

The Fowl Frontier: Poultry Science Unplucked, Episode 1

[00:01] Zac Williams

Welcome to the Fowl Frontier: Poultry Science Unplucked. On this show, we will discuss all things related to poultry science and poultry production. The Fowl Frontier is brought to you by the University of Arkansas System Division of Agriculture, Cooperative Extension Service and the Center of Excellence for Poultry Science. I am Dr. Zac Williams and I will be your host. All right. Welcome to the podcast today. Our topic of today is pertinent to our time frame right now. We're going to talk about avian influenza and biosecurity. And my guest today is Dr. Dustan Clark. And I'm gonna let him give his intro and tell you about his background.

[00:41] Dustan Clark

Thank you, Dr. Williams. I'm Dustan Clark. I'm the extension poultry health veterinarian and the associate center director for extension here at the University of Arkansas Division of Agriculture System with the Arkansas Cooperative Extension Service. Avian influenza is commonly referred to as bird flu, and this is a highly infectious and contagious viral disease of birds that's caused by Type A influenza viruses. The disease is carried by many of the wild bird species, such as migratory waterfowl, the ducks and geese and some of the shorebirds. They are the known reservoir for the virus. In 2022, highly pathogenic avian influenza, H5N1, was detected in poultry in 47 states, and this was the largest outbreak in the United States history. This has continued on into 2023 and is still being problematic in both commercial and small flocks of poultry. There were no positive flocks detected from mid-May to late July, but in August and September there were a few positives detected in some of the live bird markets in the Northeast. Now, this showed that the virus was still around out there. The first commercial poultry flocks since April 2023 was detected on the 4th of October. This was in a commercial flock of turkeys in South Dakota and then two more commercial turkey flocks were confirmed positive for this virus in Utah on October the sixth. Other commercial poultry flocks have since been confirmed positive for H5N1 in the state of Minnesota and again in other flocks in South Dakota. Small flocks of poultry have also been confirmed positive for this month with this disease in the states of Montana, North Dakota, Colorado, Washington State, and closer here to us in Arkansas in Oklahoma. All of these flocks are currently under quarantine and depopulation procedures. So we have a total of nine states that are currently affected with the H5N1 avian influenza or bird flu. The disease is still present in the wild waterfowl and in fact has been detected in wild waterfowl in all states except Hawaii. With the fall migration underway, the risk to both commercial and small hobby flock owners to their flocks is increasing. One of the tools that can be used and it needs to be fully implemented to assist in preventing infections in flocks is the tool of biosecurity. A few simple biosecurity...

[03:28] Zac Williams

Keep going.

[03:28] Dustan Clark

Stop for a minute. Take a drink.

[03:31] Zac Williams

So good. Couple of questions. So we hear all about these, like H's and N's. Can you explain those a little bit and why? Why this H5N1 is we're so concerned about it versus some of the other ones we see.

[03:49] Dustan Clark

There are two proteins on the outside of the virus. One is called the H, which is hemagglutinin, and the other is the end called neuraminidase. Now, the disease, the H5 and H7 types of this virus are the ones that we have the biggest problem with becoming what's referred to as highly pathogenic. We sometimes refer to this virus as low pathogenic, meaning it does not kill very many birds and doesn't cause very many clinical signs, or highly pathogenic with highly pathogenic viruses. And typically those are H5 and H7. The mortality can reach 95 plus percent, and this strain that we have is the H5N1 avian influenza. And it is shown to be highly pathogenic not only in the commercial poultry and in the hobby flock poultry, but also in some of the wild waterfowl. So it's a little different than what we've seen in the past with some of the other strains and some of the lowly pathogenic strains. This one is more problematic and it is being seen in birds, like I say, in 2022 was seen in 47 states. Currently we have it in nine states. So with the upcoming well, with the fall migration being in full swing right now, it is a threat to commercial flocks and to small poultry flocks.

[05:12] Zac Williams

All right. What about, so what do we, how do we handle these differently, like low path versus high path? Is there a different way we handle each of those outbreaks?

[05:22] Dustan Clark

Well, with highly pathogenic strains, it is a testing in depopulation. When a flock is confirmed positive, they do depopulate the flock. There are some indemnity that can be paid to the flock owners. The goal is to prevent it from getting into the flock. And that's why we use the tool of biosecurity. And that's something that small flock owners can use, as well as the commercial flock owners. Now, all commercially integrators have biosecurity procedures and protocols that the growers need to follow. And it's important right now with this increasing across more and more states, that the commercial growers of poultry be sure and follow those biosecurity protocols for their flocks. And I've got a few things here that we can use in the small poultry flocks that can also that the small flock poultry owners can use to help keep this out or at least assist in keeping it out of their flocks.

[06:21] Dustan Clark

And probably one of the best things that a small poultry flock owner can do is make sure that they keep their birds penned up and that these pens are covered over with a roof or something as simple as a tarp, a large tarp, or even just plastic. Make sure we have wire mesh or netted sides to prevent exposure to wild bird feces, which are droppings. And to keep your poultry away from any pond or other water source that wild waterfowl may visit. Another thing to do is make sure you keep your facilities and equipment clean and in good repair. If you see holes in your poultry pen, make sure that you patch those up. Change your feed and water frequently. Clean and disinfect regularly. Just keep those poultry facilities clean and free of weeds, debris and spilled feed. Spilled feed could attract wild birds and can also attract rodents. Make sure that any new birds you acquire, that you quarantine them and isolate them away from your other birds. And for sure, do this with your sick birds. Keep that quarantine in place for a minimum of three weeks. If you can keep them quarantined for 30 days, that's even better. And make sure that you visit your new birds, your sick birds, you look at them last and then go in the

house and make sure you clean up, disinfect before you go out again and look at any of your other birds. Make sure you keep any visitors away that are unnecessary and keep a record of all necessary visitors. You know, who they are, how you can get in touch with them, where they've been. Just don't let them come in contact with your poultry. If you yourself visit an area where there are waterfowl or poultry, make sure that you disinfect before you go visit your own poultry. Do not visit your poultry until you change your clothes, change your shoes, wash your hands and make sure that you disinfect. In fact, if you go somewhere like a park, there's a pond there and wild waterfowl just don't go down there near the pond. Clean your shoes, make sure you spray off your tires on your vehicle because you don't want to bring home any contaminated material that could infect your birds.

[08:35] Dustan Clark

Make sure that you recognize the signs of illness and some of the things to look for, the signs of sickness in a bird can include things like a sudden increase in bird deaths without any prior signs whatsoever, a decrease in their consumption of water or their feed intake. The fact that the birds may just lack energy. They're just listless and sitting around, a drop in egg production or soft, thin shelled eggs or misshapen eggs. Any swelling of the head or the comb or the waddles, eyelids, any discoloration or swelling of the hawks on the legs, a dark blue purple discoloration of the comb, the waddles and also on the legs. Any difficulty in breathing birds that are coughing, gasping, sneezing may or may not have discharge from the nostrils or the eyes. Birds that are incoordinated and acting, acting dizzy and stumbling around, falling down. These are all things that can be an illness or some other type of illness as well. But these are signs of illness in poultry and then diarrhea.

[09:39] Dustan Clark

Any of these unusual signs that you see in your birds, be sure and report that. Get in touch with your local veterinarian. You can also call your local county extension agent. You can call the extension poultry health veterinarian, myself. You can call the state veterinarian or you can get on the USDA hotline and call them. And I happen to have those numbers here available for you. The USDA hotline is 1-866-536-7593. Again, that's 1-866-536-7593. The state of Arkansas also has an avian influenza hotline. That number is area code 501-823-1746. Again, that number is 501-823-1746. The state veterinarian of Arkansas is Dr. John Nilez. His number is 501-297-2250. The Poultry Health Epidemiologist with the USDA is Dr. Terry Conger and his phone number is 501-224-9515. I'm Justin Clark. I'm the Arkansas Extension Poultry Health veterinarian, and my phone number is 479-957-4245. So you have lots of contacts there, but be sure if you see something unusual in your birds, get in touch with your local county agent or your personal veterinarian that you use. Or you can call the USDA hotline, the Arkansas Avian Influenza hotline, or you can call me Dr. Conger or Dr. Nilez, be sure that you do everything you can to practice biosecurity because you want to not only protect your birds, you want to protect your neighbors, birds.

[11:33] Zac Williams

All right. A couple of questions. What should they do if they have a sick bird or one that dies? What should they do with the actual bird? We get that question where people like that show up in the diagnostic lab with their birds. What should they do with them?

[11:47] Dustan Clark

Okay. We do have two diagnostic laboratories in the state of Arkansas. One is in Little Rock, operated by the Arkansas Department of Agriculture through the Livestock and Poultry Commission. And we have one here at the University of Arkansas in Fayetteville. If you have a bird that dies, the best thing you can

do, put on some gloves, pick that bird up, put it in a plastic bag. Take that plastic bag and put that inside of another plastic bag. Then put that in an ice chest. Ice it down with ice packs or wet ice. Do not use dry ice and do not freeze the bird and then get in touch with the State Veterinarian Office, the USDA hotline or the Arkansas Avian Influenza hotline. Or you can call the diagnostic laboratories and get that bird to those diagnostic labs. If you call into the state veterinarian or the Arkansas avian influenza hotline, they will usually get to you very quickly and get a livestock inspector out there to get that bird so we can have that bird looked at. If you go out and you see your birds and they just don't look correct. And you as the poultry owner, you're going to know when something's wrong in your birds. They're just not going to look right. As a veterinarian, we call that ADR – "ain't doing right." And when you see that, get some help call and get some help and get some instruction, because we do want to do everything we can to keep this disease out of the state of Arkansas. It is vital that we protect the Arkansas poultry industry and protect your hobby flock of birds.

[13:28] Zac Williams

Okay, another one. We have people sometimes that I think they get scared because they're afraid they're going to get in trouble if they have like if they have birds that die from disease. Is that, do people get in trouble or is it everyone's here to help?

[13:45] Dustan Clark

This is the best way to look at that. No one wants a disease in their flock of birds. There are lots and lots of poultry diseases out there and sometimes a bird will die. And it's from some other disease. I mean, there's more than just avian influenza out there. The main thing we want to do is get you that help as quickly as we can with some of the diseases we can get you help through your local veterinarian. If it is something like avian influenza, especially with this high path avian influenza, H5N1, it is devastating. Usually it will kill all of your birds or fast approach that. So we need to get those birds diagnosed, get that flock quarantined and get it cleaned up as fast as possible because it's deadly in your birds. So it's not like you're going to be fined or anything like that. We're going to try to get you some help as fast as we can get it there. We want to do everything we can to prevent it. That's why we're asking you to practice biosecurity. And the simple thing of just covering over your pens with tarp or plastic and penning your birds will go a long way as a biosecurity practice because we just don't want to get any contact with wild waterfowl. But we're here to help you. So if you see something, give us a call and we'll try to get you some help as fast as we can.

[15:08] Zac Williams

All right. What about if people hunt, like duck hunt? That's big in Arkansas. What if they do that and they have birds at home? What precautions should they take other than not hunting for what's their next best option?

[15:19] Dustan Clark

Next best option? Well, duck hunting and goose hunting. A very, very popular in the state of Arkansas. If you have your own flock of birds, make sure that you do not process your ducks anywhere near your pen. Make sure that you clean and disinfect. Wash your hands before you go and look at your birds. You know, you don't want to go duck hunting and because it's cold when it gets cold, you want to go inside your poultry house and there process out these ducks. Find another spot to do it where you can keep it cleaned up. Do not go near your birds until you've cleaned and disinfected. Change your clothes, shower, wash, disinfect, change your shoes before you go look at your birds. Just don't go in those pens. And that

applies to commercial growers as well as small hobby flock owners and naturally duck hunters, if you're out hunting, you know you're going to be in an area where you can possibly step in some fecal material from ducks or geese, make sure that you clean and disinfect those shoes.

[16:21] Zac Williams

Okay. So biosecurity, it's a lot of steps. Is there one silver bullet, biosecurity practice or is it a whole bunch of steps?

[16:32] Dustan Clark

It would be nice if we had one simple thing to do. My best recommendation, if you want to just boil it down to one simple thing to do is if you see something wrong, get some help. That way we can help you implement biosecurity procedures. We can get diagnostic work done, we can help you out. If you see something that's just not right, get some help.

[17:00] Zac Williams

Okay. So you mentioned, like quarantine. What's our best practice for quarantining new birds? Should they be in the same building, different room or as far apart as distance count as well? What are some best practices on quarantining new birds?

[17:20] Dustan Clark

Distance does have a play into this. The best thing you can do if you if you're showing birds and you're bringing them home or if you're buying new birds first and foremost, look at those birds. If you're going to buy, purchase birds, look at them, examine them. Take a look at them. I've gone over some of the signs of illness. Just look at those birds. Make sure they look like they're doing okay. Then when you get them home, don't immediately run out there and put them in with your other birds. That's that's a mistake. You don't want to bring the disease home with you. So first off, look at the birds you're going to buy. Make sure they're not sick as best that you can tell.

[17:56] Dustan Clark

When you get new birds, make sure that you quarantine them. Quarantine them as far away from your birds as you can. A minimum distance of at least 100 feet. And then make sure you keep those birds under quarantine for three weeks to 30 days. Three weeks, as most diseases will break within three weeks. But if you can go 30 days or if you can go even longer than that, if you could do a two-month quarantine, longer is better. You want to make sure that you feed, water, look at those quarantine birds last and then go in a house, change clothes, clean up, disinfect your hands. All of those are good procedures. And if you see something in those new birds that you've purchased, get some help. Get in touch with your local veterinarian. In fact, if you could set it up, if you're going to be buying birds, if you could just run them by your local veterinarian, let them take a look at them, that would be wonderful before you even bring them home. But even with that, always quarantine as far distance as you can. And I know a lot of people go, how far is it? We usually say a minimum of 100 feet. Now, if your property is only 98 feet long, 98 feet is the best you can do but feed water, look at those birds last and then go in and clean up. So go take care of all your other birds first and then go look at your isolated birds last and then go in the house and clean up.

[19:21] Zac Williams

All right. So we're talking about disinfectants for washing boots or going in between different sets of birds. What are some, what would you recommend as a disinfectant?

[19:33] Dustan Clark

Well, one of the best disinfectants we have out there that's free is sunlight, keeping things cleaned up. And sunlight. You can change your boots. You can have changes of shoes. There are numerous disinfectants available. Go to a feed and ranch store, farm, feed, store. Look at the disinfectants that are there and make sure that it's something that you can use and use appropriately. The main thing on a disinfectant is using it following the appropriate directions on it, and that may be something like it's an ounce per gallon, don't put two ounces, don't put a half ounce, follow those directions. But there are lots and lots of commercial disinfectants out there and we can get a list of those, which we will get a list of some of those and post those on the Arkansas extension website and all those work, they do really good. Now, if you're out, something as simple as spraying your shoes down really good with a can of Lysol is going to help. The main thing to remember on a disinfectant is that if you've got two inches of manure caked all over your boots, no disinfectant's going to get through that you want to clean and disinfect. So scrub those boots, wash them hot, soapy water, then you can disinfect them if you have a dip pan set up where you're going to step in it for you go in your pens, you got to change that out and keep it clean and keep it covered over. And you don't want to step in it with a lot of organic matter on your shoes because organic matter will deactivate disinfectants.

[21:08] Zac Williams

You know, we say clean and disinfect. I think we should call it clean then disinfect.

[21:11] Dustan Clark

That's true. We should say clean, then disinfect. Clean. Let it let it dry. Disinfect, let it dry. It is. It's a procedure.

[21:22] Zac Williams

Yeah. A lot of people don't understand. It's a two-part process.

[21:24] Dustan Clark

Absolutely. But if you have shoe covers, they're are shoe covers, they're disposable. You can put those on over your shoes and then just take those off when you come out of there.

[21:35] Zac Williams

If those were too. And they're not that expensive either.

[21:37] Dustan Clark

They're not. They're pretty reasonable.

[21:40] Zac Williams

Good. Any other parting words of wisdom?

[21:44] Dustan Clark

I would like to stress that it is important that you protect your birds because you're protecting not only your birds, but your neighbor's birds. If you see something, get some help. Do everything you can to keep your birds penned up, to keep them away from wild waterfowl. The threat is going to continue until we get through the fall migration and then we'll have a little break hopefully, and then we'll have the spring migration. So just get in that procedure. Don't think of biosecurity as how little you can do. Think of it as what you must do.

[22:22] Zac Williams

Yeah, it's biosecurity is a multistep process for sure. That's what I always tell my students that it's a, it's a probability thing every step. Even though it's not 100%, you're reducing the probability of catching something for every step you take.

[22:38] Dustan Clark

That's correct, Dr. Williams. It is not 100%. There is nothing that's really 100%. But it's another tool that can be used to help to protect your birds. And it's something that we can do, get in the mindset of doing. It's a lot of procedures and protocols, but it is something that will help reduce the probability that your birds can get exposed to disease.

[23:03] Zac Williams

All right. Well, thank you, Dr. Clark, and thank you, everyone, for listening.

[23:06] Dustan Clark

Thank you.

[23:07] Zac Williams

And those numbers will also be listed in the notes for the episode and a transcription. On behalf of myself and our guests, I would like to thank everyone for listening in to the show. If you have any questions, please feel free to reach out to me by email at zwilliams@uada.edu, that's zwilliams@uada.edu. And thank you again for listening. We'll see you next time.