



Master Cattleman Quarterly

Dec. 2021, Vol 53

Inside this issue:

Improving Hay Feeding Efficiency 2

Access Farm Management Resources 24/7 3

A Few Thoughts on Pasture Cash Rents 4

Testing Forages Now Saves Money Later! 5

Upcoming Surveys for Oklahoma Cow-Calf Producers 6

A Summary of COVID-19 Impacts on Cattle Markets 7

Not a Bull Market: Add Value to Calves with Castration

Kellie Curry Raper, Livestock Marketing Economist

Fall is leaf peeping season, football season, and – for some of us – sale barn season. Sale barn season means collecting detailed data on calves as they come through the ring. And one thing is apparent – this year a lot of male calves are coming to market as bulls instead of steers. Across 933 lots collected at 6 feeder calf sales this fall, 108 lots contained bulls. None were marketed as breeding stock. The percentage of lots containing bulls varies by sale, but overall that amounts to 11.5% of lots. At one sale, 25% of lots were bulls. The state average is likely much higher, as these are sale dates where there are typically more value-added cattle going through the ring.

A quick look at previous numbers collected by OSU Extension specialists indicate that, in 2014, 7.1% of the lots coming through the auction at selected weaned and feeder calf sales were lots containing bulls, down from 10.3% in 2013. Our 2020 data indicates only 4.7% of lots at these selected sales contained bulls. Why the sharp increase in bull lots from Fall 2020 to Fall 2021? One partial explanation for the sharp increase this fall may be the February 2021 extended arctic blast. It has been suggested that for winter calving herds who castrate bull calves young, perhaps the February weather that was anything but typical presented management challenges that altered their typical strategy.

Castrating bull calves prior to marketing has long been encouraged by extension educators backed by objective research, from a production perspective and an economic perspective. Calves castrated at less than three months old experience lower stress levels, less sickness, and lower death loss (Campbell). Older calves experience more stress at castration and show more aggressive behavior while uncastrated,

implying greater risks of injury for animals and humans. Calves weighing more than 500 pounds at castration have less marbling and lower tenderness ratings. Bull calves castrated past 3 months weigh 20 pounds less, on average, at slaughter and take 12 days longer to reach slaughter weight in the feedlot relative to a calf castrated at less than 3 month of age, resulting in higher feedlot cost of gain.

Finally, from a cow-calf operator’s perspective, bull calves are discounted at the sale barn, impacting your bottom line. Williams, et al. (2012) found that bull calves were discounted an average of \$5.77/cwt relative to steer calves at 2010 Oklahoma feeder cattle auctions. That is a revenue difference of \$28.88 for a 500-pound calf, conservatively speaking. Most research finds a discount for bull calves in the range of \$5/cwt to \$12/cwt. At the large end of that range, the revenue difference is \$60.

Make castration of male calves part of your management strategy, because unless you are marketing breeding stock, it is not a bull market! Don’t leave those dollars on the table. If you need assistance with the how-to and when of castration, contact your county extension educator.

Campbell, S. “When to Castrate Calves Could Affect Weight Later On.” <http://beef2live.com/story-castrate-calves-affect-weight-later-0-112823>. Published November 10, 2015.

Williams, G.S., K.C. Raper, E.A. DeVuyst, D. Peel, and D. McKinney. “Determinants of Price Differentials in Oklahoma Value-Added Feeder Cattle Auctions.” *Journal of Agricultural and Resource Economics*, Volume 37-1(April 2012):115-128.



If you don't think fear can control you, then you've never been chased by a mad mama cow.

Improving Hay Feeding Efficiency

David Lalman, Oklahoma State University

Most agricultural economists argue that finding ways to minimize the amount of hay fed in a cow/calf enterprise is one of the keys to profitability. In contrast, over the last 50 years, hay production has steadily increased, while the beef cow inventory has remained relatively constant. During the same period, the dairy cow and horse inventories have declined substantially. For perspective, hay production per beef cow in Oklahoma has increased from about $\frac{3}{4}$ of a ton in the mid 70's to about 2.25 tons per beef cow more recently (Fig. 1). Thus, making efficient use of harvested hay continues to represent “low-hanging fruit” in both seedstock and commercial cattle operations.

Feeding strategies for large round bales can be separated into use of a hay feeder and rolling bales out. A major advantage to rolling bales out is improved distribution of hay waste and manure over the pasture, which should lead to improved soil fertility. Hoof action is also distributed over a larger feeding area, and this could lead to less soil compaction and (or) less sod/plant damage compared to concentrated feeding areas associated with hay feeders. The disadvantage to relying on unrolling hay is the need to feed every day if standing forage availability is limited. Hay waste is basically a function of the amount of hay provided per animal each day. The more restricted the amount of hay fed, the lower the waste and *visa versa*. In other words, if two or more days' worth of hay must be fed at a time, expect hay waste to exceed 25% of the original bale weight. Granted, the term “waste” may be considered a matter of perspective, because the “wasted” hay does provide soil nutrients and organic matter to the system.

Several studies have investigated the influence of hay feeder design on the efficiency of hay utilization and hay waste. The lightweight (and therefore convenient), simple hay ring feeders remain popular for round bale feeding. However, the low original cost and light construction come at the expense of hay feeding efficiency. Researchers have consistently documented 19 to 21% waste, expressed as a percentage of the original bale weight, when these “open” feeders were used (Figure 2). Waste from feeding dry, long-stem grass hay can be reduced to about 12 to 13% simply by purchasing a feeder with a solid sheeted bottom. Finally, in four different experiments, feeders that combine a sheeted bottom feature with some type of a basket or cone mechanism have documented

waste of dry grass hay between 3.5 to 8.9%, with an average of 5.7%.

Efficient hay feeders generally restrict access to the top half of the bale. This limits cows' ability to drag hay from the top of the bale directly onto the pen or pasture surface. Next, the basket or cone mechanism serves to hold the bale

in the center of the feeder until it collapses below the basket. This reduces the amount of hay near the outside perimeter of the feeder, and therefore, the amount of hay that is more easily blown out of the feeder by wind or dragged out and dropped on the pasture surface by the cows. Finally, the basket mechanism creates a feeding space inside the feeder so that the cows are not constantly entering and exiting the feeder, dropping hay on the pasture surface.

These features are not without drawbacks, however. First these more efficient hay feeders are more expensive than the simple, open style feeders. Placing a bale is going to require a tractor with a loader, although some

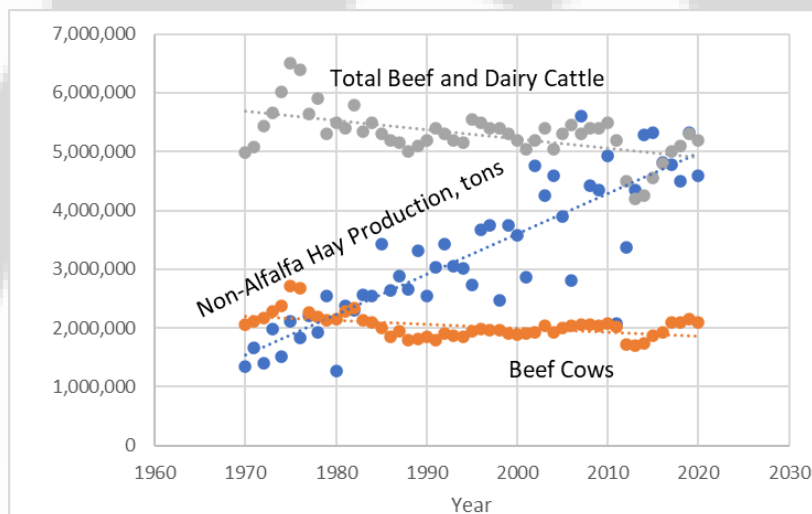


Figure 1. Oklahoma hay production and cattle inventory (NASS, USDA)

Improving Hay Feeding Efficiency (cont.)

feeders can be filled with a hydraulic bale bed. These more efficient feeders are considerably heavier and, in many cases, cannot be relocated by hand as easily compared to the lighter, open style feeders. Finally, lighter calves may not be able to access the core of the bale in some models.

What is the value of the hay savings compared to the cost of the feeder? The Noble Research Institute has de-

veloped a handy online tool (<https://nobleapps.noble.org/AGCalculators/Calculators/HayRingWaste>) to quickly calculate an estimated hay savings value based on research results shown above. Take time to weigh the potential hay savings against hay feeder cost and hay feeding convenience in your operation before purchasing a feeder.



Figure 2. The image on the left is a 1,300-pound bale placed in an “open” steel ring hay feeder. The image on the right is the same bale and feeder after 14 cows had access to the bale for 24 hours.

Access Farm Management Resources 24/7

Brent Ladd, Extension Assistant

Producers seeking to gain new financial management skills will find educational resources on the e-Farm Management website. This site contains videos, publications, software tools and webinars for use by farmers and ranchers. Viewers will find information on financial, production, marketing, and risk management topics.

One example is the Oklahoma Quality Beef Network video. In this video, viewers learn about OQBN Vac-45 requirements and recommendations. The video explains the benefits of participating in OQBN and how to enroll calves in the program. Lastly, the video gives information on premiums that OQBN participants have received from their livestock sales.

To find this video and additional resources on Cow/Calf production, go to: <https://extension.okstate.edu/>

[programs/farm-management-and-finance/e-farm-management-training/basics-of-cow-calf-production/index.html](https://extension.okstate.edu/programs/farm-management-and-finance/e-farm-management-training/basics-of-cow-calf-production/index.html).

More information on this and other farm management topics may be found three ways: 1) contact your nearest Extension Educator 2) visit the e-farm management website (<https://extension.okstate.edu/programs/farm-management-and-finance/e-farm-management-training/index.html>) or 3) visit the OSU Ag Econ YouTube Channel (<https://www.youtube.com/user/OkStateAgEcon>).

A Few Thoughts on Pasture Cash Rents

Roger Sahs, OSU Extension Specialist

Anyone watching the cattle markets in 2021 must be pleasantly surprised at how fast we have rebounded from the COVID headwinds experienced in 2020. In general, higher cattle prices are expected heading into 2022 as shown in Figure 1. What do or what should these changes in prices do to pasture rents?

Your first impression might be that this increase in prices will mean all producers will have better profitability prospects and will automatically equate to higher cash rents for 2022. While it is true that price expectations do influence rental trends, one should really consider several things.

First, has the landowner allowed a reduction in rent when prices were lower? If they did not, then should they expect the tenant to pay more when prices are higher? This is part of the risk involved for a landowner in a cash lease arrangement. When landowners agree to the rental rate in the year prior to the upcoming growing season, they are subject to that rate regardless of actual prices received by the tenant. In years of low cattle prices, the landlord with higher cash rental rates is one happy camper. In those years with higher prices, the tenant has generally done better.

The other factor to consider when working on rental rates is how other expenses change the tenant's budget. Fertilizer, fuel, repairs, equipment prices, and pesticide costs have risen over the past year. The producer is not pocketing all that extra cash and in many cases, the extra cash is headed out the door as fast as it comes in. This will impact the maximum rent the tenant can afford to pay. Current and expected feed supplies, pasture conditions, and water availability also effect what the tenant is willing to pay.

Landlords need to be very careful where they are getting comparable rent information. If it is coming from a place of socialization like the coffee shop, please

take that information with a grain of salt. In some cases, this information can be inflated like the fish the person caught the day before. In other situations, you can have the exact right information, but it represents the best pasture ground in the neighborhood desired by two adjoining neighbors who just would not stop bidding. That may not represent a very accurate picture of the "going" rate in the area. In addition, the "going market rates" as quoted by OSU and other sources listed at the end of this article should be only be used as guides. There is considerable personalized information that needs to be factored into the negotiated rental rate such as forage quality, improvements or restrictions on land use.

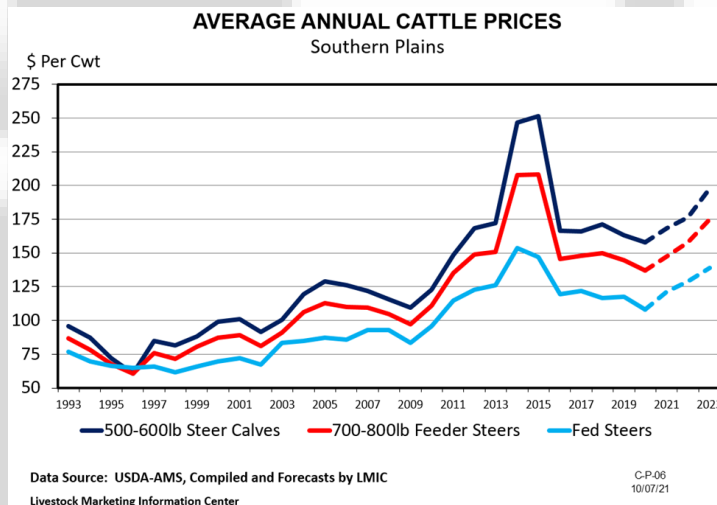
Summary

Obviously, there are lots to think about when it comes to lease negotiations. I believe the most important part is good communication as that responsibility belongs to both parties. Be sure that the landlord and tenant share information all year long, not just at renegotiation time. Both parties should do their homework,

identify the facts, and understand the other party's interests by being a good listener. Chances improve in making a satisfactory decision when everyone has skin in the game.

Additional pastureland rental rate information can be found at:

Current Report -216, Oklahoma Pasture Rental Rates 2020-21.



<https://extension.okstate.edu/fact-sheets/oklahoma-pasture-rental-rates-2020-21.html>

Kansas City Federal Reserve Bank: <https://www.kansascityfed.org/agriculture/ag-credit-survey/>

USDA-NASS: https://www.nass.usda.gov/Statistics_by_State/Oklahoma/Publications/Recent_Reports/2021/ok-rent-2021.pdf

Testing Forages Now Saves Money Later!

Dana Zook, Northwest Area Extension Livestock Specialist

This year has flown by and we are back to feeding and supplementation season in Oklahoma. By now most producers have begun the process of taking inventory of hay supplies, pricing supplements, and making feed purchases necessary to bridge the gap between the fall grazing season and springtime green-up. Within this process it is also a good idea to submit hay samples to determine their best use within a feeding plan.

Is hay use in your winter-feeding plan? Winter hay feeding is a reality for most Oklahoma producers and some use high quality hays such as alfalfa for supplementation. In both instances, a forage analysis is essential to cost effective and efficient use of the hay. Hay quality varies each year due to the stage of maturity at cutting, soil fertility, growing conditions, harvest circumstances, and storage methods. A real understanding of nutrient value of hay comes only from 1.) accurate sampling procedures and 2.) thorough analysis at the lab. Values obtained from previous years hay analysis or “book values” will work in a pinch but can lead to inaccurate feeding.

So, what makes a good hay sample? Forage samples must closely resemble the entire “lot” of forage. A “lot” of forage consists of forage harvested from one field within a 48-hour period. Each “lot” should be uniform in the forage it represents. For example, the type of plants, amount of weeds, field where it was cut, cutting date, storage conditions, and pest and disease damage should all be consistent in that lot. When these characteristics differ, separate samples should be obtained. Alfalfa producers may have 4 or 5 lots of hay per season from one field. Be sure to sample from each of these lots and keep the analysis separate.

How should the hay be sampled? Baled hay should be sampled after curing with a core sampler or hay

probe. When sampling, the hay probe should penetrate at least 12-18 inches into the bale and have an internal diameter of no less than 3/8-in. It is recommended to take no less than 20 samples (1 sample/bale) or cores from a “lot” of hay. Lots greater than 200 tons will require around 40 samples. Large round bales should be sampled by pushing the hay probe straight in at the center of the curved side of the bale. This gives an accurate sample of the entire windrow rather than just a single point within the windrow. Combine the sub-samples within each lot in a bag or bucket, mix well, and then submit a composite sample. Most OSU county extension offices have core samplers that can be loaned out to producers for hay sampling.

What should forage samples be tested for? Hay sources should be analyzed for moisture, protein, and energy as they are all needed to correctly formulate supplemental diets. Producers may also want to test for minerals or for potential issues of nitrate toxicity. Forage samples can be sent to the OSU Soil, Water, and Forage Analytical Lab from your local county extension office. Costs vary depending on the specific test, but most range from \$14-20. Speak with your local county extension educator if you have questions about feed and forage testing or would like help interpreting the hay test results.

Accurately testing hay takes time and money. However, accurate results are extremely valuable when formulating cost effective supplements and winter-feeding programs. In a climate of high feed prices and low stocks of hay, it may be a good time for producers to sharpen pencils and evaluate the quality of the forage fed to cattle this winter. Contact your local OSU county extension educator for assistance evaluating hay stocks or nutrition for the upcoming feed season

Did you Know?

- An adult waygu is almost as expensive as a brand new car.
- In India, you can go to jail for killing or injuring a cow. Hindu nations believe that cows are holy and should be esteemed — not eaten.
- One cowhide can make 18 soccer balls or 20 footballs.
- Cattle were first brought to Jamestown, in what is now Virginia, from England in 1611, according to the writings of John Smith.
- The first hamburger chain was White Castle, which was founded in Wichita, Kansas, in 1921.

Upcoming Surveys for Oklahoma Cow-Calf Producers

Rosslyn Biggs, DVM and Kellie Curry Raper, Professor and Livestock Marketing Specialist

Two important cattle-related surveys will be launched by Oklahoma State University in 2022, including the *Oklahoma Cow-Calf Biosecurity Survey* and the *Oklahoma Beef Management and Marketing Survey*. We are working with the Southern Plains Field Office of USDA's National Agricultural Statistics Service in Oklahoma City to administer both surveys. Not all producers will receive a survey and, if you do, you will only receive one of the surveys – not both. You may receive a “heads-up” postcard as a potential survey participant in December or early January. This would be followed by the actual survey most likely in early February.

Oklahoma Cow-Calf Biosecurity Survey

In early 2022, many producers will receive the *Oklahoma Cow-Calf Biosecurity Survey*. The survey will focus on understanding Oklahoma producers' current biosecurity practices and associated challenges of cow-calf producers. The purpose of the survey is to learn how much cow-calf producers know about biosecurity and to learn why some biosecurity practices are more widely adopted than others. Among other questions, the survey asks producers about their individual biosecurity practices, why they do or do not use certain practices, and if they have a biosecurity plan.

Infectious diseases are a constant threat for producers. Additionally, industry wide, foreign animal diseases threaten the national herd, the supply chain, and critically important international trade. Biosecurity seeks to prevent diseases before they occur and to limit the impact of an outbreak. Good biosecurity at its most fundamental level is good animal husbandry. Many operations practice good biosecurity on a daily basis, but they may not refer to it as “biosecurity.” Additionally, many operations practice good biosecurity, but lack written plans. Written biosecurity plans are protocols designed to reduce the risk of diseases and limit damage when a disease is introduced. Biosecurity plans insure that in times of stress, everyone is on the same page. A written plan can improve efficiency and decrease the incidence of disease transmission. Still, understanding biosecurity is one thing, developing a written plan and putting it in to practice can be another.

Survey information will be used to index biosecurity

practices by adoption rate, cost effectiveness and applicability to cow-calf operations. Extension programming will be developed to educate producers and their teams, including veterinarians, on cost effective, easy to implement biosecurity practices. Additionally, the team hopes to learn more about the willingness to adopt practices, as well as the barriers that prevent integration at the operation level. The bottom line is disease costs a producer money. This research will enable Extension educators to create programming for producers focused on the biosecurity practices that they can implement on farm right now. Although cost is associated with some of these biosecurity practices, the benefit is a healthy, profitable herd.

This survey effort is funded by a USDA Animal Plant Health Inspection Service, Veterinary Services, National Animal Disease Preparedness and Response Program grant. The OSU team is led by Dr. Amy Hagerman (Agricultural Economics), Dr. Rosslyn Biggs, DVM (Veterinary Clinical Sciences), Dr. Kellie Curry Raper (Agricultural Economics), and Dr. Barry Whitworth, DVM, from Extension.

Producers that have questions regarding the survey may contact Dr. Hagerman at amy.hagerman@okstate.edu or Dr. Biggs at rosslyn.biggs@okstate.edu.

Oklahoma Beef Management and Marketing Survey

Also coming to selected producers' mailboxes in early 2022 is the *2022 Oklahoma Beef Management and Marketing Survey*, a survey that you may have received before. This survey recurs approximately every 5 years and is commonly referred to as the OSU Cow-Calf Survey.

The *Oklahoma Beef Management and Marketing Survey* is a periodic effort to better understand the decisions you make regarding herd management and, in particular, calf management and marketing. This information is unavailable in other National Agricultural Statistics Service surveys and gives us insight into issues specific to you as part of Oklahoma's beef industry. The information gathered from the survey helps us update current extension programs and develop new pro-

Upcoming Surveys for Oklahoma Cow-Calf Producers (cont.)

gram efforts where needed so that we can better serve you. It also provides a continuing benchmark for comparison of adoption rates of various recommended management practices and other important producer decisions.

This survey effort is funded by a USDA National Institute of Food and Agriculture grant and is led by Dr. Kellie Curry Raper (Agricultural Economics) and Dr. Derrell Peel (Agricultural Economics). If you have questions regarding the Oklahoma Beef Management and Marketing survey, you may contact Dr. Raper at

kellie.raper@okstate.edu or Dr. Peel at

derrell.peel@okstate.edu.

We know that completing surveys can be tedious, but please know that your input is valuable to us and helps us to better assist you through relevant extension programming that supports you in meeting some of the challenges that you face as a producer. Both surveys are designed to guide you through only the parts that apply to you, whether you are a cow/calf producer or not. If you receive one of these surveys in early 2022, we strongly encourage you to respond.

A Summary of COVID-19 Impacts on Cattle Markets

Derrell S. Peel, Oklahoma State University Extension Livestock Marketing Specialist

One of many factors that make the U.S. cattle and beef industry an extremely complex set of markets is the disassembly of the beef animal into thousands of different products. These products are marketed in a vast array of final markets including retail grocery, food service and exports. In the U.S., food expenditures prior to COVID-19 consisted of two, roughly equal market channels: food service, representing 54 percent of expenditures, and retail grocery, representing 46 percent of expenditures. The unprecedented impacts of COVID-19 revealed to producers, processors and consumers, efficiencies as well as vulnerabilities of beef industry supply chains.

The first wave of impacts, which began in mid-March of 2020, resulted from the near total shutdown of food service. Abruptly, food demand at retail grocery nearly doubled. The surge in retail grocery demand was further aggravated by panic buying as consumers attempted to stockpile food at home. Retail grocery demand quickly overwhelmed the retail grocery supply chain resulting in localized and temporary shortages in retail stores. There was no actual shortage of product during the first month of the shutdown, but rather bottlenecks in the supply chains.

The second wave of initial pandemic impacts began in April 2020 when COVID-19 affected the labor force of harvest and processing installations and severely reduced output. Never have so many packing and pro-

cessing plants been affected simultaneously by reductions in capacity. Some harvesting plants completely shut down for up to two weeks and others curtailed output due to labor force reductions. This reduction in beef production resulted in real, though temporary, shortages of product that looked to many consumers like more of the same conditions as the initial shutdown in March and early April. The beef supply disruptions were exaggerated by the continuing limitations in the food service sector and the added demand continued to stress the retail grocery supply chain. Over several weeks, additional adjustments were made to help food service supply chains support retail grocery including more bulk packaging and, in some cases, temporary exemptions from some labeling requirements.

The reductions in packing plant operations effectively cleaved beef product markets from cattle markets for several weeks. During this period, beef product markets generally moved in opposite directions from fed cattle markets. The lack of packing capacity created beef shortages that led to immediate and dramatic price spikes for beef products while that same lack of packing capacity created an immediate excess supply of fed cattle relative to packer demand and led to lower fed cattle prices.

Reduced cattle slaughter in April and May, 2020 resulted in a marketing backlog of fed cattle that took many weeks over the summer and fall to work through. No cattle were depopulated and delayed feedlot market-

A Summary of COVID-19 Impacts on Cattle Markets (cont.)

ings resulted in excess supplies of fed cattle that pushed fed cattle price lower into July before recovering into the fall. Delayed fed cattle slaughter resulted in heavier carcass weights, higher quality grading percentages and other lingering impacts on beef supplies and product mixes.

The biggest direct impact of the 2020 COVID-19 impacts in 2021 was on fed cattle markets. In 2020, feedlot placements were delayed in March and April, followed by higher placements in June through September. These delayed placements resulted in a bulge in feedlot inventories and market ready fed cattle in 2021. By itself, this placement backlog would not have caused major problems, but the beef packing industry faces capacity constraints that are the result of long-term downsizing of the packing industry combined with chronic labor challenges (aggravated by continuing COVID-19 impacts). The result, through much of 2021, has again been a physical disconnect between the demand for beef products and the demand for fed cattle. With limited packing capacity, the supply of fed cattle

has exceeded packing demand and held fed cattle prices down relative to beef markets. In November, fed cattle prices finally jumped sharply indicating that fed cattle numbers had dropped to a level that put packers in a position of competing more aggressively for slaughter numbers.

COVID-19 has revealed both strengths and weaknesses in beef supply chains. It has also revealed much about market economics. Under normal, stable market conditions, markets coordinate resource and product allocation with such efficiency and subtly as to be largely unrecognized. Only in the face of abrupt and unexpected shocks are the reactions of markets to re-balance and restore equilibrium revealed. Freely operating markets react with dramatic, sometimes surprising and confusing responses to a massive and unprecedented shock such as COVID-19. Consumers, producers, companies and policymakers all learned much about how beef supply chains and the market-based economy works as a result of COVID-19.

Kellie Curry Raper
Agricultural Economics
kellie.raper@okstate.edu



OSU EXTENSION
MASTER CATTLEMAN

David Lalman
Animal and Food Sciences
david.lalman@okstate.edu