of hay for a five-month period. If bales provide 800 pounds of good forage (excluding rot/spoiled hay), you would need 7.3 bales for one cow. Always add 10-20 percent more to cover feeding losses, spoilage and longer feeding periods.

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Easy MeatLoaf

Salsa adds zip to this super easy meatloaf recipe.

2 pounds lean ground beef
2 eggs, beaten
1 sleeve saltine crackers,
crushed
1 medium onion, chopped
2 cups salsa

Preheat oven to 350° F. In a large bowl, mix the beef, eggs, crackers, onion and 1 cup of salsa. Press into greased 2-quart casserole dish or 10-inch iron skillet. Top with remaining salsa. Bake for 1 hour.

Per serving: 170 calories; 6g total fat; 2g saturated fat; 0.5g trans fat; 100mg cholesterol; 550g sodium; 5g carbohydrate; 2g fiber; 3g sugar; 24g protein; 10% Daily Value of vitamin A; 2% Daily Value of vitamin C; 0% Daily Value of calcium; 10% Daily Value of iron.

Source: Sarah Brandl, Extension Specialist, University of Kentucky Cooperative Extension Service



Ideally, you took inventory of your hay in the early winter as hay is cheaper at the start of the winter as opposed to later. Match hay quality to what your animals need. Use limited forage wisely by matching quality to stage of production. Growing and lactating animals have the highest nutritional needs.

As we consider the annual production of a beef cow, nutritionally we tend to break them out to late gestation, early lactation, late lactation, and the dry, mid-gestation period. During late gestation, particularly the last 60-75 days before calving, the fetus grows rapidly, increasing the nutrient needs of the cow. Additionally, mammary tissue development and colostrum formation require additional nutrients. Nutritional requirements increase with milk production.

Peak milk production occurs around eight weeks post-calving and corresponds with the highest nutritional needs during the production year. Nutritional needs may decrease after peak as milk production declines. However, some research has shown that cows may sustain high levels of milk production 120 days post-calving. It is important to monitor cow body condition through lactation and make necessary feeding adjustments. Fall calving beef cows may require additional supplementation to support higher milk production levels.

Feed the highest quality forage during lactation to minimize body condition loss and supplementation needs. As you wean cows and milk production ceases, nutritional needs greatly decrease. Dry, nonlactating cows that have weaned 6-8-month-old calves should be in the second trimester of gestation. The nutritional needs to support fetal development at this point is low and corresponds to the lowest nutritional requirements for the production year. Use lower quality



forages to conserve higher quality forages for other phases of production.

You can stretch limited hay stores if you can limit the amount of time cows have access to the hay. You can only do this for mature cows that are in the dry, mid-gestational stage of production and are 5-6 body condition scores. Young and thin cows need additional feed to grow and replenish body stores and should not have their feed limited.

Don't restrict low-quality forage. Cows will need to consume as much low-quality forage as they can due to the low digestibility and low nutrient concentrations. To do this, separate the herd by age and production as lactating cows, late gestational and young or thin cows. Reducing feed loss is key. Research demonstrated increased losses when unrolling hay on the ground. Cows trample hay into the mud by walking and laying on it. Defecation and urination will prevent intake as well. If you are using a processor and want to minimize losses, place processed hay in a feeder or bunk rather than on the ground. Hay rings should have sheeting around the bottom to minimize hay losses.

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Improved designs that keep bales elevated off the ground while allowing dropped hay to fall within the hay feeder also lower feeding losses. These feeders are more expensive up front but if hay is expensive, they can lower feeding costs. It is important these hay feeders are managed. If hay builds up



inside the feeder and the cattle don't consume the hay due to rot or mold, move the hay ring. If the hay is not of low quality, allow animals to consume the hay that is lying on the ground within the ring before placing a new bale in the feeder. Allowing the hay to build up to the top of the ring/sheeting/tire in these newer designs will increase losses when a new bale is offered as hay will fall out over the edge of the ring or tire. Placing hay rings on a feeding pad can lower losses from hay that falls outside the ring on the ground.

Consider replacing hay with other feedstuffs to supply necessary nutrients. Use caution when restricting hay; the rumen will not be full. Stretch receptors on the rumen will cause cows to eat even though nutritionally, they won't need to eat. This can lead to tree and fence damage or even cows getting out looking for something to eat. Giving access to low-quality forage can curb this behavior. You can use corn stover, wheat straw and other low-quality forages.

Typical fescue hay contains 50-54 percent of total digestible nutrients and 7-9 percent protein on a dry matter basis. If you offer 1 pound of dried distillers grains, the protein is equal to 3-4 pounds of hay, while the energy from the distillers grains would replace 1.75 pounds of hay. For dry, gestating cows, you can use soybean hulls to replace average grass hay at a rate of 1.5 pounds of soyhulls per pound of hay.

Always offer cows at least 8-10 pounds of long-stemmed forage to maintain rumen health and lower the incidence of bloat. Be sure to work with a nutritionist to ensure you are meeting the cows' nutrient needs and lessening the risk of digestive disorders.

Don't overlook other nutrients. A beef cow may need 10-20 gallons of water a day. Restricting water availability leads to lower feed intake and reduced milk production. Always provide a high-quality loose mineral to meet mineral and vitamin requirements. Consider supplementing an ionophore such as monensin or lasalocid to improve energy efficiency.

Source: Jeff Lehmkuhler, Extension Beef Specialist

Kentucky Ag Economists Predict Record High Cash Receipts

Kentucky Farmers Have Been On a Wild Ride throughout 2022. Spiraling inflation, major weather events, supply chain and trade disruptions, soaring input prices, labor issues and other factors offered challenges to the state's agriculture sector. Add to that the war between two major global markets, Russia and Ukraine, generated significant impacts on commodity prices, ag trade flow and availability of farm inputs and global food supplies.

During the Kentucky Farm Bureau's annual meeting, University of Kentucky College of Agriculture, Food and Environment economists shared their predictions for the state's agriculture and forest economies. Despite significant challenges, the economists predicted the state's 2022 agricultural receipts will approach a record-high \$8 billion, well surpassing the 2021 record-high of \$6.9 billion.

"Adjusted for inflation, our 2022 estimate, if achieved, will be 19% higher than the inflation-adjusted average over the previous 10 years," said Will Snell, UK agricultural economist. "Even with record increases in input expenses and considerably lower government payments, the U.S. Department of Agriculture predicts farm income will be higher in 2022.

Mother Nature dealt harsh blows to Kentucky farmers in 2022.

"Extensive periods of excessive rain early in the growing season, followed by drought conditions during the critical growing periods, led to lower crop yields and a poor curing season for tobacco," Snell said.

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Private Applicator Pesticide Training

January 17, 2023

10:00 am & 6:00 pm

Boone County

Extension Office

This training is required for anyone purchasing Restricted Use products for their agricultural or horticultural crops. The training requires two hours to learn the material and complete certification.

Check your card now to see if you are due to take the training! This is the only time this class will be offered this year!

**Registration required @
859-586-6101 or
boone.ca.uky.edu**

Kenny Burdine said cattle prices were higher in 2022 for heavy feeders and calves, but increased production costs eroded most of that price improvement.

"Elevated feed prices continue to incentivize placement of heavier cattle into feeding programs, which has increased the value of gain for Kentucky producers and encouraged adding more pounds before sale," he said.

Burdine added that drought in much of the United States has led to extremely high female slaughter and the industry will likely enter 2023 with a 3-4%-reduction in beef cow inventory.

"Those supply fundamentals should bode well for feeder cattle prices next year and we should see prices at levels that we have not seen since 2015," he said.

UK agricultural economist Greg Halich said profitability for grain crops looks good for 2023, even considering the significant increase in input prices.

"For the upcoming 2023 crop season, prices are predicted to be around \$5.50-6.00 per bushel for corn, \$13-\$14 per bushel for soybeans, and \$7-8 per bushel for wheat," he said.

Kentucky's forest industry includes logging, primary wood manufacturing, secondary wood manufacturing, pulp and paper, paper converters and wood residue.

"While 2021 was a banner year for the price of many hardwood products, there has been a 53% percent collapse in lumber values across all species in the second half of 2022. This has resulted in a softening of prices for timber and logs cut for lumber," said Jeff Stringer, chair of the UK Department of

The December 2021 tornado in Western Kentucky and the devastating July flooding in Eastern Kentucky destroyed agriculture infrastructure in both regions and likely affected farm income and marketing.

"While Kentucky benefitted from relatively high national commodity prices, low levels on the Mississippi River adversely impacted local grain prices during harvest season due to limited grain flow. Additionally, domestic and export markets induced a significant grain carryover into 2023," Snell said. "Despite all those challenges, the Kentucky agricultural economy remained strong overall." Snell anticipates that Kentucky farm-level prices will more than offset the lower yields for most Kentucky agricultural enterprises.

Even with challenges from the tornado and avian influenza, economists expect poultry to regain the top spot in Kentucky agriculture with a 20%-market share of receipts. The list continues with soybeans and corn, both with 18%, equine with 16% and cattle at 13%.

"While broiler production was down in Kentucky, wholesale broiler prices were up over 40%, year-over-year, mainly driven by record high wholesale breast meat prices," said Jordan Shockley, UK agricultural economist. "High prices more than made up for the decrease in overall production, leading to poultry regaining the top spot in Kentucky agriculture."

Equine markets continued to show strength during 2022, as annual Keeneland sales were 12% higher than 2021. Pursues continue to grow and this continues to support sale values and stud feeds.

UK agricultural economist



Forestry and Natural Resources. "While there should be bright spots in 2023, including white oak stave and railway tie logs, lumber log prices are hard to predict."

Stringer said there is a capacity issue for logging and sawmilling in some areas of the state, most notably eastern Kentucky, and a decrease in overall demand.

"These opposing supply and demand factors are creating significant uncertainty for timber, log and lumber prices in 2023," he said.

Higher specialty crop prices and expanding market channels led to record fruit, vegetables, nursery and greenhouse levels in 2022. Labor, fertilizer, plastic and construction costs have substantially risen, especially for larger controlled environment greenhouses. Growing imports will also put increasing pressure on larger-scale production.

"Kentucky horticulture producers continue to benefit from strong demand locally and regionally with rapidly growing auctions and direct-to-consumer market opportunities," said Tim Woods, extension professor for the UK Center for Crop Diversification. "This should continue into 2023."

The average crop farm participating in the Kentucky Farm Business Management program realized \$871,325 in net farm income in 2021. Even adjusted for inflation, this far exceeds the previous 2013 high.

"Based on what we have seen, commercial-sized crop farms entered the year with a very healthy balance sheet," said Jerry Pierce, KFBM coordinator. "It provided cash to operate the farm, possibly reduce operating debt, and even loosen the belt on family living a bit. The additional profitability does mean more income taxes."

Pierce said tax planning has been difficult this year because of high prices, limited supply of pre-pay inputs and the scarcity of equipment for depreciation.

"A lot of 2021 crops were carried over to be sold this year," he said. "My guess is that there will be a lot of this year's crops carried into next year."

Snell said Kentucky will enter 2023 with continued tight global supplies of most agricultural commodities and, as such, continued high input prices.

"The upcoming year is filled with much uncertainty over issues such as war in Ukraine, South American crop production response, effects of inflation on interest rates and the cost and availability of ag inputs," Snell said. "Most economists expect commodity prices and margins to moderate in 2023 but to maintain relatively high cash receipts and net income levels. Producers must continue to monitor changing conditions and be ready to adjust marketing strategies in an uncertain marketplace."

Snell said that despite several adverse trade headwinds such as a much stronger U.S. dollar, up 10% in 2022, and global economic growth cut in half, U.S. agricultural exports' value will end the year at record-high levels with gains across most commodities and major food products.

"China remains the U.S. largest foreign customer for U.S. agricultural products, but U.S. ag sales to other major foreign markets, including Canada, Mexico, Japan and the European Union, all experienced double-digit percentage increases through September 2022 compared to the same period last year," Snell said.

Snell added that while prices for some inputs, such as fuel and fertilizer, have moderated in recent months, they remain relatively high and volatile.

"Even with higher input prices, ag commodity prices have generally increased by a larger percentage as tight global supplies amidst strong export demand are keeping prices well above levels in recent years," he said. "Interest rates have steadily increased in recent months, with operating and real estate loans now above 7% and rising. Higher interest rates and tightening profit margins may soften the surge in land values during the past years, but farm asset values remain strong."



Take Care of Our Feathered Friends in Winter

Winter is a hard time for birds to find natural foods like wild cherries and dogwood and holly berries. We can help by putting out feeders filled with seed, along with suet, pine cones smeared with peanut butter and even fruit halves. It will help supplement their diet and provide enough food to get them through the winter.

Most birds will eat just about anything you put out, but there are some birds who have preferred foods.



If you select the foods of birds that you want to see, then you will be less likely to get nuisance birds like starlings, grackles and crows. You are better off not to buy seed mixes as they contain peanut hearts, which are attractive to starlings. You will have better success if you buy black oil-type sunflower seed and white millet separately, in bulk. These are often cheaper than seed mixes too. Black oil sunflower seed will attract most seed-eating birds. Millet will attract sparrows, cowbirds and dark-eyed juncos.

Platform feeders will accommodate most birds. They can also lead to a lot of seed loss and waste, as the birds will knock the seed around and fall to the ground. If you want to attract specific birds, choose a feeder for that type bird. Gold and house finches prefer a tube feeder with a small opening for nyjer thistle or hulled sunflower seeds.

Don't forget that birds need water too. Keep a bird bath or water source close to feeders, and be sure the water is fresh and not frozen, as it tends to freeze in winter. Place the feeders in an open area where there are deciduous and evergreen trees, with shrubs nearby, so birds can escape for shelter. House cats can be a problem around bird feeders as they will lay in wait to ambush the birds for a meal. If you have a cat, consider putting a collar with a bell on it, so birds can escape before being attacked.

Keep your feeders clean by periodically using hot, soapy water and a capful of bleach to remove old, dried seed. Platform feeders might hold water and should have small holes drilled into the bottom to allow water to drain.

Contact the Boone County Extension office of the University of Kentucky Cooperative Extension Service for information on feeding birds in winter.

Source: Kelly Jackson, UK Extension Horticulture Agent



College of Agriculture,
Food and Environment
Cooperative Extension Service

Beginner Birders

January 18, 1:00-3:00pm, Extension Enrichment Center
Learn the birding basics and how to ID some of the most common winter birds of Northern Kentucky.

Bird Houses

January 26, 1:00-3:00pm, Extension Enrichment Center
Join us to learn about what birds utilizes bird houses and then build your own to take home. Space is limited.

► Registration:

Call 859-586-6101 or online @ boone.ca.uky.edu

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