Practical Dairy Sustainability Tips for Immediate Impact

Featuring Tara Vander Dussen

Fifth Generation Dairy Farmer, Podcaster, NRCS Technical Service Provider, and Environmental Speaker

DJ May 00:00
Welcome to the Decode 6 Podcast, where we take your questions about carbon and ecosystem services and match them to the experts with the answers. I'm your host, DJ May. We've been talking a lot about dairy sustainability on the podcast. Now we want to get practical. What are some small easy ways that you can improve your on-farm sustainability? Joining us to answer that question is Tara Vander Dussen. Tara is a fifth-generation dairy farmer hailing from the beautiful state of New Mexico, where she has a dairy farm with her husband and his family and environmental scientist by training. Tara is an environmental consultant, speaker, podcaster and agricultural advocate. She has been invited to speak at prestigious national and global conferences about dairy sustainability. She is also a certified NRCS technical service provider and has assisted farmers with state and federal regulatory compliance, water conservation and sustainable management practices. She is a great person to provide some hands-on Sustainability tips to improve your dairy operation. Tara, welcome. Thank you so much for being here.

Tara Vander Dussen 01:10
Yeah, thank you so much for having me. I'm excited to kind of chat with you today.

DJ May 01:14
Perfect, we're gonna get straight to it. So give me the big picture. When you think about dairy sustainability, what are the first things that come to mind for you?

Tara Vander Dussen 01:23
Yeah, so I feel like I approached dairy sustainability may be a little bit different than other people. You know, I've spent the last 10 years working as an IT consultant like boots on the ground. Were dairies were my clients. So I had a variety of clients across, you know, like a whole spectrums of where they were at and dairy farming in their dairy like sustainability journey. And so I feel like when I think of dairy sustainability, when I think of a lot of people in general, think about dairy sustainability, they think about these huge big projects, right? Where they're like, going to change, I don't want to say change the world, but kind of right. And I feel like when I approach it, it is much more of that boots on the ground attitude of like, what is realistic, depending on the climate of dairy, depending on what the milk price is, depending on all of these different factors of what are some actual, like practical tools to go about helping dairy farmers with their sustainability, and just overall management of kind of the environmental side of things.

DJ May 02:19
Perfect. So when you think about things that are practical for dairy farmers, like the boots on the ground perspective, what are some of the first things you look at?

Tara Vander Dussen 02:28

Yeah, so, my influence is going to be heavily influenced by my location, which I think is very true for a lot of dairy dairy, what sustainability looks like, for people is so vastly different across their geography in their region. So obviously, I'm located in New Mexico, so most of my clients were in New Mexico and the Southwest where water is a huge concern. So a big part of our focus a lot of times was water. And, you know, you think about you know, water as in like, the actual water, you're, you know, pumping all the way to like watering your what the crops need. And so I feel like, a lot of our conversations are just framed around that like water being a limited resource. And so sustainability efforts kind of like followed suit. How can we reduce water use in all aspects of, you know, the dairy barn?

DJ May 03:16
When you think about water, what are those practical tips you start offering? Like, what are the common pain points that you see where people can make small changes?

Tara Vander Dussen 03:24
Yeah, so in New Mexico, dairy farmers are actually regulated. It's like their permanent amount of water they're allowed to use in their barn, it's called a discharge, which goes against a lot of other places they do discharge does not mean the same thing in New Mexico as it does in other places. But essentially, it's the amount of water leaving your barn and going to your lagoon. And so they submit an average weekly meter readings on that. So they actually have a meter someplace in their barn that is monitoring how much water they're using. And so I feel like that was a big focus for me, but it carries over way beyond New Mexico, right? Like if we can reduce water use in the barn. There's a really great stat out there, that dairy, you know, as a whole loves to share that we've reduced our water use by like more than 60% in the last seven years. And for me, the way you reduce water by that much is actually very, very small tactical changes in the barn. And so some of the things that I would always talk with my clients about, and that we would see a huge difference on the back end and their meter readings was simple tools like having nozzles on your hoses in the barn. I always like you know, it was a running joke in the company. I worked for that like the number one thing you did when you got on site and did like a weekly inspection on the dairy was go inside the barn, make sure there were nozzles on the hoses and make sure the big hose at the back of the barn was not just running right like that. That's so easy for that just get left on and it is just sending water down the drain. You know in addition to that, it's like other simple things like making sure there are no leaks anywhere like those leaks add up so fast to so many gallons of water being used. And then also timers on your hoses. And this is actually something we saw like for On the productivity side being really great is, you know, it is very easy to get kind of just like daydreaming a little bit while you are hosing off a piece of concrete or equipment, right? Like you can get kind of like sucked into standing there and cleaning something. And so putting that timer on just kind of like is a great reminder to just be like, Okay, finish up this project move on, like not overuse water. And I mean, you know, I'm maybe there's listeners out there kind of laughing. But these things are the things that add up, when you apply this to dairy farms across the country. That is where you see those big water use drops, I mean, I know, we would always calculate how much water is being used in the barn, not for cow drinking water, but in the barn per cow per day. You know, there's a massive difference. Like on that spectrum of dairy farms, we

had dairy farms that were using 30 gallons per water per day per cow. And then we had other guys who are down to like seven gallons of water in their barn per cow per day. And that is a massive difference in the actual overall water. And, you know, even if you're not trying to just save water, it saves money to write, like, if you're not having to pump that water out of the ground. The electricity, like if you don't actually need that much water, there's just so many like, implications for this beyond just like water savings, that can be really, really great. I mean, you're just sending less water, you're lagoon less water through your system, less water that you ultimately have to like separate, you know, the solids out, like so many aspects that it it really is like a snowball effect of just like saving water upfront in the barn, then reduces so many other areas, download down the stream.

DJ May 06:35
Okay, so you mentioned nozzles leaks and timers are there any other water saving tips you can throw out there?

Tara Vander Dussen 06:41
I feel like for me, those are the the really big ones. You know, going deeper, I has a pun intended down into the well, you know something else that we always talked about. And this is less about water saving and more about as you're seeing, you know, your water table decline or less available water. Something else to consider is making sure your pumps are accurately sized for your wells. Because if you are have a well that maybe at one point in time was producing a lot more water gallons per minute, you are going to be needing a bigger pump. But as that decreases in those gallons per minute, you really just don't need that size pump and you're going to be burning up that pump using more electricity, all the same things we've talked about. Yeah, so just making sure that that pump is the right size for the well and what you're currently pumping.

DJ May 07:27
That's a great segue, Tara, because I did want to ask you about electricity, do you have any tips for saving electricity or decreasing usage in the barn?

Tara Vander Dussen 07:36
You know, there is some really great, like funds available through equip, that can help you do like an energy audit, it probably depends on your state. And then you'd have to find out the information, but it's probably worth going to NRCS if you're looking to make some changes in your barn. There's obviously ways to save electricity with different types of cooling like milk cooling equipment, different types of light bulbs, and all sorts of things, you know, fans, and so doing an energy audit are what I have seen. So my clients do in order to make some changes as far as energy use in the barn. Great.

DJ May 08:10
So if they did go to equip and look for that kind of thing, what would happen after they get funds?

Tara Vander Dussen 08:17

Yeah, so again, it's gonna vary a little bit from state to state, but essentially, someone will come out and do an energy audit and then give suggestions. And then you'd be able to obviously make upgrades and changes to your system, based on their suggestions.

DJ May 08:30
Perfect. One other area that's come up a lot, we've done quite a few episodes talking about greenhouse gas emissions, and I feel like you can't get away from talking about manure when you talk about greenhouse gases. Do you have any tips for manure management in terms of sustainability or small changes?

Tara Vander Dussen 08:47
Yeah, I mean, I, it kind of goes back a little bit to what I was saying when I was talking about like the water flow and the manure separation. You know, having a really good system in place for manure management is important. Obviously, when you talk about greenhouse gas emissions, you can talk about you know, enteric emissions and reducing those like with feed additives or emissions from the lagoon by doing like a digester or something like that. But also just like really effective lagoon management overall can be good like making sure you have a good solid separation system that you are applying the right nutrients to your field, you know, not over applying, like all of those things go into play with making sure you're you know, managing your manure correctly, which ultimately plays into greenhouse gas emissions. And you know, managing your soils making sure your soil organic matter is you know, where as high as you can get it and then you have some really great soil that you're not just leaching the nutrients down through the soil profile and you're really keeping those nutrients in the top layer of that soil where it's accessible by you know, the plants routes and things. And so I think it's just kind of like with I don't know that I have specific tips except for just like overall evaluating your manure management practices.

DJ May 09:59
Perfect of Okay. Okay. And then one last question just to kind of round things out here. But what excites you the most? I mean, you've been in and around dairies and dairy farming for a long time, what excites you the most about like maybe this point where we're at with sustainability in terms of dairies?

Tara Vander Dussen 10:16
Yeah, I mean, I feel like probably every generation gets say this, but I feel like there's really exciting things happening and the technology is ramping up. There's a lot of cool things happening in the technology space, like across the board. You know, I think when you look at digesters, they do a great job of producing energy from manure, but like, what comes after that, right? Like, you're still left with all those nutrients? How can we make that more usable, and the more you can, like, take one products waste stream and improve it and make it like a value added product, obviously, that's a big piece of sustainability as well. And so looking at those technologies is exciting. The enteric fermentation, you know, at the route of like, cows digesting their feed, right, is you want cows to be as feed efficient as possible for a lot of different factors within dairy. But feed efficiency

also means reducing enteric emissions like that they're actually utilizing all the energy that's available in that feed. And so I think that while maybe there is research going on around reducing enteric admissions, I'm excited about what that actually means, like feed efficiency, feed conversion for cattle as well.

DJ May 11:20
Right? Because if you can improve that feed efficiency, I mean, is that another way to cut costs?

Tara Vander Dussen 11:25
Absolutely. And so I think a lot of times, you know, people don't like hearing efficiency, you know, related to animal, it can have some, like negative, like meanings for people. But efficiency, in my mind is sustainability is, you know, efficiency is improved herd health, like, all of those things are really important. Like, the healthier cow is, you know, the more efficient that that you know, that animal is, the healthier she is, the more sustainable she has, like, all of those things work together, you can't just isolate them out as like single standalone, you know, issues or conversations. And so I think that is important to keep in mind when having these conversations around, you know, efficiency and sustainability.

DJ May 12:03
Awesome. Okay. And then one last curveball question. Okay. On the podcast, we've talked a lot about, it's hard to make changes over time, if you don't measure them. Do you have any tips for like measurement or reporting when you're thinking about some of these small changes that you're making?

Tara Vander Dussen 12:20
Oh, my gosh, I love this question. It's such a great question. I feel like there is so much data collected on dairy farms that never gets analyzed, never get looked at and never gets like utilized. And so I always tell dairy farmers, like your data is like your story, it is absolutely what tells the story of what has happened on your farm. for however many years you have that data and like that is absolutely crucial, especially around the sustainability conversation, whether that means you are going to apply for your permit, or you are working on something with your state environment, apartment, or whether that means like dairy as a whole marketing ourselves as being carbon neutral or sustainable, like that data is so valuable, and like incredibly important. So if there are opportunities, collect data, I recommend it. And I also recommend utilizing it, you know, the way that we were able to calculate water reduction, when we started this conversation, is because we had dairy farmers that were metering water at the barn. And yes, while it is a hassle to have that meter, and to maintain it, and to be able to read those meters, you know, I talked about the water savings, like it can save a ton of money as well and be important and like we it really helped us tell the story to the dairy farmer as well, like, Hey, look at the difference this water reduction technique has like that you've implemented see the difference it's made, it's reduced your water by X amount of gallons per day. And like being able to just like really have that like physical data is so important. So from the the small conversations on farm to the big conversations like about you know, dairy going carbon neutral, I it all is data, you know, reliable

data is so important when like, you know, kind of going this is a little bit in a different direction. But like, you know, quality in is quality outright, like so having really quality data is important for us being able to like back up whatever it is that we are, you know, stating or making a point about.

DJ May 14:10
Now, that's a great point, I think those numbers can really talk when you're looking at making changes, you know, it can seem like a big daunting task. But when you see that, like you go from 20 gallons per cow per day to like seven that's gotta be really satisfying.

Tara Vander Dussen 14:25
Yeah, and even talking, you know, you think about, like conversations with your regulators. Like if you're like, we've been doing a lot of things to reduce water use, okay, like, cool. You know, they can like take that at face value. But if you can be like here is the data to show like what we have implemented, what we've done and like the changes the outcome from these changes, like just how much more powerful is that in those conversations?

DJ May 14:46
Awesome. Well, thank you so much. I'm so glad we got you on here. This has been an excellent conversation.

Tara Vander Dussen 14:51
Yeah. Thanks so much for having me on.

DJ May 14:55
Well, that's our show. If you liked this episode, first off, help us out by subscribing so you don't miss a post. If you're interested in dairy sustainability, make sure that you listen to the other podcasts in our series. We've got one on enteric emissions, one on feed additives, anaerobic digesters, and overall greenhouse gas emissions from dairy farms. We also have a whole suite of articles and videos on decode6.org to help you on your sustainability journey. We'll see you over there.