## When the Pens are Empty,

## the Data Talks:

## Dr. Justin Waggoner

## Season 1, Episode 71

[Intro music]

**Kiernan Brandt:**

Welcome to Cattle HQ, a podcast from industry experts and progressive producers discussing cutting edge info about the cow calf sector to keep cattlemen and women in the know and positively affect their bottom line.

**Madison Kovarna:**

Welcome to Cattle HQ brought to you by South Dakota State University Extension. I am Madison Kovarna, a Beef Nutrition Field Specialist based out of Watertown. For our loyal listeners, I'm so happy you're back with u. For those of you who are new here, welcome to the herd. Today I'm joined by Dr. Justin Waggoner from Kansas State University where he is a professor and an Extension Beef Cattle Specialist. Justin recently presented at the Siouxland Feedlot Forum, a joint venture with SDSU Extension and UNL, University of Nebraska-Lincoln, regarding a feedlot closeout dataset that they've been working on down at K-State for almost 30 years. I won't steal the thunder with any more details and we'll leave you on a little bit of a cliffhanger for now, but I'm excited to have him joining us on the airwaves today and can't wait to pick his brain. Justin, I do want to give you some time to introduce yourself to our listeners since it's the first time you've joined us here on Cattle HQ. Could I convince you to give a little backstory on yourself just to start us off?

**Justin Waggoner:**

Yes, sure. Well, great to be here with you today, Madison. It was certainly a great opportunity to get to present up there at the Siouxland Forum and so we'll get to kind of share this data with a few more folks up in your part of the world. As Madison indicated, I'm an Extension Beef Cattle Specialist with Kansas State University. Actually, I've been in my role here for 17 years. It seems like a really long time when I say that, but yes, started this role in 2008. I'm a native of Central Kansas, fifth generation Kansan so my family has been involved in agriculture for quite some time. It goes back a long ways. It doesn't mean we were necessarily good at anything as a family, but we certainly stayed with it for a long time. There's something to be said for that I guess. I was raised on a pretty diverse operation. My grandparents actually had a farrow-to-finish hog operation. My parents ran cattle and horses so I got to see all aspects of animal agriculture, several different aspects growing up. I've got a couple of degrees from Kansas State University, so bachelor’s and master’s there. My master's is actually an Equine Nutrition which always people find kind of interesting as the Beef Cattle Specialist. I worked in the cattle feeding industry for a couple of years before making the decision to pursue a PhD. I finished up my graduate work at New Mexico State University in Las Cruces so I went from Central Kansas to the desert Southwest if you will so there's quite of a shift there. I learned a lot about range beef cow production down there and as this position came back up open here in Western Kansas - I am based in Garden City Kansas, so we're certainly in short grass country so that fit very well with kind of my experiences down in New Mexico and at New Mexico State and also having the cattle feeding background. Garden City, Kansas, for most if you are familiar with the cattle feeding industry, this is really kind of what I call the epicenter of the cattle feeding world. As you run the Highway 83 corridor from the Amarillo, Texas all the way up into Nebraska, I like to say there's more cattle on feed probably in this part of the world than anywhere else so that that's kind of an exciting tidbit I guess if you will. There are more cattle on feed within a 60-mile radius of Garden City, Kansas than anywhere else in the world. At least that's our claim to fame here that we like to kind of talk about here in Garden City. Yes, that's a little bit about myself, maybe more than what you wanted to know, but certainly I think kind of paints a picture for your listeners there.

**Madison Kovarna:**

Yes. No, I think it's always fun to - I always leave that question pretty open-ended just to see what people share and if it was me, I probably would have shared that I am originally from a town called Le Mars, Iowa and our claim to fame is the ice cream capital of the world. A little cooler maybe, I don't know, but I think I'd much rather be from the cattle feeding main headquarters of world, but ice cream I guess has got a pretty close second for my heart I suppose. [Laughter]

**Justin Waggoner:**

Yes, that's a pretty interesting claim to fame there, ice cream. It's pretty hard to top that one.

**Madison Kovarna:**

If you ever see Wells Blue Bunny in the stores, that's where it's made is Le Mars, Iowa, a little humble town. We've got all sorts of claims to fame all over the place, but kind of to - I derailed us on that one, but, [Laughter] to bring us back to the beef cattle side of things, when I attended the Siouxland Feedlot Forum, I started off taking a lot of notes during your presentation and was really trying my best to be a good student in the back, trying to keep track of everything and then eventually, I got so sucked into the data that I kind of stopped taking notes and just kind of sat back and listened and actually digested what you were talking about. The dataset that you have and we're going to talk about here in this episode it's extensive and contains a lot of good data. When I say a lot, I mean a lot and when I say good, it's very good stuff, but can you give us a little bit of an origin story on how this dataset came to be and maybe how we've gotten it to this point?

**Justin Waggoner:**

Yes, sure. I just feel like the data that we put together is more of a snapshot. A lot of people when we will throw out some of the numbers here in the minute of what we've kind of put together here at Kansas State University, but it's a fairly small picture of the cattle feeding world so I always kind of like to put that in perspective. The dataset that we're talking about or that I spoke about there comes from our focus on feedlot dataset here at K-State. The focus on feedlots is essentially a monthly, I'll call it an extension newsletter, but it's really just a feedlot closeout and performance summary. If you give the focus on feedlots, you can get it via email. We can get that to anywhere when we talk about how to get that directly to your listeners if they're interested later on as we kind of wrap things up, but it just looks like a table of numbers and so essentially what it is is each month I make a few phone calls, a few emails and collect closeout information really from five yards. Most of them are going to be in Western Kansas. What really makes the focus on feedlot unique is the history and the timeline that we've been able to capture that from. We've actually got the data within this dataset so it's feedlot closeout and performance as well as some commodity prices that goes from 1990 to present month. Really where the strength that I think of this data comes in is just getting to capture that amount of information over that 34 year timeframe, right? In terms of the history - obviously, there's 34 years, but the focus on feedlots actually goes back much earlier than that. I started in the late 70s is what I'm told and it and changed and was up and going into the early 80s with some of our really the first extension feedlot specialist here at Kansas State University and it really started as an extension feedlot newsletter that had a few nutrition articles, a little bit of benchmarking if you will. It's very early in terms of what does performance really look like across five to six different yards across the state. Really that effort, the newsletter is kind of fell away over the years, but today what we have left is really the meat and potatoes if you will of just that feedlot benchmarking effort. Typically right now, we collect closeout information on I'm going to say 15,000 to 20,000 head of steers each month and somewhere around 12,000 to 18,000 head of heifers each month. In total from 1990 to 2024, I think there's a little over 18 million head of cattle that would be represented in these closeouts that we'll kind of talk about in the data that we've put together so yes, it's extensive. That sounds like a lot of cattle, it is, but when you put that really in the context of the feeding industry in Kansas, now that's a fairly small snapshot of it. I think typically month in month out, I haven't calculated these numbers for a while, but we would capture numbers on about 20% of the fed cattle slaughter each month in the state of Kansas, so really about 20% with those five feed yards. The thing that's unique about the focus on feedlots I think that speaks to the commitment of several of these yards is often times there's been ownership changes within the yard and so the name on the door will change or the name on the office will change or the sign out front, but we are still able to get that data. We have several feed yards within this dataset that have actually been a part of the data. I don't know who's been in at the longest, but a few of the feed yards certainly have been in there well over 20 years and so I think that adds a lot of value to it when you've got the same system, the same operation in that same location. We have seen some consolidation so we used to do about 10 yards. As yards grow bigger, as yards purchase other feed yards, et cetera, that number has been reduced to five, but that's still a very respectable number of cattle that we're able to capture data on each month.

**Madison Kovarna:**

Yes. I was going to ask you if you didn't mention it, so I'm glad I didn't have to put you on the spot of how many head of cattle are contained here on a monthly and just yearly basis and you summed that up perfectly. It's a lot of cattle, but in the grand scheme of things, maybe not as many as we really may realize are out there and I also can pick up on is that maybe there needs to be some internal review on who's contributed the most data for the longest time maybe not available to the public, but maybe some internal pat on the back maybe a little participation award needs to go out. [Laughter]

**Justin Waggoner:**

Well, and probably one of the greatest challenges I think I have is keeping this dataset going. As you think about things you inherited, you come into your position and this has a lot of value to Kansas State University, the academic community, to producers, and so there's always that how do we keep this going especially in Kansas? We're essentially an industry that's dominated by corporate cattle feeders. Some of those may be family-owned corporations, right, but that data has a lot of value and so just the fact that they're able to still share and have that willingness to share that data with us I think really speaks volumes to their commitment to Kansas State University and kind of keeping this this information out there and available to producers.

**Madison Kovarna:**

That's another kind of thing I wanted to mention too is while this data is Kansas based, I think there's some big trends that we'll dive into and kind of pick apart that maybe the day-to-day come from Kansas, but ultimately all fed cattle across the US no matter what state you're in, these trends apply and a lot of things have changed in the feedlot industry and a lot hasn't either. I mean we're still in the game of getting cattle bigger, getting some condition on them and sending them for the food industry to feed the United States and the world in general, but how we do that has changed and can we dive a little deeper into the changes and maybe some of the stay-the-same that we've been seeing. I'll kind of kick us off and maybe put some scope on our conversation to start of talking about that weather and feed conversion component, maybe some death loss or just that market volatility that we maybe see just across that maybe we do see it across the feedlot industry, but any thoughts on those from you?

**Justin Waggoner:**

Yes. I think that you bring up some interesting points because it's always as when I talk about this dataset with producers, there's a lot of conversation about how the industry has changed, where we were at in 1990 versus today. Some of the things that you mentioned, the largest challenges that I think we face in the cattle industry regardless of whether you're on the cow calf segment or you're in the feeding industry, weather is a big one, right? Weather, and feed conversion, and commodity prices, market volatility as you kind of brought it up. I think those are consistent across whether it was in the early '90s or the 2000's. The one thing as I think about, we'll talk about maybe feed conversion for just a minute because I think that's a feed conversion and maybe cost to gain a little bit. When you look at our long-term datasets, oftentimes in terms of feed conversion, a bigger number means more pounds of feed to produce a pound of gain, right? When you see the 34-year dataset that's out there, you'll see some of these huge spikes within this data across these yards. Oftentimes, those spikes, if you go back and overlay that with weather data - and 2019 is a great example. 2019, we see kind of a large spike in terms of feed conversion where feed conversions we're just relatively poor in the State of Kansas. Well, Garden City, Kansas, we actually received 38 inches of snowfall in 2019 so it was a fairly long cold wet winter. I'm sure your producers can relate to that, but obviously, that creates a challenge for us and an open lot extensive environment where typically we don't see a lot of precipitation here in Southwest Kansas so it really speaks to that the influence of weather and how that can impact feed conversion and ultimately right closeout in terms of profit and loss. That's a big one. I think the other one that speaks to some of that volatility is our data on cost to gain. There's often times you were showing, I wish I could show you the graph, but if we think about the data that we have here at K-State in terms of feedlot cost to gain that we would track, the period from 1990 to 2008, there was really only about $25.00 difference per 100 weight in the highs and lows so 1990 to 2008. We fast forward and we go from 2007 to 2025, there's about a $75.00 per 100 weight spread and cost to gain. The range in the early 1990s to 2008 really range is about $0.50 to $0.75 was really where cost to gain. Would have been out in terms of that time period so relatively tight, but then as you get and kind of the second-half of that graph, we start to see some pretty extreme volatility where we're going from 75 all the way up to a to $150.00 per 100 weight difference in terms of cost to gain. It's really some extreme variability especially as we come to maybe some more recent time periods. A couple that jump out in our data would be the period from 2011 to 2014. That was a fairly volatile time, you think about in a post-ethanol industry, right? Then the other time period where there's a really significant spike here in terms of the cost to gain data would be from 2019 to 2023 and kind of what we saw in terms of I'll call it the post-COVID hang over there a little bit just in terms how dynamic that was of an event in terms of changing our markets and just commodity prices and a lot of things like that. With that being said, it's kind of exciting to see some of those changes although they really represented some fairly significant challenges for producers and folks that were feeding cattle here in Southwest Kansas.

**Madison Kovarna:**

Moving forward too I think the market I mean record market highs we're in right now is going to be another interesting time point to look at in a few years. Riding the high now, I mean I've been seeing people who sell cattle. I just saw some fed bulls go through and I think they brought 222, 100 weight in the sale barn which is something that I never thought we would see or there there's a slaughter bull in Kimball, South Dakota that I think he sold for just over $6,000.00 for just him just to go and I think that's going to be an interesting change in the data and just what the data tells us in a few years if we start to rebuild the herds and get numbers back to where they have been in the past, I think that will also kind of be an interesting thing. Maybe in a few years, we'll have you back and talk about the updates since the [Laughter] last time we talked because I think we'll have even more to talk about in a few years.

**Justin Waggoner:**

Yes. I think that's been an interesting topic of conversation is what's going to be the ceiling on the wean calf market this fall. We go back a few weeks there's lots of sale barn reports of, "This is the highest price for X class of feeder cattle. I mean there was a few weeks here this summer where what I think it was a different sale barn report that just about every week reached a new high for a different class of cattle. Yes, certainly an exciting time. I think there's a lot of challenges there and it's exciting to sell cattle for those kinds of prices, but I think I also probably become - I'm a little risk averse so there's also a lot of risk associated with those numbers too especially as you think about retaining ownership and all those things that kind of go on down the line.

**Madison Kovarna:**

It will be very interesting to see where we head as an industry and kind of what how this all shakes out. Some other things to kind of chat about too and you and I prior to hitting the Record button, kind of discuss this a little bit of, I mean, we're finishing cattle heavier than we have before and really kind of pushing those upper - I don't want to say boundaries, but maybe those upper limits of what we can and can't do with them, and really starting to kind of figure out the fine-tuned science between finishing cattle of that they're getting heavier, but that increased gain and their average days on feed we're finishing them heavier, but they're on feed longer and just death loss amounts and what we're predicting. I don't know if you've had any thoughts on those kinds of topics there that maybe we could discuss a little bit as well.

**Justin Waggoner:**

It's actually really one of the current topics that come up a lot with this dataset. I think the recent discussions around exit weight and greater days on feed is probably one of the reasons that I got the invitation to come to South Dakota and visit with you guys, but I think what we really have to do is take a step back and look at the long-term data. What our data would certainly indicate, and this may surprise some listeners, is that we've actually been steadily increasing exit weights and subsequent carcass weights for the last 34 years. I mean there's certainly an upward trend there if you look at our data. Let's talk about the kind of the average steer in 1990, if you will, weighed 1,187 pounds. A heifer was exiting the feed yard 1,041 pounds. If we fast forward to 2024, and this would be an annual average, so we actually marketed steers in our data set at 1,461 pounds and the heifers at 1,311 pounds. If we think about that, that's well over 200 pounds of live weight on those animals in terms of that 1990 to 2024 change. If we think about it, if we look at the trend line, that's 0.64 pounds per head per month which extrapolates out to about 7.7 pounds per year. The net result of that is we are now marketing cattle 25% to 23% - the steers is 23%, the heifers is 25% larger weights today than what we were in 1990. There's been a lot of conversation about that, but we've actually kind of been on this trend for quite a while. Yes, we have seen some new highs as we get into to the more recent kind of 2024 numbers here. The other part of that story is days on feed. Oftentimes when I was in Beef Science at Kansas State University we talked about cattle being on feed 120 to 130 days was kind of a typical feedlot finishing period. I'm not sure that that was maybe all that accurate, but that's kind of what we used to talk about. In 1990, average days on feed in our dataset for this steers and heifers I'd call it 140 days, okay. If we kind of fast forward to 2024, our averages now are 194 and 185 on the steers and the heifers respectively. If you kind of think about it, there's not very many cattle today at least in these feed yards that we'd feed less than 170 days on feed. It's a pretty fundamental change in terms of we think about 120, we think about 150 days. Today we're talking about numbers where 170 is probably a pretty good number in terms of the average. There are a lot of cattle that are going to be on feed for well over 200 days if you look at individual line close out. I think that's certainly a substantial change as you think about risk management. You also talked a little bit about death loss. What I can tell you is one of the things you see is the longer you own something, and most livestock producers have an appreciation for this, the greater the likelihood that something bad may happen. It's not uncommon to say, "Well, if we start with a set of three-way calves and we're going to take them all the way to finish, there's a greater likelihood we may see some higher death loss just because of the increased stays on feed," and so I think we certainly see that in our dataset as well. We didn't begin to track death loss in the dataset until a little later so about 1994 is when we really kind of have a full annual average of death loss. Death loss in the 1990s would have averaged just a little below 1% which seems fairly low. We oftentimes talk about penciling in a 1% death loss on a set of cattle when we put together, a set of break even. 1990s, that was probably pretty accurate. As we fast forward and we kind of get into some more modern numbers, 2024 our death loss on the series was 2.25% and on the heifers we were at 2.4%. As you kind of think about those increased days on feed, those greater exit weights, what goes along with that in my mind is you have to have that conversation about the death losses. It's certainly not 1% anymore for a lot of cattle so as we rethink those break-even calculation just a little bit and the death loss is going to be a little bit higher in it. It would follow a similar trend with the exit weights. It's gone up as well and maybe that's one of the surprises for us. I know as a cattle nutritionist you often think, "Well, we're better at managing cattle today than we were 30 years ago and we've got some new tools and we've always made some advancements on the health side," but in spite of those advances we're still seeing that's one of our tremendous challenges I think in the industry is the death loss issue and what we can do to maybe work around some of that as well.

**Madison Kovarna:**

While you were talking about just the trends that we've been seeing from the beginning of this dataset to maybe more currently of just the higher live weights that we're seeing, when you mentioned that about a 7.7 pound increase in live weight per year I googled what a gallon of milk weighs and a gallon of milk weighs 8.6. I mean we've been barely adding that gallon of milk you pick up from the grocery store to these animals each year, but when you start to do [[Unintelligible]](http://recordings.civi.com/cgi-bin/player.php?file=PC-00002-CattleHQ-Ep68.mp3&starttime=1535&duration=20) just as small as we've been gaining as an industry to get us there. Then kind of with that penciling in those death loss differences, no one ever wants to write down a 2% death loss, but if that's what we're realistically facing, if that's what it needs to make sure that you're breaking even at the end just to be more realistic and upfront with ourselves. It sucks to write it down, but like you mentioned there's a lot of things we're doing differently as an industry that do contribute maybe a little bit more to that and just things that - not saying we're bad producers for that, but just things that change and risk that comes with those changes as well.

**Justin Waggoner:**

Yes. I think it's a good conversation starter for sure. The death loss as we talked about, things that you see in the dataset, that probably represent a pretty significant challenge for our industry. That one certainly is one to highlight like, "Okay, how do we improve this particular point?" You could feed conversion, all the other things, but when you look at the death loss side of things I think that's one we're going to go, "Wow. How do we do this better or how do we increase our understanding of that or how do we better utilize the tools?"

**Madison Kovarna:**

You kind of mentioned that the death loss was interesting. Is there anything else that was interesting to you as you piece through this data or pick things apart or maybe things that you expected to see or didn't expect to see and you did? Anything that sticks out to you as the eyes behind the focus on Feedlot Newsletter or getting those numbers out to people? Anything that sticks out to you?

**Justin Waggoner:**

Yes. It seems like our conversation has kind of gravitated back to the death loss as that being a challenge for us, and I think it is, but also on the positive side of things I think there's a really interesting story as we think about the long-term dataset, and then maybe we'll kind of talk about some exciting things that I kind of look at in terms of where we've been the last four to five years. If we think about it as an industry and the challenges that we face and kind of our ultimate goal is to put protein in front of a consumer right. We are now able to market animals and putting on 200 pounds of live weight and that's going to come into an increase carcass weights as well, but we're also doing that with some improvements in terms of average daily gain and feed conversion. There's a story there about sustainability. We've also in that same timeframe not only have we increased those exit weights, but we also improved average daily gain somewhere in the neighborhood of 11%. Actually, the last few years because of the increase in exit weights and we've actually seen average daily gain go down a little bit so at certain time points that number has been larger. If we compare 1990 to 2024 but if we go back to 2020, that would certainly be a larger increase. We've also made some increases and improvements in feed conversion. Feed conversion, the line for that is actually relatively flat so if we think about increased average daily gain at the same or maybe slightly better feed conversion, there's a pretty exciting story about sustainability so we're certainly producing more beef with less. As we talk about, "Well, why do we increase carcass weights?" Well, we're dealing with a pretty small cattle inventory so that's a pretty easy way for the industry to respond and maintain those beef supplies that our consumers are used to seeing in the retail case. I think that's one side of the data and not to get too caught up in that really formidable challenges of what we see in terms of volatility and markets and death loss, but also that story about, "Hey, we are putting more pounds of beef in front of the American consumer in the global consumer as well, and we're doing it with relatively at the same feed conversion and we're able to put up those pounds on at a faster rate of gain as well." If you kind of think about some of that, I think that's an exciting piece of that as well. I think the other part of that I mentioned, that I have found interesting in the dataset, is really this time period from 2020 to 2025. We talked a little bit earlier about kind of the post-COVID really when we started to see one of those periods of fairly extreme market volatility, and I think it's been interesting to watch the industry respond the last few years as cattle inventories and supplies have gotten a little tighter. We've certainly seen a rapid increase in production cost to see, "Okay, so as we increase exit weights and we certainly have seen some of the highest recorded exit weights within our dataset" - so I think our highest recorded average exit weight for a steer was in the fall of 2024 at 1,514 pounds on the average. That is an average exit weight on five feet yards across 20,000 head of cattle there. The heifers, really about the same timeframe we actually tied. There was a period of fairly high exit weight in some heifers back in '21. At 1,357 pounds, so we've certainly seen those increased exit weights. As you think about the story of the cattle inventory, reduced supplies of cattle, how has that impacted average daily gain like feed conversion, what has that done as we've pushed those exit weights a little bit higher? If we look at the five-year average for steer, days on feed is about 184 for the steers. April 2025 we were right at that trend line. We're actually starting to see cattle feeders - I guess I'll go out on a limb here and say we're beginning to maybe moderate those days on feed a little bit. It appears maybe we've done the peak. We've been well over that 200-day mark on some cattle, but now we're starting to see that start to come back down. What I'd like to think is that we're probably going to continue to market these cattle at these heavier exit weights, but can we do a better job of managing those cattle. We're starting to see that I think a little bit in our close outs as we're starting to see feed conversions start to come back down a little bit, and we're also seeing those average daily gains start to maybe - they were actually trending down for a while. We're seeing less average daily gain and poor feed conversions. Now we're kind of getting on the other side of the curve there. I think what we might be beginning to see as an industry is we've had enough time and we've gotten better at managing those cattle to those heavier exit weights. I think that's going to be really exciting as we move into the future to see how this industry responds. Will we maintain steer exit weights in the range of 1,500 pounds and heifers in that 1,350-pound range or will we start to see that moderate a little bit.

**Madison Kovarna:**

It will be very interesting to see where we go, and I like that you brought up - I know some people feel sustainability is like beating a dead horse sometimes, but I really think it's something we need to keep at the forefront of our minds of we are, as an industry, we're doing what we can to, like you mentioned, produce more with less and being just more efficient in how we do that with managing cattle, taking into account all of the numbers that we have available to us not only in your dataset, but maybe even back home. I have a question, I guess, maybe more hypothetical than anything. This dataset is large, impressive and contains data from these big feed yards that are all working together for this common goal to get information to you, but do you have any tricks or words of wisdom you may have for someone looking to craft something like this, but on a more personal operational level at home just keeping track of maybe some numbers? Any thoughts that you would want to share on that front?

**Justin Waggoner:**

Yes, sure. I think that's a great question. I'll kind of go back to some lessons that I learned in the cattle-feeding industry prior to doing my PhD, numbers have value, data has value. That's why we go to - the effort we do as scientists, I think, to capture data and try to understand things better, but what we often see on a lot of operations is we collect a lot of data sometimes, but we don't go back and look at it. I think the number one thing, even if you're a smaller cattle feeder or maybe you're just a cow calf operator, you think about your opportunity to collect data and your operation and probably the number one limitation in both sides of that is not to go back and look at that data. I think even the cattle-feeding operation that I worked for, we were kind of guilty of that. We looked at a few key indicators, but very rarely did we go back and look at kind of more of the data that we had. Could we begin to understand and hone our system? Those cattle had all been fed under similar bunk reading systems, similar rations for several years, and then if you overlay that with the type of cattle you can start to begin to hone your cost-to-gain regression or your place cost-to-gain regression. If you can get to the point where as a cattle feeder, where if I know corn price and this class of cattle kind of the Holy Grail is, "Okay, so what's my place cost-to-gain going to be on these cattle?" There's a whole assumption that it's going to be based on the performance and feed conversion of those cattle that's kind of built into those equations if you will, but I think the real value is going back and looking at those. Then if you make a management change, if you change something, how do you benchmark that change. What was the value? We changed this in our system. You can define this or the X. How did that impact the Y? I think a lot of times for producers especially for I think smaller operations, we're very much in the fire so to speak of today so it's really hard to see down the road or go back retrospectively and take that time to do that, but I think that's a really valuable exercise because I think oftentimes we don't think about the data that we capture even on a smaller enterprise of, "Hey, what were my calf weaning weights? I early weaned this year, but in all actuality my calves really we're only 25 pounds lighter than if I had done a more conventional wean." There's some lessons that you can kind of learn about your enterprise, your forage base I think regardless of which segment of the industry you're in. I just encourage producers to really give some thought to the data that they have the opportunity to capture or the data that they have and then take that additional step and just go back and look at it. Excel is a really great tool that you can do a lot of things really quickly and simply, and there are some other software programs that are out there to look at those, but there's just a lot of value in being able to go back and do some of that stuff.

**Madison Kovarna:**

We always advocate or I should say we, but I for sure try to advocate to people that I talk to of there's the statement of you can't measure what you don't know and you really can't say that a change worked if you don't have the numbers to compare before you made that change and after, like you were saying. I think that goes beyond just the statement of the fact of we're humans, and innately a lot of decisions we make have an emotional charge behind them and numbers don't have that. If you make a change and looking at it and say, "Man, that really works," because you want to believe that it did versus actually looking at the numbers and being like, "Maybe it didn't really work as well as I remember it working," and - those numbers don't lie to you and I think it also just helps make those decisions maybe a tiny bit less emotional. It lets you kind of sit back and look at in a - I don't want to say rational because it makes us seem irrational, but kind of in a different light than maybe you do when you're making a decision not without any supporting information. We're coming up on the end of our time together so I want to give you, if you have any, kind of closing thoughts before I send us out on our way. Any closing thoughts for listeners or any kind of big take-home messages you want to leave them with?

**Justin Waggoner:**

I don't know, but as you were kind of talking about your approach to data there and I often think about how both you and I probably interact with producers sometimes and you get to that enterprise analysis step especially for something that may not be working as well as you think it is, and so - maybe there's a Mark Twain quote that I'm going to probably mess it up a little bit here, but it goes something like, "It's the things that just isn't so that are really hard to deal with," and I think that's really where a lot of producers find themselves, but the focus on feedlots maybe just as we kind of wrap things up, we distribute this via a simple email Listserv and so if any of your listeners are interested in receiving this on a monthly basis, usually the report comes out - we are a month behind. We kind of do that on purpose because it gives a little bit of lag between the feedlot. They're putting their numbers together and then we capture the numbers and so the July report will actually be the June close out, if you will, but they can get that directly to their inbox. You can find the information on how to subscribe to that at www.ksubeef.org. There's also access to the monthly reports. You can also email me directly, so jwagon, J-W-A-G-G-O-N @ksu.edu and we can certainly add you to that Listserv. I think it's somewhat old-fashioned it seems like to actually have an email Listserv in today's terms, but that's still how we disseminate the focus on feedlots and get that too. I think we're well over 500 folks now that get that individually and there's several that pick it up each month off of the website there, but it's really unique to have a dataset that I think goes over three decades now that's got this type of information. I think just hopefully we can keep it going and sometime we can have a conversation maybe not with myself that's, "Hey, they've got this really exciting effort at Kansas State University. It's 50 years of close-out data that's been collected." I think just that the historical trends and changes in the industry and how we do things and how the industries change I think is really one of the most valuable aspects of this particular effort at K-State, and so it's really nice to be a part of that for myself.

**Madison Kovarna:**

I think when I first saw this at the Siouxland feedlot form, I am not going to lie I was a little jealous [Laughter] that you have all these numbers kind of just to sit and look at how the industries change. In the description of this episode I'll put the link to sign up for that Focus on Feedlot report and then also Justin's contact information such as his email. If you happen to need to look at it after you listen you definitely can find it because I think I'm on the same page as him on this. Those reports contain some valuable information and are just a good resource to have. The fact that they come out on that monthly basis I think really helps paint a picture for producers and really anybody who's interested in kind of taking a peek into what's going on at our feedlots down in Kansas and kind of be able to extrapolate it out or expand it out to other states as well. Unfortunately, we are coming up on the end of our time together. Dr. Waggoner, it has been fantastic to have you join me on Cattle HQ. I've already said this so many times, but the data you are collecting and managing is one that's painting a lot of pictures on the wall for producers and ones to keep our eyes on. If we can tell you one thing, collect your cattle performance data. Those numbers on a page tell you a lot about your operation if you take the time to listen to the stories that they're telling. With that, this has been Cattle HQ brought to you by SDSU Extension, headquarters for all things beef cattle. Visit extension.sdstate.edu for the latest beef information. That's it for today's look at feedlot close outs and the trends shaping what's next. The numbers may not tell the whole story, but they share help us make sense of it. Thanks for listening and until next time, stay sharp, stay curious, and keep watching what your data is trying to tell you.

**Kiernan Brandt:**

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[Outro music]