



## NAVIGATING AVIAN INFLUENZA:

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**Vera Simon-Nobes:** Hi, everyone, thanks for joining the webinar today. Today's presentation, "Navigating Avian Influenza: from prevention to recovery" is part of the USDA's Defend the Flock campaign promoting awareness about the importance of biosecurity and ways to prevent the spread of infectious poultry diseases like avian influenza.

My name is Vera Simon-Nobes and I'm the coordinator of the Farm-Based Education Network, a project of Shelburne Farms based in Shelburne, Vermont. Shelburne Farms is an education non-profit on a mission to inspire and cultivate learning for a sustainable future. We welcome everyone to explore the big ideas of sustainability on our diversified working farm, which includes chickens and turkeys. The Farm-Based Education Network is a free member network established to strengthen and support the work of farmers, educators, and community leaders who provide access and experiences on working farms.

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To submit questions during today's program, you can click the Q&A button located at the bottom of your screen.

Today we are so excited to be joined by Doctor Julie Gauthier, Doctor

Gauthier is the Assistant Director of Poultry Health for USDA, APHIS. Welcome, Julie.

**Dr. Julie Gauthier:** Thanks Vera. I'm Julie and I'm a veterinarian working for, as Vera said, the USDA Animal and Plant Health Inspection Service. I have seen this disease, avian influenza, in my job all over the United States and also in other parts of the world. I am also a flock keeper, so I understand the challenges of keeping our flocks healthy and at the same time allowing the public to enjoy that contact with poultry and understanding how poultry are kept. On my small farm I have raised heritage-breed chickens, ducks, turkeys, and geese. I show them and I produce eggs, meat, and breeding stock. And I've hosted a lot of farm tours to promote the conservation of these endangered breeds. Next slide, please.

**Vera Simon-Nobes:** Thank you. We are also joined by Cathryn Anderson today. Cathryn is Director of the Education Department at Pineland Farm in New Gloucester, Maine. Welcome, Cathryn.

**Cathryn Anderson:** Thanks, Vera. It's such a pleasure to be here today. As Vera mentioned, I'm the director of the education department of Pineland Farms. We are a non-profit diversified farm in Maine that offers many opportunities for visitors to engage and explore agriculture and the environment. I have been on the team for over ten years, and I help oversee the egg-laying operation as well as most of the visitation on the farm throughout the year. And I'm happy to be here today, thank you.

**Vera Simon-Nobes:** Thank you. Many of you are joining us today to learn more about the outbreak of highly pathogenic avian Influenza, also known as hi-path or hi-path AI for short. This outbreak is occurring in the United States right now. Dr. Gauthier will tell us a little bit about this disease—actually a lot about this disease—and what we should know about this current poultry health emergency. Thank you so much, Doctor Gauthier.

**Dr. Julie Gauthier:** No problem. And I'm going to have a frank discussion with you about what's probably the most terrible disease that a poultry owner can experience—highly pathogenic avian influenza. That's a mouthful so I generally refer to that as high path AI or HPAI. You might also see this in the news as bird flu, and they're generally talking about this same virus

that is so deadly to our domestic poultry. The next slide, please.

At this point in the current outbreak, which began in February of this year, we now have over 450 flocks that have been affected. Those would be both the large commercial flocks and also smaller flocks. It's about even numbers of the large flocks versus backyard flocks that are becoming infected. About 45 million birds at last count have been involved in this outbreak, so this is really, really significant for our nation's poultry. And we know that wild birds are the source for the majority of these cases in the current outbreak. About 85% of the cases that we have identified, we can attribute to the flocks catching a virus that was carried by wild birds. The way that wild birds can spread this is infected birds shed the virus in their droppings, in any of their bodily discharges, and it also can be in the feathers. Anything that that bird sneezes on, touches, poops on, people can then pick up that virus on their hand, their shoes, their clothes, any equipment, and then transport that virus from place to place. Next slide, please.

Highly pathogenic avian influenza refers to the way it affects chickens primarily, not the way that it affects people or any other types of animals. High path AI means that it is deadly to chickens. Often, we'll see a chicken flock, or large numbers of the birds in the flock, die without any signs at all. Sometimes we'll get a little bit of an advance notice in that the birds will be lethargic, they might lack their usual energy, they won't eat well, their water consumption might decrease, and the hens may also have decreased egg production, or they will lay some very odd-looking eggs, either soft shell, no shell, or misshapen eggshells. The virus affects just about every tissue in the body. You will see swelling in the head, on the comb, eyelids, wattles, and parts of the legs. Oftentimes there will be purple discoloration or bruising on those non-feather parts of the body. In addition, it affects the respiratory tracks, so you will sometimes see nasal discharge, coughing, or sneezing. Again, it affects just about every cell in the body, so you can see nervous system signs: the birds will be staggering, incoordination, and then GI track signs, so diarrhea is possible. Next slide please.

The really tough part about this virus is that there is no treatment. There is no cure. There's no medicine that we can give to affected flocks to allow them to survive and recover. What we can do is prevent infection in the first place. There are a number of steps that we can take in order to prevent our

flocks from becoming infected with the virus. I will go into some of those steps in the next few slides.

First off, biosecurity planning is important, not only for avian influenza, but any poultry pathogen. You can do a lot to prevent any germs from entering your flock by taking certain steps that are practical, that you can afford, and that focus on the big risks to your flocks and the likely things that are going to happen. We can't write a one size fits all plan: each flock is very different in how they are kept, your concerns, and the area where you live. You need to customize your plan for your flock and those things that you are likely to do every day, every time. So, let me talk on the next few slides about some of those things that you could implement on your farm regardless of its size.

First off, we know in particular with this outbreak of avian influenza, that wild waterfowl are the main source of the virus. It's really important to keep your birds away from ponds and other outdoor open water sources where your birds can hang out with wild waterfowl. We frequently find in the cases of small flocks that become infected in this year's outbreak, that the owners report to us that their birds did spend time with wild waterfowl on ponds. So, that's a really big risk factor. I ask all of you to do what you can to prevent your birds from hanging out with their wild waterfowl friends. If you can, confine your birds to covered houses at this time, or runs, or at least put an overhead net to prevent wild birds from entering the poultry enclosures. I know some people are frustrated right now because many birds have been inside for a while since this outbreak started. I'll suggest towards the end of some ways you can figure out what the risk is for the area where you live, and then make decisions based on your area whether or not you can turn your birds out.

You also want to check around the poultry enclosure for wild bird carcasses—pick those up promptly—but also droppings are evidence that wild birds are nesting, or leaving feathers or other debris around. Make sure you clean those areas up. Also, you don't want to attract wild birds in any way. Wild birds are attracted by feed that is spilled, easily accessible feeders for a free lunch, or sharing water sources with your birds. One way to prevent or discourage wild birds from accessing the feed and water is to keep those feeders and waterers inside a shed, under cover, or inside a barn, if your birds are going in and out. Keep those under cover to discourage the wild birds from feeding alongside your birds. We can also

bring in safer birds to our flock so that we are not introducing infected birds when we restock our poultry flocks or bring in new birds. Buy your birds only from National Poultry Improvement Plan-participating breeders and hatcheries, or dealers that participate in our avian influenza programs. The safer birds are going to be younger, so hatching eggs or day-old chicks would be the best way to restock your flock or bring in new birds. The riskiest birds would be ones obtained from auction or a flea market or older birds of unknown origin. Next slide, please.

Some other biosecurity measures that might be practical for you would be to make sure you use different equipment for handling feed from the equipment that you use to handle manure. So you've got a set of tools for feeding the birds and then you've got a different set of tools that are used to clean up the houses. If you have to use the same equipment for feed and manure, make sure you clean and disinfect those tools thoroughly between those types of chores. Never share tools with other flock owners. If you have to do this, make sure you wash and disinfect the equipment or coops or cages, anything you might share with another flock owner, wash and disinfect that thoroughly or just avoid it all together.

Dedicated clothing and shoes are really helpful. If you can establish a line of separation that separates the place where you house your birds from the rest of the world, and that anybody who crosses that line needs to wear that dedicated pair of shoes or outer clothing, that's going to help prevent them from bringing the virus into the area where your birds live. Hand washing is really important for all types of pathogens including avian influenza, which is pretty easily destroyed just with soap and water. Hand washing is super important. If you can't have access to soap and water, then hand sanitizer is a close second to that. The quarantine for new birds is also a good measure to use, but don't introduce new birds right away to your existing flock. Isolate them. Keep them separate from your birds for 30 days, and separate them by at least 30 feet, or the sneeze zone of a chicken, before you place them in with your flock. If they exhibit any signs during the isolation period, do not introduce those birds to your flock. Ask for veterinary help, either through your diagnostic laboratory, a veterinarian, or another person who can help you with diagnosing a problem in that flock.

Those are some of the quick tips on prevention. We have a lot of biosecurity information on the Defend the Flock website, and I'll give you

those resources towards the end of the presentation. Those are some highlights of things that I know are feasible for me and my small flock and just about any flock of any size out there. Next, I will go into what happens if you experience a disease nearby in your area, in your neighborhood, and hopefully this will never occur, if you should experience a disease on your farm. I will give you some ideas of what might happen in those cases and how you can prepare for this. Next slide please.

The first part would be the contingency plan. I'll talk about what to do if you're close to an infected farm. Later on, I will talk to you about a response plan, where you might be dealing with the infection actually on your farm. What do you do if you are in what we call a control area, which is an area that is generally 10 kilometers around an infected premises. You might have to live in that area for a while, while that infection is cleaned up. We know that flocks that are in the control area are at much higher risk at becoming infected simply because we know we have infected wild birds in the area, and we also have poultry movements off of that farm that could spread the virus throughout that community.

You will have to think about how you will continue your business and how you will continue your farm activities, particularly if you have public visitation, while under quarantine, because if you're in a control area, your movements, birds, and products will likely be restricted by the state veterinarian. And you'll need to figure out procedures for allowing visitors, or if you will continue to allow visitors. I think that's the first question. If you're in a control area, will you stop public visitation or how will you try to make that a bit safer so that your visitors aren't likely to bring the virus on to your property. Then consider measures, enhanced biosecurity measures beyond your everyday activities, that you could do to keep the disease out since your flock is at higher risk being in that control area.

You might consider whether you've got high valued birds, such as a pedigree or show stock or particularly irreplaceable strains of birds, and what you might do to keep those separate from, certainly wild birds, but any other poultry. You might think about how you can manage traffic patterns on that farm so that you can continue other parts of the operation such as, let's say, milk sales, vegetable sales, or interactions with other types of species, and then separate out your poultry flock so that you don't have visitor contact with them. You might be able to redesign your traffic

patterns on your farm to avoid those areas where the poultry are kept. And there are other ways to manage your visitors, such as providing dedicated parking areas, asking visitors whether they have had any exposure to poultry in the recent past. The high-risk period that we would think of would be about 14 days prior to visiting your farm. You should probably ask visitors whether they have had any exposure to birds at home or other places and ask them to refrain from having any contact with your birds if they have had contact with birds off your farm. Those are suggestions to think about in your contingency plan, about how you're going to maintain your business and your activities in the space of nearby outbreak, and trying to keep that disease out at the same time you are trying to keep your business going.

I will go on to the response plan ideas. A lot of things that can be done in preparedness, both in trying to live in a control area and keep going with your business, to not have it impact you in a big way. There are also a lot of things that you can prepare ahead of time in case your flock becomes infected. I really hope you are never faced with this, but flock owners who are prepared to deal with this generally are able to recover faster and without the impacts to your economic or even the stress level of dealing with this outbreak, if they thought about this ahead of time and had done some preparedness. I will just touch on some high points of the preparedness points.

Many of us have multiple activities happening on our farms, or might have public visitors interacting with dairy animals or sheep and goats or picking vegetables or fruit. If we can, it would be great if we can separate those non-poultry activities from the poultry sides of the business so that we can deal with the flock and clean up that flock and get back in business while still keeping those other parts of the business unaffected. So, talk to your state veterinarian or your private practitioner about how you might be able to make that poultry area epidemiologically distinct from other areas of the farm. Think about where you might, if your flock's infected, where you're going to put a decontamination line, because every infected flock is going to need a place where they can clean and disinfect vehicles, equipment, people, on and off that premises, because there will be a lot of activity in trying to clean up that infected flock.

Here is the hard part to talk about. We need to take care of those infected

birds. We know if they are infected with this virus, that most of them will die. And they will suffer. So the thing that we need to do to stop their suffering and to prevent the spread of this disease is to euthanize them, depopulate them, as quickly as we possibly can to prevent that spread and to stop their suffering. There are a number of ways that this can be carried out. Talking about this ahead of time with your veterinarian or your state vet or another expert can really help you get through a very, very stressful moment, and be able to do the best you can, mainly taking care of your birds. I encourage you to have the discussion of how you would carry that out ahead of time. There are a number of options. Then the birds need to be disposed of after that euthanasia occurs. There are a number of ways that that can be carried out. Composting is a very common method that's used. In other places, burial might be allowed by the state authorities, or you may even be able to use a landfill or incinerator depending on where you live. So that's another thing that you could plan out. How will you take care of a large number of birds that have died?

Then we talk about cleaning and disinfecting, eliminating the virus from the premises so that you can go back into the business of raising poultry safely. Again, there are a number of ways that this can be carried out, such as with active dry cleaning and applying a wet disinfectant. Sometimes we can heat buildings in order to destroy the virus. As horrible as this virus is to poultry and what it does to them, it really isn't very tough. We can inactivate that virus pretty easily, so that part of it is not as much of a challenge as what it does to the birds. Then we need to be prepared for the downtime, because it's going to take time to get through this entire process. We will need to wait for 14 days after the cleaning and disinfection is complete in order to be able to think about restocking. Your state veterinarian will talk with you about what it takes to release the quarantine and restock the flock. Ultimately, what we are wanting to do is to be able to safely restock that farm as quickly as possible and get everybody back to the activities and the businesses that they enjoy doing.

So, this is the key part of our message. We all have to take care of our nation's flocks by reporting sick birds promptly so we can identify this infection. The key to it is rapidly identifying it and rapidly stopping the spread of this virus. It's not possible to know if your flock has this disease unless you do lab tests, so lab tests are required to diagnose avian



influenza. Our labs are very, very good at running excellent tests that are highly accurate at detecting this infection. To do this, to report sick birds, contact your veterinarian or your local county cooperative extension office, or your state veterinarian. Let them know right away and they will send an investigator out to help collect those samples and get them into the laboratory. You can also call us at USDA. This toll-free number will get you to your state veterinarian in charge and they will be able to initiate an investigation right away. That number is 866-536-7593.

**Vera Simon-Nobes:** Thank you so much, Doctor Gauthier, really helpful information.

We are going to transition to hearing about Pineland Farms' experience. Cathryn, your educational farm in Maine experienced a high path scare in the spring of 2022. Can you share with us your experience of going through that high path investigation?

**Cathryn Anderson:** Yeah. Thanks, Vera.

As you can see here, we are 5,000-acre farm with a diverse business campus, an educational venue, also an extensive recreational facility with Nordic skiing, disc golf, hiking trails, biking trails, that type of thing. Our mission is to provide a productive and educational venue that enriches the community by demonstrating responsible farming techniques, offering educational opportunities, and encouraging a healthy lifestyle through recreation. Next slide, please.

We utilize hands-on opportunities as much as possible. We see over 40,000 visitors a year through our farmyard area, the hub of our educational facility. Those visitors most of the time are coming to participate in an experience that they can't get other places. Those experiences, a lot of time, look like egg collecting activity. And that's been kind of a go to activity that we would utilize for years to engage our visitors and our flock of laying hens. We have about 450 to 500 free-range hens living in the same location that we welcome all of our visitors to, and the separation of those areas can be challenging. Next slide, please.

In the spring of 2022, we lost approximately 20 birds from our laying flock. That raised concern that we had contacted high path AI, and so we went through the process of preparing to depopulate all of those birds. Again,

approximately 450 to 500 laying hens, and mixed breed. We have a couple pea fowl and fun birds as well for kiddos to learn about. So we went through that process until we got cleared. I'm very, very thankful that was the outcome for our story. Why did we think we had it? We saw some abnormal behavior in our flock. We had six birds that were dead, and there was no outward sign of anything that was wrong. We had two hens that we identified with swollen eyes, and we also saw a decrease in egg production. And some of those signs really triggered that this could be what we were dealing with.

On March 23rd, we called our state hot line. Once I called, it was a very rapid and continuous process. It was about 48 hours of just continuous phone calls from the state vet and other groups to kind of talk us through how and what this was going to look like. That afternoon, we had someone come and test the birds, and we were placed under a verbal quarantine, which meant we had to withhold our eggs from sale, which is one of the ways that we engage visitors with our farm, through egg sales at our market. Then the next day, the composting team from the state came down, and we went through everything from, you know, if we were able to compost on site, if we had any of the needed facilities and what those might be, a covered dump truck, a loader, horse manure (because of how fast it heats up and how hot it can get), and the personnel that would be needed.

Then the afternoon of March 24th, just over 24 hours later, we got a negative result, which was very, very welcomed on our end.

So that you know what was going to happen if it had been a positive result: all the birds on the property would have to be depopulated within 48 hours of results. For us, we are open every day for visitors: that meant that we were going to have to rapidly close down our farm to all visitation and get our staffing in place to be able to handle that and our messaging going out to our visitors, and again collecting the needed resources if we had them. Were we able to compost on site? Did we have a covered dump truck to move the birds from one location and personnel to help with that? How it was going to happen. These were all things that the state vet was able to help put in place, but there were questions that we didn't know ahead of time and really had no idea how it was going to work. And then the reality that we wouldn't be able to reintroduce any new birds for a set amount of time, and how that set amount of time was somewhat dependent on some

environmental concerns and whatnot. It was really extensive. The Department of Agriculture, their PR team was put in touch with us to help control messaging that would go out and how we would handle that. As an educational farm, we did feel it was important to be able to try and have some kind of educational opportunity within this, but it was a struggle. So, really, we kind of had a crash course in what it might look like if you had a positive case. High path AI was always on the back of our mind, but it certainly wasn't front and center as it is now. I think to summarize, the important piece for us was that we really got a crash course in it, but it was really valuable to go through that process.

Thank you for letting me share.

**Vera Simon-Nobes:** Thank you so much for sharing, Cathryn. Helpful to hear your real experience with it. We're going to transition now into answering your questions. These are questions that you submitted at the time you registered. Thank you for the wonderful questions that you submitted. For questions that we don't get to today, we will post responses along with the recording of this program, and that will go in the APHIS website. You can check out the APHIS social media channels as well for updates of when that is ready.

Our first question is, what animals carry high path AI and what animals are at risk?

**Dr. Julie Gauthier:** These were great questions, weren't they, Vera? We had a lot of really good questions from registrants. I'm sorry that we can't get through all of them, but we will do the best we can to answer most of them.

This list grows every day. We have seen an amazing variety of wild birds and even mammals that are carrying this particular outbreak strain of virus in the United States this year. Avian influenza in general, and these infections in nature, are very common in waterfowl, like ducks and geese, and shore birds, such as gulls and terns. Usually, they don't cause any signs of disease in these birds, or they might cause mild illness. Sometimes the AI virus will adapt itself to affect poultry. That's bad news, when it gets used to affecting poultry. That's when we see the outbreaks, and that's what happened this year. This particular strain of the virus has adapted to

affecting poultry and causing very severe disease. You can see the whole range of wild birds that our surveillance has found the disease in listed on our website. We have got a link to that in the chat so you can check that out yourself. [See below for links.] I will say that predators also are succumbing to this infection. Any animals that prey on those infected wild birds are also coming down with the disease. We have seen the infection in birds of prey, like owls and hawks and eagles, and scavenger birds like vultures. We've also seen it in foxes, bobcats, coyotes, and seals, presumably because they are preying on wild birds that have the infection.

Then I also get asked about cats and dogs and other animals. AI virus has very rarely affected cats and dogs, usually because they are eating dead birds or dying birds. We really haven't seen that in the United States, but it has been reported in other parts of the world, as well as Lions and tigers in zoos who are feeding on infected bird carcasses. Although avian influenza occasionally can affect people, we are not seeing that with this particular strain of the virus. Despite the fact that we've had hundreds or maybe even thousands of responders now who have been helping us control the outbreak, we don't have any evidence that anyone in the United States has been infected or sick from the virus so far.

Among the poultry we see very, very high death rates. Sometimes the entire flock will die. Turkeys are very susceptible, peacocks, pheasants, guineas, geese and swans, some long neck birds. Chickens are next on the list as far as the severity of the illness, and then ducks. Because they are waterfowl and natural carriers of the virus, they are likely to survive the infection actually, but they can serve as a source of infection to other birds. Go to the next question.

**Vera Simon-Nobes:** How do I minimize my flock's exposure to wild birds?

**Dr. Julie Gauthier:** This is the key for flocks that are outdoors in preventing them from becoming infected with this virus, because wild birds are doing most of the spreading this time. And the big one, like I mentioned before, is ponds. Please keep your birds off ponds. Do what you can to confine them to an area away from wild waterfowl, because that is the primary risk at this time. The other item is to discourage wilds birds from feeding with your birds. Put those feeders and waterers under cover,

whether it's inside a barn or shed or at least under netting. Pick up any bird carcasses on the property rapidly, making sure that the virus isn't getting around. As we know, our chickens are little dinosaurs; they will snack on just about anything they can find in their environment. Some producers are using visual deterrents or sound deterrents. There are a lot of them out in the market now that will either make sounds such as hawk sounds or birds in distress, or even visual deterrents like owl decoys or swan decoys on ponds. Check out some of the items that are available as deterrents to wild birds coming onto the property. Netting overruns is helpful if you have to let your birds outdoors. Plus, I would check with your state vet to get on their alerts. Oftentimes you can sign up for e-mail alerts to find out where cases are occurring in your county or in your neighborhood. Also check out the APHIS site that shows the wild bird and domestic poultry detections, because you can determine whether you are in a county where cases are occurring and determine if they are at higher risk.

**Vera Simon-Nobes:** How do I know if my flock is infected with high path AI or if they have something else?

**Dr. Julie Gauthier:** Great question. I have seen a lot of avian influenza in all sorts of birds, and I can't tell if a bird is infected with avian influenza by looking at them. You have to do laboratory tests in order to know this. I might have very high suspicion based on most of the flock having died rapidly within a few days, but I can't know for sure without a test. The PCR test that our labs use is very accurate at detection of this virus. So, call someone to get them out there and conduct an investigation and collect those lab samples- your veterinary diagnostic lab. And I would encourage everyone to find where, if you don't know, what your closest veterinarian diagnostic lab is to you. They can help you out with postmortem examinations and testing for other diseases besides AI to let you know whether you have got something else in your flock.

**Vera Simon-Nobes:** Thanks, Julie, how long will high path AI circulate in wild bird populations and how will this affect interactions between chickens and farm visitors next season?

**Dr. Julie Gauthier:** Oh you're going to ask me to get my crystal ball out. This, we all have to speculate on. I can tell you about how the avian influenza viruses behave in nature, and that they are changing all the time.

Avian influenzas like to mutate into something else, and eventually wild bird populations become somewhat immune to the common strains that are out there. The types of strains that are in the wild bird populations tend to vary by year or every couple of years, and then we will see a new strain come along. I expect that will happen with this one. I don't think we will be burdened with this particular strain forever. How long will it take before we see something new and less pathogenic to our birds, I don't know. I think we are going to be in for a rough fall, possibly even next spring based on what happened in Europe. This virus has hit them hard over the past two years, and I kind of expect that that's what will happen here. So buckle up. I think we need to be really vigilant and careful, for the next fall at least, and possibly into the spring. Keep an eye on the APHIS website and your state veterinarian's alerts and announcements to know what the situation is currently. Hopefully next summer, we will be out of this and will be able to get back into a more normal lifestyle.

**Vera Simon-Nobes:** Is there a vaccine for high path AI?

**Dr. Julie Gauthier:** There is, and it is used in some parts of the world, in countries that have decided to live with the disease and not stamp it out. So far, there isn't a vaccine that is approved for use in poultry in the United States. But we do have poultry scientists who are evaluating the currently available vaccines or even modifying the currently available vaccine to be a very good match for this particular strain. They are testing it to make sure that it is very effective and protective for our poultry. That work's ongoing, so possibly in the future we might consider use of a vaccine in the United States.

But I have got to talk to you about the advantages and disadvantages. The advantages of using vaccines is that it does reduce disease, so, birds can survive. The disadvantage is that birds still get infected with the virus despite being vaccinated. That can happen, and they do still shed the virus, although at a lower level. What that does is, it makes it really hard to find infected flocks and really hard to stop them from spreading the infection from farm to farm. On top of that, countries and consumers might not want to buy poultry or poultry products from the United States if we start vaccinating our poultry. That's probably the biggest barrier to the use of vaccines right now. And it doesn't eliminate the need to stamp out infected flocks, so we would still need to depopulate infected flocks when we find

them if we want to eradicate the disease; if we want to get rid of it rather than just living with it, which I'm not ready to do yet.

So, there are advantages and disadvantages to the vaccine, and we really need to take those into consideration.

**Vera Simon-Nobes:** What's the risk of transmission through factors like air, feed, or dust?

**Dr. Julie Gauthier:** Great question. As I mentioned, the big risk is wild birds. Right? That's 85 percent of it. Then we get into, what are the risks of these other things? I used to drive myself crazy trying to figure out which were the big risks that I needed to manage for my flock to protect them and think about things like air and feed and dust and other things. And I always have to tell myself, well, is it likely to happen that way? And then, is there anything that I can do about it? If it's unlikely or I can't do anything about it, I would tend to put that at a low priority of doing something about that. I would consider air to be one of those things that is unlikely, and also there's not much I can do about it. We do know that AI virus can spread through the air for short distances—we're talking yards not miles—and it is quickly inactivated by sunlight, heat, drying, and soap and water. I put that way down on my list of things to worry about. Anything that a bird can sneeze on or poop on can carry the virus from place to place, including flies. So I would consider fly control more important than worrying about the air that my birds breathe. It can be overwhelming to think about all these risks.

Feed should be safe if we prevent birds from getting in it, sneezing on it, or pooping in it. Keep feed bins closed and clean up spills right away. Don't allow your feed truck drivers to cross your line of separation to where you keep your birds. Just keep them at a distance. Then control flies. So those are things that you could do about the risk of feed, which I consider to be pretty minor when you consider the risk from wild birds.

**Vera Simon-Nobes:** Another question is around how we maintain healthy poultry at fairs and shows? Cathryn, I wonder if you want to take this one first.

**Cathryn Anderson:** I may not be the best person to answer this question because we don't take any of our birds off property, so Julie is probably going to be a better one here. But what I am seeing, at least in Maine, is

that this fall, there are not any bird shows or poultry shows at any of our agriculture fairs. Julie, why don't you jump in and let us know why, because that's what I've seen. They've all been completely eliminated for this year.

**Dr. Julie Gauthier:** Yeah, I agree with that measure in areas where this disease is ongoing. If we see cases in the counties, in the states, I really do support the idea of those organizers suspending live poultry shows. Because we can't really control disease if we are bringing birds in and then sending them back home. That's a great way to spread the virus if it should come in. Plus, I think how horrible that would be to talk to all of the exhibitors, including many young people, and tell them "Your bird is infected, we are going to have to destroy all of these birds." I really would hate for that to happen, so I really do agree with organizers that are shutting down fairs and shows at this time. It's high-risk time.

How do we maintain poultry health in general? I think there are a number of things that organizers can do that are helpful. That would be to have an entry area where they can inspect the birds prior to putting them in the main show hall. One really good technique is to have your... often head state inspectors will be out there to take a look at the birds to make sure they appear healthy. If we can examine those birds and make sure that they at least appear healthy before you put them in with all the others, that would be great, and we can send birds home that just don't meet our health requirements. That's one measure. I think anyone who exhibits birds or brings them to fairs and shows really needs to use the quarantine rule. If you are going to bring a bird back home from a show or a fair, make sure you quarantine that bird for 30 days away from your other poultry. Don't just put them back in your flock. If that bird should exhibit signs of illness, get some help during that 30-day quarantine period. Those are a couple quick ones. We could go into a lot of other measures that you could take. I don't like to say that we can have a virus security plan for poultry fairs and shows, because you can't really keep them bio secure by bringing all those birds together, but we can have a disease control plan and maybe mitigate some of the risks.

**Vera Simon-Nobes:** How do I reduce exposure to high path AI from vendors who might be coming, or folks who might be coming for farm share pickups. Either Cathryn or Julie, do you want to take this one?



**Cathryn Anderson:** I would be happy to jump in there. I think any time that you are open to visitors, anyone outside of the necessary staff to care for your flock, there are additional concerns, even without high path AI. Making sure you have really good biosecurity measures in place at your farm when you are open to the public is necessary. We really try and have our visitors come in and have an authentic experience, but that doesn't mean that we change our biosecurity measures, because that's part of protecting the assets that we have on our farm. We make sure that we have those measures, a policy in place to protect our livestock and visitors and our staff. And that's kind of part of my responsibility to those animals and those visitors. And I think Julie mentioned some thoughts before about changing the traffic flow, so visitors would stay away from your poultry area. And some of the other ones: limiting the contact with birds, having separate clothing and footwear when you come into contact with your flock, and asking anyone who is in contact with other poultry to refrain from having that experience while they are at your farm. I think all that can really help a little bit.

**Dr. Julie Gauthier:** A hundred percent. Those will help mitigate some of that risk. With having the public there, you know you're always bringing in some risk, but there are things that you can do that will help. I think of a couple of concepts that we promote through the [Defend the Flock](#) program. You can go the website and get more information on these. First is the perimeter buffer area, and the second is the line of separation. I think these are really, really useful zones to map on your own facility. You can establish a buffer area, which is a zone outside your bird enclosures that gives you space to work while you are caring for your birds, but it's separate from the rest of your property. This might be the area where you keep your feed bin and equipment to take care of the birds. Then your line of separation is the line that separates your poultry house from the rest of the world. You should be jealous about that one and really screen people: do they need to cross that line, or can we avoid that? Check out the information about creating a perimeter buffer area and then also a line of separation. A designated parking area can be really helpful. That would be probably inside your buffer area but not inside your line of separation. Don't allow the public to cross the line of separation where your birds are kept unless they need to. And consider curb side service if you are doing farm share pickups or other vendor activities. Just go to the car, don't have drivers get out.

Another important item for all sorts of pathogens is hand washing and offering hand sanitizer at customer contact. And then for folks who are there in egg sales and handling eggs, use disposable packaging. If you have to use non-disposal flats, racks, or cases, make sure that you have got a cleaning and disinfection protocol for those. At least keep them outside your line of separation, if not outside your perimeter buffer area. Then have dedicated staff for poultry care so just the people who take care of the poultry, and no other people on the farm, need to cross that line and handle the birds. Just a few suggestions. There are many others that you could use.

**Vera Simon-Nobes:** Thank you again, so much, for the questions. They were really great. Julie and Cathryn, thank you so much for answering them. We are going to show a few slides that share some resources so you all can leave with some continuous support. The first one, I believe, is the Farm-Based Education Network. This is a student who was visiting us at Shelburne Farms, and as part of her project, she was interviewing a chicken. Just a reminder of all the reasons that we love poultry: eggs, beautiful feathers, emotional connection, and things that maybe you never thought of before, like interviews. The Farm-Based Education Network is here for you if you are thinking about opening your farm to visitors, or you are already doing that and are interested in connecting with others who do that as well.

**Cathryn Anderson:** We are available as well. You can find us on-line, Pineland Farms.org, on social media, Facebook, and Instagram. Reach out to me, and or the team here, and we would love to have you visit us. You can see this picture of one of our hens visiting with our education cow. We would love to be of any help if we can be. Thank you.

**Dr. Julie Gauthier:** On our Defend the Flock website, which I mentioned a couple times throughout the presentation, you will find lots of free tools that you can download. These will provide some practical biosecurity tips and recommendations. This slide shows a sample of our library of checklists, and these checklists come in a variety of different languages.

Our campaign also features biosecurity videos. We have recordings of our prior webinars, which we hold typically twice a year. We have infocards, newsletters, posters, and other resources that you can use and distribute.

APHIS has also created social media content that can help promote biosecurity, and you can use these in your own social media outreach. Infographics covering many of the best practices that I mentioned, these are available in English and Spanish. You can stay connected; visit our website and follow Defend the Flock on Facebook and Twitter.

**Vera Simon-Nobes:** Thank you so much, Doctor Gauthier, and Cathryn, for sharing your valuable knowledge with us today, thank you all for coming. As you close-out your screen, you will see an invitation to take an anonymous short survey which will give us a little insight into your experience with this webinar. Please do keep an eye out for that. Thank you, Laura, and Alba, and everyone else on our team who helped make this webinar possible. We want to remind you all to remember that biosecurity is a team effort, and we need to work together to keep all of our flocks and farms and farm visitors safe and healthy. Thank you, everybody, have a great rest of your day.

**Links included in the chat:**

- [2022 Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks](#)
- [2022 Detections of Highly Pathogenic Avian Influenza in Wild Birds](#)
- [USDA APHIS Response and Policy Information](#)