## Grazing Smart Following Dry Fall and Winter Seasons: Kaylee Wheeler,

## Dr. Krista Ehlert

## Season 1, Episode 52

[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 and joining me today are two very special guests Kaylee Wheeler and Dr. Krista Ehlert. Kaylee and Krista have been guests on the podcast before, but if you are new or need a refresh, Kaylee is a Range Field Specialist based out of the Winner Regional Center and Krista is the Assistant Professor and Extension Range Specialist based out of our Rapid City Regional Center. Both of my coworkers here at SDSU and I'm very happy to have them joining me on this episode. We're going to chat spring grazing following our dry fall and so far, what's been a dry winter season, which as much as snow is not my favorite to drive in and walk around in, definitely missing the white cover on the ground. It is January when we're recording this, the very end of January and, up here in Watertown, it's pretty brown outside with no white, but before we really dive into the meat and potatoes of this episode, I wanted to give some time for our listeners who are new or unfamiliar to get to know our two guests that are joining. Krista, I'll start with you if you want to take a few moments to introduce yourself to our listeners of this podcast.

**Dr. Krista Ehlert:**

Hi, everyone. Like Madison said, I'm Dr. Krista Ehlert. I'm located at West River out of our Rapid City office. My appointment is split between Extension and research. On the Extension side, I work directly with beef cattle producers such as beginning beef producers as part of the beefSD Program and I also do a lot of work with youth as well as Women in Ag. My research effort is focused largely on precision ranching technologies like virtual fencing and I also have a couple of projects that are focused on riparian restoration using tools called beaver dam analogs, so I run grad students and they keep me pretty busy on different aspects of range ecology and management, and I'm happy to be here today to discuss grazing practices after a dry fall.

**Madison Kovarna:**

Kaylee, I'll ask you the same question and thanks Krista introducing yourself, but Kaylee, if you would share kind of the same thing of introducing yourself to our listeners that maybe haven't heard you on here before.

**Kaylee Wheeler:**

Yes. Hi, everybody. My name is Kaylee Wheeler and I'm a range field specialist with SDSU Extension at the Winner Regional Extension Center. I'm lucky enough to get to collaborate with Krista in a lot of her projects but I have a background in ranching and beef cattle and pasture grazing and all of those things, so anything related to the plants and grazing and pastures, that's kind of my wheelhouse, and so I'm excited to just be talking about spring grazing today.

**Madison Kovarna:**

Kaylee and Krista and myself had recently been on a meeting and this topic had come up and I thought it was something that all of our listeners could definitely take some information home so I'm excited you guys took the time out of your busy schedules to join me in recording this, but outside of that meeting that we had, Kaylee, you've recently published an article titled "Winter Pasture Report: What's Your Plan For Spring?" on the Extension website and I just wanted to start the conversation off between the three of us of a brief overview of what that article was and maybe what spurred that conversation. I know Krista you had recently published one too kind of in the same vein so what spurred you guys to want to put those articles out on the intrawebs?

**Kaylee Wheeler:**

Yes, of course. I think I wrote the Winner Pasture Report and What's Your Plan For Spring because we want to get people thinking ahead and get them thinking about what things really look like now and what things are going to be looking like few months. I'm always keeping an eye on things. It's really important to just always be monitoring things, but I think it's important to also take kind of a deeper dive every few months to kind of look at where we've been and where we're heading. Yes, the reason we're making this episode today is to just get our producers aware of what the current conditions are and get them thinking ahead. I think everybody is pretty well aware that the rain sort of shut off at the end of last summer and we had a really dry fall which led into a pretty dry and open winter so far, meaning that we haven't had much snow cover. In South Dakota, the latest drought monitors are showing that the entire state is considered to be in a state of drought with some areas towards the more the southern and western parts of the state that's experiencing much more severe conditions and the climate outlooks don't look great at the moment either, so that's not saying that we won't get any moisture in the coming months but it's really more of just like kind of a caution flag thrown up for people to start paying attention given that we've already been pretty dry. It's going to be extremely important to get enough rain come April, May, and June. We have research that shows that the rain that we get in April, May, and June is the most valuable rain that we get all year That rain is going to determine the majority of the forage growth that we get in a year so we should really want producers to be keeping an eye on things and thinking about their management in the next few months while we're still here in the dormant season just waiting and praying for the spring green up to happen.

**Madison Kovarna:**

Krista do you have anything to add to kind of Kaylee's point? I really like that, Kaylee, one of the things that you've brought up - there are two things I guess I can mention before I pass the torch over to Krista is the fact of this article, there was information in it that is important to share but also it's just starting the thought process of even though the grass is in his dormant stage, these topics need to be at the forefront of our minds as producers and us an Extension as well and everybody that these spring topics don't necessarily need to only be thought about when the grass is starting to poke up out the ground. You brought up that the rain in April, May, and June is the most important rains for the year and I think that's something that - I mean I tend to even forget that too, so it's an excellent point, but to round out my rambling here, [Laughter] I'll pass the torch to Krista if she has anything to add about what kind of spurred these more recent articles and kind of the conversations that we're having leading up to this episode.

**Dr. Krista Ehlert:**

Sure. Like Kaylee said, we've been pretty moisture deficit this winter after, like she said, the faucet kind of turned off at the end of the 2024 grazing season. and with that, we also haven't gotten huge amounts of snow across the state like we typically have. Like Kaylee said, we're fairly dependent in the Northern Great Plains on that April, May, and June preset, and that's largely because in our region, we are a cool season dominated so we're - the majority of our pasture grasses are cool season dominated so the majority of our pasture grasses are cool seasoned so they like performing photosynthesis when it's about like 65 degrees out or so and most of their production has occurred kind of by the end of May, early June. While it is beneficial to receive moisture throughout the entire grazing season, we're really very heavily dependent on that early moisture to get the production that we need to graze our cattle. There are several kind of disadvantages to even not having enough snow cover. One is that we're probably going to see because we haven't gotten a lot of snow, reduced soil moisture and water availability. Snow is kind of natural water reservoir so it like slowly leaks moisture down into the soil during the spring. When we have less snow, that means that we have less groundwater recharge and stream flow so that obviously, is going to have a negative impact on our plants and livestock. We also could see that contribute to drought conditions next crazing season. The other thing not having enough snow on the ground does is that it helps anchor the soil in place and so if we don't have a lot of snow, then that soil, particularly if there's hardly any vegetation on it, it's going to be really susceptible to both wind and water erosion so that can obviously, be pretty problematic when you think about the loss of topsoil that could occur during those situations. As we know, our topsoil is often where we see the most soil organic matter so a lot of our soil fertility is in those top several inches of the soil surface. The other thing that could be happening and for our producers to keep an eye out on as we come into the 2025 grazing season is, like Kaylee mentioned, keeping an eye on moisture as well as the snowfall or lack thereof that we're getting, but if it stays cooler and we don't have enough moisture in the spring, we're probably going to see both delayed forage production so we might not get as much produced off our pastures, but also they might be slower to start growing in the spring simply because it's not warm enough and if there's not enough snowfall, that snowfall also acts as an insulating layer for our seedlings that are getting ready to pop out of the ground in the spring so all that could be delayed again depending on what conditions we have as we enter closer to the grazing season here in 2025.

**Kaylee Wheeler:**

On that note, I'll just add a little bit just so everybody knows where they can find some of this information. If you go to the South Dakota Mesonet website, there's a lot of really great information on there. Like Krista said, we rely on that snow cover to insulate the ground and because we've had an open winter, we are seeing frost depths in the soil pretty deep right now, which like Krista said, our topsoil is very important for the organic matter and the microbial activity that we have that's all going to contribute to soil health and when it's frozen, there's no activity happening. Not only is it important for our soil health but it also insulates those plants not just for our pasture seedlings, but even some of those overwintered crops like winter wheat, those can have a significant amount of winter kill if we don't have that that snow cover. It kind of seems counterproductive to be like we need snow on the ground [Laughter] to help insulate things because you think that snow is cold and probably makes things worse, but in actuality, it's more like a blanket. It helps keep everything down there, like Krista has said. On the South Dakota Mesonet website, you can look at things like frost depth and moisture amounts as far as rain and snow go. There's lots of really great information on there and they're working towards having stations within 20 miles everywhere in the state so hopefully, you can be able to go on there and find a station that's going to be close to you and have somewhat accurate information for your operation. The other thing is on the upper right side of the screen, you can go to the Climatologist tab and then go to the drop dashboard from the Options and that's going to take you towards all of this updated drought information and climate outlooks as far as like precipitation and temperature predictions in the coming months. All that information is in this one website. It's a really great tool so I encourage everybody to go on there just to kind of keep an eye on things like we've been talking about.

**Madison Kovarna:**

Kaylee, I appreciate that you brought up the mesonet system. I use that in my thesis work so it really has so much information on there not only for higher level, looking at what's happening in weather patterns and precipitation and all of those things, but also it does a fantastic job of boiling it down to kind of the basics and like the things that you mentioned of what is the frost depth, how much rain have I gotten in this particular location, and it's a really powerful tool and one that I think really should be kind of in everybody's favorites on their internet browser for that. I know for sure that they're adding more and more stations across the state, so if right now there's not one that's super close to you, hopefully in the next upcoming years, they're going to be adding, I don't even know how many more. I'm sure you guys know more on that number than I do, but they're adding more of those stations across the state and we've kind of been talking about this in the last couple minutes here, but I mean moisture's been hard to come by in the last several months both with it being as warm as it has been, whether that precipitation falls as snow or rain it just hasn't been happening in several areas across the state have limited snow cover and you guys had mentioned it earlier, but I just kind of wanted to see if there's maybe a top three or even the biggest danger of having that limited snow cover that really gets guys concerned whether that's that frost depth, kind of what that is, but what's your biggest concern or danger of having this limited snow cover as we're moving into more of a spring pattern in the upcoming months?

**Kaylee Wheeler:**

I think for me my biggest concern, it's like Krista said, that the snow kind of catches on our residual plants and they kind of act like a sponge to like slowly let that moisture go into the topsoil so I think my concern about not having snow is the spring green up for sure. We've seen it a lot of times in past winters that we've had an open winter or just didn't get much dormant precipitation and pastures were slow to green up, and then sometimes people just turn out because they're out of feed, they don't know what else to do. We saw that during the hard winter a couple years ago, but something to be thinking about is that if we have a slow green up, what are you going to do? Are you prepared to be able to feed your cows longer? Are you prepared to send them to graze some cover crops or something else of that nature? But the thing is that if we get a slow green up, what are you going you do? That's kind of what we want people to think about. Krista anything to add?

**Dr. Krista Ehlert:**

I completely agree with what you just said, Kaylee. I think both spring green up, what that looks like, how fast it's going to get going as well as the amount of forest reduction that we'll ultimately going to get from those grasses, I think is of the kind of utmost concern and should be really front and center for all the producers across the state. The other thing that is kind of unique this year and happens every couple years is that cow prices are really high and so if there is going to be a drought, less forage production in the 2025 grazing season, I know a lot of guys are not going to want to sell down their herd, cull 10% or whatever they think they should do and that's completely understandable. What Kaylee and I really advocate for as rain specialists is have a plan. You might not want to sell down your herd because what prices are and it will be hard to get those ladies back into your herd, but what you can do now is start looking at do you have enough feed to perhaps feed them two to three maybe four weeks longer before turning them out in the instance that we don't get enough reset and we don't have enough growth for you to turn them out on when we typically would around May or so. It's really important to kind of take stock of your natural resources, how are your water tanks, how are your stock dams, things of that nature. Can you source feed if you don't have some on hand already or, like Kaylee said, could you take advantage of sending some animals down to a feed lot or to graze wheat in Kansas or whatever it is. We've really advocate for producers to not only be flexible in their grazing plans but also realize that they're going to change and they're almost meant to change because you should really be tailoring it to the specific conditions in any given year. The other thing that I think is really critical, and Kaylee touched on this, when she discussed producers getting on the mesonet website is we collect a lot of data in the beef cattle industry, if you think of EPDs, we need weights, read-ups, all those kind of different things. There aren't that many producers who record what their forage production is in any given year and so Kaylee and I really advocate for people to start doing that. It doesn't have to be super complicated or really rigorous, but do something so that you know exactly on your ranch how much forage production you get if we have, let's say, 10 inches of precip or if we have 20 inches of precip because then that can help you prepare to either figure out different feed to feed your herd longer before turn out or years when we have an excess of forage production, maybe you can bring on some yearlings to custom graze and pad up your pocketbook a little through that kind of means. Again, completely agree with everything that Kaylee said I think it's going to be a unique grazing season this year in 2025 and we really just want producers to start thinking of their operation on the whole. It's not just cattle, it's not just the grass, it's not just sending your calves to sale barn. All of it's connected and in order to have a really good picture of that you need to start collecting data on your place, paying attention to the needs and that, how much soil moisture, we have the frost depth, and all those things. It can be overwhelming but if you start small and just start to incorporate some of that data collection more or less, into your operation If you're going to be ahead of some of your neighbors, and that's going to help keep you in the game.

**Madison Kovarna:**

One thing that you brought up Krista that as a beef cattle person, it's exciting for me to see these record high prices that are coming back and really helping out cattlemen across the state, but it is unfortunate that it's happening in a year where potentially that not work in your favor where instead selling more calves because you were able to keep your herd numbers up, we're matching these record high prices with historic inventory lows and the projections that we're looking at right now does not look like the herds are going to be growing anytime soon for a lot of other economic factors but I think if I could fully understand it'd be paid a lot more than I am right now, but outside of that, one other thing that I always like to mention too is - you kind of were saying this Krista, but as I've been in Extension longer and I've seen more I guess different and interesting ways that people manage cattle because they are a puzzle that everybody's puzzle pieces are different and how it makes the picture and, all in all, if we start looking at cattle as a tool for land management rather than looking at us as strictly cattle managers and the land is kind of just that input, I think it really starts to make all of this recordkeeping a little bit easier to swallow. I'm the last person that wants to write down all of these weather variables in the morning when I get up when I've got 7,000 other things to do, but when you start looking at the term of we're land managers and we're using all these different tools to be able to use range land and just land in general better, I think it really starts to put into perspective all these things that maybe we just don't think about on a day-to-day basis. One question that kind of came up as we were talking about not turning cattle out super early just because that can end up causing more damage, but is there an ideal maybe grass height prior to getting to that point we really should be looking at those alternative solutions that you guys discussed? Is there kind of sweet spot where we kind of get the go ahead to maybe start putting some cattle out?

**Dr. Krista Ehlert:**

One of the things that we've developed on the SDSU Extension side, my colleague and I, Dr. Jamie Brennan have pulled together, we call it the raising readiness map, and you can google that plus SDSU Extension and the map will come up and on that map are different species that are common in South Dakota. We have cool-season [Unintelligible], cool-season introduced species. If you think of like crested wheat grass or smooth brome, those two species are cool-season introduced, and then that map also has an option for a warm-season species. I bring that up because this kind of goes to what Kaylee and I have been discussing with you, Madison, is that your pastures need to be ready for you to turn out on and so what research has shown is that for your cool-season introduced grasses, so think things like your crested wheat grass, smooth brome, those grasses are typically ready for grazing when they're at approximately the three to 3.5-leaf stage and that typically requires about 400 growing degree days. Growing degree days are often used within kind of the row crop world, but you can more or less kind of think of your growing degree days as basically like how many days we've had above freezing. Again, for your cool-season introduced grasses, that's about 400 growing degree days and then in contrast, your cool-season native grasses, so think of like western wheat grass, that grass needs to really reach about the four-leaf stage before it's ready for grazing, and that actually takes almost three times as much so it takes about 1,200 growing degree days before it's ready for grazing. That's where Kaylee and I are really strong advocates of you have to know your pastures. It helps if you know the exact species that are in your pastures, but Kaylee does a really good job just advocating. If you just even know like the general groups, cool-season introduced or cool-season native or warm-season grasses, you're still probably going to be ahead of some of your neighbors in terms of knowing what's in your pastures. If you know the composition of your pastures then you can use that to better inform your grazing management decisions. I'll let Kaylee add anything if she has something to add on that topic, but again your pastures need to be ready and they're probably not going to be ready when you are ready to turn your cows out so I'll turn it over to Kaylee.

**Kaylee Wheeler:**

Yes. I'm so glad that Krista brought this topic up. I love talking about this but something important also is the answer is not always necessarily getting rid of calves. Sometimes it's taking a look at your pastures and maybe you have more of those cool-season dominated pastures that you can turn cattle out on first because are going to be ready first even though maybe you don't necessarily do that in a typical year. Those are some of the ideas that we think of as far as like adaptive management or just being flexible with your herds. Secondly, I just want to make sure that everybody understands this concept of leaf stage in a grass. When we're saying three-leaf stage, we mean that that plant has three fully formed leaves, so those are the grazeable portions of that grass, and when we say four-leaf stage on some of those more native warm-season grasses, we're saying four fully formed leaves so that means that those leaves aren't just starting to grow, they're fully formed. That's an important distinction.

**Madison Kovarna:**

I have recently been diving into - and I worked with Kaylee on this project which we talked about on a previous episode of actually going out in pastures and identifying not only our four [Unintelligible] plants or those flowering plants out in ranch, but also trying to get a little bit better about figuring out what grasses are out there and it's definitely a learning curve, but I like the fact that both of you kind of see the value – not kind of, you do see the value and even understanding whether you have cool-season dominated or warm-season dominated and I think that's the biggest thing to take away is if you're just diving into this grass management lens of operating your operation, it's okay to start pretty big picture and focus that down as you start to become more comfortable with the things that maybe you weren't comfortable with before. Krista, I had a question for you. This episode will come out in February and while we've been saying that it's not too early to talk about it, it really isn't, but what are some questions that producers, land managers or et cetera should be asking themselves when putting together a spring grazing plan, kind of what are those big-ticket questions that we should kind of keep written down somewhere so that every year when we get to this planning stage we're following the Northern Star in the best way possible?

**Dr. Krista Ehlert:**

I think one of the main things that producers need to be thinking of as they put together a grazing plan is also thinking of it as kind of a whole-ranch plan. You need to really inventory your natural resources. Like I said earlier, what's the condition of your water, have you tested it, what's your forage supply in terms of feed like hay, silage, distillers. If you're running low, can you source some more like I said, earlier to help feed your cows longer before turn out. The other thing like Kaylee mentioned as part of a grazing plan or even a whole-ranch plan is figuring out where you're getting your data from and recording it. We all have highly capable mini computers in our pockets every day and sometimes depending on the task you need a big computer like for buying plane tickets or maybe putting together a grazing plan, but you can use your little computer, your cell phone to help you collect some of this data out in the field and then work on it at home on your computer in the dining room table with your family, and that brings up that whether it's a grazing plan, drought plan, whole-range plan. However producers want to think about it, they really need to be communicating what's in that document to the entire family, to the ranch hand, to the kids, to the wife, to the fiancé so everyone is on the same page, and a large part of that also needs to be trigger dates. Like Kaylee said, here that April, May and June precip is highly significant so think about maybe a trigger date should be April 15th or April 30th, and if we haven't received our typical normal amount of precipitation then maybe you cull your herd 10% or in this year you decide to feed them longer before turn out. The other thing Kaylee and I really advocate for is if you are culling, have a list of who you're going to cull first. Is it the ugly cows? Is that Greta who only gives you a calf every third year, but your five-year-old son really likes her? Whatever it is, writing down all of these aspects into a document takes the emotion out of it, and I think that's really critical for producers because every day has the potential to be really stressful or to get completely upended by one thing or another and so if you have it written down you can just look at it, take it at face value and execute the action and keep your operation running smoothly. I'll have Kaylee add a few things here because I know she has some ideas too for what producers should kind of incorporate into their grazing plans or whole-ranch plans.

**Kaylee Wheeler:**

Yes. I think, Krista, you did a great job and I appreciate that you brought up the trigger date discussion. You guys probably have heard of these or maybe don't fully understand what they mean, but these are dates that we're kind of asking you to commit to monitoring everything by taking a look at your whole ranch, looking at your natural resources, your feed supply, what your livestock supply is, what the climate and weather is doing and then deciding on those dates what your actions are going to be. That's a big thing. Your trigger dates don't have to be the first of the month. They can be whatever date you want, but April, May, and June are like Krista said, those are really, really important times to really be looking at everything, but I also argue that now is a really good time to have a trigger date just to kind of assess your situation. I like to divide my questions into a few different categories and these can be different for everybody, but one major category is going to be your climate and weather. You're going to have several questions that you're going to ask yourself in that category such as how much precip did you get last year during the growing season, how much precip did you get during the fall, how much precip did you get during the winter and are there any chances of precip in the coming weeks, and then also taking a look at what drought conditions are indicated right now and what the predictions are in the coming months. Right now we are in drought in South Dakota and the outlooks are not showing that there's going to be improvement in drought in the coming months. Just taking a second to look at like what is going on in the climate and weather category and then looking at like your forage feed and nutrition inputs, so how much forage production did you get during last year's growing season, like Krista was talking about earlier, some of these metrics that not everybody necessarily pays attention to but they're really important. Also, when was the last grazing event in your pastures? Did you push it a little harder into the fall because we were already dry? Those are important things that maybe if you pushed it too hard last fall you're maybe going to have to wait even longer in the spring because those plants are going to have to recover. Also just looking at the current conditions of your pastures so how much forage did you leave behind, what's your soil cover, some of those things that Krista talked about earlier as well as what are your current feed resources because if you're asking yourself, "How much hay do I have or how much grain am I going to be able to feed these things now?" and you're looking at the possibility that you might need to feed longer - hay prices are pretty decent right now so if you're already kind of borderline on that and you're asking these questions now, maybe you can have the opportunity to stock up on some of that stuff. Then another category, obviously the livestock category. Are you maintaining herd flexibility and do you know which animals are going to be the first to go? It's not always just getting rid of the cow herd. Sometimes it's, "We're going to sell yearlings earlier or we're going to wean calves earlier," or some of these other options that we have. Yes, depending on the answers to these questions, you should basically then manage accordingly. For the record, Krista and myself and Madison and all of us folks in Extension, we're always here to help you out with those kind of things so if you're kind of assessing your operation and asking yourself these questions and you want some input or just some help moving forward, feel free to give any of us a call because we're always happy to help.

**Madison Kovarna:**

I agree with the fact that pretty much everyone in Extension – and that's what makes Extension a fantastic resource, and probably bias because I work here and I want people to utilize the resource that is here in our offices all throughout the state, but we all want to see producers succeed and are willing to - even if you just want to kind of talk through a plan, we're all willing to listen to that plan, and if you want our advice, we'll share, but if it's kind of just, "Hey, I wanted to say this out loud and just see if it made sense," those are conversations that we can have too. All of the things that we've talked about are kind of running through my head that rapid speed just from the short conversation that we had, but sadly we're getting to the end of our time together for at least this episode so I kind of wanted to offer the last couple minutes here if Krista or Kaylee had any kind of closing thoughts they wanted to send us out or little nuggets to think about as we move forward in the planning season, but also as we as we get ready to say goodbye at least for today.

**Dr. Krista Ehlert:**

I don't have anything too much to add, Madison, except to just advocate like Kaylee did for people to reach out to Extension, NRCS, whoever you feel most comfortable working with because all of the partners in South Dakota have a lot of resources and we really want to help and also see producers succeed year-after-year. With that, there are also a lot of different educational events for producers to take part in. Again, whether they're put on by Extension or another organization, I think it's really critical that producers continue to be lifelong learners, and what works on one operation probably isn't going to work on your operation, but if you can take a little tidbit from what you learn at a workshop and apply it to your place, I think that makes those kinds of events worthwhile because they help you become a better manager and ultimately improve the sustainability of your operation.

**Kaylee Wheeler:**

Yes, I second everything that Krista said, and I also just want to say one big thing is that we can never avoid drought. It just periodically occurs so we just need to be able to set ourselves up for success and be prepared to manage our way through it and just be aware. Like we've been talking about this whole episode, just keeping an eye on things, educating yourself, looking at market conditions, looking at climate outlooks and using that information to help protect yourself and your operation because it's always better to be proactive and better to think through some of these ideas and conditions and make some of those decisions now before times get hard and you get backed into a corner. I know with myself I've already been working with a few folks in the past couple weeks who have made the choice to stock up on a few extra loads of hay. Another guy is telling me that he's already looking at sale dates and planning to sell his yearlings early. Ultimately it doesn't mean that you have to pull the trigger per say on these decisions but you're at least making the choice now so that you know when the time comes what you're to do. Yes, like Krista said, we just want to help set you guys up for success and help your operations, help educate you and help you make decisions so that's all that I have.

**Madison Kovarna:**

Well, I want to thank both of you, Kaylee and Krista, for joining me on this podcast. Spring grazing may still be a few months away, but it's something we'll have to start thinking about as moisture seems to be continuing to lag behind and utilizing those tools we talked about to kind of see as we enter the next upcoming months, and not only people in Extension, but our sister-ish agencies such as NRCS, Game, fish, and Parks, those type of people also have some good resources in terms of things we can do as producers moving forward. I hope our listeners will take advantage of the information you've shared with us and utilize it on their operations or just kind of in their daily life as well. With that, this has been Cattle HQ brought to you by SCSU Extension, headquarters for all things beef cattle. Visit extension.sdstate.edu for the latest beef information. Until next episode, stay curious and keep learning.

**Kiernan Brandt:**

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[Outro music]