



# IS A PREMIX RIGHT FOR YOUR OPERATION?

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

There is a trend in the pre-feedlot cattle industry to want to control costs through sourcing raw ingredients and mixing feed on a ranch. While this can help to reduce costs, there are many labor, time, and equipment cost considerations. Many customers choose to utilize their roughage source combined with a premix to balance these factors. Below are some things to consider about switching to a premix.

**What is a premix and what does it accomplish?** A premix can be anything that complements a producer's on-farm ingredients by combining what they don't have into a single mix. Most producer's utilizing a mixer will have some form of forage whether it's dry hay, haylage, or silage. From there a premix simply adds what is needed to achieve the producer's performance goals, whether that's energy, protein, or a vitamin/mineral/additives package. A key point to understand about premixes is that it's a process rather than a product. A common misconception is that it is simply a protein and/or vitamin/mineral mixture.

**Is a premix beneficial to my operation?** Often, labor and time are limiting aspects of cattle operations. A premix can add value to producer's who want to control their costs by using a mixer but who don't have the time or desire to manage the procurement of individual ingredients. As supply chain logistics continue to be an issue, getting timely deliveries of ingredients can be a concern. Sourcing a premix from LNC can help offset the uncertainty of a delivery showing up on time. Additionally, there could be added value from:

- Increased mix accuracy on small inclusion,

- ingredients such as vitamin/mineral/additives/medications
- Decreased total shrink by limiting the number of ingredients
- Potentially reducing the variability of ingredients used in the final ration due to constraints on ingredient availability or value during the feeding period.

**How will my costs compare?** In general, we see an increase of around \$0.08/hd/day on backgrounding cattle (500-600 lb) when utilizing a premix versus procuring individual ingredients and supplement packages. This cost difference corresponds to an approximate increase of \$0.03-0.04/hd/day in Feed Cost of Gain (FCOG).

**How do I find out more?** Call your local LNC mill and one of our sales consultants or nutritionists can discuss our process of evaluating your feeding program and what premix could work best for your goals.



FALL CONTENT

IS A PREMIX RIGHT FOR YOUR OPERATION	P 1
UNDERSTANDING FEED INGREDIENT PRICE DRIVERS	P 2
CONSIDERATIONS FOR COMMINGLED CATTLE	P 3-4
COMMODITY OUTLOOK	P 5
MEET THE TEAM	P 5



# UNDERSTANDING FEED INGREDIENT PRICE DRIVERS

By: Ben Baer  
 President, Livestock Nutrition Center

“Corn is king!” We’ve all heard someone say that they can predict the price of their feed based on the price of corn. While there is some truth to this statement, feed costs are driven by more factors than the price of corn alone.

## Feed prices are most heavily impacted by by-product prices

Efficient cattle feeding requires feed to be made with the most cost-effective and nutritious feedstuffs. By-products (e.g. dry distiller grains, corn gluten, wheat midds, and soy hulls) are nearly always the best value. By-products often represent 70%+ of pre-feedlot cattle rations. However, corn and by-products vary for some fundamental reasons:

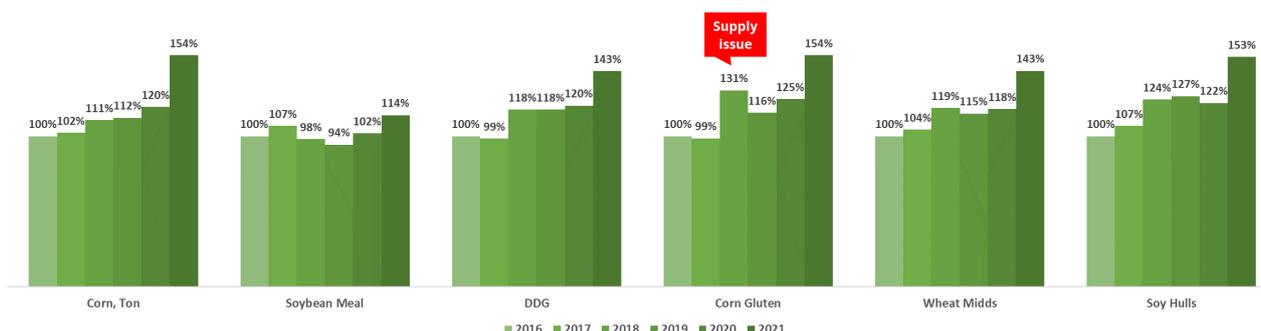
	CORN	BY-PRODUCTS
PRODUCTION TIMING	Produced once per year	Produced throughout the year as companies seek to make flour, oil, ethanol, and other primary products
STORAGE	Significant storage network. Cheap corn stays in-store while rising prices release corn	Minimal storage. By-product producers need to push out inventory regardless of current prices.
FALL PRICE	New harvest increases supply above demand and typically leads to price decreases in fall	Rising feed demand outstrips supply typically leading to price increases in fall
GEOGRAPHY	Widespread storage and processing	Concentrated processing in sub-regions. Local weather or supply issues can cause widespread issues.

The data below from the Chicago Mercantile Exchange show that the price of feed ingredients and corn do often correlate because demand for corn often mirrors overall market demand for feedstuffs and price is the primary method we have to manage corn supply from one harvest year to the next. However, there are periods in the market where the basic law of supply and demand for given feed ingredients moves by-product feed prices independently from corn.

As an example, in 2018, you can see corn gluten prices rose dramatically higher compared to corn. What drove this? A supply shortage of corn gluten due to processing issues at a major producer.

## HOW DO I ENSURE MY FEED PRICES ARE COMPETITIVE?

It’s important to have a nutritionist that will review and update your formulation to ensure you are continuing to get the right nutrition at the best price. Your feed manufacturer should have access to multiple ingredients that can meet your cattle’s nutrition needs (protein, energy, fiber, etc.) so that individual ingredient price/supply issues don’t drastically raise your prices.



# CONSIDERATIONS FOR COMMINGLED CATTLE LOOKING BEYOND THE AVERAGES



By: Ken Blue, DVM, Elanco Technical Consultant & Sara Linneen, PhD, Elanco Technical Consultant

The most common health concern for weaned calves is a bovine respiratory disease (BRD) that costs the industry approximately \$800 – 900 million per year (Chirase and Greene, 2002).

As weaning season approaches, and cattle are subjected to the stress of transport and commingling (just to name a few stress sources) it is important to have a health plan specifically for managing respiratory challenges such as BRD.

Using data to construct patterns reflecting health status can guide an operation in treatment plans and maximize profits. Unfortunately, many decisions are not based on pre-planning, rather retrospectively analyzing information that may be dubious and frequently may contain unsubstantiated bias. Retrospective data can certainly be useful in providing key insights that help to avoid health “wrecks”, but the value in that data is only as good as the accuracy and interpretation of the data.

One of the first steps in beginning an evaluation of an outcome such as BRD is to determine “what happens and when”. Approaching BRD with a

generic program that never changes and fails to create sustainable success is a risk simply because there are so many variables that differ within groups of cattle, as well as between operations. Unfortunately, BRD does not discriminate according to these business model variations.

The first step is characterizing baseline morbidity over time. Figure 1 demonstrates a hypothetical average first pull rate of 30% with a peak of 120% in a constant flow comingled starting operation over the first 30 days. While this average rate could be considered successful, the outlier peaks are indicating that many lots were excessively high in the percentage of cattle pulled over these 30 days. Actions to further define the extremes should be explored to reduce outliers which will also positively influence the average. When we analyze the data one step further in the investigation, there is evidence that the average can be woefully misleading.

To understand the demonstrated pull rate more thoroughly, Figure 2 assesses pull rates for BRD of individual lots over the same time period that together are used to

determine the average in Figure 1. This chart is also a visual representation of the “when” component: when the first BRD pulls occurred during a 55-day starting phase. It shows the number of pulls per day across the first 55 days of receiving. There is a significant number of pulls early which is to be expected. There is also a secondary spike around day 40 that perhaps deserves some attention and an action plan to reduce that pattern. These later BRD cases may affect timeline commitments for sale, delivery dates, headcounts, and weight specifications.

Other challenges may surface such as impairing the ability of an operation to take advantage of a better margin in the market because of delays in inventory turnaround due to compromised cattle performance in the subsequent phase.

These steps in evaluating what happens and when go beyond speaking to averages and show a beginning pathway to the variables that produced what you are experiencing in your operation that may not be quite so visible when working with just an average over a



short time.

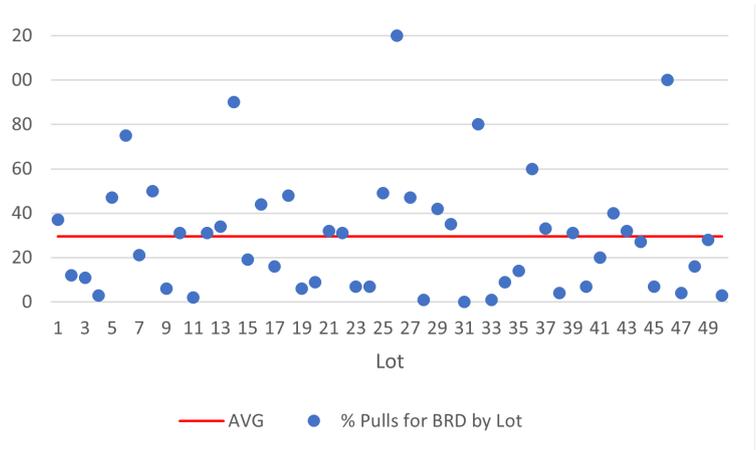
The effect of BRD is not limited to mortality and morbidity. Figure 3 demonstrates the effect of BRD on cattle ADG across numerous studies over the previous 20 years. On average BRD reduces cattle ADG by 0.20 lb/head/day and can reduce hot carcass weight by 10 lb/head (Cemicchiaro et al., 2013), which is important for producers retaining ownership. Gain patterns of cattle are difficult to establish because of infrequent weighing, however; feed intake patterns can proactively and retroactively signify a health event. Disruption to intake often indicates a health challenge before the animal shows clinical morbidity.

During a health event, immune stimulation causes an increased need for specific amino acids from protein for the production of immune system cells (Colditz, 2002). Available amino acids in plasma otherwise used for growth are partitioned for the immune response. This is further exacerbated by reductions in nutrient intake during a health challenge resulting in even fewer nutrients taken in and available for growth. To quantify this, the immune system will use 1.0 g/glucose/hour in active tissue mass for a growing calf during immune activation (Kvidera et al., 2017) which may equate to nearly all of the daily calories necessary for gain. The cost to productivity caused by supporting the immune response can add additional expense to a system. To reduce the impact of the caloric cost of immune activation, ensuring proper feed intake of a ration that is formulated to meet nutritional requirements is critical. Supplementing cattle during nutritional shortage (for example, forage drought or dormancy) or providing a high-quality ration can help ensure proper nutrient intake.

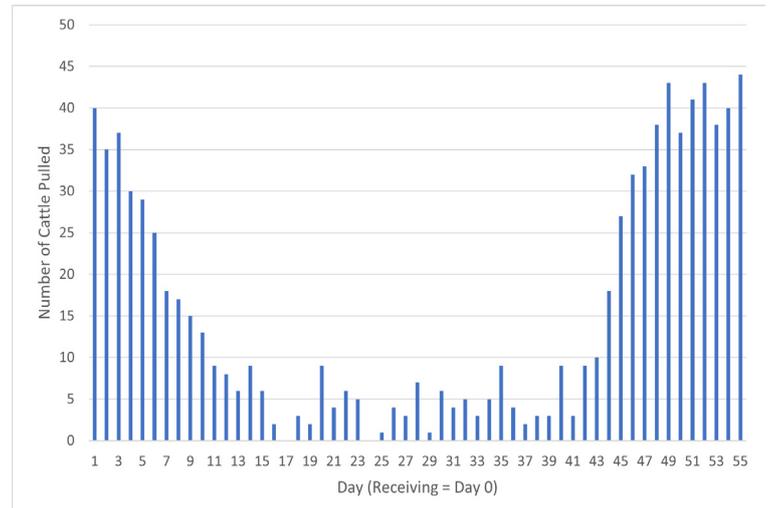
Defining multiple high-impact and robust metrics of BRD that are measurable can help to determine success or opportunities within a herd. Accurate data and interpretation can also help avoid decisions based on frequent product changes or making changes based on the wrong variable. Furthermore, these patterns will also help to determine the best treatment plan under guidance from a veterinarian as certain antibiotics are more effective at certain times in disease progression.

These metrics are not limited to mortality or morbidity but should include feed intake, to accurately assess cattle performance. The ability for an animal to gain weight depends on many factors such as feed availability, feed quality, the genetic potential for gain, and very important health status. Nutrition and health are often approached as two independent contributors to success in an operation when they are dependent and influenced by one another. Priority is often placed on health with nutritional needs being secondary and considered met as long as feed disappearance meets some established goal level. Looking beyond averages to link these multiple variables through patterns over time is yet another tool to consider during weaning as we commingle calves and increase risk incidence to BRD.

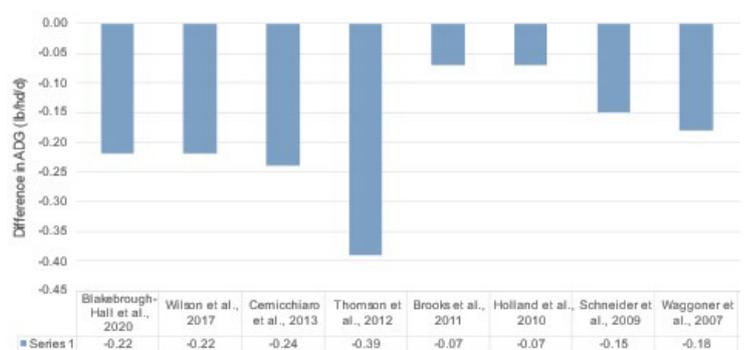
**FIGURE 1:** Hypothetical percentage of first pulls within lot due to BRD in first 30 days across one year. Red line indicates average of 30%.



**FIGURE 2:** Hypothetical number of first pulls due to BRD per day for the first 55 days.



**FIGURE 3:** Difference in ADG between calves not treated for BRD and those treated once across nine research studies.



Literature Cited can be found on the online version.

# COMMODITY OUTLOOK

By: Matt DeFlon  
Procurement Manager, Livestock Nutrition Center

We continue to see volatility throughout the market with December corn futures swings within a \$1.00 per bushel range over the course of the past 3 months.

Harvest is wrapping up around the country and supply is plentiful. The latest USDA reports show larger than expected corn production, yield, and ending stocks. The largest change from our previous article is the shift from weather driving prices to demand. End users, especially the Ethanol industry, are buying any breaks in values keeping the market supported. Although high prices have led to less than expected export corn sales, down 30% week on week and 10% over a four-week average, we have hit new monthly lows in the U.S. Dollar. This could lead to increased export activity in the days to come. Along with higher futures prices, new crop bushels are quickly being put away into any storage firming basis from the harvest levels we have experienced over the last several weeks.

The same principles driving corn futures to apply to feed ingredients, but in some cases fed by much more illiquid supplies. With feed season quickly coming upon us, demand is the driver here. Corn futures will ultimately lead ingredient price direction, even at higher relative values than we are historically accustomed to. Impending colder weather along with a strong corn board has end-users stepping in to cover their needs for the course of the winter. In several of these finitely supplied markets, as more tons clear the market, values can sharply rise. Soy crush and Ethanol economics remain strong, pushing plants to run as hard they can. Even with strong run times, one key thing to remember at this point of the year is production. Any hiccups in production as demand begins to take off can lead to a frenzy for any available tons available in the market. This phenomenon is where you see your sharper spikes in prices that historically struggle to settle back to previous levels until demand subsides. These swings are especially more pronounced with your more illiquid markets such as corn gluten feed or wheat midds. Mild temps throughout October have pushed typical demand back slightly further than typical, but it would seem the sleeping giant is right around the corner.

Along with ingredients, the fiber/roughage markets appear to remain steady. Large end-users have not been aggressive buyers of alfalfa over the past several months. Strong corn and cotton crop have made the availability of cheaper roughages such as cotton burrs, corn stalks, and silage plentiful.

From here demand will drive prices. Positions are beginning to take shape and additional tonnage is getting on the books daily in preparation for feed season. Demand has not fully arrived and will be watching weather forecasts closely to align pipelines to be fully prepared to meet customer needs.



## MEET THE TEAM

LNC takes great pride in sourcing our employees. Each issue we will introduce you to one of our own.



### **Cody Welchons, Ph.D.** **Nutritionist**

Altus, OK // Chickasha, OK // Guthrie, OK  
// Keota, OK

Cody Welchons joined LNC in August of 2017 after completing his doctorate in ruminant nutrition at the University of Nebraska-Lincoln. Originally from central Florida, Cody completed his B.S. and M.S. Degrees at the University of Florida after which he worked for a small feed mill in central Florida before returning to school for his Ph.D.

Cody provides technical support for sales and customers in Oklahoma and Arkansas. He resides in Chickasha, OK with his wife Andrea and their dog Solomon.

## 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.

<https://www.lnc-online.com/careers/>

# CUSTOMER *affirmations*



"As a small producer, we don't have the ability to hire our own nutritionist. That is what is great about LNC, we have access to a nutritionist when we need one.

LNC makes feeding more simple. We don't have to worry about sourcing four or five ingredients in and do math every morning with our custom PreMix from LNC."

- Dusty Nichols, Honobia, OK