

*Commercial Cattle Producer*  
**NEWSLETTER**

SUMMER 2024



**MAXIMIZING THE VALUE OF YOUR CALVES**

By: Henry Hilscher, Ph.D, Levi Trubenbach, Ph.D., Nutritionists, Livestock Nutrition Center

Now is a good time to reflect on last year’s weaning. What worked well, and what would you change? Along with repairing gates and greasing the squeeze chute before weaning, have you studied this year’s commodity prices? Compared to last summer, when feedyard cost of gains were averaging \$130-135/cwt, this spring’s projections are significantly lower, with some reasonable estimates around \$110-115/cwt. At the same time, weaned calf prices have (670 wts 232.26/cwt OKC 5-22-23 also increased in value. Prior to Memorial Day this year, steers weighing an average of 664 brought 258.62/cwt at the Oklahoma National Stockyards; the same weight class at last year’s May 22 sale brought 232.26/cwt. These are substantial differences in both value and cost of weight gain. How do those prices affect your strategy for this year? Have you considered what opportunities may be presented with these market conditions? With corn and commodity prices trending lower than last year, ration cost will have a big influence on how and when to wean calf crops or stocker calves. Determining your expected value of gain (VOG) could help you decide whether to retain calves into a later and heavier market or to sell closer to or at weaning. The VOG is the difference in calf value at the end of the growing period (sale value) and at weaning

(purchase value), divided by total weight gain.

We have provided a blank area for you to calculate your own COG and VOG

Initial Weight	Value at Beginning	Sell Weight	Value at the End	Weight Difference	Cost Difference	Value of Gain

Market conditions and changes in seasonal calf and feeder supplies will dramatically change VOG. Your analysis should be based on futures markets, adjusted for conditions within your local markets, and continually updated, along with your projections for cost of gain (COG)

At weaning or arrival, it is most important to provide a feed source that is palatable, and familiar to the calves. Often, the best choice here is good, clean grass hay. It is important to allow these calves to rest and get filled up prior to rehandling or processing. When it comes

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to feeding, a balanced approach needs to be taken. It can be counterproductive to provide a ration that leads to an imbalanced supply of either energy or protein to the calves. A well-balanced program will assess both the energy and protein requirements of the animal to achieve the targeted level of performance and will attempt to meet both requirements at similar feeding rates. Taking this approach will ensure you receive maximum return from your investment in the feed. Mitigating stress should be goal number one. Reducing weaning and handling stress, providing proper nutrition, and preconditioning against disease increases the value of your calves and their subsequent performance when they enter the growing and finishing period.

If calves are allowed to continue grazing after weaning, consider the nutrient content of the forage. Warm season forages are typically declining in nutrient content by the end of summer. Weaned calves grazing warm season grasses in the fall may require supplemental feed, depending on your weaning plan. Consider the price per unit of protein and effective energy in your feedstuffs; in other words, which sources offer the greatest return on investment. Cheaper options might not always be better options.

Calves moving from grazing to a dry lot for weaning must learn to eat from a bunk. Ensure that each calf has at least 18 inches of linear bunk space. The feed bunk should be easily accessible to the calves. Unlimited access to fresh, clean water is essential for weaned calves.

Make accommodations to familiarize the calves with new water sources. Allowing the water source to overflow for a brief time may help calves find the water. Maintaining feed intake is crucial. By bunk-feeding long stem, high quality grass hay in the first two- or three-days post-weaning, calves can get accustomed to eating from the bunk and establish good eating behaviors. After two or three days, begin adding some energy feeds to the diet. The diet can be delivered as a total mixed ration, or the energy feed can be fed on top of the hay. While energy is important, energy sources that are high in starch, such as corn, should be limited to 50% or less of the diet dry matter. Ionophore additives can also boost feed efficiency and average daily gain, producing impressive returns,

especially when feed prices are high.

There are various feed additives available on the market that have their effective use in a weaning or receiving program. Coccidiostats such as decoquinate (Deccox), monensin (Rumensin), and lasalocid (Bovatec) are often incorporated into weaning rations and starter feeds to combat subclinical coccidiosis infections early in the feeding period. When clinical signs of coccidiosis are observed (watery scours, abdominal discomfort, lethargic behavior) it is recommended to use amprolium (Corid) due to its ability to kill active, adult coccidia. Depending on the level of assumed coccidiosis infection, each of these additives can be used in a productive manner to eliminate active coccidia infections. The main concerns associated with coccidiosis in stressed calves are the immunosuppressive effects in combination with reduced feed intake and compromised nutrient absorption. Chlortetracycline (Aureomycin) can be included in a feeding program to help control or treat bacterial infections in the respiratory tract of cattle, and is commonly included in rations designed for young, stressed calves. The utilization of this feed additive requires a Veterinary Feed Directive (VFD), so a close working relationship with your veterinarian and feed supplier is important when developing your feeding program. Your veterinarian will help make the determination of whether the inclusion of Aureomycin will be beneficial, and your feed supplier can help you and your veterinarian determine the correct dosage levels in your feed, depending on projected feed intake.

There are many other additives available on the market whose claims center around improving intake, supporting digestive health, or increasing performance. When evaluating the potential efficacy of these products in your program, it is best to only utilize products that have a proven track record of producing profitable results in feeding situations similar to your own.

For more information, contact your LNC representative to discuss your weaning program. 📞

References: Management, Health, and Nutritional Considerations for Weaning Calves NebGuide <http://www.ianrpubs.unl.edu/sendit/g2057.pdf>, USDA Agricultural Marketing Service. Feeder Cattle Report Oklahoma National Stockyard Feeder Cattle 2020-2018 [https://mymarketnews.ams.usda.gov/public\\_data?slug\\_id=1280](https://mymarketnews.ams.usda.gov/public_data?slug_id=1280)



## COMMODITY OUTLOOK

By: John Augspurger, LNC Procurement

We are entering the critical stages of crop development in the grain belt of the US. As of June 17, Crop Ratings were in above-average condition in both corn and soybeans. However, the weather is beginning to give the market some extremes that sum up a farmer's life, too much rain in areas of NW Iowa, South Dakota, Minnesota, and Wisconsin, vs. too dry in the southern half of Illinois, and much of Indiana and Ohio. These patterns seem to be fairly entrenched for the next two weeks. As we know, weather can turn on a dime one way or the other.

Throughout the rest of the world, we are hard-pressed to find any "garden spots" where crops are grown. Russia and Ukraine are suffering drought conditions and their wheat crops were cut severely by late frosts. Europe is warmer and drier than they would like. South American crops were OK, not great. The Indian Monsoon has been late and light. There are large areas of China that are experiencing a severe drought. All in all, average crops will be considered good this year. This should create some better export demand for the US in the '24/25 crop season.

Friday, June 28 is the always important and volatile June Stocks and All Positions Report and the first Crop Acreage Report.

While the market tends to focus on the corn market, the soft stock, or feed ingredient, markets march to their drummer. As we have seen in the past, just because Corn is down \$10-15/ton, Corn Gluten or Soyhulls can stay even or go higher. This is due to a tremendous amount of corn that needs to be consumed vs. a very finite supply of these by-products. We do not run a flour mill to produce midds. We run a flour mill to produce flour. Therefore demand for flour is much more important than the demand for midds in determining the supply and price of midds. The same can be said of soyhulls, DDG's, and corn gluten feed. All have a very finite supply.

The always-important Hay crop has seen some good to very good early season quantities as long as the producers were able to avoid rains. However, much of the additional volume is very low quality due to the heavy rains. On Friday's report, we will see Hay Stocks as of June 1 which should show higher stocks than last year with good carryouts.

Corn Gluten Feed and Wheat Midds supplies will continue to be steady year on year as corn sweetener and bread/pasta demand remain flat. We do not expect additional DDG supplies because

ethanol demand is relatively flat. Current demand for DDG is excellent as pricing is a good relative value vs. corn prices. We should see some additional soyhulls enter the market as soybean crush expands, but we have seen the larger supplies of soyhulls consumed as prices adjusted downward earlier this spring. All of our soft stocks are being valued at prices to meet current ruminant demand.

As a whole, prices have adjusted downward vs. a year ago. With the world production issues mentioned above, Grain and feed ingredient exports should be larger than this past year. Demand-led markets tend to be longer and have a steady climb. Any dips in the market should be met with good buying throughout the world. Be prepared to manage your price risk for the '24/25 season as we are probably moving the bottom of the market slowly higher. 📈





## FREE MONEY?

By: Scott D. Sturgeon, DVM, Oklahoma Beef Consultants

Well, the title of this brief article may not be 100% true, but it is not far off. One of the greatest profit generating tools we have in the vast array of consumables is the growth promoting implant. It is also a tool which is extremely underutilized, and for the interest of this article, our focusing will be on the cow/calf sector. Approximately 70% of calves sold at weaning or post weaning have never seen an implant. Common sense would say a minimal input with a large upside would be a no-brainer, however, a large number of producers lose out on enhancing the bottom line.

### Myth Busters: Implant Edition.

The number one push back from clients the potential negative effect on replacement heifers. This may have been in case during the Reagan Administration, but more research has been done and shows on average using a Ralgro (Merck) implant will decrease pregnancy rate by 1%, while using Synovex C (Zoetis) will decrease pregnancy rate on replacement heifers by up to 2%. These two implants (Ralgro and Synovex C) are the only two with labeled approval by the FDA for breeding heifers. If any other product is utilized, heifers should not be retained or marketed as replacements. The most drastic knock to replacement development occurs with more than one is given, with studies showing a drop in conception from -16% to -42%. Another myth is non-implanted calves reaching higher prices when marketed. A Superior Livestock Auction study was conducted from 2010-2018. The data over an eight year period no statistical difference in price between the implanted or non-implanted calves based on \$/CWT.

Now where does this “free money” come from the

title alludes to? Many studies from all of the major pharmaceutical companies have been conducted in hopes of outgaining the competition, but across the board there is an average increase in weaning weight of 23 pounds. Pulling up a local auction report from the week of May 20, 2024, a 459 pound weaned steers brought \$365.00/CWT and 438 pound weaned heifers brought \$327.50/CWT. Taking a price slide into account, heavier steers and heifers in the same market (460-480 pounds) respectively grossed an average of \$72.00 and \$63.25 more per head. Considering the cost of an implant is less than \$2.00 and the improvement in gain and conversion, the average ROI for steers and heifers, in the current market, when implanted, is over 3000%. Where else on God’s Green Earth is a 3000% ROI available, in any industry, especially the agriculture sector? It is essentially FREE MONEY.

You may be reading this as a producer enrolled in GAP, NHTC, or other natural programs, saying, “This does not apply to me.” You would be correct. The target audience is for this article is the cow/calf producer across the country who markets calves directly off the cow or sells during a shortened period post-weaning. Regardless of economic avenue, marketing strategies have their profit potential when proper management decisions are applied. As always, you should consult with your veterinarian and/or nutritionist before starting an implant program. Implants differ for cow/calf, stocker, and feeder operations. The FDA has new regulations for implants and as with any product, following labeled instructions is paramount. Now go get some extra pounds on your next calf crop; your wife and banker will thank you! 🍷



## HEAT STRESS IN CATTLE

BY: Jeff Heldt PhD, Selko USA Beef Technical Manager

Cattle, like humans, incur stress daily. They can run short on feed, develop ruminal acidosis, get moved to a new pasture or location, be exposed to coyotes on the prowl or deal with extreme cold and heat events. All of these are examples of the stresses these animals endure. These stress events have one thing in common: They can all cause intestinal dysfunction. This phenomenon is often referred to as “leaky gut.”

**INTESTINAL DYSFUNCTION:** The intestine is a major component of the immune system, as it prevents parasites, pathogens, enzymes, acids and toxins from infiltrating the body. Disruptions in this system are referred to as intestinal dysfunction, a loosening/widening of the tight junctions of the intestinal epithelia. These tight junctions are essential to the function of the intestines’ physical barrier. When the tight junctions become dysfunctional, various intestinal components can enter circulation. These components will trigger a cascade of immune system functions and inflammation, causing a huge drain on the energetics of the animal. This energy demand displaces calories that could have been used for production.

**ZINC:** Trace minerals, specifically zinc, can play a role in supporting gut health and reducing the negative effects of dysfunction on the gastrointestinal tract. Zinc plays a role in regeneration of damaged epithelium, improved gut barrier function, improved villus morphology and an altered inflammatory response.

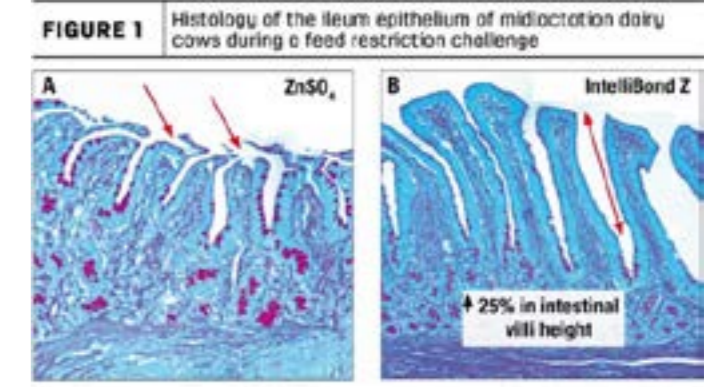
**ZINC SOURCE:** Generally, cattle are provided mineral supplements or fed rations formulated to supply a certain amount of trace minerals or zinc in a given quantity of feed per day. However, during stress events, cattle generally eat less of the supplied feed or supplements. Therefore, stressed cattle are more than likely getting an inadequate supply of zinc. Because of this lowered zinc intake during times of stress, using an improved zinc source becomes increasingly important. Cattle need to get the most out of this inadequate supply of zinc caused by reduced consumption. Improved sources of zinc help maintain intestinal barrier function and preserve the immune system.

What constitutes an improved zinc source? Any zinc source that has covalently bonded chemistry is an improved source. Simplistically, it’s not zinc sulfate or zinc oxide. Improved zinc sources include zinc hydroxychloride (IntelliBond® Z) and organic zinc sources (proteinate, chelate, amino acid complex, etc.). These zinc sources were developed to have stronger bonds that hold the zinc tighter to its ligand. This allows the zinc to pass through the rumen for absorption in the intestines, where it can then be used for necessary biological purposes by the animal. These improved zinc sources are more expensive than sulfates; however, they deliver better, more predictable nutrition to the animal, which is critical with the near-constant stress cattle encounter. Lost production directly translates to lost dollars.

**ZINC SOURCE AND STRESS RESEARCH:** As stated earlier, during times of stress, feed intake is often altered



and generally reduced. This is clearly the case in times of heat stress when animals simply don’t want to eat. Heat stress or feed restriction is one cause of intestinal dysfunction. Iowa State University research in dairy cows demonstrated that feed-restricted cows consuming IntelliBond Z had a 25% increase in intestinal villi height as well as an inflammatory response that responded faster and resolved more quickly than cows consuming zinc sulfate (Figure 1)



**FIGURE 1** Histology of the ileum epithelium of midlactation dairy cows during a feed restriction challenge. Cows fed zinc sulfate (ZnSO<sub>4</sub>; A) appeared to show an impaired intestinal barrier function, while those fed IntelliBond Z (B) had improved intestinal integrity and height.

Another Iowa State University study evaluating heat stress in dairy cows demonstrated that cows consuming zinc hydroxychloride had better maintenance of the GIT barrier function and a more robust immune response during stress. This response led to a subsequent 14% increase in dry matter intake (DMI) during the heat stress recovery period compared to cows consuming zinc sulfate (Figure 2). This response should allow an animal to improve its energy balance during and after stress more rapidly. Zinc plays an important role in the animal for intestinal health and immune response. An improved zinc source, like IntelliBond Z, has high bioavailability that leads to improved gut integrity and inflammatory responses during times of stress.



**FIGURE 2** Recovery phase of a heat stress challenge experiment. During the recovery phase of a heat stress challenge experiment, cows fed IntelliBond Z had a faster increase in dry matter intake relative to cows fed ZnSO<sub>4</sub>.

Consider the daily stresses cattle go through: heat, weaning, shipping, commingling, etc. Now, consider the nutrition they are getting and the need for improved zinc. \*References available upon request. 🍷



## MEET THE TEAM



**Travis Whitney, Ph.D.**  
Nutritionist

Dr. Whitney joined LNC in November 2023, as a Range Nutritionist.

He has a BS degree in Animal Science from Southwest Texas State University, a MS degree in Agricultural Education from TX A&M University, and a Ph.D. in Beef Cattle Nutrition from the University of AZ. He has 20+ years of experience in livestock production systems, academic research and education, and feed product development.

During his academic career, he designed and evaluated feeding programs to enhance animal production, health, and end product quality. He is credited with developing a new roughage ingredient (Ground Juniper Fiber) and getting it approved for commercial use.

Travis is excited to be working for a company that shares his passion: helping the livestock industry maximize profit potential by analyzing problems and designing targeted solutions.

### JOIN OUR TEAM

Do you know someone that would be interested in joining our team?

At Livestock Nutrition Center we are always looking for qualified, hard-working individuals. All of our positions offer a competitive salary, full benefits and uniforms.



[LNC-ONLINE.COM/CAREERS/](https://lnc-online.com/careers/)

## DOES SILAGE MAKE SENSE FOR YOU?

By: Cody Welchons, Ph.D.  
Nutritionist, Livestock Nutrition Center

As everyone is all too aware, the cost of doing business is rising. Whether it's feed ingredients, fertilizer, or labor we have had continuous discussions lately about ways for producers to operate more cost efficiently. One of the common topics we discuss is the potential use of silage in someone's feeding program. Anecdotally, as mixer wagons become more widespread, the amount of silage being put up has also increased. For many, the ability to grow or purchase silage for their feeding operation can bring great value, but it's also important to understand what exactly you are getting and how to properly store and handle it to maximize your investment.

**What is Silage?** - Silage is the name given when a whole plant, whether it's a grain or grass, is harvested at a dry matter of 30-40% and preserved by a fermentation process which lowers the pH to the point of acidification. The most common silage for our region would be corn silage, sorghum and forage sorghum silage, and small grain silages such as wheat, triticale, or oats. The whole plant is chopped, packed, and then, preferably, sealed for 4-8 weeks before feed out during which time there is a rapid drop in pH to "pickle" the system. From then on, proper storage is important to keep air out to maintain a stable, high-quality product.

**Benefits and Downsides** - The use of silage lends many benefits to backgrounding and cow-calf operations. While the process of harvesting silage is a significant investment in time and resources, the ability to have a large store of high-quality feed can reduce the producer's reliance on purchasing hay and other feed ingredients through the winter when prices are at their highest as silage can make up a significant portion of diets for both cows and growing animals. Additionally, silage can act as a conditioning agent for your ration which can take the place of a separate conditioning agent such as water or a molasses-based blend.

Most of the potential downsides to using silage have to do with harvesting and storing the silage properly to minimize shrinkage and decrease the forage quality

associated with spoilage. Harvesting silage at the correct moisture level is important because if harvested too early (too much moisture) fermentation is much quicker and can be excessive leading to decreased nutrient density. Conversely, harvesting silage too late (too little moisture) can lead to slow and restricted fermentation leading due to insufficient water limiting the growth of microbes in the silage. Therefore, something to consider is the impact that waiting on a custom harvester can have on your silage crop if they must come too early or too late. After harvesting, proper packing and storage of silage minimizes dry matter loss due to aerobic spoilage. Even under the best management, dry matter losses of silage will be 10-15% while under poor conditions losses can be more than 25%. When purchasing silage from someone else's pit, it's still important to consider potential shrink after the silage is delivered to your location.

**Valuing Silage** - The largest determinant of whether a given silage is a fit for your operation likely lies in the cost. To accurately compare the cost of nutrients in silage to alternative feedstuffs such as soyhulls or wheat midds, you need to have a cost per ton along with an accurate dry matter of the silage. From here, you can evaluate the cost per unit of energy and cost per unit of protein on a dry basis and compare that to other potential feeds. In the case of silage, we will likely always be comparing it on a cost per unit of energy as protein levels in most silages are deficient for growing animals. To note, at this very little new crop silage has been put up yet. Additionally, prices of commodities are lower than in recent years, therefore, the prices below are purely for illustration rather than representative of prices we may see this year.

**Table 1. As-Fed Costs of Corn Silage & Soybeans at equivalent DM cost**

	CORN SILAGE	SOYHULLS
Cost/ton as fed	\$70.00	\$176.00
Dry Matter, %	35%	88%
Cost/ton dry basis	\$200.00	\$200.00

From Table 1 we can see that when corn silage costs \$70/ton delivered and has a dry matter of 35%, the equivalent price of soyhulls (roughly equal in energy to corn silage on a dry basis) would be \$176/ton.

**Table 2. As-Fed Costs of Sorghum Silage and Soyhulls at Equivalent Cost per Mcal of NEg.**

	SORGHUM SILAGE	SOYHULLS
Cost/ton as fed	\$55.00	\$211.20
Dry Matter, %	32%	88%
Cost/ton dry basis	\$171.88	\$240.00
Mcal of NEg/lb, Dry-basis	\$0.34	\$0.48
Cost/MCal of NEg	\$0.25	\$0.25

Table 2 shows the same evaluation for sorghum silage compared to soyhulls. In this scenario, the energy values aren't equal and must be evaluated on a price per unit of energy. With sorghum silage costing \$55/ton at 32% dry matter the equivalent price for soyhulls would be \$211/ton. Vital to point out is that the dry matter and energy density of silage can vary widely so prior to making an evaluation of whether silage is the correct choice for your operation is to have a sample analyzed so that you have accurate information to make decisions with.

Silage can be a viable roughage and energy source for your operation. However, it's important to evaluate the cost benefits of silage correctly to accurately determine if silage is the value that it may seem when only looking at it from an as-fed cost per ton. Additionally, we must consider the potential for greater shrink and take that into account when making growing or purchasing decisions. For further information consult the University of Wisconsin's Corn Agronomy page for an excellent review of silage management techniques <https://corn.agronomy.wisc.edu/Silage/Default.aspx>





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