

# One Health with Dr. Jared Taylor

**Dana Zook:** [00:00:00] Welcome back to the Extension Experience Podcast. I'm Dana Zook. Dr. Rosslyn Biggs and I are co hosting today at the OSU College of Veterinary Medicine. Dr. Biggs is a veterinarian, beef cattle specialist, and the director of Continuing Education, and we are partnering to interview

Dr. Jared Taylor. Welcome Dr. Taylor.

**Dr. Jared Taylor:** Good morning. Thank you for having me.

**Dana Zook:** Dr. Taylor is a professor at the College of Vet Med. During the height of the COVID pandemic, Dr. Taylor served as an epidemiologist for the Oklahoma Department of Health. Dr. Taylor currently serves as the OSU One Health Faculty Fellow. Dr. Taylor, before we get started would you mind telling the audience a little bit about yourself?

And. How you came to OSU Vet Med.

**Dr. Jared Taylor:** So, I'm not a native Oklahoman. I grew up in West Virginia had a varied interest, took kind of a circuitous route, but got my veterinary degree from Virginia Tech. Practiced for a brief period in southwest Missouri before I pursued some of those [00:01:00] varied interests that I had cultivated previously and went to Iowa.

Where I got my master's in public health I then came to Oklahoma as a resident of Oklahoma for the first time in early 2005, did my Ph. D. and large animal internal medicine residency concurrently here at Oklahoma State University and then came on to faculty at the college . end of 2008, early 2009, and have been here since.

**Dana Zook:** And Rosslyn tells me that you're a beef cattle producer.

**Dr. Jared Taylor:** Yeah, so my family and I now have a small ranch. It's enough to, to chew up a large portion of my salary. But Morrison, Oklahoma, about a half hour north of here, we run about 35, 40 mama cows, and retain our yearlings.

through the feedlot and just enjoy having that connection. Beef cattle is really what brought me to Oklahoma to begin with. And so really been happy to have

the opportunity to not only serve beef producers in a variety of roles and educate [00:02:00] veterinarians who will serve beef producers, but to be part of the industry as well.

**Dana Zook:** So did you grow up on a farm that had beef cattle or dairy cattle ?

**Dr. Jared Taylor:** I grew up on a small. It's a very small mixed species diversified operation where I learned how you should not do anything.

**Dr. Rosslyn Biggs:** Yeah. That, that sounds very familiar. Yeah. Yeah. I would say I, you know, experienced that as well. Yes.

**Dana Zook:** What is your main focus of research at OSU Vet Med what is your role that you play and what are the several different things that you do here?

**Dr. Jared Taylor:** Yeah, so I, I as part of the, the land grant university have.

have a role in some form or fashion in kind of all three of the, the domains of teaching research and service. So I teach pretty broadly in the veterinary curriculum, epidemiology, food, safety, public health beef cattle production. I also teach in a master of public health degree program epidemiology and have been core faculty member for that program since its [00:03:00] inception in early 20 teens.

Do a little bit of teaching otherwise, but those are the majority of my teaching. Research wise, I my primary interest has been and historically remains BRD, bovine respiratory disease. But I do a lot of collaborative research with other folks, study design, data analysis, those kinds of things.

If you did a search, you would see my name on, on small animal stuff, equine, cattle, all sorts of things. But my primary interest is, is infectious diseases of cattle and respiratory disease in particular. And then on the service side I've not been in clinics for a while. I, I did clinics periodically after I finished my residency, but I continue to serve, as you mentioned, as the One Health faculty fellow with the university as well as a variety of other, outreach and communication roles, committee roles and that sort of thing as well.

**Dr. Rosslyn Biggs:** Very cool.

As you can tell, Dana, Dr. Taylor does a lot of things here at [00:04:00] Oklahoma State and is very good at them. And so you will see him called upon in, in a variety of, variety of lanes.

Perhaps one of my favorites is when I got to tag along with him and 10 to 15 veterinary students. He does a production animal medicine tour group for third year students and that's always a good time to get, you know, veterinary students wrapped up in a van for a week and exposed them to production medicine, but appreciate all you do.

Yeah,

**Dr. Jared Taylor:** I appreciate that as well. And that was fun I very much enjoyed you joining us in that and that is a neat opportunity to take these vet students out into the real world and see the certainly not the full breadth, but a, a much wider breadth of production than what they get to see here in sort of the ivory tower.

We see everything from Express Angus through , really extensive beef cow production, quite a few feedlots, some dairy, [00:05:00] swine again, sort of run a lot of the gamut of food animal industry and, and having the week, with them gives you the opportunity to talk about not only food animal production and food animal industry, but the interaction of food animal industry with the world around them.

Right. And, and the impacts, which is what One Health is, right. The opportunity to talk to them about how animal agriculture impacts the world, how the world impacts the animal agriculture and the interplay there.

**Dana Zook:** So there are big plans for the future at Oklahoma State. I've heard, I've heard there's big plans for the future, right?

Yeah.

**Dr. Rosslyn Biggs:** And lots of different areas, but in particular One Health.

**Dana Zook:** One Health. So you're the faculty fellow for One Health. Could you just tell the listeners who may not have an idea of how that applies to them, what is the idea of One Health and how does it impact the state of Oklahoma?

**Dr. Jared Taylor:** So the, at its simplest conception, One Health is, is. [00:06:00] Animal health, human health, and the environmental health and the, the interconnectedness of, of those ideas that you can't discuss human health without giving consideration to animal health, whether you're talking about infectious diseases, whether you're talking about food security, food safety.

Any wide range of domains and in similarly environmental health it impacts both humans and animals in the intersection there. Again, when we go out to West Texas, we talk quite a bit about water usage and water usage for agriculture purposes. and the impact that that has very broadly. When we talk about environmental health, it's actually quite broad and encompassing idea in and of itself.

We could be talking about water usage, we could be talking about climate change, but we even start talking about you know, urban design and suburban growth and, all of those kind of things [00:07:00] very largely. And then of course, , it's always important to recognize when you're talking about animal producers, food animal production, they're sort of the original stewards of the environment, right?

And the understanding that their livelihood and their success is dependent upon taking care of that environment. That's a message that we never want to lose sight of as well.

**Dana Zook:** Yeah, It all is intermingled.

Right, yeah. When you have a health issue with a livestock herd, I mean, that's physiological, that's hard for producers to deal with. And so that's part of it too, and the environment, right? Yeah, yeah.

**Dr. Jared Taylor:** Well, yeah, and you mentioned you know, hard for producers to deal with. You know, right now Many producers in, in Texas and even in Oklahoma dealing with wildfires, right?

And, and there's obviously the full breadth of One Health there, you've got the impact on the animals, you've got the economic impact, you've got the air quality issues that a lot of these folks are dealing with, and I have long term health consequences. And you have the mental health [00:08:00] aspects of those producers who've invested their entire life in, in developing a herd and an operation and seeing it impacted so broadly.

So again, One Health is something that we encounter and deal with every day, and yet it's sometimes hard to wrap our head around all of those or, or even some of those intersections.

**Dana Zook:** So tell us about how the OSU College of Veterinary Medicine is a strong component of this idea of One Health.

**Dr. Jared Taylor:** Well, so the easy ones are, as we laid out to begin with zoonotic diseases and which zoonotic

**Dr. Rosslyn Biggs:** diseases for our listeners right, would

**Dr. Jared Taylor:** be those diseases that that can affect both humans and animals. And of course. You know, COVID was a disease that almost assuredly originated in animals and crossed over into humans and was transmitted among humans.

Influenza is another common disease that affects swine. Pigs , and poultry as well as humans, and we always have that risk or that concern of new strains of [00:09:00] influenza spreading from those species into humans, but humans can bring that in as well. You also have those types of diseases , from a food safety perspective, and so I teach food safety to veterinary students the USDA Food Safety Inspection Service is the single largest employer of veterinarians in the United States.

And veterinarians play a key role in ensuring the safety of our meat supply and our food supply in general. And so, it's important that all of our veterinary students will get that knowledge and experience , and instruction throughout the curriculum, what, regardless of what they're going to do.

And then food security is an important part of One Health as well and something that we at OSU take very seriously. And the distinction between food safety and food security is that food safety is I want my food to not make me sick.

**Dana Zook:** Right.

**Dr. Jared Taylor:** Food security is do I have enough? Do I have enough of the nutrients that I need, calories, protein minerals, all of those types of things in order to keep me [00:10:00] healthy.

And agriculture plays an enormous role, obviously, in ensuring the food security not only in the United States, but, but globally.

**Dr. Rosslyn Biggs:** Dr. Taylor, we've had some focus. I'm fortunate enough to be on the working group with you, focused on One Health.

And Oklahoma State is positioned really well because we have a medical school and a veterinary school and a college of agriculture and a variety of other

entities across the university spectrum that contribute to One Health. Maybe give us some insight on the things you anticipate or, or maybe on the horizon with work in, in One Health or programs in One Health and, and where you see that going.

**Dr. Jared Taylor:** Yeah. So the Faculty Fellow program is launched last year. So it's, it's still pretty new. And really part of the charge to the Faculty Fellows was to, figure out where we wish to go, and what opportunities lie in existence already, and [00:11:00] what would be within a grasp with reasonable efforts and attention.

And so my predecessor in this role, actually, before he departed university, had spearheaded a program that is already going to yield results in the very near future. We've funded seven research projects to look at everything from vaccine development. to antimicrobial resistance and kind of everything in between in, in terms of understanding the intersection of human health and animal health.

And that was a really neat program. As Dr. Biggs just alluded to we do have the, the Center for Health Sciences over in Tulsa, which trains physicians. And part of the research program, we put together said that we needed to bring together researchers from CHS. school and elsewhere on the university campus.

And so it was really neat to see the, the wide array of topics. , I think we'll continue to see that grow. I think we'd generate a lot of excitement across a diversity [00:12:00] of colleges. We mentioned the Center for Health Sciences. We mentioned the College of Med. Of course, the Ferguson College of Agriculture.

But we have collaboration with microbiology and, molecular sciences. We've got engineering, right? I'm working with a agriculture and biosystems engineer on looking at some antimicrobial resistance issues. Certainly even in the social sciences, humanities, you name it, we have the opportunity to, to really build some neat relationships across diverse knowledge basis in order to bring the existing knowledge in its full strength to bear on these large questions, right?

We really aspire to take what we already know in our own special domains and sort of broaden that and, and learn how to apply that in the real world and in Oklahoma throughout the United States and throughout the world.

**Dr. Rosslyn Biggs:** Yeah, I think we're positioned really well. Obviously, Dana and I have extension responsibilities, too, and the great.

Great work that our [00:13:00] Extension educators do across the state waiting on a lot of that research , and the existing knowledge to be able to share in a variety of capacities. Whether that be human nutrition or animal health or environmental sustainability, all of those things fit neatly into the, the One Health scope.

**Dr. Jared Taylor:** Yeah.

And

**Dana Zook:** you're part of one of those groups.

**Dr. Jared Taylor:** That is correct. So we actually put forth a grant proposal to look at presence of antimicrobial resistance and what we would call extensive managed beef, cow, calf operations as well as stalker operations , and see what impact antimicrobial usage in those animals may play in propagation or spread of antimicrobial resistance in those environments.

**Dr. Rosslyn Biggs:** And I think it's important as a veterinarian, especially as an extension veterinarian that gets to work with producers, how cool is it that we have a cattleman veterinarian leading that kind of research. And so I just think it's fantastic and you know, want to thank President Shrum, [00:14:00] of course, for her leadership on this One Health issue and also emphasize to our farmers and ranchers out there that they're involved in One Health every day, regardless of whether they're growing.

Row crops or hay or cattle or pigs or Anything within the agricultural spectrum. They're a part of it,

**Dr. Jared Taylor:** Yeah, and absolutely on that the antimicrobial resistance Subject matter, , ultimately what generates my interest is yes as a cow calf producer myself I've had clinical anaplasmosis in my herd And we routinely use Chlortetracycline in the mineral in order to control that disease and its impact on our herd and lots of producers across the state and, and much of the United States do likewise.

We now use veterinary feed directives to ensure that that use is It's overseen by veterinarians, imprudent, and it is medically justifiable, and we need to protect that. But we also need to be cognizant of the impacts that that could have, not only in terms of long term, [00:15:00] is it going to continue to be effective for what we intended to do, but does it have some, some other negative implications that we should be aware of sooner rather than later.

And so that's our aspiration, is to understand, just as one example there the impacts of some of the things that we do in food production more broadly in, in terms of animal health, human health, and environment.

**Dana Zook:** Yeah, impacting, everything. And if we lose, , specifically with your project, if it eventually, lose the ability to use some of these products, that leads us to not be able to care for our animals as well.

**Dr. Jared Taylor:** Exactly, right. That's, that's the balance of One Health is that, from a very narrow perspective, we may say, oh, well, we should just stop using antimicrobials in animals in order to protect human health. Well, there's enormous consequences, not only in terms of animal welfare, but even food security, if we were to, to make such a dramatic alteration and so it's really a matter of not losing sight of the interaction of all of those components as we start [00:16:00] thinking about how do we protect, you can't just focus on how do we protect one, you have to take into consideration the interaction of all of them.

**Dana Zook:** This is excellent information. And I think it's good that we're trying to explain that. It'll take more time to explain it , but it's at the ground level. It's not just this over big encompassing broad ivory tower, as you say, idea. It's down at the ground level affecting people who produce food.

**Dr. Jared Taylor:** Yeah. And well, and I would, I would certainly say that. If folks are still struggling to wrap their head around what is One Health as we go through this conversation, that's okay. We have people in the ivory tower at the university level who do very groundbreaking research, very impactful groundbreaking research who struggle sometimes to wrap their head around One Health.

Even if they are a part of it, what their role is, and how they intersect with all those. It is a big idea, and can be challenging but it's essential that we take it head [00:17:00] on, and I agree fully. I'm appreciative of Dr. Shrum's initiative in recognizing the importance of this and supporting us and giving us a chance to move Oklahoma State forward.

Again, we've had tremendous impact in these domains already. It's just a matter of formalizing it and moving that impact forward into the future.

**Dana Zook:** Very good. Thanks for taking your time, Dr. Taylor, to join us today. Do you have any final closing comments about how One Health is better gauged? to help the lives of Oklahomans?



**Dr. Jared Taylor:** Well, I think that's a big question. It is. You know, I, I think that it's just important that we again, recognize the intersection and interaction of all of these components. We, we have a lot of great things in Oklahoma. We do lots of wonderful things. We have lots of wonderful folks. Unfortunately, we have lots of opportunities.

And we're going to be looking at ways in, in Oklahoma for improvements in public health and One Health. And , I, I think that we all need to recognize [00:18:00] that this is the people's university. We are here to try to figure out how we can serve all of our constituents and , to do so through science and , We even know some of those results that will come out may not You know, fit the narrative that some folks may, may prefer their, or their conception, the ideas of , what they want to be the case.

We need to ensure that we just have that openness to whatever, wherever the science leads us, right? We need to go into it with an open mind and that becomes a challenge across the board. It really is to challenge your preconceptions and what you think, you know, and to be open to that. And when you get into something as big as One Health, you're always going to have some of those challenges.

So I would encourage our listeners to feel free to reach out to their extension specialists, reach out to anyone else at the university that they would know and understand that we really are striving to serve and Oklahoma, [00:19:00] the U. S. And the world in a, a variety of ways.

**Dana Zook:** That's an excellent closing, Dr.

Taylor. That's fantastic. Yes. Thank you listeners for joining us today. We'll have some resources and links, but like Dr. Taylor said, reach out to those you feel are involved in the system and we'll be happy to work through any questions you may have. So thanks for tuning in and have a wonderful week.