## Net Wrap

## Season 1, Episode 4

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**Adele Harty**: Welcome to the fifth episode of Cattle HQ brought to you by South Dakota State University Extension. I'm Adele Harty, Cow/Calf Field Specialist based out of Rapid City, and I will be your host today. On today's episode, we will be discussing net wrap and some of the challenges beef cattle producers face, along with some research results from a study I conducted at the SDSU Cottonwood Field Station. I have two guests joining me on today's episode, who can share their experience with net wrap in cattle diets. I would like to welcome Scott Hamilton from Hamilton Farms in Hitchcock, South Dakota and Dr. Jim Stangle from Golden Veterinary Services in Milesville, South Dakota. Thank you guys for joining me. So, Scott, can you please introduce yourself and tell me why this topic is important to you.

**Scott Hamilton:** Well I'm Scott Hamilton. I farm and ranch with my brother Jeff Hamilton. We run about 1100 cows. We’re beef cow and beef feedlot. We finished probably around oh I don't know 1400 maybe 1700 head of cattle. The way I got involved in the net wrap, is I despise the stuff. And I didn't really, I was doing like everybody else just ignoring it. Well actually what started it all was, we had a fed cow that went down on the ice and, well before this, but this is what really pushed me over the limit, we had fed cow that went down on the ice and we butchered her well we what's your ourselves, and we retained our net wrap ball out of her and that was a 14 year old cow, it's all dried out and so forth, but that really put me over the edge to do something. Now I had been sort of working on some things prior to that. I just figured they're passing net wrap. You know, we were grinding it. So our cow herd, the way we work, our cow herd is, we have two feedlots. We grind all of our hay at those feedlots. We use a three inch screen on the hay grinder, so we was grinding it pretty fine. At my place, we’ll feed the cows in the winter. They’ll be on stalks or corn fields or wherever and we'll haul feed to them. So, we’ll grind some hay and prior to sort of the net wrap issue we just always fed them, ground the net wrap with the hay. Never really thought anything about it. A few years ago, I had hired man, his son-in-law is feeding sheep with a bale processor, and the sheep started dying and they start opening up all the sheep and they were dying because they are clear full of net wrap. So that's sort of got me thinking that this isn't passing through and so forth, so I’ve been sort of trying to work on different methods to remove net wrap. I mean to me it's a really, really bad thing, plastic in the environment. You know, not only is it affecting our cow herd, it's getting in our manure, it gets in the fields, gets in equipment, gets in the hay moving equipment, takes out bearings, it's just, it's a real menace. I had a really lengthy discussion with my hay mover, actually I had a pretty lengthy discussion with Pritchett Twine Company. I don't see people not using net wrap, mostly because the sisal twine is more expensive. It doesn't hold up because the minute you dump it out the mice or crickets or whatever eat it and you can't hold it. My hay moving guy, he sort of feels you know it's faster, it sheds water better, transports easier, but you know, after I visited with you and you had your study, and you're coming up with eight percent volume of net wrap in these cows after five months of feeding them. It's just we can't have that happening. So I sort of tried to do something. I made an attachment, through a welding shop that goes on the backside of my loader bucket. Then I put a knife on my grapple fork to try and cut the net wrap and then retain it so it wouldn’t go through the hay processor or hay grinder or so forth and doing it from the seat of your tractor because people are lazy, including myself and we don't want to take the time to remove the net wrap. While this attachment stuff that we've built and so forth does remove 98% of the net wrap, but it's not fast enough to keep up with my hay grinder when he comes. So what we ended up doing is, we have one of us either myself or one of my hired men or even my wife. I'll grab two bales at a time, will slice it with a hay knife and then I'll activate my little thing and dump out the bales and we retain the net wrap. It's just, it's a bad thing to have this happen. This cow was 14 years old and basically had the equivalent of a slow pitch softball in her rumen. Now I don't know what the economic numbers are, but just from the health side is no good. So that sort of is my resolve is let's try and do something. Now, you know Adele, you and I worked together a little bit. We sent a load of fed cattle to Dodge City and we set up our own little, I guess private study, but the first thing we learned is it's a problem in the plants too because they actually employing people to remove this from their process which I don't think you were aware of and I wasn’t aware of.

**Adele Harty:** No, I was not.

**Scott Hamilton:** It's a bad thing I don't see people changing, other than we need to motivate ourselves to figure out a way to remove it. When I talk to the twine people they said “Well the biodegradable net wrap you know you hear that all the time, but it's too heavy, it won't flow.” These newer balers, some of them don't even offer the twine option it’s strictly net wrap. So I was naive, because I thought they were sort of passing some of it and I don't think how fine you grind it, I don't think they'll pass it through therumen. I mean that's something for the Doc or somebody else other than me.

**Adele Harty:** No, I think that's a great question and you brought up a lot of really good points that I'm hoping we'll be able to address with this discussion today. So I'm going to turn it over to you, Dr. Stangle and I want to hear your perspective on what you're dealing with from the veterinary side of things. Introduce yourself and share some of the challenges that you see from that side of things.

**Jim Stangle:** My name is Jim Stangle, I’m a bovine veterinarian. I do 90% cow calf. Been in practice 32 years in Haakon County South Dakota. When net wrap finally came on board, I thought it should be removed because I didn't think it would pass and a lot of the clients did remove it, a lot of them still do, but as ranchers got bigger and busier nobody took the time to remove it and I didn't really know what the impact was. For one thing it's really hard to diagnose. What does a cow look like that’s got too much net wrap in her? I ran into a bunch, I had a client that lost a lot of cows from an unrelated disease and in posting them, I found a lot of net wrap. And oftentimes they were balls like soccer ball size and the cow is dying do the other things. I chalked the net wrap to an incidental finding. I didn't think it killed them. But I did bring it up with the owner and he has started pulling the net wrap off before he processes it. I had another case where the owner had several cows, and I diagnosed it as woody tongue. Woody tongue is an infection in the tongue. Their tongue will stick out, they'll drool, they can’t eat. These cows get thinner body condition score wise, but they kind of still have a big belly, but they won't eat. I remember treating these cows for woody tongue and not responding, which is not normal, usually they respond to the treatment. One of them died and the owner cut it open and sent me a picture and there was literally a wash tub full of net wrap in her.

**Adele Harty:** Wow.

**Jim Stangle:** These were purchased cow, so we have no idea, they had no idea that that was what they were buying because they don't feed net wrap. There can be a tremendous amount in there. And then I got a client this spring, who was sure he was getting net wrap in his cows. He said I'm going to bring some into you, so he did and I went in and did a rumenotomy. I went in on the left side, clipped them up and made a hole about this big and tack the rumen to the skin and just reach in. And in the top layer of the rumen you have all the solid ingesta floating. And you reach down through it and the net wrap is always at the bottom. It's just in liquid on the bottom of the rumen, so if that's the way they all are and that's the way every one I've found was, it's staying in the rumen, in the bottom. One cow had this in her. Now, can you see all that?

**Scott Hamilton:** Yeah, that’s about like mine.

**Jim Stangle:** Yes, it is. So this cow was standing and walking, you know came in this way, and this is what I took out over.

**Adele Harty:** So Doc, can you explain, since we're on a podcast and they're not going to be able to see the picture, can you kind of explain with words, the size and shape of your ball of net wrap there?

**Jim Stangle:** This ball of net wrap is three feet long. It's got kind of a long narrow string with a ball on the end. The ball is bigger than a grapefruit. It’s probably six inches by four inches by three inches.

**Scott Hamilton:** How old was the cow?

**Jim Stangle:** That was or five or six year old cow, it wasn't a really old one.

**Scott Hamilton:** I’ll tell you how I describe it. The way I describe it is, you take the old rope in the hay mow that you hang on as a kid and swing.

**Jim Stangle:** Yeah

**Scott Hamilton:** You take three feet of that and then you take like donkey turds, donkey manure and put that in that rope and that's how I describe my net wrap. Now when you wad it all up it, it turns into a slow pitch softball, mine did, but that's how I describe it. It’s a rope with donkey manure with hay and plastic all intertwined.

**Jim Stangle:** Yeah there's lots of hay inside this. What's kind of really disturbing about this shape is that with the long ropey end of it, you know, a cow has to regurgitate and chew her cud. If this small end came in contact with the esophagus when she wanted to regurgitate her cud and bring it up into her mouth, the big ball on the end would plug the esophagus. Now I've seen that happen actually with non-degradable twine.

The cow died of bloat because she pulled some twine up, but the bottom was tied up in ingesta and it plugged her up and see bloated. This same configuration could do the same thing. But I don't know if it floats enough to get up there with the rumen churning and I don't know if it would be a cause of sudden death. Some of the others that I found were about the size of the ball with no string on them, but this was a bale processor. So there's a lot more twine with the bale processor.

**Scott Hamilton:** Out of our cow that was 14 years old, but I don't know how long. How long has net wrap been around, 10 years?

**Jim Stangle:** I don’t think it’s been 14 is it?

**Scott Hamilton:** No, I don't think so, but this is a three inch grind. We grind with a three inch screen. And you know mines like yours, long.

**Jim Stangle:** Yep

**Scott Hamilton:** I don't have quite as big a balls.

**Adele Harty:** So the interesting thing about that, is when I think about the research that we did at Cottonwood, it was only for five months, so we had a very short period of feeding. We were trying to replicate or show what a five month winter feeding program would look like in cows and we were pulling what we would consider wads of net wrap out of those cows that were about three feet in length, but they didn't have the ball structures, like you guys are showing with yours. I mean it was it was wadded up but it wasn't quite the same structure as what you're showing, but what we found interesting is that two of the cows that had recently calved, their placenta, was also wound up in that ball. You know, what's the long term impact of that because you know the cows, there are cows that will eat that after they calve and then does that ever break down, does it continue to build up? We actually got a lot more questions from our research project, but what you guys are sharing is very similar to what we found using those ruminally cannulated cows, but Doc when you were talking about the ball of net wrap being down in the bottom and in the liquid part of the rumen, we were actually finding it more in the fiber matt but toward the front of where the reticulum would be, and so it very well could be likely that they could regurgitate from there, and it could cause some problems like you were talking about.

**Scott Hamilton:** Adele did you use a bale processor, or what did you use for a hay grinder?

**Adele Harty:** Ours was a hay grinder, but it had a five inch screen, so it wasn't ground near is fine as yours was and when we calculated approximately how much net wrap those cows would have consumed over that five month period, it was about 1.8 pounds per head and we recovered just over a pound from each animal so we wonder, where did the rest of it go? Well, we have wind loss in South Dakota, we know that you put that hay in your feed bunk, the wind can take some of it away. There were times that I would walk through the pens and I would find small golf ball sized balls of net wrap that they had regurgitated. So they were regurgitating a little bit of it, and if they did that, they would spit it out. And so I wonder if that wasn't some of our loss. You know the way that we calculated the amount of net wrap in the ground hay, was that I had bales from the same lot that I took the net wrap off, I cleaned all the hay out of it and I weighed the net wrap by itself to get a pounds of net wrap per ton of hay and so it was just averaged over all of the hay that we did so it's not perfect, but that was the best way to do it. But when you looked at the ground hay pile there'd be pieces of net wrap that were 12 or 14 inches long that those cattle were consuming.

**Scott Hamilton:** That's what would really tick me off is I would be feeding cattle in the morning and you'd have the sunlight sparkling off the net wrap in the hay pile and I'm just like this cannot be good and it’s not good.

**Adele Harty:** So, Scott, you’ve talked a lot about you know some of the challenges you've experienced yourself, why it's a concern and what you're trying to do to manage that, with your implement that you put on your loader bucket but what would you say toother producers about net wrap and how to manage it and how to try to alleviate some issues with it?

**Scott Hamilton:** You need to remove it. If nothing else, just for the benefit of the environment. Because I equate it to plastic in the ocean, it's plastic in the land. Feeds what, 80% of your cost of your cow enterprise, or whatever percentage you want to say, and if you have a, well, you mentioned your cows in your study at it was about 8% volume of the rumen, it's affecting that. But not only that, Doc said, you have animals that are dying from it. I currently got a bull out I in my yard right now, I think it's net wrap. He's getting thinner and thinner every day, he doesn't visually appear to have a fever or be sick. He's not loose like he would have Johnnes, or anything, but he's getting thinner every day. I can't say he has net wrap. So then just the challenge of we put it in the manure. They’re spreading straw or whatever in the manure pile, it ends up there, it ends up out in the field. The guys doing the crop production are ticked because it's getting in the bearings. It’s just a never ending thing. One thing I did with Adele, Jim, is we sent a load of fed cattle to Dodge City, Kansas, and I asked them if they could evaluate them for the amount of net wrap in them.

So is was the last load of cattle, I sent last year. We sent about 30 some loads of fed cattle a year, so it was the last load of fed cattle. The cattle in the feedlot, we're not removing the net wrap from because it's terminal. So, of the 39 head that we sent down there, was there four of them? Yeah, we came up with this process which we worked out with the gal that does tag transfer in the plant. So a zero was nothing, a one was a one inch ball, two was a two inch ball, three was a three inch ball. Isn’t that what we set up?

**Adele Harty:** Yes.

**Scott Hamilton:** So she went over to the process of when they empty the rumen and watched them do this. Well that's when we learned that these plants are actually employing people, and the way I understand it, they dump the rumen contents on to like an upside down harrow and after every third or fourth animal that goes through the line, that person scrapes that net wrap off because it's messing up their auger system, conveyor system or whatever it is. So the simple fact that these plants are employing people to do this it's an issue. Now we had one with a one inch ball, didn’t we?

**Adele Harty:** Yeah.

**Scott Hamilton:** And then I think two of them with a two inch ball and then there was one with a six inch ball of orange twine. So, my feedlot heifers or my replacement heifers come out of my feedlot heifers at some point in time. So we just got to get more motivated, so we remove the net wrap from there. Now it's an even bigger issue on people that are feeding straw or corn stalks, because in those scenarios they're using three to four wraps per bale. And you only have 1000 pounds of material, you know, a straw bale, a round straw bale is maybe a 1000 pounds so your net wrapped pounds of feed is a lot higher on the corn stalks or feeding straw versus most hay, you only do about one and a half net wrap. And you have a heavier bale.

**Adele Harty:** That’s an excellent point because the hay that I was using were 1500 pound bales. They had a wrap and a half of net wrap. If you have the straw or corn stalks that you have to use more because they're a little more challenging to keep tight. Yeah if you have four wraps and only 1000 pound bale.

**Scott Hamilton:** And your problems are going to be worse.

**Adele Harty:** Very potentially could be, yes.

**Jim Stangle:** Would rate of passage effect that? I mean again, with straw and corn stalks it's going to stay longer in the rumen. It's not going to go through as fast, so it might actually be more prone to staying because it would have a slower rate of passage versus a feedlot diet like your steers. That would have a higher rate of passage, it would go through the system quicker.

**Scott Hamilton:** Well, and on my feedlot cattle they're getting the lower incidence of hay. You know we're feeding more grain, more silage, and so forth, so our instance of hay in that diet is less, you know versus a cow herd.

**Adele Harty:** So Doc from your professional perspective, how big of an issue is net wrap for beef cattle producers? Are obviously shared quite a few clients who were having issues with it, but yeah widespread how big of an issue, do you think it is?

**Jim Stangle:** I think it's way bigger than we know. When an old cow dies, for no reason I usually do not get to post those, I don't get to see what's in them, they just chalk it up to nothing, but you know, like unless I'm out there, looking for something else, and I find this it doesn't come home. One of my clients, he knows it's bad and he takes all the twine off every single bale he feeds. But his argument is, and it's a pretty good one that, Like in a couple years ago when it was so challenging to get our hay up your bailing window might only be an hour in one day and with the net wrapping it up a whole lot more bales, then you can with sisal twine. So he hates it, he takes it all off, but when he doesn't have the time, it was worth it. He said I got time in the winter to take it off, but I don't have time when I'm baling, I need more bales to put up.

**Adele Harty:** Yeah, that makes sense.

**Scott Hamilton:** Last winter was open winter with very little snow.

**Jim Stangle:** Right.

**Scott Hamilton:** So removing net wrap last year was way easier than other years where it's freezing and snow and it's an issue. But I don't think net wrap’s going away.

**Jim Stangle:** No, it sells.

**Adele Harty:** Yes, but I think too it is an issue, not only with net wrap but with you know some of our non- degradable twines to. I mean the hay that we use here at home has got the biodegradable twine on it, and we take everything off, but. I don't know what it is, it’s like those cows have a magnet to that twine, as soon as I cut it they're going to have a piece in their mouth and then I'm trying to grab it out. But you know, I wonder, even with those cows that I can't get it grabbed out of, what they look like, even though we're trying to do a good job.

**Scott Hamilton:** Well, you gotta remember the biodegradable is only biodegradable if it has sunlight

**Adele Harty:** Exactly

**Scott Hamilton:** It’s buried inside the cow and there's no sunlight so it's not gonna break down.

**Adele Harty:** Nope, exactly and that's my biggest concern because it doesn't have the UV light to break down and so how is it building up and could it have similar type impacts like you were talking Doc, with the one that you know regurgitated some and bloated and died as a result of it. I think, you know, our goal with this was really to help make people aware of some of the some of the things that we've got producers here in South Dakota who are doing, some of the challenge that veterinarians are seeing, some of the findings of the research project that we had there at Cottonwood and I guess do either of you have any final thoughts before we close this podcast.

**Jim Stangle:** I got one. This is a pretty bad drought year and they're going to be a lot of people limit feeding their cattle. They are going to supplement corn and distillers. The cows aren't going to get the pounds they're used to. Any wraps out there they're going to eat it. They're going to want to fill themselves up. If you've got net wrap just laying around, this year, and your limit feeding your cattle those cattle will eat it. They don't need to have feed on it or anything, they'll just eat it just to fill themselves up.

**Scott Hamilton:** Oh, I think if you don't remove the net wrap and feed the whole bale, will they eat from the sides in? Because I got one friend, that's what he does. He doesn't remove any net wrap, he just puts them out there as full bales lets the cows eat it in. Then they sorta end up with this big wad of net wrap and he sort of feels they aren't consuming it because it's all in one piece.

**Jim Stangle:** I saw a yearling heifer try to consume a chunk of styrofoam wrap that came around a pallet of feed. That whole styrofoam wrap, there was four foot of it in her and some still sticking out of her mouth. It was all one piece.

**Adele Harty:** I think they would consume it, even as a whole piece, because when I was doing my research in North Dakota for my Master's program we had ruminally cannulated nursing calves. So March born calves that we put rumen canulas in, in June and we pulled one of the black lawn and leaf garbage bags out of one of them.

**Jim Stangle:** I've watched calves pick grocery bags, out of a fence line and eat them. I got a chunk of plastic there was two foot by three or four foot small layer of plastic, I think it was from the inside of a mineral sack out of the rumen of a cow. Cows, their mouth is not particularly adapted to spitting things out if they get something in there, it's eat now and chew it later. They aren't very good at spitting things out but they get something started odds are it's going to go in.

**Scott Hamilton:** I think Adele, most of us ignore it as producers. When I talked to a few industry people, whether it was in the twine side or whatever well the comment was well, those cows that die, they're just old you know they aren’t dying from net wrap. Well we don't know because we're not checking them. And you know, maybe a person needs to have, I mean me saying it's bad and Doc saying it's bad, probably isn’t going to change the world, but maybe if you came with your study and said well 8% of the volume that rumen and is this much towards the feed efficiency. Your death loss might be 1% in your cow herd. This ending up in your feedlot cattle has a cost. Having to replace the bearings on the trash wheels on the planter has a cost. If a person had numbers, then maybe we would change people's minds.

**Adele Harty:** I think that's an excellent point Scott, because doing this research project actually I think brought more questions up for me than it did answers completely because yeah what is the cost of the net wrap in these cows? What are the implications of developing replacement heifers on ground hay that has net wrap left on it, you brought that up for your own situation.

**Scott Hamilton:** Especially if they are using corn stalks, which some of them are**.**

**Adele Harty:** Yep, how do we put a monetary value on that and how do we measure that because I don't think anybody knows that yet, but those are all still a lot of research questions that are out there and I would like to get more information on but just haven't been able to find the time or the monetary resources to be able to do it.

**Scott Hamilton:** Well this contraption I was working on, putting on my loader bucket, I figured well that might be the save all because if you can do it, so you don't have to get out of the tractor, people might do it.

And where's that price point of whether they’ll do it or not, well they don't know, but if you lose a $12,000 bull due to eating net wrap or even your favorite cow, due to net wrap what's the price of that?

**Adele Harty:** Exactly. So Doc do you know or have you seen any evidence of them actually passing any of this net wrap because, in my research project, we had the balls but then we had a lot of free floating net wrap still in the rumen, and I don't know, did you find that when you did your rumenotomy or what did you find?

**Jim Stangle:** I didn't check for it on these cases where I had a rumenotomy.

**Adele Harty:** Okay

**Jim Stangle:** But I have in other cases. I took some feces home and tried watering it down to see if I could find it and put some in a centrifuge like a fecal float and tried to bring it up, and I still couldn't find any. But then, I didn't have a diagnosis on those animals, I was just looking for net wrap in the feces. I was trying to see if I could diagnose it that way. So that wasn't a real good case. I wish I would have thought of that with the ones that did have the net wrap and got some feces out of them and then looked at it. Getting these net wraps out, I was charging clients $100 to go in and do a rumenotomy. That way you have a definitive diagnosis and then you could turn around and do a fecal to see if you can validate it. That would be a research model that can be used on cows.

**Adele Harty:** So another project that Montana did, they actually had some three year olds that they did a seven month winter feeding program on and then harvested those animals and recovered everything in the digestive tract and they had like 0.001% net wrap in the intestines and so to me that says very little of it ever got out of the stomach compartments.

**Jim Stangle:** I was aware of one study done in North Dakota using ground hay and they said it didn't have an impact, until the cow got to be six or seven years old. I did not read the study, I gathered that from somebody else and I don't know what the impact was, but it took six or seven years and in North Dakota I assume they fed longer than we do even.

**Adele Harty:** Right, yeah because that's one of my big questions. Is if we feed, say five months every winter, how many winters does it take to build up to a point that it can have that negative impact on the cow’s, efficiency and overall health actually?

**Scott Hamilton:** You know one thing, we keep saying net wrap, but plastic garbage bags, you mentioned liner out of a mineral bag, or other things like that so, you know, maybe, rather than just directing it towards net wrap and getting those guys all torqued you might want to say, I don't know plastic overall. When cows die from net wrap, do they starve to death or what happens? Is it bloat?

**Jim Stangle:** Well, I have seen bloat, but I think most of them. Well, like I said I thought it was woody tongue, their mouths were open, they were drooling but there was nothing in their mouth, they were starving, but no diarrhea. You can rule out Johnnes. But the signs are not real specific, so that, I think that holds us back.

**Scott Hamilton:** Do they get lethargic because they are weak?

**Jim Stangle:** Certainly the cow that I took this big ball of net wrap out of, the client actually thought he could pick out the ones that were the worst. And he brought me in six head and two of them had net wrap, so he had four false positives. And these were younger cows, mostly that he brought in, so you know, how do you tell this from a nutritional deficiency? I'd say that look the same. You have a young cow that wasn't competing with the older cows, or the hay wasn't as good and they were thinner. That's what he used to find this first one, with the big one, but it was a more of a middle aged cow.

**Scott Hamilton:** Well, the one thing I do need to try and do, is we feed out all our old cows and sell them direct to the plant. The hard part is getting access to the plants.

**Jim Stangle:** Yeah.

**Scott Hamilton:** At Dodge City through USPB by collecting the individual carcass data, I already sort of had an in because she's doing tag transfer. Cow plants, I've talked to them a little bit Adele, on trying to get some info and it’s sorta like everybody else, we just ignore it, but maybe I just need to be more of a pain.

**Adele Harty:** I definitely think there's a need and an interest in it, you know I received an email from a veterinarian in Canada today, who was interested in what we're doing here with net wrap. He's seen a lot of challenges with it and his question was would it be worthwhile to monitor those mature cows that are going to harvest and what we're, seeing as an industry. And then how to work through that.

**Scott Hamilton:** Did you talk to somebody at Demkota? Did they have a procedure for handling it or anything or not?

**Adele Harty:** So I have not had an opportunity to talk to anybody specifically at Demkota, but have heard that they do have challenges with it plugging up their drainage system and I don't know if they have implemented any strategies to help alleviate that problem or not.

**Scott Hamilton:** Well, all the rumen contents are taken to the landfill do to BSE. It used to be, they would retrieve that, recycle it for cattle feed, feed it back to cattle, but after BSE, I was told they don't they don't do that anymore.

**Adele Harty:** Right.

**Jim Stangle:** So, here's a wild idea. Since I think the last Farm Bill, they made it legal to grow hemp. Hemp is some pretty tough stuff. They used to make the bumpers on big sailing ships were made out of hemp

**Scott Hamilton:** Yep.

**Jim Stangle:** Could we make net wrap out of hemp?

**Scott Hamilton:** I asked that question to the twine company and they said that it is too heavy to flow in the net wrap bale system. Now, it might be just an excuse. Now I've got a neighbor that's raising hemp, 1600 acres worth. They’re combining it right now, and the problem they're having there, I hear through the grapevine, is it wraps on everything, but it is a cellulose product.

**Jim Stangle:** Right

**Scott Hamilton:** And bacteria could theoretically break it down.

**Jim Stangle:** Yes. Well, it would probably have a quality that'd be just like adding a small percentage of straw to your hay, I mean it may not be good but it's still not going to be harmful.

**Scott Hamilton:** Well, I wonder if flax wouldn’t work.

**Jim Stangle:** Oh, I’m not familiar with that.

**Scott Hamilton:** They used to harvest flax. There's some people that still plant flax. I had some in some cover crop stuff I planted.

**Adele Harty:** I was going to say, flax is very common in North Dakota more for the seed, versus, I wasn't aware of the fiber of flax. So yes, I think that continuing to look for those biodegradable avenues are good, but it's also got to work in the equipment as well. I thank you guys so much for this discussion, this has been a lot of fun. I've learned a lot, I think we all still have some more questions but I think we definitely know that net wrap in cattle diets is a concern and the more we can do to alleviate those issues by removing net wrap and just being aware of what we're doing as beef cattle producers can be very valuable for the entire beef cattle chain, not just for us when we are owning those livestock, but on down the line, through the feedlot and the packing system. With that, we will wrap up. Thanks for joining me today, and once again this has been cattle HQ brought to you by SDSU Extension. Visit extension.sdstate.edu for the latest beef cattle information.

**[Music]**