

OFF THE HOOF



Cooperative Extension Service
University of Kentucky
Beef IRM Team

KENTUCKY BEEF CATTLE NEWSLETTER JUNE 3, 2024

Each article is peer-reviewed by UK Beef IRM Team and edited by Dr. Les Anderson, Specialist, Department of Animal & Food Science, University of Kentucky

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Timely Tips

Dr. Les Anderson, Beef Extension Professor, University of Kentucky

Spring-Calving Cow Herd

- Cows should be on good pasture with clover and preferably low endophyte levels in fescue for the spring breeding season. Keep pastures vegetative by clipping or making hay. They should have abundant shade and water. Our goal is to have cows become pregnant before July when temperatures and heat stress can ruin the “spring” breeding season.
- Observe the cows and bulls as the breeding season continues. Watch bulls for injury or lameness and change bulls if a high percentage of cows are returning to heat. Record cow breeding dates to determine next year's calving dates and keep records of cows and bulls in each breeding group.
- Keep a good pasture mineral mix, which contains adequate levels of phosphorus, vitamin A, selenium, and copper, available.
- Consider a devoted area for creep grazing calves, or practice “forward grazing” this summer, allowing calves to graze fresh pasture ahead of the cows. This can be accomplished by raising an electric wire or building a creep gate.

Fall-Calving Herd

- Pregnancy test cows if not done previously.
- Cull cows at weaning time
 - Smooth-mouthed cows
 - Cows weaning light weight and/or poor-quality calves
 - Open cows
 - “Problem cows” with bad feet, teats, udders, etc.
- Select replacement heifers based on:
 - temperament
 - conformation
 - weaning weight

- dam and sire records
- Select more than needed to allow for culling after a short breeding season

General

- Finish harvesting excess pasture as hay soon! It should be cut before it becomes too mature. Be sure and replenish your reserves. Try to put up more than you think you will need in case of a late summer drought.
- Pasture should supply adequate energy, protein, and vitamins now. However, be prepared for drought situations. Don't overgraze pastures so that recovery time will be faster. Overgrazed pastures will recover very slowly during July/August.
- Keep pastures small for rotational grazing so that nutritive quality can be maintained. They should be small enough, so cattle do not graze longer than a week. As the season progresses, you need several paddocks to give each properly stocked pasture about 4 weeks' rest.
- Maintain a clean water supply and check it routinely. Water is extremely important in hot weather.
- Control flies. Consider changing insecticides and/or methods of control this year, because insecticide resistant flies may have developed if you have used the same chemical year after year. Consider pour-on and sprays that allow you to put cattle in the corral or through the chute with little stress on them. It will make subsequent trips through the "chute" less stressful.
- Prevent/Control pinkeye
 - consider vaccinating,
 - control flies,
 - clip tall, mature grass,
 - treat problems quickly.
- Clip grazed-over pastures for weed control and so that seed heads do not irritate eyes. Pastures should be kept in a vegetative state for the best quality.

Play the Short, Medium, and Long Game Strategies to Maximize Returns

Kevin Laurent, Extension Specialist, Department of Animal and Food Sciences, University of Kentucky

The current state of the cattle market is providing unique opportunities for producers to capitalize in a variety of ways by employing a variety of short-, medium-, and long-term strategies to maximize returns.

What does "Play the Short Game" mean? Producers play the short game by maximizing pounds prior to marketing whether you market off the cow or after weaning, extra weight is extra dollars. So, how do we get extra weight?

Implant, deworm, and fly control for nursing calves: Research has shown that implanting nursing calves can result in an additional 10-30 lbs. at weaning, deworming an added 10-40 lbs. and fly control an additional 10-15 lbs. We cannot logically expect all three practices to be completely additive in response, but what if we employed all three strategies and gained a conservative estimate of an additional 30 lbs. In today's market that extra 30 lbs. could be worth an additional \$80-100/head depending on the weight class of the calf. All three of these strategies can be done for under \$7.50/head. Not a bad return on the time and labor to work the calves in the midsummer.

What does “Play the Medium Game” mean? Producers play the medium game by employing strategies this breeding season to have a tighter calving distribution and older, heavier, and more uniform calves for the 2025 marketing season.

Easily the best method to control the calving season and play the medium game is to use CIDR inserts on late calving cows. CIDRs are T-shaped plastic devices that are coated in the hormone progesterone. CIDRs are inserted in the vagina for 7 days. Removal of the insert results in a rapid fall of plasma progesterone levels, which results in the occurrence of estrus. CIDRs can be used to advance postpartum estrus in cows nursing calves. An effective strategy is to use CIDRs in late calving cows that are at least 14 days post calving. During the UK IRM Farm program, CIDRs were inserted in 276 mature cows that were 14-21 days after calving on 19 different farms. Approximately 80% of these late calving cows calved 36 days earlier in the subsequent calving season. At 2 lbs. per day this could be an additional 60 lbs. of weaning weight or an additional \$150-180 per calf for an investment of \$15-20. The added value of more uniform marketing groups and less singles are also a benefit of tighter calving. Dr. Les Anderson has an excellent video on proper CIDR insertion that can be found at the following link: [HOW TO PLACE A CIDR DEVICE IN A COW - YouTube](#)

What does “Play the Long Game” mean? Producers play the long game by investing 2023 and 2024 profits into infrastructure improvements.

Easily the low hanging fruit in the long game is Improving grazing management through stock water development. Improving forage and grazing management are long game type strategies that take several years to fully develop. One of the first steps to implementing controlled grazing strategies is providing water access for grazing cattle. Missouri research has shown that providing water within 800 feet of the grazing animal will result in more even grazing and more uniform nutrient distribution. Water development allows the farm to be properly divided for rotational grazing strategies during the growing season and strip grazing strategies during the winter months.

Water development can be a significant investment but the long-term benefits to the grazing enterprise can position operations to extend the grazing season, better withstand droughts and survive the downturns in the markets. Several cost share type programs are available to producers to aid in stock water development. Producers should check with their local NRCS office for assistance with proper system designs and available programs. Another resource for forage and grazing management information is the UK Forage website [Home | Forage Extension Program \(uky.edu\)](#). As always contact your local County Extension ANR Agent for more resources and educational programs.

So, what kind of game do you like to play? Are you simply concerned with “the now” or do you like to build a program that will succeed both now and into the future?

May 1 Hay Stocks Provide Early Perspective on Hay Supply for 2024

Dr. Kenny Burdine, University of Kentucky

USDA’s National Agricultural Statistics Service (USDA-NASS) released their May 1 hay stock estimates as part of the May Crop Production report on Friday. At the national level, hay stocks were estimated to be up by more than 46% from 2023. To be fair, hay stocks on May 1, 2023, were as low as they had been since 2013. But a year-over-year increase of this magnitude is noteworthy and confirms that hay supply has continued to increase after a very challenging year in 2022.

USDA-NASS estimates hay stocks twice per year – May 1 and December 1. The December estimate can be loosely thought of as hay supply going into the winter. Since most hay is fed during the winter months, this supply is drawn down until grazing begins the following spring. The May estimate can be loosely thought of as hay supply at the start of the grazing season. While this is an oversimplification of the hay production and feeding system, it does provide a framework from which to consider hay stock levels.

The widespread drought of 2022 left hay supplies tight across most all of the US. Producers responded by harvesting more hay acres in 2023, resulting in a 6.3% increase in all hay production. Production of non-Alfalfa hay types, that tend to be fed to beef cows, was actually up by about 9%. This increase in hay production occurred as beef cow numbers were decreasing, which impacted total hay needs. Without question, the supply picture has improved over the last year and a half, and the current drought monitor is encouraging with respect to production potential this spring.

While hay supplies have grown at the national level, it is always interesting to look at the state-by-state numbers. I am showing May 1 hay stocks for the last two years in several states in the table below. As a general rule, hay stocks were significantly higher year-over-year in the Southern Plains. Oklahoma saw more than a 4-fold increase while Texas hay stocks were significantly higher as well. States like Kentucky, Mississippi, Missouri and Tennessee saw May 1 hay stocks relatively flat from the low levels of last year. The area of the county that seemed to show the most significant decrease was the Upper Midwest and I included Minnesota and Wisconsin for that reason.

I think it is important to look at hay stocks regionally because hay markets tend to be very localized. Since hay is an expensive feedstuff to transport, wide price differences can be seen across regions. While the table below looks at hay stocks at the state level, differences can be seen within states too. In some years, hay prices can be significantly different only a few counties away. While hay feeding may seem like it’s a long way off, it is never too early to assess hay inventory and start thinking about hay needs for the upcoming year.

Table 1. May 1 Hay Stocks in Selected States and US

State	May 1, 2023 (1,000 tons)	May 1, 2024 (1,000 tons)	Change from 2023 (1,000 tons)
Arkansas	200	260	+60
Kentucky	630	610	-20
Minnesota	560	390	-170
Mississippi	110	110	---
Missouri	820	810	-10
Oklahoma	400	1,800	+1,400
Tennessee	400	410	+10
Texas	940	1,500	+560
Wisconsin	560	390	-170
United States	14,333	21,010	+6,677

Source: USDA-NASS May Crop Production Report

Animal Disease Traceability Rule: Infrequently Asked Questions

Dr. Michelle Arnold, DVM- Ruminant Extension Veterinarian (UKVDL)

In a press release issued on April 26, 2024, it was announced that a new rule, entitled “Use of Electronic Identification (EID) Eartags as Official Identification in Cattle and Bison” was finalized. This final rule is an amendment to the animal disease traceability regulations already in place as of January 2013. The new rule requires eartags to be both visually and electronically readable to be recognized as official eartags for interstate travel for cattle and bison covered under the regulations. In addition, the amendment revised the definition of dairy cattle, clarified certain record keeping requirements, and revised requirements for cattle moving to slaughter. This final rule is specifically focused on improving the ability to trace LIVE animals accurately and rapidly to contain disease outbreaks before they can do substantial damage to the cattle industry. The rule will be published in the Federal Register in the coming weeks and will take effect 180 days after its publication. APHIS maintains an Animal Disease Traceability webpage (Figure 1) with direct access to the Final Rule, FAQs, how to obtain free electronic ID tags, and other resources at

<https://www.aphis.usda.gov/livestock-poultry-disease/traceability> . This article will attempt to address some of the less frequently asked questions about important aspects of the new rule. For reference, page numbers are included where these questions are addressed in the final rule.

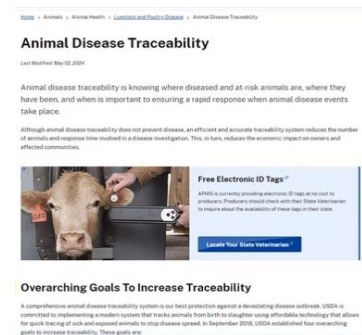


Figure 1: Homepage of the APHIS Animal Disease Traceability Website.

Has anything changed with this new rule regarding which cattle are required to have “official identification” when moving interstate?

No, the final rule does not change the categories of cattle and bison subject to the official ID requirements for interstate movement (page 2). Cattle and bison that move interstate **and** fall into specific categories need official, individual eartags that now can be read both visually and electronically. **The requirement for individual identification does not include feeder cattle,** nor any cattle or bison moving directly to slaughter.

Beef Cattle (and Bison) that currently require official ID:

- All sexually intact beef cattle and bison 18 months of age or over;
- Cattle and bison of any age used for rodeo or recreational events; and
- Cattle and bison of any age used for shows or exhibitions.

Dairy Cattle that currently require official ID:

-All female dairy cattle of any age and all dairy males born after March 11, 2013; the new rule revised the definition of *dairy cattle* as follows: “All cattle, regardless of age or sex or current use, that are of a breed(s) or offspring of a breed used to produce milk or other dairy products for human consumption, including, but not limited to, Ayrshire, Brown Swiss, Holstein, Jersey, Guernsey, Milking Shorthorn, and Red and Whites.” (page 30)

According to the revised definition of “dairy cattle”, the offspring of a dairy animal requires official ID for interstate movement. Does this include Beef on Dairy calves?

Yes! According to the final rule, “APHIS’ operational guidance has consistently held that beef/dairy cross bred cattle fall under the definition of dairy cattle and are therefore already required to have

official identification; our change to the dairy cattle definition codifies this longstanding guidance regarding how to interpret the regulations” (page 31). “Beef/dairy cross breeds should already be officially identified. We have no indication of noncompliance or controversy surrounding this policy... We acknowledge the possibility that there may be cattle producers that did not consider their beef/dairy cross breeds to be dairy cattle and were alerted to our interpretation of the definition of dairy cattle to encompass beef/dairy cross breeds by this rulemaking” (pages 71-72). In addition, the revision states that the official ID numbers of all dairy cattle, regardless of whether they are sexually intact, must be recorded on the Interstate Certificate of Veterinary Inspection (ICVI or “Health Certificate”). (page 29)

Why would Beef on Dairy calves be at higher risk for disease?

“As stated in the proposed rule, dairy farm management practices, such as pooling colostrum from multiple cows for many calves, commingling calves at different locations during their lifetimes, and movement to many destinations, result in a higher risk of disease transmission. Beef/dairy crosses born on dairy farms are likely to be exposed to these practices, especially in early life; therefore, they are at an increased risk of disease transmission.” (page 31)

The final rule added several recordkeeping requirements for official identification. Currently anyone (State, Tribe, accredited veterinarian, or person) who distributes official ID devices must maintain records of recipient names and addresses for 5 years. How did this change?

The final rule added that the official ID distribution records must be entered by the person distributing the devices into a database designated by APHIS. Any eartags applied by a federally accredited veterinarian must also be recorded in a readily accessible database available to APHIS in the event of a traceback (page 37). However, a producer who applies official ID tags to his or her own animals but does not distribute the tags to anyone else does not fall under the recordkeeping reporting requirement (page 42).

APHIS did add a new paragraph stating that required records must be maintained by the responsible person or entity and “be of sufficient accuracy, quality, and completeness to demonstrate compliance with all conditions and requirements” of the final rule. It further requires that APHIS be allowed access to all records during normal business hours, to include visual inspection and reproduction (*e.g.*, photocopying, digital reproduction), and the responsible person or entity must submit to APHIS all reports and notices containing the information specified within 48 hours of receipt of request for records. (page 37)

Is a PIN still required to acquire and apply EID tags?

Yes. The PIN (premise ID number) is a nationally unique number assigned to a premise, usually issued through the State animal health official, that is a “geographically distinct location”. The PIN is associated with the location the tag was placed on the animal, not the location of the cattle owner. “All currently approved EID eartags (RFID AIN “840” eartags) are associated with a PIN or a State location identification number (LID), inasmuch as a PIN or a LID is required for” acquisition of the tags. “A PIN is the numerical equivalent of a 911 postal address or a GPS number. A LID is the State-managed equivalent for producers who prefer to have the State store their information, rather than the Federal Government” (page 46).

This final rule does not require producers to purchase and affix EID eartags to their cattle as the only acceptable official identification device or method to meet the official identification requirements for interstate movement (page 3); the regulations continue to list eartags as one of several forms of authorized official identification, which also include tattoos and brands when accepted by State officials in the sending and receiving States. (see Frequently Asked Questions at the APHIS website for further information).

Given that a major reason for this new official ID rule is to keep transcription errors to a minimum, why does APHIS still require a visually-readable tag?

The 15-digit identification number currently used for all approved EID eartags begins with the same 6 digits: 840003. The first 3 digits are the country code, which is 840 for the United States. The following 3 digits, 003, signify a sequential numbering system from a start number of 003,000,000,000. Therefore, an individual visually reading an EID tag would only read 9 unique characters (the characters following 840003). These characters are only numbers, with readability standards including larger font size and color contrast. A transcription error “is not likely to significantly increase from the current state when relying on visual read of the eartag; if anything, several factors should make it easier, not harder, to transcribe the tag number. However, the use of EID tags would allow for an electronic read of the tag if a transcription error were believed to have occurred.” (page 43) This final rule does not require producers or livestock markets to have electronic reading equipment or additional data management systems, because the official EID tags must be readable visually as well as electronically.

RFID tags were previously categorized as either “Low Frequency” (LF) or “Ultra-High Frequency” (UHF). This final rule refers to RFID tags as “HDX” or “FDX”. Are these terms similar?

The RFID tag technology can be categorized by the radio frequency range it uses to communicate, either low (LF) or ultrahigh frequency (UHF)—whichever the State, producer or industry sector prefers. Low frequency tags have a shorter read range and only one tag can be read at a time. UHF has an extended read range of up to 30 feet, faster data transfer, and is better suited to capturing load lots of cattle. However, RFID can also be categorized by the way information is transferred between the tag and reader, either “Half Duplex (HDX) or “Full Duplex” (FDX). HDX tags are heavier, they transmit information one way at a time and are better able to transmit through interference such as metal objects, and they have the strongest read range. FDX eartags are lighter in weight, they transmit information continuously but are more susceptible to interference from metal objects and fluorescent lights. Regardless of type, all RFID tags must be approved by USDA and meet standards for quality and performance, be tamper proof, contain a unique ID, and display the U.S. official ear tag shield.

What if the animal already has “official identification” such as the NUES Metal Tag or a visual-only tag? Does it have to be removed or will it be required to apply an additional electronically-readable tag?

No, all visual-only official ID tags *applied prior to the date the rule is effective* will be considered official identification for the animal’s lifetime including the metal NUES tags (Figure 2), commonly referred to as “silver” or “brite” tags, and the Brucellosis Vaccination metal tag, an orange metal tag that indicates the animal was calfhood vaccinated for Brucellosis (Bangs Disease). However, a visually and electronically readable official eartag may be applied to animals currently identified



Figure 2: National Uniform Eartagging System (NUES) Metal Tag (“Silver” or “Brite” Tag).

with non-EID official eartags or Brucellosis vaccination tags, even though this results in more than one official eartag in an individual animal (page 102).

What must be on an official ear tag?

USDA Official Ear tags (Figure 3) are designed for one-time use (tamper evident) and imprinted with:

- A unique animal identification number or “AIN” which is a 15-digit number starting with 840003;
- Official Ear tag Shield



Figure 3: Example of an Official Tag

- The words “Unlawful to Remove”;
- Manufacturer’s Logo or Trademark (printed or impression of)
- The placement of official RFID tags is recommended in the left ear, but there is no such regulatory requirement, and the tags may be placed in either ear at the owner’s discretion.

Buyer beware: Tags containing numbers with the prefix “USA” or a numeric manufacturer code such as 982 are not considered official identification but these tags are still available for purchase and, in many cases, cannot be returned or exchanged for the correct tags. APHIS only recognizes tags beginning with numeric country codes (“840” for the United States) as official (page 49). Bear in mind that there are 840 visual panel tags available that do not contain RFID technology that will not be accepted as official after the final rule becomes effective.

Have the rules regarding movement within slaughter channels changed?

The existing regulations allow cattle to move interstate to an approved livestock market and then to slaughter or directly to slaughter without official identification (typically travel on a backtag) unless held up for more than 3 days. This final rule clarifies that animals may only move to another slaughter establishment or approved feedlot, with appropriate documentation and identification, but must remain in a terminal market and can only be sold/re-sold as slaughter cattle. (page 101)

Will EID tags increase food safety? Will EID tags be used to identify beef imported into the US?

Since animal identification programs end at the time of slaughter, EID tags on cattle will not directly increase food safety. Within the USDA, food safety of meat and meat food products falls under the Food Safety and Inspection Service (FSIS). Although APHIS does not provide oversight of the slaughter or processing operations, APHIS conducts slaughter surveillance for domestic animal diseases, such as brucellosis and TB, and some foreign animal diseases.

Similarly, COOL (Country of Origin Labeling) is not related to APHIS’ animal disease traceability program but is under the purview of the Agricultural Marketing Service (AMS). (page 19)

Keep Cool in the Shade

Dr. Jeff Lehmkulher, PhD, PAS, Extension Professor University of Kentucky

As the summer weather hits full stride, take some time to focus on factors that impact animal performance during these months. Stocker calf performance reflects changes in the environment, plane

of nutrition, and overall health of calves. Be mindful of the how summer weather can impact these three overarching factors and consider what you might alter or maintain to minimize the impact of these elements.

Heat stress is the first environmental factor that will impact animal performance during the summer months. The effect of heat stress is exacerbated by the alkaloids produced by the wild endophyte in Kentucky 31 tall fescue. Animals compensate during heat stress with increased respiration rate, increased skin vaporization (sweating), increased peripheral blood flow, decreased appetite to reduce metabolic heat production, and more time seeking relief by standing in the shade, congregating in water or grouped up in areas where urine and feces create a wallow. Increased respiration rate leads to greater energy expended for contraction and relaxation of the diaphragm. This doesn't seem like it would be a big loss but sit there and double your breaths per minute for five minutes and see how you feel. Now consider doubling your respiration for several hours a day and the impact this would have on energy expended. Previous research has shown that cattle at thermoneutral conditions had respiration rates of about 23 breaths per minute while under heat stress this increased to 54 breaths per minute. This increased respiration rate is a key response to heat stress as well as increasing blood flow to periphery.

Compensation of heat stress can also occur through increased sweating or evaporative heat loss as periphery blood flow increases. Skin evaporative energy loss was observed to be 50% greater under heat stress than thermoneutral. However, when exposed to wild-type endophyte, skin vaporization was not increased due to a lack of skin temperature increase which may be attributed to vasoconstriction. Accumulated heat load by animals can be dissipated later into the night when ambient temperatures decline. However, during periods of high humidity and lack of nighttime temperatures falling, animals do not have significant reductions in core body temperature before the next day begins. Successive days of heat stress and minimal dissipation of accumulated heat load leads to severe health concerns for cattle. Add into the mix, the alkaloids from the wild endophyte in tall fescue leading to vasoconstriction reducing blood flow to the skin surface during these night hours limiting heat dissipation from sweating. All these factors combine to increase animal maintenance requirements by 7-25%. If maintenance energy requirements represent 65% of normal daily intake, a 15% increase in maintenance requirements as a result of heat stress would reduce gains significantly.

Providing shade is the first management strategy to help mitigate heat stress during the summer months. Shade helps to reduce heat loading from solar radiation. Additionally, ground surface temperatures under shade have been shown to be greatly reduced compared to unshaded areas. Shade can be natural such as wooded areas or man-made. Cattle will stand more during heat stress to allow more convection heat loss as air moves around the body. Shade should ideally provide sufficient room for cattle to stand in the shade without being crowded.

Often the question is how much shade should be provided. Consider the length from tip of nose to tail and width across the ribs of a mature cow. These measurements may be near 7' x 3' or 21 square feet and these measurements will vary. Spacing between animals is important so the actual shade provided will be greater than the size of the animal. Actual allocated area under shade of 30-40 square feet per cow may be necessary. The University of Nebraska recommends 20-25 square feet per animal for voluntary shade use in feed yards and 25-30 square feet for high-risk feeders on arrival. For man-made structures, ensure there is sufficient distance between the back of the animal while standing and the bottom of the shade structure to facilitate air movement through the structure. When possible, having

shade structures that are portable will minimize wallows which can lead to high humidity under the shade from excessive urine and feces deposition. Additional information on shade structures can be found at <https://www2.ca.uky.edu/agcomm/pubs/aen/aen99/aen99.pdf> .

Consider developing shade areas during periods of higher temperatures and humidity to maintain the performance of grazing cattle if wooded areas are not readily available. Temporary electric fencing can be helpful in allocating different areas of wooded areas to minimize soil disturbance under trees and preventing development of wallows. Shade placed on ridges that have greater wind speeds will aid in moving air through the structures and cooling cattle. Ensure cattle have access to fresh, clean water as losses from sweating and increased respiration rates increase water requirements. Consider utilizing CAIP funds for shade or tree plantings for development of natural shade areas. Contact your county Extension office for additional information.