Field Day Podcast Ep. 18 African Swine Fever

Jordan Hoewischer Welcome to Episode 18 of the Field Day podcast brought to you by the Ohio Farm Bureau Federation. I am your host Jordan Hoewischer, director of Water Quality and Research with Ohio Farm Bureau. Today's talk is a dual phoner, so two experts on African Swine Fever talking about the ins and outs of the disease and how it's affecting not only pigs but the world as a whole. So two good conversations with both people. Obviously they're phone calls so the audio quality is always going to be a little bit lower versus them being in the studio, but we thought it was still good to get them into a podcast so you can kind of hear it and hear information that maybe you normally wouldn't get to hear. Excited to talk about African Swine Fever, and again please rate and subscribe to the podcast as you as you listen. And so we can try to grow this audience and keep providing some good perspective from emerging issues from around not only water quality, the environment but just the ag industry as a whole. Enjoy.

Jordan Hoewischer So we'll just get started here. So I guess we'll start off with just tell me who you are, where you been, where do you come from, what do you do, those kind of things.

Dr. Paul Sundberg Well I am the executive director of the Swine Health Information Center. For 21 years I worked for the National Pork Board and the National Pork Producers Council in Des Moines. And in 2015 had the opportunity to move into the executive director of the newly formed Swine Health Information Center. The center is focused on emerging diseases for the U.S. pork industry and the charge is to look over the hill and monitor what is likely to come at us, make sure that we are prepared, we can prevent and that we use targeted research to help with all of those efforts to fill in the gaps along with the National Pork Board in BTC the American Association of Swine Veterinarians so we work very closely with those organizations and trying to make progress for the U.S. pork industry.

Jordan Hoewischer The theme of this program or this episode is revolved around African Swine Fever, obviously a fairly hot topic, an emerging disease in the pork industry. I guess give me the lowdown on African Swine Fever and kind of how it's been causing a little bit of a ripple in the pork industry lately.

Dr. Paul Sundberg Yeah it's causing a ripple all right. It's causing a ripple in the in the world pork industry. There's a lot of concern in the U.S. pork industry of course because we don't have it. But in the world what's happened with African Swine Fever in 2007 and saw it move up from Africa into Eastern Europe and it has been circulating in Eastern Europe since then. Russia became infected. Poland became infected. A number of the Balkan countries became infected and has moved as far

and as far west as Belgium and in feral pigs in Belgium not in commercial pigs but in feral pigs in Belgium it was found. It skipped Germany. So it went from Poland skipping Germany and then and then showing up in feral pigs in Belgium. So it's been an issue in Eastern Europe for a number of years. Last year August of 2018 was the first notice that we've got that this virus which doesn't have a vaccine is transmissible and it is highly lethal to infected pigs. It infected the largest pig herd in the world in China and it has been moving through China and Southeast Asia now for the last year. Like I'd characterize it like wildfire: it just keeps moving and moving and moving and so yeah it's caused a ripple in the world's pork production because China has better than half of the world's pork production in country and there is no cure for this virus for this infection. There is no vaccine. It is all about management and that's a very difficult issue for the production systems in Asia in Southeast Asia as well as for some of those in Eastern Europe. So that's the ripple around the world right now. For the U.S. what it means is a very heightened awareness and keen interest in how to prevent this virus from getting into the U.S.. And also then keen interest as well in making sure that if it does that we're prepared to quickly respond because our production is dependent upon our markets and those markets include international markets. And once we get an infection with ASF those international markets will immediately stop and we'll have to recover.

Jordan Hoewischer It's obviously a very serious issue because it's kind of a double edged sword right. It's like the lack of pork in the pipeline from this disease is probably helping the pork prices, you know and helping our farmers. But also it's a kind of a looming thing that we're trying to keep a watch out for.

Dr. Paul Sundberg So yes there's a number of things going on there. The geopolitical politics come into play in this with the Chinese market and the tariff situation that's going on right now. And the response from the Chinese government the response in the U.S. government certainly affect those international market opportunities. And that's not necessarily supporting at this point at least pork prices in the U.S..

Jordan Hoewischer So let's back up just a little bit. Why is African Swine Fever so devastating? What does it actually do to the animal and why is it such a wildfire type disease that comes to a herd.

Dr. Paul Sundberg It is one of a group of hemorrhagic diseases and Classical Swine Fever or hog cholera, we termed it hog cholera in the US, is another member of that group. So it will look a lot like Classical Swine Fever. And the problem with that is that that also looks like a number of other things that we normally have in production. Classical Swine Fever or African Swine Fever can cause the skin to be discolored to be a purplish color. It can cause, it will cause mortality. It will cause general organ failure. It will cause hemorrhage throughout the organs and the pigs will die. Now it's really important that everybody understand as well that that happens only in pigs or in classical for African Swine Fever. It's a disease of pigs and pigs period. People aren't affected. It's not at all a food safety issue. So there's no issue about the safety of the meat. It is an issue for the health of the

pigs. And the reason it spreads so well is because once a pig becomes infected it is a virus machine. And it spews out a lot of virus and that virus could be picked up by the next pig and they'll become infected. Once the pig becomes infected almost with assurance the pig will eventually succumb to the virus and die. And so that's a really important issue in that we really don't have a way to treat nor much of a way to manage the virus once we get it through the herd, once it starts moving. There is no vaccine so we can't stop it with a vaccine. We have to prevent it. We have to use high biosecurity protocols those types of things to prevent it from getting from an infected pig to a susceptible one.

Jordan Hoewischer I grew up on a hog farm and we you know we went through the days of you know pseudo rabies and other diseases you know since forever. What's the repop for getting infected like this in your farm. It seems like something it'd be really hard to get rid of once you've had it on your farm regardless of if there's any hogs on the premises at all.

Dr. Paul Sundberg That's one of the things that we're looking, one of the things we're studying right now. The virus is a hearty virus and it survives well in the environment. And there is a lot of looking with great interest at what's happening in China, Southeast Asia and Eastern Europe and their experiences with trying to clean and disinfect the facilities, the farm and get back into production. It's a difficult thing. Right now it looks like it's a difficult thing and it's very difficult with the type of production that's in China for example and in Southeast Asia outside of high biosecurity facilities.

Dr. Paul Sundberg That's a very difficult thing. They're having some issues with being able to successfully clean and disinfect and repopulate. It's something that's for an example that is something that we're looking at very closely because we want to learn those types of lessons from others that are experiencing it in other countries. So if it gets to the US we know what's going on and we can we can apply those lessons here very quickly.

Jordan Hoewischer Like some of the recent viruses or sicknesses that have come through there were some silver lining to a certain degree where OK if you had it you would have maybe some death loss but then your herd would kind of get some immunity or that hog couldn't get it again and build some immunity to it. You know this one's even you know even more ramped up where you gonna have a high mortality rate and then really no resistance or anything else left to be salvaged I guess.

Dr. Paul Sundberg There are more there are multiple strains of African Swine Fever some more virulent than others. Some more mild than the virulent ones. This thing that's moving through Asia and Eastern Europe right now is a fairly virulent strain. What happens is once a pig becomes infected it dies before anything can happen with any immunity. So once it gets into the pig the pig goes down before it can mount an antibody response and try to recover.

Jordan Hoewischer I grew up on a hog farm and we had diseases and stuff pop up and you know I wouldn't say epidemics but there was ones that were definitely worrisome. Are we seeing a higher clip of different types of things that are affecting populations and if so what do you think is causing that?

Dr. Paul Sundberg Well I think you're probably, you might be referring to two different things here. One is a higher clip of things that might be infecting our pigs in the country here. Those are endemic diseases that we have and they circulate through the hog population periodically and the other one then is foreign animal diseases of course, for example foot and mouth disease, Classical Swine Fever, hog cholera and African Swine Fever. So like I said the foreign animal diseases foot and mouth disease and Classical Swine Fever continue to be endemic in certain areas of the world and continue to move and continue to give problems. Nothing though to the scope of African Swine Fever in the way that it acts within the country or in the endemic diseases. Yeah we there are. It's kind of a wave action that there are endemic things that happen. A lot of viruses PERS for example salmonella. There are things that that we're learning all the time to be better and better at managing and preventing infection in our pigs and so things will come and go. And many of the producers do a really good job at being able to quickly respond, to learning lessons about what happened last time and what should we do next time type of thing and modifying things as we go along. I think out as far as the circulating diseases in the country right now...we're learning a lot of lessons and doing a fairly decent job. One of the things that we do with the Swine Health Information Center is each month we put out a report from the veterinary diagnostic labs that are collaborating with us University of Minnesota, Iowa State University, South Dakota State University and Kansas State University. Those are the major swine veterinary diagnostic labs. They report each month the submissions that they have and and we put out a report about those endemic diseases and what's happening across the country right now. So swinehealth.org website has that. It's in our monthly newsletter and I think that helps pork producers and their veterinarians kind of keep an eye on what's going on around them.

Jordan Hoewischer So what do you what do you think? What's our biggest worry on how it could be transported to the United States? I know obviously there are a lot of different products that come in. What do you think is the biggest watch out for how it could possibly could enter the United States.

Dr. Paul Sundberg There's multiple ways that stuff can get in. And we don't have a comprehensive risk assessment. Let me start with that. If we don't have a comprehensive risk assessment that says this is the way this is a 75 percent chance of the way it's going to get into the country. This one only has a 5% chance of the way it's going to get in the country. So we don't have a quantitative risk assessment like that. But there are things, we know how the virus moves and there

are ways to get from one country to another. One of the primary ways is for the illegal increase in the illegal import of contaminated food products and that can be purposeful or it could be by accident. Every day Border Protection seizes and confiscates sandwiches and a whole lot of agricultural products and food products that people are trying to bring into the country in their luggage and other ways. And and we know from the experience of Eastern Europe and in Asia that a contaminated product that has virus in it while it might not infect people it certainly is able to infect pigs. If those pigs come in contact with it. So that's probably one of our highest risks. What we're trying to do is we're also trying to look at other ways, other pathways of entry. Again it's important because our primary goal here is prevention. Other pathways of entry could be the virus coming in on something on clothes, on shoes, on something that has been in contact in a foreign country and it's brought into the into the U.S. and in some manner then those clothes or shoes come into contact with pigs and it doesn't have to take place in a commercial setting. It could be pigs in the backyard coming in contact in some way with pigs. Another thing that we're looking at and trying to understand better is an opportunity for the virus to come in via feed products and especially via products such as soybean meal. We import soybean meal from China into the U.S. and we've done some research that shows that the virus can survive under shipping conditions and time that either comes from Eastern Europe or Asia. So that leads us to wonder if the virus could contaminate a feed product and be imported into the U.S.. That would be a direct pipeline to our pigs. So we're looking at ways to mitigate that, to mitigate a potential risk. We don't have a true risk quantified but we want to look at ways that we can mitigate that potential risk because that can be a direct pipeline to pigs and we need to do everything we can do again as I said to keep this from our side of the country.

Jordan Hoewischer How much can we trust, and it has nothing to do with the country itself but it's just the demographic of China. How much can we trust that they can get that under control and really mitigate this disaster. Well what's your confidence level that they can get it under control?

Dr. Paul Sundberg You know that's a real long-term deal. It’s going to happen at all, that's going to be a real long term thing. So this isn't the kind of thing where African Swine Fever is a big topic for a year and then it kind of goes away. This is going to be a long-term thing and I term it as pressure on the U.S. With the African Swine Fever it's different than foot and mouth disease and Classical Swine Fever Those two are still out there and they're still a risk. There's no doubt. And we are always at risk of importing those two viruses. But African Swine Fever is different now in that it is going through China, it's going through Eastern Europe and that puts so much virus into the environment. It gives such an opportunity for contamination of different products that we might import into the U.S. It's a different sort of pressure on the U.S.f or importation of African Swine Fever. That's a long- term deal. It's going to be a long-term siege.

Jordan Hoewischer Does the high mortality -- does that help at all in its ability to spread so quickly. I mean obviously I don't know if that's an educated question or not, but you know I think about how it can infect feral hogs and how far those can move and where those can go. Does it help that maybe they get knocked down before they can get too far? Is that just too far off base?

Dr. Paul Sundberg What happens is that a pig with African Swine Fever gets a high level of the virus in its blood. And that means it's got a high level of virus in its beak when it dies.

Dr. Paul Sundberg And so for example for feral pigs they will they will try to feast on the carcass of another dead pig. And if that happens it will go from one pig to another and it'll just perpetuate itself.

Jordan Hoewischer Well we'll put that question in the ignorant question list for me on this.

Dr. Paul Sundberg No that's okay. That's what happens. The other thing that happens though is it's got a high mortality rate. What's termed a high mortality rate. And that means that an infected pig is going to die. The issue though is that it doesn't die quickly. It doesn't necessarily die quickly. This it can go on for a couple of weeks before the pig actually ends up dying. And in that way a pig that has the virus in its blood can continue to spread it to others before it dies. So while the high mortality rate gives you a signal that you've got African Swine Fever of course, but during those two weeks or so that the pig is sick, it can look like...that the disease can look like a whole lot of other things. It can look like a bacterial disease. It can look like PERS . It can look like it a lot of other things that happen that we indemic here. So that's part of our issue is that it can mask itself and it can hide as looking like something else. And if that happens and and we ignore that because we assume that we know what we've got, that'll give the virus more opportunity to spread from pig to pig and farm to farm.

Jordan Hoewischer I'm not even sure we've covered this by one of my wrap-up questions here is I guess what is the scope of how it's affected China? I know there's been some numbers thrown around but what's the actual scope of how it's affected their population?

Dr. Paul Sundberg Well I'll tell you for that question we don't really know because one thing that the center does is we have a foreign animal disease or diseases around the world report as well. And we used what we term hard sources and we use soft sources to report what's happening for a variety of diseases around the world. A hard source is for those that are the official things that come from the government that comes from the International Organization of animal Health that's headquartered in Paris and from the different country official notices. Hard sources say that from China for example say that the virus is under control and they are releasing quarantines in different areas and they have 10 percent or so of their pig population affected and things are going to go on. Soft sources report that it's much more severe than that. It's not an official report from the Chinese

government but people that have been over there and what we're hearing from people that are on the ground in China talk about losses. Different provinces between 30 and 70% in different provinces. And so the thought right now is that the real loss in China is somewhere in the neighborhood of 50% of the of their sow herd from African Swine Fever so far. It's a very difficult thing. I don't really know the right answer to the question, but it's probably somewhere between what the official government says and what the rumor has it out there in the countryside.

Jordan Hoewischer Which for scale is like if it's 50%. That's a very similar number to probably what's produced in the United States on a yearly basis.

Dr. Paul Sundberg Oh no. No it's not. It'ss not. It's much more than that.

Dr. Paul Sundberg We market in the US somewhere around 120 million pigs a year. China markets per year 500 to 600 million. So they're five times more production than what the US is. And so losing half of that production in a year means losing about two or three years' worth of U.S. production.

Jordan Hoewischer So that's a pretty remarkable scale if you are trying to wrap your head around how much there is even just for disposal reasons. You know I mean just from the actual like you know X's and O's of trying to contain the disease. That is a pretty remarkable number.

Dr. Paul Sundberg That's why this is a long-term deal. And this is going to be something that Asia is going to be dealing with for a long time. Eastern Europe is. And that means that we're under that continued pressure.

Jordan Hoewischer I appreciate your time. This was informative. I know I learned a few things for sure. Is there anything that you think the audience would need to know about this or anything we haven't covered?

Dr. Paul Sundberg One thing that I'd say is that in the last year we've made a lot of progress the collective we. The US has made a lot of progress in our prevention in our preparation. Customs and Border Protection have been very cooperative in helping to harden our borders and do inspections. We've gotten more of the Beagle teams at airports to do inspections and to detect illegal products that are coming in, those types of things. But one of the things that I want to make sure that the producers understand is that the biosecurity on their farms is really the last brick in the wall of national biosecurity. We can do all that we can do at the borders with inspecting people who come into airports or first ports of entry. But you've gotta expect that there are products or there are issues to get through there. That's not 100% effective and there's going to be things that get through the airports and the other ports of entry. The biosecurity of the producer on the farm and making sure that everything is in place for biosecurity on their farm is the last place that we can prevent ASF from getting into the US because if it gets through the airport, I hate to use the term "It really

doesn't matter," but if it gets through the airport it isn't going to infect a pig if it doesn't get to a pig. And the biosecurity on the farm is the thing that keeps it from getting to the pigs and that doesn't just include the foreign visitors that might come onto the farm because that's an easy one. But there may be people that are employed that go to other countries and come back or people that are employed on the farms that know somebody that knows somebody that got a sandwich from somebody and they bring it in for lunch. That type of thing. So one of the things that we hope that producers do is look with their veterinarian at all those biosecurity procedures and how they might have some international contacts not just visitors which are obvious but other ways that are less obvious and to tighten that up because that's something that is key to preventing African Swine Fever in the country.

Jordan Hoewischer I feel like that's a great, great point and a great ending point. And I guess you could just never have too much biosecurity and plastic boots and disinfectant and being vigilant on all those little things are still key to keeping everything secure. Dr. Sundberg I really appreciate your time and I will let you know when this comes out and we'll make sure that it gets into your hands and you can distribute anyone you would like as well.

Dr. Paul Sundberg OK. Very good. I'd like that. Thank you, Jordan.

Jordan Hoewischer Thank you.

Jordan Hoewischer And that was Dr. Paul Sundberg from Swine Health Information Center. So now we're going to transition in to another talk with Dr. Liz Angstrom from National Pork Producers Council and get the kind of the other side of this emerging disease.

Jordan Hoewischer Can you tell me who you are, who you work for, what you do...a short bio.

Dr. Liz Wagstrom Sure. My name is Liz Wagstrom. My title is chief veterinarian at the National Pork Producers Council. I'm a veterinarian who's worked in the industry largely for the last 18 years between working for the National Pork Board and then at NPPC. I split my time between Des Moines where one of our offices is and Washington D.C. So I travel back and forth between the two cities quite a bit.

Jordan Hoewischer And so we'll kind of jump right into as we are just talking about essentially African Swine Fever. And I'll start off with my own flub. When I first started talking about it and asking questions, I called it the African Swine Flu which I'm sure is a somewhat general mistake. But tell us about the status of African Swine Fever and where it's emerged from.

Dr. Liz Wagstrom Well African Swine Fever's been in Africa since the 1920s when it was first recognized. Then in the last probably 20 years we've seen it move out of Africa and it has on other occasions moved out of Africa. But since 2012 is when it first moved across the caucuses into Russia and it has moved throughout Russia. It originally started moving kind of based on the supply chain of their military bases and now has gotten into their feral pigs as well quite a few of their domestic pigs. From there it moved west into the Baltic States, Poland, Estonia, Latvia, Lithuania and has had a little incursion into Belgium. So Europe has been fighting it since 2012 between Russia and the Baltic States trying to keep control of it. It's been largely in their wild boar population. They have an immense number of wild boars as well as backyard farms. And so there's been commercial farms impacted but it has mainly been focused on the wild boar and the backyard-type farms. Then in August of 2018 is when we saw the first cases that came in to China and it's thought that they probably came from Russia and Russian meat that was then swill fed to garbage. Excuse me swill fed to pigs and then they developed the infection. In China they transport pigs great distances. So we've seen it move across China rapidly and every province in China has been reported as positive and they've had commercial farms as well as backyard farms go down. And then out of China, it's moved now throughout much of Southeast Asia. So we have Cambodia, Laos, Vietnam that have reported positive. North Korea has reported a positive so it's gotten to the Korean peninsula and so it's it has become almost a Pan Asian epidemic of the African Swine Fever.

Jordan Hoewischer So why do you think it took so long, or why has it just now kind of reared its head. Is it just because of happenstance with some of the military traffic or why do you think it's reared its head now and not you know in the past decades.

Dr. Liz Wagstrom Well I think part of it was that we had meat movements and some of them were largely illegal meat movements out of positive areas. And then they got into countries where they practice swill feeding so garbage feeding to pigs. You know that some thought was like some big garbage feed pigs around military bases is what helps move it in China.

Dr. Liz Wagstrom Once you get a country infected and you've got wild boar and feral pigs infected then it moves a certain number of kilometers per month just because of a wild boar movement. And then of course we have concerns when you look at China that once you got in to the feed supply whether it was through swill feeding or through some of the potential for feed mills to have become infected, then it is a lot easier to move it. Between living pigs and moving products that are fed to pigs it became pretty widespread pretty quickly.

Jordan Hoewischer That makes sense. So how does this compare to other viruses that affected you know livestock and avian species over the years. I know there's always been a lot of publicity for some of those and how does that compare to some of the past ones that the world has experienced?

Dr. Liz Wagstrom You know it's…. It moves differently than foot and mouth disease virus. So FND is probably our, in in four legged animals, is the virus that we work with a lot. In FND, there's a lot more susceptible species so it's all cloven hooved animals versus African Swine Fever that is only only swine. FND can move aerosol. And so you can have aerosol area spread. And so that makes it more difficult, whereas African Swine Fever is close contact and in some areas they have a soft body tick that can also help spread the virus. The thing that other viruses have that we don't have with African Swine Fever is effective vaccines. So we have very effective vaccines for Moot and mouth Disease. So you can help close down or shut down an outbreak by vaccinating the animals around an area and then either vaccinating the animals that are within a control area and you know grow them until you go to slaughter or just go ahead and go in and depopulate some of those animals. So without vaccine we really have a significant disadvantage.

Jordan Hoewischer Is anyone even close to coming up with a vaccine or are we into any measurable level of testing for a vaccine for African Swine Fever?

Dr. Liz Wagstrom You know there is a lot of activity around vaccine development. The United States has had a program. The EU has had a program. Vietnam now is announcing that they think they could be within two years. It's really difficult. It's a difficult virus to grow in a laboratory. And unless you can grow in great quantities to produce a vaccine, it's really difficult. The other thing that's really hard about the vaccine is that it's African Swine Fever virus is a really big virus. And so a typical virus might code for 10 to 15 proteins. It's thought that African Swine Fever may actually code for up to 300 proteins so hundreds of proteins. And so scientists have had a really difficult time and this is why it's important the size of it. They can't find the proteins that would be responsible for immunity.

Dr. Liz Wagstrom So you have to know what you want to get an animal immune to. Which part of that virus so that they could be protected against the disease and researchers just have not been able to come up with what is the targets we need to be looking at for that vaccine to be effective.

Jordan Hoewischer So if you have 300 proteins versus though the 10 to 13, does that make it easier for it to mutate around something that could kill it? Or does that change how hard it is to actually create something to vaccinate for?

Dr. Liz Wagstrom So with the scientists that are working on that have been looking at you know that the virus that they're getting out of pigs throughout especially Russia and the Baltic States and they haven't seen any real signs of mutation. There has been one Islip that came out of I believe Lithuania that was a low variance islid of the same genotypes. So there's several genotypes of the virus and the one that's going through the Baltic States they've found what they consider a low

virulence and they thought that might make a vaccine candidate. One of the problems with that is that animals could still get infected they just wouldn't get sick. So they could still be shedding virus. They still could be...the countries would still be considered positive. And what you'd have is more animals living and surviving but they would still have that same problem in being an ASF positive country.

Dr. Liz Wagstrom And so for us in the United States where we want to stay negative so we can continue to trade with our global trading partners, having a vaccine that wouldn't block infection but that would just keep the animals from dying from the infection probably is not particularly useful.

Jordan Hoewischer So how legitimate is the worry of the swine fever spreading to the U.S. I mean obviously I know that you've laid out the dangers of it I guess, or it's widespreadness, but how legit it is that worry that's coming into the U.S.?

Dr. Liz Wagstrom It is our number one priority here for our science and technology department to be working with number one keeping it out of the United States. And number two being prepared if it were to arrive to respond appropriately and so in the last year we have spent a lot of time working with USDA and Customs and Border Protection. We were able to get them to agree to add 60 more canine teams so that when you go to either airports or seaports, land ports that you could have canines that are actually there sniffing out illegal meat imports. We also have been working on trying to get funding for 600 more agricultural inspectors.

Dr. Liz Wagstrom Those are the people that if you were to come in from a foreign country and mark that you'd been on a farm we'd take you aside to secondary inspection. Those agricultural inspectors talk about what has been your potential contact with susceptible species or even meat in wet markets that could carry the virus. Do they need to disinfect your shoes? Do they need to disinfect your hands? Do they need to suggested there are products in your suitcases you shouldn't be bringing in? So that's part of the border protection. We've also been working with Canada and Mexico to discuss how you could have regions or compartments if you were to go positive. Would there be negative regions in which we could continue trade on a North American basis. Also talking about the North American basis of trying to keep it out of all of North America. So you know that's ,a big, big issue. We've been working with USDA and FDA to consider the risk of potentially bringing African Swine Fever or other viruses in through feed ingredients and what are potential mitigants you can use whether that is time and temperature holding, whether it is an additive that you can add to the feed to try to mitigate any risk. So those talks are ongoing. That's a little more difficult because it's an area that has different agencies that regulate it. And so getting them all in the same room to talk about what is possible is a challenge. And then on the preparation side, part of that is early identification. USDA has funded and done a great job of increasing the numbers of samples that could be tested for African Swine Fever in the diagnostic labs and they have now started a surveillance program so that when samples are sent to the diagnostic lab for sick pigs it

could, and they don't have to be identified as potentially ASF positive you know as a concern by that veterinarian or that farmer. The diagnostic labs will say well this would fit our case definition and we will test it for ASF at no cost to the farmer or veterinarian but we want to do surveillance so we could identify as early as possible any African Swine Fever cases we might have. And then on the preparedness for response, we've been working closely with USDA. They've got a 14 state tabletop exercise coming up in September that they will actually run a scenario with the state animal health officials, with the state regulators, with the industries in those states, with the veterinarians associations to go through that scenario of how would we handle this. You know what. Where are our gaps? What do we need to improve? How can we be consistent across state lines and how we're going to treat individual situations? So that's just a small amount of what we've been doing, but it's all been focused on prevention, early identification and preparedness for response.

Jordan Hoewischer It seems like you guys have been on top of it pretty good because I mean I just couldn't imagine even if it was in Mexico or Canada how much of an effect that would have on the industry as a whole. I grew up on a on a swine farm and we always had importers and export. You know we're doing exporting to Japan and Mexico and all this stuff and it just that would be an extreme break down and where are our materials could go if we did have something going on.

Jordan Hoewischer So walk me through what like a farmer...This is just general biosecurity just to kind of give people an idea of what farmers do on their farms. Walk me through kind of general steps that farmers do if they're…say they have a finishing unit or two in terms of biosecurity.

Dr. Liz Wagstrom Sure. So one of the things that most farmers do in modern production is limit the number of visitors to their farm. And so that means that they have protocols that if you have a veterinarian or your workers or workmen coming in to work on let's say an electrician to work on something in the barn that those people have to number one usually shower and wear barn specific clothes. Make sure that they have adequate amount of time that they haven't come just from somebody else's barn right to your barn. And that may vary by the type of barn you have. So finisher may be a little less downtime than if it were a sow farm because that's your highest level of biosecurity is in your breeding animals that are where you have your really young susceptible animals. And so the whole idea of hygiene of people coming into the farm is really important. Also truck traffic. You would try to make sure that your feed truck doesn't get come right from another farm and get right close to your animals so you would have a route for the feed truck that they wouldn't have to go into where the animals are. You would have the same thing with loadout. So when you have a truck that is taking your animals to harvest, you have the farmer loading the animals into the truck and never crossing the line and getting into the truck and the trucker would never cross the line and get back into the farm. So very common sense. Just trying to say I'm going to have a line around my farm and there are certain people that can't come in here because we don't know if they could be bringing disease in with them. The other thing most farmers do now is they have a single source of pigs and they try to have those pigs as close in age as possible so that you're

not mixing pigs from multiple sources. There's a lot of recommendations now about talking with your feed suppliers so that the farmers would be talking to their feed suppliers knowing where the ingredients in those feed come from. If there are concerns with some of the ingredients that might be coming in from ASF positive countries you know talking about the potential for holding it until any contamination could be inactivated. So there is a tremendous amount of thought into biosecurity. It is our number one protection. As far as in the United States, if we were to get it in the United States, is keeping as many farms negative as positive as possible so we could have negative regions or negative compartments that could still potentially trade animals internationally or trade meat internationally from those animals because they could say they're coming from an area that is negative even though they may have some positive areas in the United States.

Jordan Hoewischer So what do you think what is a good thing that could be improved the most in terms of biosecurity? From your vantage point, what would you think is the one who needs a little bit more work?

Dr. Liz Wagstrom My top focus would be on transportation and trucking and making sure that we have enough trailers that every trailer that would come to a farm has been washed and disinfected and dried and that sometimes gets to be a little difficult especially when you're looking at loading out a finishing barn where you know that the animals that you're coming back to pick up are not going to be in that barn probably long enough to get sick or to spread disease but that the washing and of transport trailers is one of our areas that I think we still need a lot of improvement on a good deal.

Jordan Hoewischer So last question or at least you know kind of explanation. You had mentioned the regions if you will if something were to happen you'd have negative regions. Is that work the secure pork supply program would come into effect and can you explain that.

Dr. Liz Wagstrom Secure pork supply is a program that is designed to help producers maintain business continuity in the face of an outbreak. So it is a way to collect all the data that would be needed for your state animal health official who will be in charge of permitting movements in every state. It would give them all of that information and in one area that they can look at. So it would outline the biosecurity plan, it would outline all of the diagnostic said and done in that herd. It would get the herd veterinarians information all the premises information, any daily observations that have been made of the pigs to make sure that their healthy mortality information all of that in one spot so that the veterinarian or state animal health official could say I am going to permit these animals to move because I believe they're negative. So some of that same information could be used in determining a region so the region might be focused on knowing that there are animals that have had surveillance. There's been enough testing that we know that positive animals have not been permitted to move into that region. And so then USDA could talk to our trading partners and say within these regions we have great confidence that there are no positive animals and we could segregate meat and even packing plants that would only receive negative animals and thus we would

want to be able to continue trade from those areas knowing that they are negative. That goes on a case by case bilateral negotiation that USDA would have to do with our trading partners. So it's not a done deal by any means but it is a potential for us to continue some international trade.

Jordan Hoewischer And so if someone wanted to be a part of that or at least get more information what would be the best spot for them to do that?

Dr. Liz Wagstrom One of the best websites and it's really well laid out is securepork.org. And the secure pork supply would talk a lot about all of the information you would need to put together. There is a portal where you can start gathering information and it's very self-explanatory.

Jordan Hoewischer Awesome. Well I really appreciate your time. Kind of giving us the lay of the land on something that I think has been a big issue but maybe not so much publicized outside of the pork community but I really appreciate your time today and hopefully if I get to talk to you again next time it'll be about how this has been kept out of our country and we're moving on to something else.

Dr. Liz Wagstrom I appreciate that. Thank you so much.

Jordan Hoewischer And that was Dr. Liz Wangstrom from the National Pork Producers Council. I thank doctors Wangstrom and Sundberg for coming on the program. It's really nice to get that overview from a national/world level. You know it's something that you kind of hear snippets of about, African Swine Fever, but never quite got all the information as you can tell by all the dumb questions that was thrown out about it, but it was good to get the ship righted of on some of that stuff. If you want to learn more about Ohio Farm Bureau and how we're handling emerging issues in an agriculture, please go to ofbf.org and rate and subscribe the podcasts and share with your friends and hopefully we can keep building this platform as we're trying to get it more information to you about what's going on around your industry.

Thank you.