

Disease Du Jour Episode 50 Transcript

Kim Brown: Welcome to this episode of Disease Du Jour on the topic of Equine Nutrition 101 with Clare Thunes, PhD, an equine nutritionist who owns Summit Equine Nutrition based in Gilbert, Arizona.

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Dr. Thunes works as a consultant with veterinarians, horse owners and trainers globally to take the guesswork out of feeding horses. And she provides services to select companies. As a nutritionist, she works with all equids, from WEG competitors all the way to miniature donkeys and everything in between. Born in England, she earned her undergraduate degree at Edinburgh University in Scotland and her Master's and Doctorate in Nutrition at the University of California, Davis.

Thank you, Dr. Thunes for joining us today on Disease Du Jour to talk about Equine Nutrition 101 for Veterinarians.

Dr. Clare Thunes: Awesome. Thanks for having me. It's great to be here.

Kim Brown: We know that often equine veterinarians get the majority of their nutrition training as undergrads. We also know, as in human medicine, veterinarians are learning today that nutrition is a key to equine health, wellness and even recovery.

So, let's just have a bit of a refresher on equine nutrition as it pertains to situations that veterinarians face on a day-to-day basis. We understand that each of these topics could be a podcast into itself, but we'll hit the high points in this episode.

So, I'm going to set the scenario. You're getting ready to get in your truck after giving shots or having a wellness exam or whatever you've done. And the client asks, "So what do you think of the horse's condition and how he's fed up?" What do you do?

Dr. Clare Thunes: Yeah, right. You always, you always get those great questions just as you've got one foot out the door. Right. So, no, it's a great question. And it's, and it's an awesome opportunity for the veterinarians to have that conversation about, you know, the condition of their client's horse and to kind of get into a little bit of nutrition, not at any great depth, but just to kind of see if they're in the right ballpark, right.

So, you know, what I do when I, when I go out and visit clients on farm is one of the first things we do is, you know, look at the horse, put a weight tape on that horse, and then, you know, body condition score that horse.

So, all of our nutrient, sort of requirement guidelines are based on what the horse weighs and what it does for a living.

So, physiologically, you know, is it in work? Is it a lactating broodmare? Is it a breeding stallion? Is it a growing yearling? You know, these all have impacts on the horse's nutritional requirement combined with its weight. So, I need to know the horse's weight.

There's some interesting research that's been done, both with veterinarians and owners, asking them to, you know, sort of estimate the horse's weight just based on looking at it.

And sadly, that's really not very accurate. And what was really interesting as they did that with recent grads, as well as, you know, long time in the field veterinarians. And I always joke with my clients and say, you know, new horse owners and say, "You know, here's a little something, you know. You're a veterinarian who's been doing this for 30 years and the research shows he's actually no better at this than you are."

So none of us are any good, really, at sort of guessing weight very accurately. So, we do need to get that tape out, and put a tape on them. Better yet is to take those measurements and do the calculation. And there are some cool apps out there now that you know, you can do the circumference and the lengths and pop it into an app.

I think the University of Guelph has a good app for that, you know, and you can calculate it, which is a little more accurate than just taking the girth circumference. But use that weight tape so you know what it weighs cause that is going to give you some ideas about the amount of forage it should be getting.

If it's getting a hard feed, the amount it should be getting, you know. But then that's only one piece of the pie, right. So it weighs 1,200 pounds on your tape. Well, great. What does that mean? I mean, if the horse is, you know, severely underweight and it should weigh 1,400 pounds and 1,200 pounds isn't the ideal weight for that horse.

And conversely, if it's meant to be 1,000 pounds, then 1,200 pounds isn't a good weight for your horse.

So, the next thing you have to do is body condition score it. So really getting familiar with that body condition scoring scale and getting your hands on that horse especially at this time in the winter.

You know, we have a horse in the barn who looks really good. But you know, if you actually put your hand on him, he's not clipped. He's a little ribby.

So owners as well need to be encouraged to get their hands on their horses, especially in the winter when they're off season. You know, perhaps there may be not, you know, these trail horses and things that maybe don't get ridden in the winter and are just turned out to pasture and look great and fluffy. And in actuality they need a few more calories.

So for me, the body condition score really helps to clarify, "okay, is that tape weight the right weight for this horse, you know, and if it's not, then we know. Do we need more calories? We need fewer calories? Or are we just where we need to be?"

So that's a really good thing to do, and I think it's really great if veterinarians can teach their clients how to do that. I encourage my clients to, you know, condition score their horses kind of every month. And really take a pause and really stand back. I mean, we're all busy people, right? And it's, it's easy to get stuck in that sort of just running into the barn, grab the horse, groom it, chuck the tack on, ride, and put it back in the stall.

And how often do we honestly actually just sort of like pause and step back and kind of go, how does my horse really actually look right now? You know, and encouraging owners just to do that every month is really useful too. And they can often catch those weight losses or gains early before they become a bigger issue.

And then just really asking them, you know, what, "What are you feeding?" I mean, if the you're standing there and the horse actually looks good, as in good weight, you know, shiny coat seems happy and healthy. You know, the assumption is, is that they're doing the right thing and they're probably pretty close.

But there are a few details that might still be missing, and the horse may still look great, but actually when you get into the details, there's a few important things missing.

So, I would still want to know, you know, what are you actually feeding? You know, how much hay is this horse getting, if it's at this time of year where quite often we are, you know, substituting pasture, if they're out with hay, or maybe they only ever get hay because they're stalled around. And making sure that we're falling in that sort of one and a half to 2% of body weight per day, you know, as forage consumption, which is so important for gut health. And yes, there are those very easy keepers that need to be fed a little less than one and a half percent. But again, I don't encourage my clients to do that without some veterinary support, because you're are getting into a little tricky territory there when you're not, monitoring I that intake of forage, you run the risk of, you know, ulcers and hind gut disturbance and what have you. So that needs to be done carefully and im kind of a well-thought-out way.

But are they feeding that minimum of one and a half to 2% of body weight per day as hay. And that can mean weighing their hay, which, you know, everyone always kind of groans about.

And, but, you know, yes, I would love everyone to weigh their hay every day. But, the reality is, is that if you have a luggage scale...you know, they are easy to get on Amazon or from the local store...or a fish scale, you know, wrap a few flakes up with some string, like a Christmas parcel, and like, hang it on your luggage scale.

If you do that with three, four, five flakes, you start to get a sense of an average flake weight for that load of hay.

Now, the next load of hay might be different cause he gets squeezed into the bale differently. So you do have to tell them that they need...and I've seen that problem in a barn where people are fed religiously by flakes and you know, the next batch of hay, the flakes are two pounds of flake lighter, and suddenly everything's losing weight. And it's like, well, let's, you know, you haven't adjusted for the fact these are tiny flakes and you were feeding big fat flakes last time.

So, doing that, so you really know. You've already got your horses weight cause you just put the white tape on it so you can do the quick math of what is, you know, one and a half or 2% of body weight, what would that be?

And you know, pounds of hay and is that how many flakes or whatever they're feeding. And then, you know, assuming that they've got that part, right, what else are they feeding?

Because what we know about our hay is for most horses, either at maintenance or light work and even some in moderate work, if they're fed a good amount of forage, can meet most of their energy needs from the forage. Most of their protein, most of their calcium, phosphorus is gonna come from the forage. But where the forage can fall short, is in some of those trace minerals.

So, your copper or your zinc—in some regions of the country your selenium and vitamin E, which we're learning is a really big one. It doesn't survive the heat curing process of, you know, being laid out in the sun when they kind of cure that hay. You lose a lot of your vitamin E.

So horses relying on really hay-based forage diets can be quite low in vitamin E and that actually can lead to, you know, we have vitamin E myopathies. We have, you know, NAD. You know, we have other conditions that where the vitamin D really is important and just general muscle health is just important.

So looking at what else are they adding to the horse's ration to fill those gaps. And that can come in many forms. One of the biggest mistakes that I see is that classic, “Oh, you know, I feed a scoop of senior or, you know, a scoop of a performance feed. And, first of all, what does that even mean? Right? I mean, so what's a scoop. I mean, are we talking a three-quart box scoop? Are we talking about that little plastic round cup that some of the feed manufacturers give out for free? Are we talking about, you know, coffee cup or coffee can that you donated to your feed room? You know, what's the scoop? So, that's a really important question too.

And then hopefully they still have the bag that the feed came in so that you can look and see what the feeding directions are, because the manufacturers have going to have formulated their feed with a specific feeding rate per head per day in mind. And the concentration of minerals and vitamins that have been put in that are very specific to that feeding rate.

If you feed that feed at that feeding rate, then you will be providing the horse with the bits and pieces that are missing in your hay. But if you're not feeding it at that feeding rate, you're still going to be deficient. And that's one of the biggest things I see with people when I work with them is they'll be feeding the complete feed, senior complete feed, or that performance feed and they say, “Oh, I'm feeding...” It turns out they're feeding a pound and a half a day. And I say, well, you do understand that for a 1,300 pound in moderate work that minimum feeding is nine pounds of this performance feed per day and their eyeballs fall out of their head. You know, and they're kind of like, “If I said that much I'd get bucked off or the thing would be obese.” And I'm like, well, you're doing the right thing. Right? You're feeding to condition. You fed this horse to a body condition score of five. And you're right. If you fed nine pounds, it would be obese. That's telling you that this is not the right feed for this horse. Your horse doesn't need that much concentrated feed. And so what you need to do is find a feed that only has a pound and a half serving size per day.

And it turns out those feeds are out there. They're called ration balancers in the industry. Nearly every major manufacturer has one. They tend to be super high in protein, which scares a lot of people. And I've had this conversation before with actually veterinarians who are concerned about that it's 30% protein.

I was actually working with a horse that had some renal issues, so they really wanted to reduce the protein in the ration and were wanting to put it on a 14% senior feed at about six pounds per day, instead of the one and a half pounds of the 30% ration balancer. And it took quite a long time in this conversation to explain that actually the amount of protein we would be feeding would actually have been less feeding the 30% ration balancer than the amount of 14% senior feed they wanted to feed.

So, don't be afraid of these high percentage, you know, values for the protein in these ration balancers.

There are so many myths and that could be a whole separate podcast on the myths surrounding protein. It doesn't make horses hot. You know, it doesn't cause growth deformities in growing foals and young stock. And there's so many unfortunate myths about protein.

Many of our grass hay-based diets really actually benefit from that high-quality protein.

So substituting that pound and a half of sort of mis-fed performance feed, or complete feed for the same pound and a half of a ration balancer is going to put this horse in a much better position because when you look at, you know, the concentration of say, for example, zinc in a ration balancer, it might be 750, and some of them it's even a thousand parts per million. So that's milligrams per kilogram. Whereas in your performance feed, it might only be 120, 180 parts per million. So, you can see the concentration is so much higher because the manufacturer is expecting you to feed such a smaller quantity.

Similarly, the vitamin E is going to be a little higher in a ration balancer.

But with the vitamin E, you know, that still may not be enough. So I actually really encourage my clients...when I do a diet for them, when we kind of switch things up, I get them to feed the diet for kind of four to six weeks. And then we pull blood and really test vitamin E because what we're learning from some of the research on vitamin E is that even though on paper, I can create a diet that meets or exceeds the National Research Council's recommendations for vitamin E, those horses will still test deficient in vitamin E.

Some of that can depend on the type of vitamin E that's being put in the feeds and supplements that people are using. Synthetic is not as well absorbed as natural. Some of it has a lot to do with individual variation and how that horse utilizes vitamin E. And I've actually had clients where we've had three horses where we fed almost exactly the same thing...They're kind of doing the same kind of work. We pull blood on all three...three completely different serum vitamin E values.

Go figure.

So, that was really interesting and really actually confirms what we're learning from the research. So you really, you do have to pull that blood because I've seen it time and time again, like I, I can make a diet that's, you know, considerably over NRC and this horse will still test deficient, and it's so important for long-term muscle health.

We know that horses that live with long-term vitamin E deficiencies are at greater risk of some, you know, vitamin E-related problems down the road

[musical intro to commercial break. Music plays during commercial]

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Dr. Clare Thunes: And I would say the same thing about long-term copper and zinc issues. I mean, I see this trace mineral issues. I see diets that are just not well balanced. The mineral ratios are not good. And again, that's where feeding your feed properly is going to help balance that ration properly.

I've worked with horses that have, you know, ended up being hyperparathyroid because turned out their grass hay was actually pretty low in calcium and they almost had that like one-to-one calcium:phosphorous ratio. And they actually showed up at the vet school with like shifting lamenesses. It's like a, well today it's lame on this leg and today it's lame on that leg.

And when they did some nuc scanning on it, the thing that's lit up with your bone density issues. And it was very easily corrected when we got that calcium:phosphorus ratio in place. Which would have been a non-issue had the correct feed been being fed at the correct rate. It would have corrected for that.

So those you can't see. The horse can look super, and I often get that from clientele, but he's winning. He's doing great. And I'm like, well, that's great. But, you know, if you live with suboptimal nutrient values, year on year on year, somewhere is going to catch up with you. Right? I mean, we know that in human nutrition, I mean, I can eat poorly through my thirties and forties and look pretty good. And I'll pay the price in my sixties and seventies with heart disease and diabetes and things. You know, it just comes back down the road.

And so it's so important that even if the horse standing in front of you is kind of shiny and fit and healthy looking, you know, we want it to still look that way in five years' time, you know. And if you've been living with a copper deficiency for five years, is that going to be the case?

And these trace minerals are so important for all kinds of things, right? You need manganese for chondroitin sulfate formation. You need copper for collagen formation. Zinc is involved

with like 300 different metabolic processes...vital for immune function, skin health, hoof health.

And this is what I see, too. I see, you know, this horse, now, maybe you go in the barn and you check their feeding program, and it's just a sort of cacophony of stuff, right? It's just this like shelves and shelves of a hoof supplement and a coat supplement and a calming supplement, and, you know, whatever.

And people get very nervous when I will do a diet for them and I kind of get rid of all that. And I just put them on a good-quality balance or what have you. And they're like... "but, but, but what about the hoof supplement?" And I'm like, well, actually we've got more zinc and copper and high-quality amino acids now in the ration than we had when you were feeding your hoof supplement.

And that's not to say that hoof supplements are never needed. There are always going to be those horses that need them in addition. But to me, it's a fallacy to kind of, your base diet is not well-balanced and missing key pieces. And then you're just adding these bits trying to fix these holes.

It's like, you know, create a really good base foundation. And then if you still have issues, that's when you supplement. That's I think the point of the term, right? They're supposed to be supplements. They're not supposed to be sort of the base of your diet.

And so, you know, hoof health relies on, you know, copper and zinc, you know, coat quality, too. You know, having enough fatty acids in the diet is really important for, you know, a good coat and a nice mane and tail and the like. So, having, you know, having those base pieces in play is really important.

And so, I think, if you walk in the feed room and there's just like stuff everywhere, let's take a deep breath and let's...and I always ask people too, and I think you can learn a lot and this could be very useful as veterinarians.

Why are you feeding that supplement? Like, what motivated you to actually buy that hoof supplement? Why did you buy that such and such digest product? You know, like what was going on in that moment that made you feel your horse needed that? And to me that's super useful information because sometimes our clients forget to share important things with us, you know.

So maybe this horse isn't quite as healthy as they're letting on. Maybe actually he has some ongoing digestive stuff that they've just sort of so normal to them, now, they've forgotten to share that with you in your annual wellness appointment or what have you.

And just taking a step in the feed room and looking at the shelf, it's like, if you've got a ton of calming supplements, it's like, okay, well what's going on? And then, you know, why is this horse on edge and not calm for this rider? Do they have digestive distress? I mean, like if you go indigestion, you don't feel very calm either, you just feel on edge all the time.

Right? Is it because they're not feeding the horse, you know, they're not honoring the digestive anatomy and physiology. They're not feeding that one and a half to 2% of forage per day. And you know, poor horse's digestive tract is screaming out for some help. You know, I think stepping in the feed room, you can...again asking why and at occasion you're going to get, well, I don't really remember, or I don't know Sally was feeding it and her looks great. I mean, let's be honest, right? They don't always remember why they're feeding what they're feeding. So, you just have to be kind of tactful about that.

But you can often learn a lot about...and it's useful information, you know, when you started feeding it, did you see a difference?

I mean, if you put the horse on a digestive supplement of some kind, say it's a yeast product or a prebiotic support product, because the horse had, I dunno, it was suffering from some loose manure will have you, you know, did it do anything? Did it help? Sometimes the answer is no, and they just keep on feeding it.

In which case it was, it was like, well, maybe we could just get rid of it then, because, you know, if you gave it for a specific reason, it did nothing to help that problem, then why are we still feeding it? You know, if we can save yourself some money.

But sometimes it helps and then you can learn a little bit about...you know, if you understand what those ingredients are supposed to do, if you understand what prebiotics do, for example, and that helped clear it up. It gives you some sense of what was going on. For it to have worked, then this is what must've been going on in that horse's hind gut for that product to have actually been effective. You know, those kinds of things.

But oftentimes, they're not very clear on why they're feeding what they're feeding. And sometimes they just, and it's funny, they'll just compound things and keep adding things.

And they sometimes feel a little sheepish about the fact that they don't know, and you have to, you know, reassure them it's okay. It's all right. Not to make them feel bad, because when somebody actually makes them stop and look at what they're doing, sometimes they realize they've actually not been very smart.

And, you know, it's important not to kind of penalize them in that moment and just to kind of say, it's okay, we can, we can move forward from here and let's do this, this and this.

But, yeah, there's a lot of confusing information out there for owners. I mean, I think they really value having a, you know, a sound of reason, a voice of reason to bounce ideas off of, and to be...And so, you know, if they know that you're interested in their whole program and their whole management, you know, they're going to come to you and ask you, you know, those questions. And I think it really...you know, it helps to really be interested in their whole relationship with their horse and not just treat the horse standing in front of you, but to look at the whole management picture.

And I'd encourage all of us to be, to be better about that and to look at the horse's whole environment and how it's being managed, because we know that so many of the conditions

that we're trying to deal with, you know, with these horses are management related, are environmental are, you know, the result of their lifestyle or what we do with them.

And sometimes they're easy to fix.

Sometimes they're not, but sometimes they are. And if you really...I don't know, I remember going and seeing a client once whose horse had ulcers and had been diagnosed with having ulcers. And, you know, walked in the stall and it had, it was a stall with a run on the back and the horse next door was just evil, you know. And they just kind of go at it over the back fence.

And I asked, "Are they always like that?" And there owner said, "Oh yeah, he does that all the time."

And I mean, immediately for me, I'm like, "Your host does not look very happy. You know, like it's kind of being picked on over the fence. He can't relax in his own space ever." And I said, have you ever considered that this might be contributing to this horse's stress and possibly to your ulcer problem?

Like, is there another stall in the barn that maybe your barn owner...you could try moving to, you know, put it in a different stall or what have you. And again, just taking that time to observe the whole environment and to see the horse in its environment. I think so often, you know, I watch the vets in my own barn arrive and so often the horses are cross-tied and waiting for them.

You know, they don't get to see them in their own environment. And that's a big part of...a lot of what I do is remote because I do work with people all over the country. And so I don't see the horses in their environment. So I asked a lot of questions over the phone about how that horse is managed and what kind of stall it's in. And, you know, just those kinds of questions to get a really big picture. And it's surprising the number of times I pick up on something that actually has a role in what we're trying to deal with nutritionally or the management of that condition.

Kim Brown: Something you often...I've heard you speak before, and I know you speak at vet schools and conferences as well as to horse owner groups, but I I've heard you talk to vets and students and say, "don't forget the little things like, does the horse have access to salt."

Dr. Clare Thunes: Right! Absolutely. I did a consultation with somebody at a show once. It was a dressage show, a four-day dressage show, and it was kind of the fourth day. And, the horse was struggling by the fourth day. I mean, she didn't have the horse on day four that she had on day one. And so they were particularly motivated to kind of work with me.

And so I was just running down my list and I said, "Does it have salt?" "Oh yeah, it has." "How do you provide your salt?" "Okay it gets in a salt block."

I'm like, okay. And I'm looking over the stable door at this show stall. And I'm like, so where is it? And she said, "Oh, we don't bring it to the show with us. It's at home."

And I'm like, okay. So, and it was hot. It was just when I lived in Northern California, it was a summer show in like June and it was solid 90 degrees every day. And I'm like, okay, so it's been here four days in a stall. I mean, okay, it's an a stall, but you know, these are not, they don't have fans or they're not fancy.

They're canvas shows stills, they're hot. Right. And they're working. And I'm like, and you don't have, you didn't bring any salt with you.

Cause, you know, if they don't think about it because they're reliant on that block on the wall and they don't think about it.

So that's one reason why I'm really big into getting my clients to actually put it in the feed and have a block, but to put it in the feed, because then it's part of your daily feed.

And if you take it on the road, it's just part of what goes with you.

But yeah, the little things like salt is huge.

And, you know, the cheapest colic insurance you can buy, to be honest, right. It keeps him hydrated, keeps him drinking. And so, you know, if you value your nights in bed as a veterinarian, I'd encourage you to not want to go out and do colicks in the middle of the night, especially during those temperature fluctuations. Right. Especially when the weather is changing, those seasonal changes.

I mean, we know it's not so much...we know that those fall colicks, it's not so much the weather as it is that we change our management practices around the weather, right?

So depending on where you are in the country, but like, you know, the Midwest and the Northeast and the East coast, where we have a little more grazing than we do out here on the West coast and those horses are out all day on good pasture. And then either the pasture kind of just goes dormant or now they're being brought in and they're actually stalled 24/7 with very limited turnout in the winter. And they've gone from a very moist, grass-based diet where, you know, fresh grass is 85% water. You know, it's a high amount of water. To coming in and being fed hay, which has maybe 85% dry, you know, And then they have to drink more water and they're not used to drinking because they just get it all from the pasture. You know, so having that salt in the ration will really help, you know, keep them, keep them drinking.

It's a great colic insurance. And it's such an easy, cheap thing to do. And then having, having a block as well, I'm a big believer in always having access to salt. But I do like to give them that base salt requirement. And that's, you know, for your typical 1,100-, 1,200-pound horse, you're looking at so two tablespoons of salt a day.

That just gives them the sodium they need for maintenance. So that's no forced exercise standing around on a cool day. You know, just ambling around in a pasture, doing their own thing on a cool day, they need two tablespoons of salt, about 10 grams of sodium a day, which is quite a lot.

And then when you work on top of that, now their sodium levels go up and now they're...you know, what we know about whole sweat is it's concentrated in electrolytes, right? So they dump a lot of electrolytes out in their sweat. That's why your electrolyte then comes in. The purpose of your electrolyte supplement is to replace what they've lost in sweat. It's not to give them the daily maintenance requirement of sodium. You need your salt as your baseline maintenance sodium, and then you add your electrolyte on top of that on days that they work super hard and are sweating, or you've got this super hot days to replace what they've lost in sweat.

And I think that's a common mistake that people, people make. They don't realize they need that baseline sort of sodium in there. And it really does help keep them drinking. I've worked with a number of, you know, top event horses. Don't drink on trailers. Don't drink at shows. And just by getting that salt every day in there, have got them drinking on trailers and drinking at shows and owners, then not having to give IV fluids after dressage at a three-day event, which gets very expensive very quickly.

And, you know, simple, simple fix

Kim Brown: Dr. Thunes, we really appreciate you joining us today and giving veterinarians, just a refresher or a reminder of some of the things just to look for as far as the nutrition and the maintenance of these horses go. And just a nice reminder to check out the horse and its environment.

Dr. Clare Thunes: Yeah. And I, I think I would say too, when I lectured to the vet students at the vet schools, you know, you don't have to be an expert in all things. Right. So, it's okay if you don't feel super confident in the nutrition side of equine practice. There are people out there who can help you with that, that you can reach out to for support and help, to help you support your clients.

And that's a win-win for everyone.

So I always encourage people, you know, don't be afraid of what you don't know or you don't feel confident in. Veterinary medicine is such a huge topic. I can't, as a, somebody who wanted to be a vet at one point in my career, now I think that what a huge amount of knowledge. I'm just, you know, astounded by the knowledge that the veterinarians have. It's truly phenomenal and it's really hard. Nobody can know everything. So, you know, it's okay to feel that you need a little help sometimes in the nutrition area. And there are people out there who can help you when you're stumped by some of the more complicated issues, that you're running into, who can give you that support.

So, don't ever be afraid to reach out to those people.

Kim Brown: Well, that's another good tip. Thank you very much Dr. Thunes for being our guest on today's episode of Disease Du Jour.

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