

United States Department of Agriculture

Defend the Flock: How Avian Influenza Affects Us All

Thursday, February 25, 2021

Introduction

>> DR. GAUTHIER: Hello, everyone thanks you for joining the webinar. Today's presentation, Defend the Flock: How Avian Influenza Affects Us All, 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.

We are here today to support you and your flocks with expanded biosecurity resources. I'm Dr. Julie Gauthier with the USDA Animal and Plant Health Inspection Service or APHIS. Today I'm joined by Dr. Dale Lauer from the Minnesota Board of Animal Health, Dr. Rocio Crespo from North Carolina State University and Dr. Denise Heard, from the U.S. Poultry and Egg Association.

A few housekeeping items before we get started. First, we want to let you know that real time streaming captions are available for this program. To view, you can click on the CC Live Transcript button at the bottom of the screen or for customizable captions, type the caption URL that you see on this slide. [Bit.ly/Feb25-webinar](https://bit.ly/Feb25-webinar). Please use a lowercase "w." Type that into your browser.

The URL appears at the bottom of every slide so you can link to captions at any time during the program. Note that that URL is case-sensitive. To submit questions,

click the Q&A button also located at the bottom of the screen. APHIS and our guests will answer all questions after the webinar has concluded.

The Q&A will be posted along with a recording of this webinar, on the APHIS website. Be sure to follow the Defend the Flock campaign on Facebook and Twitter to find out when the Q&A and recording are available. We'll share those online destinations at the end of the webinar.

Now we will take a few minutes to introduce ourselves. I'm Julie Gauthier. I have been part of USDA APHIS for 18 years and I work exclusively on poultry health programs. I'm a veterinarian and an epidemiologist. Until a few years ago, I operated a small family farm business raising heritage breed poultry.

Dr. Lauer, please tell us a little bit about yourself.

>> DR. LAUER: Well, thank you, Julie. My name is Dale Lauer and I'm a veterinarian with the Minnesota Board of Animal Health and have been with the board for more than 30 years. In my current position as assistant director for the board, I am the poultry program director in charge of all poultry regulatory disease programs in the state.

I'm a Minnesota native, a Golden Gopher graduate receiving my bachelor and DVM from the University of Minnesota. I have been involved with all aspects of the National Poultry Improvement Plan in Minnesota, served as the official state NPIP contact for Minnesota and have also worked with the NPIP nationally, stationed at the Minnesota poultry testing laboratory which is really a unique arrangement with the board laboratory testing functioning and regulatory poultry activities on one site in one building. I also serve as the chair of the Minnesota Emergency Disease Management Committee and have been involved with many avian influenza surveillance and response activities in Minnesota.

I'm happy to be part of this webinar and being able to share some of my experiences with avian influenza.

>> DR. GAUTHIER: Thanks, Dr. Lauer. Dr. Crespo, please tell us about yourself.

>> DR. CRESPO: Sure, thank you, good afternoon, everyone. I'm originally from Spain where I became a veterinarian. After a short time of practicing there, I moved to Canada to pursue advanced studies in poultry. I have worked as a poultry diagnostician for the California animal health and food safety lab for a little over ten years.

Then I moved to Washington State where I joined the avian diagnostic lab. I have been trained in foreign animal diseases and also fortunately or not have firsthand experience with both most scary diseases of poultry, virulent Newcastle diseases and Highly Pathogenic Avian Influenza. About three years ago, my family and I moved to North Carolina state.

At North Carolina state University I am the poultry program coordinator for the veterinary students and manage the post veterinary professional training program.

I organize and manage the mobile poultry clinic at the university. This clinic serves small producers in North Carolina and it is used as another training tool for veterinary students. I am honored to be part of this seminar today.

>> DR. GAUTHIER: Thank you, Dr. Crespo. Dr. Heard, please tell us about yourself.

>> DR. HEARD: Thanks, Julie. And good afternoon, everyone. I'm Dr. Denise Heard, and I serve as the director of research programs for the U.S. Poultry and Egg Association, also called USPOULTRY. USPOULTRY is the world's largest and most active poultry organization. The association progressively serves its poultry and egg members through research, education, communications, and technical services.

Our research grants program encompasses all segments of the broiler, turkey, and commercial egg operations, funding over a million dollars' worth of poultry research each year. I am a triple Bulldog having received my bachelor's degree, Doctor of

Veterinary Medicine and a masters of avian medicine all at the University of Georgia. Prior to my current position, I served as the senior coordinator for the USDA National Poultry Improvement Plan for nine years.

I am delighted to be participating in the webinar today.

Avian Influenza

>> DR. GAUTHIER: Thank you, Dr. Heard. The USPOULTRY industry is one of the largest in the world and it's an important sector of our agricultural economy. We also have a long, rich heritage of raising backyard poultry in the United States and many of us enjoy keeping a family poultry flock for a combination reasons, fun, competition, tradition or a little income.

Disease outbreaks such as avian influenza led to devastation of our flocks and may result in job and financial losses, quarantines that limit trade and increased prices or decreased availability of eggs, poultry meat and other poultry products.

Through the Defend the Flock program, we encourage you and all flock owners to prepare for poultry disease outbreaks and make biosecurity an everyday practice. Biosecurity means using all your available methods to keep diseases and the germs they carry away from birds, property, and people, and turning these methods into your everyday habits.

Keeping birds safe from infectious disease is a top priority and it's a responsibility for all owners, growers, workers, and enthusiasts who raise poultry successfully.

I want to emphasize that biosecurity can protect your flock not only from rare and terrible diseases like highly pathogenic avian influenza, but also from more

common conditions that are a drag on our bird's well-being and productivity.

Fortunately, most flock keepers have never experienced a serious outbreak of poultry disease and hopefully with good fortune and good biosecurity, you never will. My guests and I want to show you firsthand how devastating poultry disease outbreaks can be to poultry keepers and their communities, and to inspire you to keep up your biosecurity practices to prevent the consequences that you are about to hear.

We will talk about the disease that my guests and I are most concerned about, that's highly pathogenic avian influenza, or HPAI for short. This disease is caused by influenza viruses that can easily infect poultry and a variety of other birds.

These viruses can occasionally infect animals other than birds and in rare cases, infect people. In recent years, the avian influenza viruses that started the outbreaks in the United States, they were introduced to domestic poultry flocks by wild migratory birds. After the introduction, the virus spread to domestic flocks in a variety of ways usually involving people's activities.

Infected birds shed HPAI virus from their eyes, nose, and mouth and spread the virus directly from bird to bird. The virus can remain alive for a short time on surfaces of things that infected birds have contaminated like transport crates or shovels or your hands, and those contaminated things can carry the virus to another flock of birds.

HPAI makes the entire flock sick, nearly 100 percent of birds will show signs, and the mortality rate is, the death rate is very, very high, nearly 100 percent of the flock might die.

Early on in the disease, sick birds are lethargic, depressed, and eating or drinking less. They might sneeze or have runny eyes or nose and develop swelling on their combs and wattles. Purple bruising might be seen on nonfeathered parts of their body. There is no treatment for HPAI and the most effective way to respond to the infection is to

depopulate the flock to quickly end the bird suffering and stop the virus from reproducing and spreading to another flock.

Commercial Poultry

Dr. Dale Lauer witnessed these signs in many turkey flocks in Minnesota in 2015 during the worst HPAI outbreak the United States has ever seen. I asked him to share his experience and his views about biosecurity being the key to preventing this from happening again. Thank you for speaking with me today, Dale.

Over the years, Minnesota has been associated with influenza and poultry. Why is that?

>> DR. LAUER: Well, Julie, Minnesota is known across the country as the land of 10,000 lakes which is good for the public in terms of recreational activities. However, for poultry producers, especially turkey growers, often these lakes, potholes and nesting areas are near major poultry production areas.

As the number one turkey production state in the country, this presents some unique disease issues. Minnesota is also a major wild bird migratory route, and as a result of influenza viruses being transmitted by wild migratory birds, it is a reality that growers need to deal with.

>> DR. GAUTHIER: And how has Minnesota handled these influenza introductions?

>> DR. LAUER: Well, Minnesota has experienced numerous introductions of influenza in domestic poultry, mostly commercial turkeys. The turkey industry has learned many lessons regarding influenza introductions, some tough lessons, some from the school of hard knocks.

Prior to the adoption of the LPAI surveillance and response programs with the National Poultry Improvement Plan, surveillance and response were led by the industry. What began as an industry only surveillance and response program eventually became a cooperative effort between Minnesota's turkey industry, the board, and researchers at the University of Minnesota.

The term "responsible response" was coined. This response included year-round surveillance of all turkey flocks being marketed, sharing that information with industry partners so that they can take appropriate action and other efforts to ensure that influenza viruses do not continue to circulate.

With the National Poultry Improvement Plan pathogenic avian influenza program and Emergency Disease Management Committee, the response in Minnesota and other states became a more formal written state response plan. In either case, the industry is familiar with working with the board on an avian influenza surveillance and response program.

>> DR. GAUTHIER: You and I worked together in Minnesota in 2015 to respond to that largest outbreak of HPAI in U.S. history. Can you describe what was going through your mind when you received that first call confirming an infection in a Minnesota poultry flock?

>> DR. LAUER: Well, yes, I do! We had convened our first meeting of the Emergency Disease Management Committee or EDMC in January of that year. And were tracking reports of HPAI in wild birds and domestic poultry flocks on the West Coast and Canada.

As we do every year, the week began planning for the next authorized poultry testing agent course. The board trains individuals to assist with sample collection

and testing in the field. I distinctly remember that Monday morning, the first week in March when a lab technician delivered samples from a turkey breeder replacement flock in West Central Minnesota that was experiencing some significant mortality over the past seven to 10 days.

After additional samples were collected and the board had confirmation from the National Veterinary Services Laboratory in Ames, things changed quickly. Cancellations were made. The EDMC board and USDA staff were contacted and our Incident Management Team was stood up. We met and worked from the emergency operations center located at the Kandiyohi County Law Enforcement Center in Willmar.

I had worked with the EOC director before, the EDMC had met at that facility earlier and we were quite familiar with this resource. In retrospect, this was an important component of the response as the event continued. It was my hope, truly my hope that this was a once and done. With no additional cases for three weeks, I was wondering, could this be true?

Unfortunately, not! We were now dealing with a foreign animal disease, HPAI.

>> DR. GAUTHIER: And how did your response change as you continued to identify those positive flocks?

>> DR. LAUER: Well, Julie, after the first confirmation from NVSL and after three weeks with no new cases, the event began to take off. In late March while I was at an out-state meeting with board and USDA field staff, I received calls from two poultry veterinarians that I had worked with for many years.

I became alarmed when these reports came from two different companies, two commercial turkey premises 60 miles apart, one located in central Minnesota and the other in Southwest Minnesota. Two different geographic locations.

The clinical signs of extreme depression were reported by both. I think I've got it, they said. So, this was our second and third commercial turkey flocks with HPAI which we could have handled better, but we had a delayed diagnosis, depopulation and response efforts.

However, this was not a lack of effort but truly a lack of resources and knowledge of HPAI. Minnesota was learning and dealing with a foreign animal disease. The EOC was moved to the Stearns county Law Enforcement Center as now the virus had moved into one of our major poultry production counties.

Suddenly, testing, test supplies, depopulation equipment, Kifco units, control zones, permitted movement became terms we soon were very familiar with. In April as positive flocks continued to be added we suspended activities for the Easter holiday weekend. The however, that was short lived as Easter Sunday found me in the twin cities for yet another EOC relocation. A USDA incident management team was requested, positive cases continued across the state.

On April 23, 2015, Governor Mark Dayton declared a peacetime state emergency. It happened to be my birthday. Happy birthday, Dale! In late April, the first commercial chicken layer flock was identified with HPAI. When all the flocks were accumulated and identified, HPAI was identified in 23 of the 87 Minnesota counties.

State veterinarian Bill Hartman at the time was quoted as saying Minnesota was ready for a tornado, but not a tsunami. And the media requests, as you probably would expect, continued asking - what is happening?

>> DR. GAUTHIER: What did those turkey growers tell you about how their birds looked and acted when they suspected they were infected with avian influenza virus?

>> DR. LAUER: Well, Julie, I talked to a lot of growers, and I received a lot of voice mails and certainly these were dark times. The overwhelming response that I heard

from turkey growers was, I think we have it. This was followed by a description of extreme flock depression, flocks quiet with increasing mortality. Growers would tell me they opened the door to the barn for chores and then close it immediately and call the board.

A producer would report, they just don't look right. In the morning, there's always lots of chattering, running, flying, and jumping. But there was none of that. It was just complete silence. And these were experienced turkey growers who know turkeys and keep constant watch over their birds. They would call supporting each other if they knew of someone else who was affected, wondering which farm would be next and will I get it?

We all became pretty good at texting, those days. Producers would be texting each other at 4:00 in the morning or late at night in their barns or in their offices. You know, nobody was getting too much sleep. You know, you would sleep out of sheer exhaustion and the moment you would wake up, your mind would start up again another day.

>> DR. GAUTHIER: I remember you spent a lot of time on the phone with turkey growers and flock veterinarians. They were very stressed during that outbreak. What were they telling you? What was happening to them and what were their fears?

>> DR. LAUER: Well, the first question was, will I be next? Am I going to lose everything? And who will help me if my flock is positive? We have been through tough times, but this is the worst. We are really struggling with this unprecedented event, avian influenza health experts at the University of Minnesota told us. We are in a situation where we answer one question and come up with 16 more.

However, not all producers were affected, and those who were not, how do we keep business going for those growers, for those companies that were not affected?

Fortunately, poultry supply plans, risk-based plans were being used to keep commerce going. Early in the event when the EOC was moved back to Kandiyohi County, I

was sure to make sure that our poultry industry veterinarians and commodity group representatives became part of the response at the ground level.

Their input, comments, and presence were extremely helpful as problems were discussed and as the event continued. You know, Julie, often it comes down to communication, cooperation, and collaboration.

>> DR. GAUTHIER: The outbreak was so widespread in certain Minnesota counties that the whole community was affected. What were the consequences of the outbreak for people who didn't own or care for poultry in those affected areas?

>> DR. LAUER: You know, when people would call or even when I would visit with people in the community, you know, questions like is my food safe? Where are all the eggs in the grocery store? And will I catch bird flu from the turkeys? If I'm a farm employee, should I go to work on the farm?

And what are all these people showing up in white suits in Kandiyohi County? You know, with breeder and commercial turkey flocks being put down, what is the impact for growers if no poults are around or being produced? Is unemployment looming on the horizon? On May 15, 2015, the Minnesota Poultry Exhibitions that included the Minnesota State Faire were canceled for the 2015 season.

It certainly was a big letdown for those who had a visit to the State Fair in 2015 in their plans.

I believe that when Governor Dayton declared a peacetime state of emergency, the citizens of Minnesota realized the significance of this event. To Minnesota agriculture and to the Minnesota poultry industry. Members of the legislature came together with the governor to free up state resources to combat HPAI, but they also provided financial support to renovate the MPTL, providing a testing option for producers and veterinarians at a laboratory in out-state Minnesota.

It truly was an all-hands-on deck event. You know, Julie, and you certainly remember that Kandiyohi County, the EOC and Willmar was home for many out-state responders who helped us with this event and, you know, those folks, they missed birthday parties. They missed graduations, weddings, a lot of other different things.

And so, for all of those who are on this webinar who are listening, and you know who you are, thank you.

>> DR. GAUTHIER: Those were dark days, and I don't want to leave us in that place. The rest of the story is by July of 2015, the virus had been eradicated and the food supply remained safe and no human infections were discovered. The producers were on the road to recovery, right, Dale?

>> DR. LAUER: You know, Julie, we have a resilient group here in Minnesota. Certainly, better times were ahead. Better days were ahead. And I think we are still on alert in the fall and the spring, but certainly it's something that we deal with. But as I look back, we certainly are at a better place than we were then.

Backyard Poultry

>> DR. GAUTHIER: HPAI doesn't just affect large commercial poultry flocks. Birds in small backyard flocks are just as susceptible to these viruses. Dr. Rocio Crespo can give a firsthand account of an HPAI outbreak that affected only backyard flocks in the Northwestern part of the country in 2014-2015. Thank you for being here and sharing your story, Rocio. You worked in the state of Washington during an avian influenza outbreak in backyard flocks in 2014.

I was there also for a few weeks to help with the response, and I met small flock owners who were grieving for the loss of their birds due to the virus. Could you

describe how avian influenza affected the small flocks?

>> DR. CRESPO: Sure, Julie. As Dale mentioned earlier that for him it was the beginning of the year, for us in Washington we were just getting ready for the winter holidays when we heard from our colleagues in British Columbia Canada, of an outbreak of highly pathogenic avian influenza, or HPAI, in their commercial poultry flocks in the Fraser Valley. If you are not familiar with the area, the Fraser Valley is the most densely concentration of commercial poultry in the province of British Columbia.

This valley is located less than five miles north from the U.S. border. Sure, that from the slide, the numbers of flocks and birds affected is not as impressive as what happened in commercial poultry, but the impact to poultry owners was major.

I must point out this communication that happened between Canada and Washington was very important because as soon as we heard, we ramped up surveillance efforts near the border looking for possible incursions of this deadly virus.

Because of this effort, we were able to detect HPAI quickly in two independent sites simultaneously. One was in a raptor breeder operation and the second was in a lake where increased mortality in wild ducks was observed. Both sites were near each other and very close proximity to the border with Canada.

Once the virus was confirmed, surveillance efforts were intensified even more. Additionally, education and communication efforts in town hall meeting format with small flock owners near the border were initiated. The goal of these meetings was to inform the neighbors of the findings and prepare the owners in what was going to happen during the surveillance.

During the meetings we offered tools and skills to protect their own flocks. A major benefit of these town hall meetings was to personally meet the neighbors and state officials, those state officials were able to answer questions to the stakeholders rather than

leaving it to social media.

We communicate and relate with people, not with large entities or the government. This was a good strategy in Washington State, as people realized that veterinarians and the state and federal levels were part of the team and they were trying to protect their flocks. They were all in.

Even with good communications, we had several losses. Some were loving pets and owners grieved their loss. Some of those small flocks were rare heritage breeds, and they had to be destroyed. With this came the loss of income for the small flock producers. They saw genetic stock that they had been selecting and breeding for several years completely lost because of this outbreak.

An interesting observation here, during the highly pathogenic avian influenza outbreak, all five small flocks as well as the falconer premise in Washington State that were infected with this virus had contact with wild ducks.

As I said earlier, with small flock a major challenge is communication. Social media moves much faster as it is not monitored or controlled in any way. There is a lot of misinformation, unverified posts, and so it can spread the wrong information and even point fingers or blame innocent people. On the other hand, official communications may move slower and the wording is a little bit less colorful.

A communication person always was part of the government team when they went to an affected flock. The communications person was in charge to answer questions to the small flock owner as well as to the neighbors or even the press. When we go onto the property with full protective gear such as the white suits, clothes, caps, boots, masks, people wonder.

They ask what is going on? So, there was always someone to speak with them and calm them down.

Something I want to note is that the owners of the small flocks really cared for their animals. It is not so much the dollar value of the animal or animals, but it is more the personal interaction and the bond they have with these birds. On some occasions these animals have names, and the owners know the different character and behaviors. These owners want to protect their birds as anyone wants to protect their loving pet cat or dog.

>> DR. GAUTHIER: And there were consequences for small flock owners who were not affected directly by the avian influenza virus, right?

>> DR. CRESPO: Yes, certainly there was consequences for those flocks that were not affected directly by the avian influenza. As I said, the birds from directly affected flocks were put down most unfortunately. There was loss of genetics, and the same as happened in Minnesota, many of the shows and fairs were canceled. People were not able to show or sell birds which resulted in loss of income.

There was a mistrust between small flocks and commercial poultry. Commercial poultry saw these small flocks as incubators for HPAI. However, because of the little exchange between these two types of production, there was no infection from the small flocks to large producers. Still, lots of communication went underway in both small flocks and commercial farms.

Something positive that came out of the HPAI outbreak was education and biosecurity to small flock owners. This was the first time some owners heard of how to protect a flock. One of the major impacts, for instance, although this is not an example of poultry, was with the falconers.

They changed the way they feed their birds. Until HPAI they were splitting the carcasses and dividing the carcasses among multiple birds. After HPAI, they learned to feed a single carcass to a single bird to prevent infecting multiple raptors.

Similarly, small flocks increased biosecurity. We had increased reports of

mortality. We learned what it is out in the small flocks, fortunately, most of it was not related to avian influenza.

There were so many questions related to the potential of the virus passing to humans and as Dale said, many owners were asking if it was safe to consume the eggs from the birds.

Industry Impacts

>> DR. GAUTHIER: HPAI outbreaks create a rippling effect of negative impacts even on people who don't raise poultry. Dr. Denise Heard in her role with U.S. Poultry and Egg Association, represents a wide range of people who have a stake in poultry production in the United States. And she has direct knowledge of how HPAI outbreaks affect business, jobs, and consumers. Thanks for talking with us, Denise. Grocery stores and restaurants are places where we might see effects from avian influenza outbreaks. How did the 2015 outbreak affect these businesses?

>> DR. HEARD: Thanks, Julie. Yes, the table-egg industry was hit pretty hard. Detections went from zero to over 30 million in only a few weeks, encompassing approximately 41 million birds: 35 million layers and six million pullets. Layer sites affected represented only 14 percent of the overall premises, but they represented 70 percent of the affected birds because of the large size of the premises affected.

The United States exports a relatively small percentage of its annual egg production but lost over 10 percent of the national laying hen inventory to the HPAI outbreak. In aggregate, the 2015 HPAI outbreak restricted the supply of eggs on the market, leading to the highest egg prices observed in more than 30 years after adjusting for inflation.

The worst of the HPAI outbreak was restricted to the Midwest, but the impact of the price effects was seen across the country. On the turkey side, you have already heard from Dale that there were devastating economic effects felt by turkey growers and production companies. Further, there were issues fulfilling contracts and discussions began revolving around the need to potentially import turkey meat from other countries.

Though I don't know at what percentage that actually happened. The broiler industry received the least impact; however, valuable lessons were learned, and enhanced biosecurity measures and proactive preparation plans did ensue.

>> DR. GAUTHIER: International trade is a large component of the U.S. poultry industry. How is international trade with other countries affected by HPAI outbreaks?

>> DR. HEARD: Good question. HPAI outbreaks in the U.S. impacts international trade of US poultry consist of live and products immediately by means of imposed restrictions on exports. These restrictions vary depending on the importing country and its policies.

Some may ban imports from the entire country, whereas others at the other end of the spectrum may only restrict a small area around the index premises known as zoning or regionalization. Usually following the international guidelines for trade by the World Organization for Animal Health, better known as the OIE, which describes zoning in distances of six to 10 kilometers around the index premises

For the different activities related to animal movement and surveillance. Most countries adhering to these guidelines will take the ten-kilometer radius as the area from which they will not accept product from. Other countries may impose restrictions to trade with policies somewhere in between. The length of time the restrictions are applied also vary. But it tends to be at least three months. In some more extreme cases, it has

lasted years.

The diplomatic relations tend to play a big role in determining how long restrictions are upheld. The impact on trade in this case is immediately evident, amounting to millions of dollars in losses due to the inability to export.

>> DR. GAUTHIER: Should small flock owners who aren't directly involved in international trade or even commerce across state lines be concerned about these trade impacts?

>> DR. HEARD: Yes. I think it is important for small flock owners to be aware of these trade impacts. Playing the good neighbor role is a simple answer, but we need to keep in mind that all flocks, large and small, intensive or backyard, and anything in between, are susceptible to infection by this terrible disease.

If and when HPAI outbreaks occur in any given area, all flocks, whether commercial or small, are susceptible to the disease, thereby an interest to those flock owners not involved in international trade to be concerned with being aware of this disease and also to implement biosecurity practices that intend to keep the diseases out.

Some small producers might not participate in international trade, but they may do regional commerce with their birds and products and when HPAI hits a region, local veterinary authorities are likely to impose local restrictions to animal movement, and thus also impacting those small producers. In fact, even LPAI in backyard flocks can impact trade. HPAI is a disease no one benefits from getting, while it's in everyone's best interest to keep out.

>> DR. GAUTHIER: Quite a few businesses provide services, or technical support, and equipment to the poultry industry. How do HPAI outbreaks affect the allied industries?

>> DR. HEARD: That's a great question, and as discussed, several times before,

HPAI affects everyone working in the poultry industry. The allied industry provides a great deal of customer support to their clients using their products. And during HPAI, the allied industry representatives cannot visit customers and troubleshoot their issues or problems; thus, business is impeded or lost. Furthermore, progress and timelines for any research field trials ongoing are affected as well.

>> DR. GAUTHIER: You and I have talked previously about how it's so important that we have consumer education and transparency with communicating with consumers. Why is it important to communicate well and openly with consumers during HPAI outbreaks?

>> DR. HEARD: That's super important and I don't think the importance of that can be overstated. USDA, both FSIS and APHIS, were very good partners in providing information to the general public during the 2015 HPAI outbreak. Consumers have lots of questions and concerns whether it's about the people with the white suits on or wondering if HPAI is contagious to humans, and if they can get it from eating their poultry.

APHIS did an excellent job being open as to where new cases were found while keeping everyone calm, at the same time when we had new findings.

>> DR. GAUTHIER: We just spend a lot of time looking back. Now let's look forward. Dale, are we better prepared for 2021 and beyond?

>> DR. LAUER: You know, Julie, yes, I think we are better prepared. We have really learned a lot these last six years since we have had HPAI in Minnesota. I have a short list of keys that everyone should be aware of, they should know, they should be able to explain if asked.

You know, our listeners, poultry producers large and small, should know the signs of HPAI. If there is an unexplained increase in mortality, decrease egg production, respiratory signs, as I mentioned when I talked about the turkeys in Minnesota, this

extreme quietness, depression of the birds, sometimes you might even see some of these neurologic signs. They should be investigated.

You should make sure that people who work with your birds, whether it's you, whether it's your workers during the week or on the weekend, they should know what to look for.

And certainly, they should report what they are seeing. If you have a veterinarian, you should describe the signs, have them, him or her come in for a diagnosis. If you don't have a veterinarian, you certainly should contact your state animal health official. You have to make sure that if you have and need a diagnosis, that the proper samples are collected and that they are collected by an individual who is trained and/or certified by your state animal health official because they will know the correct number of samples and the correct type of samples and the laboratory that can conduct this type of testing.

Another thing I think all of our listeners should know about is preventing exposure, and certainly we have talked a lot about biosecurity. Poultry producers should be following their biosecurity plan. Biosecurity can prevent avian influenza if you use it consistently. Pay special attention to the line of separation and perimeter buffer area. Carefully follow safe entry and exit procedures into your flock.

You know, we are heading into the spring now and those weather conditions can make these procedures difficult because of mud, rain, wind and other shifting weather conditions.

At the same time, puddles and other standing water may attract waterfowl to get even closer to barns. So, this is a time to focus on safe barn entries. Making sure that garbage and dead birds are picked up outside of your perimeter buffer area is crucial as the virus can move through movement of dead birds and garbage off the farm.

And lastly on my short list is, if you see something, say something! You know, remind everyone that you talked to including the weekend help about their role in your farm's biosecurity. You really need to evaluate the risks that are unique to your operation, encourage employees to ask questions, and participate in protecting your flocks.

Because certainly as Denise mentioned, an introduction of HPAI affects you, but it moreover affects the poultry industry overall even throughout the country. And certainly, we want to make sure that our poultry industry and our stakeholders are protected from another introduction of this terrible disease.

>> DR. GAUTHIER: Rocio, I will ask you the same question that I asked Dale. Are we better prepared now than we were in 2014 for future avian influenza outbreaks?

>> DR. CRESPO: Well, I would like to say yes, but that we are better prepared in terms of communication with owners and producers. On the other hand, I'm afraid that many small flocks are not very well prepared. We have many new poultry owners due to the COVID-19 outbreak. These new poultry owners are unaware or not familiar with the events of 2014-2015.

Also, there are many small animal veterinarians who are now looking after these small poultry flocks that are not aware of the symptoms or the legislation around poultry. So, there is still wrought to do.

>> DR. GAUTHIER: Denise, what's your opinion about the level of preparedness for future avian influenza outbreaks?

>> DR. HEARD: Really, I think that we are better prepared. We learned the lessons from the 2015 outbreak and other devastating avian outbreaks that occurred subsequently. We now have a national biosecurity program for the commercial poultry industry. Additionally, we have a poultry primary breeder, avian influenza compartmentalization program to protect the export of poultry and poultry products.

Federal and state representatives as well as the industry, have all done their parts to ensure we are better prepared and equipped to handle such an ordeal.

>> DR. GAUTHIER: Finally, I would like to ask each of you, what's the most important thing that you want people who keep or care about poultry to know about preventing avian influenza outbreaks? Dale, you will start.

>> DR. LAUER: Well, Julie, I am going to take the Boy Scout motto, "Be prepared." I think you need to be prepared at the farm level, understanding your farm biosecurity. And certainly, a tag line that I've hung onto is, say what you do, do what you say. I would also suggest not delaying a diagnosis, and certainly knowing who your state animal health official or your state veterinarian's office is.

Ben Franklin had a quote, by failing to prepare, you are preparing to fail. In 2014 and 2015, it was Minnesota and 20 other states that were impacted by HPAI. And there is no way to predict what will happen in '21. So, prepare, don't panic.

>> DR. GAUTHIER: Rocio, what is your take-home message for us?

>> DR. CRESPO: So, for small flocks, I recommend they become familiar with biosecurity and other means to prevent disease in their birds. Contact your state veterinarian or extension office and get education on how to control certain diseases.

If a small flock owner decides to raise multiple species, be aware of the risks and learn how to manage multiple species on the same property. Highly pathogenic avian influenza not only affects the infected flock but also affects your neighbors whether they have poultry or not.

>> DR. GAUTHIER: Denise, I will give you the last word. What is it we should remember?

>> DR. HEARD: Thanks, Julie, for giving me the last word and I will leave everyone with this. Biosecurity, biosecurity, biosecurity! We must remain vigilant and

constantly take steps to protect flocks at all times, during peacetime as well as during war time. For international trade, we have to maintain those good relationships with our trading partners because they are key for continuity of business.

At all times we must not become complacent.

>> DR. GAUTHIER: It's been a pleasure working with you, Dale, Rocio, and Denise. Thank you very much for your willingness to share your experiences. I hope we work together again soon, not in an outbreak, but on a preparedness exercise.

Defend the Flock

I will conclude our presentation with an overview of the resources available through USDA APHIS that will help you prepare for poultry disease outbreaks and make biosecurity an everyday practice.

APHIS Veterinary Services has developed a library of checklists that provide practical tips and recommendations. We encourage you to visit the Defend the Flock website to view and download these materials. All the checklists are available in multiple languages, including Spanish, Chinese, Vietnamese, and Tagalog.

On our website you'll find lots of other free tools, including videos, recordings of our previous webinars, info cards, newsletters, posters and other resources. APHIS has also created social media content to help promote biosecurity.

Infographics covering many best practices are available in English and Spanish. We hope that you will share these with your colleagues and fellow poultry keepers on Facebook, Twitter, Instagram and other social media channels to make sure everyone is using biosecurity every day every time no matter the size of the flock. Be sure to check out more helpful information on our social media channels.

This presentation, along with answers to your questions, will be available for download from the Defend the Flock website shortly. Be sure to follow the Defend the Flock on Facebook, and Twitter, to be notified when the presentation is available. And before we go, on behalf of APHIS, thank you to Dale, Rocio and Denise for sharing your valuable insights and knowledge with us today.

And thanks to all of you for joining us on this webinar. Let's keep our poultry healthy together.