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Jacob D. Swanson Date

Georgia Department of Agriculture Emergency Management:
Response Plan for Highly Pathogenic Avian Influenza

By

Jacob D. Swanson
Master of Public Health

Hubert Department of Global Health

_____

Deborah A. McFarland, MPH, PhD
Thesis Committee Chair

_____

Venessa Sims, MEP
Thesis Committee Member

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Jacob D. Swanson

B.S. Global Resource Systems
Iowa State University
2014

Thesis Committee Chair: Deborah A. McFarland, MPH, PhD

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
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in Global Health
2016

Abstract

Georgia Department of Agriculture Emergency Management:
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Background
Preventing the introduction of avian influenza into the State of Georgia and reducing mortality and economic impact should it enter the state, have become top priorities of the Georgia Department of Agriculture (GDA). The recent outbreak of highly pathogenic avian influenza (HPAI) across twenty-one states in the U.S during 2014-2015 served as a catalyst for the creation of the HPAI response plan for the State of Georgia, the nation's largest producer of broilers.

Objective
The objective of this special study project was to develop a response plan to effectively combat highly pathogenic avian influenza in the State of Georgia.

Methods
The Georgia Low Pathogenic Avian Influenza (LPAI) Response Plan, USDA Secure Broiler Supply Plan, and USDA APHIS HPAI Response Plan were the main documents used to build the HPAI response plan for Georgia. Information was gathered by listening to subject matter experts, attending weekly meetings at the GDA with government staff and potential responders, and reviewing documents produced by the USDA, the United States Centers for Disease Control and Prevention (CDC), and various other states that have faced an outbreak of HPAI.

Results
Support documents, such as Mission Ready Packages, job descriptions for specific response duties, and workshop training materials for animal parks and special avian collections were created to supplement the HPAI response plan. The final result of the project consists of a combined LPAI and HPAI response plan for the State of Georgia.

Discussion
The development and creation of the LPAI and HPAI response plan is one strategic tool to protect the health of the billions of chickens produced in the state every year, and the people and industry that care for them. A single case of HPAI detected in the State of Georgia could have global implications, resulting in a decreased food supply for countries that ban imports of U.S. poultry products. The Georgia Department of Agriculture strives to protect the health of the State's poultry industry, and through dedicated efforts and the creation of the LPAI and HPAI response plan, they are meeting this challenge.

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My family for their support throughout this journey. Why did the chicken cross the road? To escape highly pathogenic avian influenza, probably.

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List of Acronyms

APHIS	Animal Plant Health Inspection Service
AVDL	Athens Veterinary Diagnostic Laboratory
CDC	Centers for Disease Control and Prevention
C & D	Cleaning and Disinfection
CP	Contact Premise
EPA	Environmental Protection Agency
FAD	Foreign Animal Disease
FADPReP	Foreign Animal Disease Preparedness and Response Plan
FSA	Farm Service Agency
GDA	Georgia Department of Agriculture
GEMA/HS	Georgia Emergency Management Agency/Homeland Security
GIS	Geographic Information System
GPF	Georgia Poultry Federation
GPLN	Georgia Poultry Laboratory Network
HA	Hemagglutinin
HPAI	Highly Pathogenic Avian Influenza
IP	Infected Premise
LPAI	Low Pathogenic Avian Influenza
MRP	Mission Ready Package
NA	Neuraminidase
NAHLN	National Animal Health Laboratory Network
NPIP	National Poultry Improvement Plan
NVSL	National Veterinary Services Laboratory
OP/T	Oropharyngeal/Trachea
POC	Point of Contact
PPE	Personal Protective Equipment
SP	Suspected Premise
TVDL	Tifton Veterinary Diagnostic Laboratory
USDA	United States Department of Agriculture

Definitions

Broiler: any chicken under 15 weeks of age, produced for meat consumption

Depopulation: any method by which large numbers of animals are quickly and efficiently destroyed with as much consideration given to the welfare of animals as practicable, given extenuating circumstances, such as a disease outbreak

Layer: any commercial chicken species raised for the purpose of egg production

Poultry: any group of domesticated birds consisting of chickens, turkeys, ducks, geese, quail, pheasants, peafowl, guineas, chukars, and other partridge, grouse, ratites, and waterfowl

1.0 Introduction

One of the key goals of the Georgia Department of Agriculture (GDA) is to ensure an abundance of safe food and fiber for the State of Georgia, the United States, and the world. When a foreign animal disease (FAD), such as highly pathogenic avian influenza (HPAI) threatens that goal, measures must be taken to mitigate the risk. Preventing the introduction of this disease, and reducing mortality and economic impact should it enter the state, has become the top priorities of the Department following the recent outbreak of HPAI across twenty-one states in the U.S. This special study project will describe the guiding principles and process of creating the HPAI response plan for the State of Georgia.

The Emergency Management office at the Georgia Department of Agriculture coordinates emergency response and preparedness activities on behalf of the Department. Strong collaboration between the Emergency Management office and other local, state and federal regulatory and emergency management support agencies are critical to the many successful partnerships that the office maintains. Combatting an FAD requires the diligent cooperation between many key stakeholders, especially when developing response plans. Working to address an infectious disease of pandemic potential such as HPAI takes a whole community approach and supports Presidential Policy Directive 8. This directive is aimed at "strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation, including acts of terrorism, cyber-attacks, pandemics, and catastrophic natural disasters," (20). There are often complex relationships between individuals, livestock species, and the environment, and a response plan should address these critical features. Agriculture is a dominant industry in the State of Georgia, and poultry production has a significant economic impact (2). Any threat to this sector of the agriculture

industry must be addressed promptly. While GDA response plans do exist to address various animal disease outbreaks, a formal plan to respond to HPAI does not exist. Through the development and formalization of a response plan for HPAI, the state will be better prepared to protect its poultry industry and supply, and arrive at a quicker recovery should there ever be an outbreak.

The State of Georgia ranks first in the nation for broiler chicken production, and remains free of highly pathogenic avian influenza (5). Detection of the virus in the state could be economically devastating, but the loss could be substantially reduced with a comprehensive response plan. It is the primary goal of the Georgia Department of Agriculture "to maintain the state's viable farm industry and protect the consuming public," (1). It is in the best interest of the GDA to create a highly pathogenic avian influenza response plan. While the state does have an existing response plan for low pathogenic avian influenza (LPAI), the high mortality rate of HPAI and the impacts reflected in the 2014-2015 outbreak make evident the need for an HPAI response plan in Georgia. Supplementing existing biosecurity strategies with strategies specific to HPAI can effectively mitigate negative consequences and economic devastation. The creation of a standardized, evidence-based response plan allows the GDA and stakeholders to rapidly, safely, and consistently respond to an HPAI outbreak.

1.1 Overview of 2014-2015 Highly Pathogenic Avian Influenza Outbreak

First detected in December 2014, cases of highly pathogenic avian influenza sub-type H5 infections were reported in twenty-one states in U.S. domestic poultry (backyard and commercial flocks), wild birds, and captive wild birds (8). The outbreak in the United States began in the Pacific Northwest and within weeks spread to twenty-one states (4). In 15 of those states, it was

detected in both commercial and backyard poultry flocks (Figure 1). From detection in December 2014 to June 2015, 7.5 million turkeys and 42.1 million egg-layer and pullet chickens had been euthanized, resulting in economic losses totaling $1 billion (4). Many countries implemented trade restrictions as a result of the outbreak, further increasing the economic impacts (Figure 3).

On January 15, 2016, one positive case of HPAI H7N8 was detected at one premise and subsequently, positive cases of low pathogenic avian influenza were detected in commercial turkeys in 9 additional premises within one county of Indiana (16, 22). This resulted in the depopulation of 414,503 birds on all 10 premises to combat the outbreak, including a flock of layers that tested negative due to its proximity to a flock of infected turkeys (16). The strain of avian influenza responsible for this outbreak was different from the strain that caused the 2014-2015 outbreak. As a result, Canada, one of the largest importers of U.S. poultry, restricted imports from the State of Indiana (15). Other countries have implemented or continued their trade restrictions on U.S. poultry as a response.

Surveillance activities are critical in controlling disease outbreaks. State and Federal teams in Indiana visited 1,935 residences within the established 10 kilometer control area surrounding the previously infected premises (23). The goal of these visits was to identify backyard flocks or special collections for testing. There were 96 flocks identified, and all tested negative for avian influenza (23). Ongoing surveillance will take place; each flock was re-tested following a 14-day period, and again all tested negative.

Enhanced surveillance for avian influenza is ongoing in the United States (8), and has included nationwide surveillance of the wild bird populations to help identify current strains and mutations. The United States Department of Agriculture (USDA) Wildlife Services program and

its state partners plan to collect 41,000 samples from non-symptomatic wild birds throughout the United States by March 2016 (21). Results from this surveillance effort "will be incorporated into national risk assessments, and preparedness and response planning efforts to reduce HPAI risks to commercial poultry, backyard poultry, game bird farms, wild birds, wild bird rehabilitation facilities, falconry birds, and captive bird collections in zoos/aviaries," (21). Surveillance is a critical component of any response plan, especially for diseases such as avian influenza that can spread quickly.

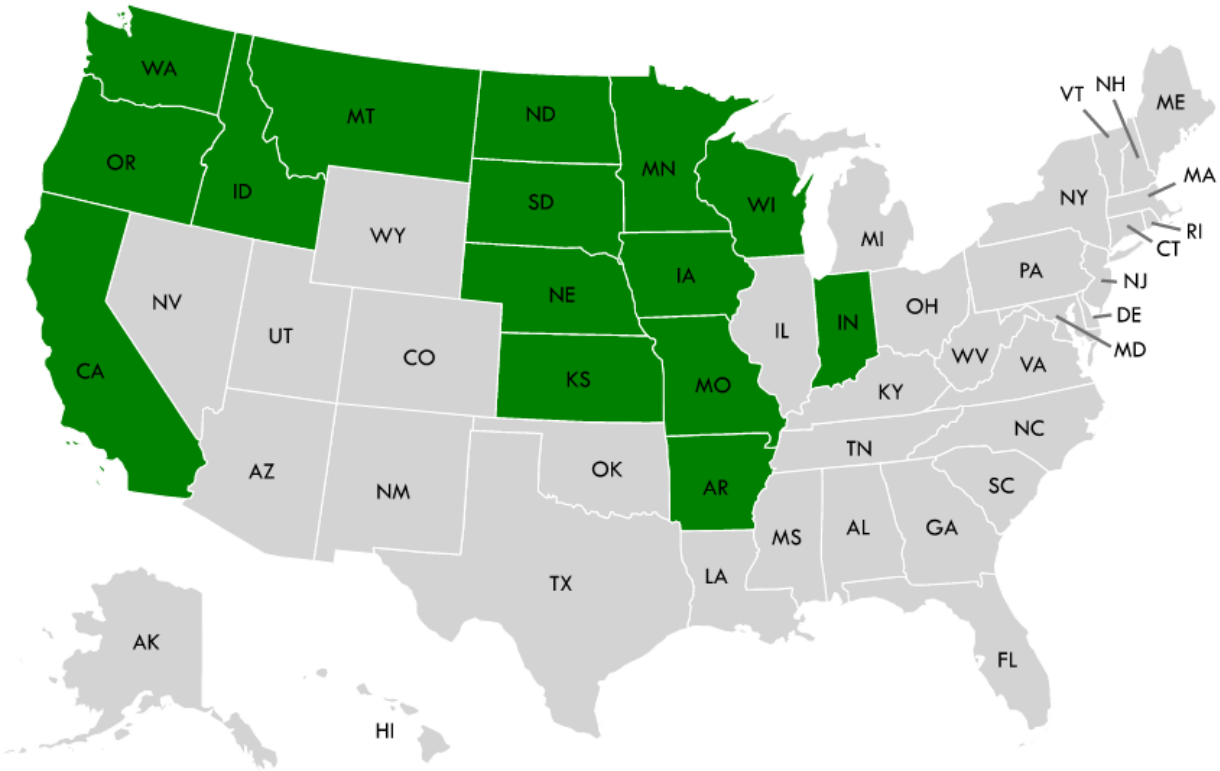

Figure 1: States with Confirmed Detection of HPAI 2014-2015 (Data from USDA APHIS, 19)

1.2 Economic Impact of Broiler Production in Georgia

Georgia is the leading broiler producing state, producing 1.3 billion broilers in 2014 with a value of production at over $4.8 billion on 5,490 farms (2). The state produced over 15 percent

of the broilers in the United States in 2014 (3). It is the number one commodity grown in the State of Georgia, and makes up 32.47 percent of the value of all food and fiber commodities grown in the state. The value of broiler production continues to increase, as 2014 saw a 2.57 percent increase in value from 2013 (6). The U.S. per capita consumption of chicken was 58.4 pounds in 2014, higher than both beef and pork (9, 10).[1] Georgia also ranks seventh nationally in egg production, an industry valued at nearly $700 million in the state (3, 6). According to the Center for Agribusiness and Economic Development at the University of Georgia, poultry contributed about $25 billion to Georgia's economy through farms, processing and associated industries in 2015. Approximately 109,000 jobs in the state depend on the poultry industry (7). Highly pathogenic avian influenza is one of the most economically significant animal diseases, and would be devastating to the Georgia economy.

1.3 United States Broiler Exports

The United States exported 7.52 billion pounds of broiler meat in 2014 and is the world's largest producer of poultry (Figure 2) (9, 11). Poultry production in the U.S. is a multi-billion dollar industry valued at $48.3 billion from production of eggs, turkeys, broilers and chicken sales (9). The value of broilers produced makes up nearly 68 percent of that total, valued at $32.7 billion (9). The U.S. exports nearly 18 percent of its total poultry production and globally is ranked second for poultry meat exports (11). Given the amount of global exports, trade negotiations and economic growth in importing markets can greatly influence the U.S. poultry industry (11). Moreover, should the U.S. face a shortage of poultry from a disease outbreak, or import bans are implemented, poultry producers and other stakeholders would be at risk of economic hardship.

[1] Boneless, trimmed (edible) weight, pounds per capita per year.

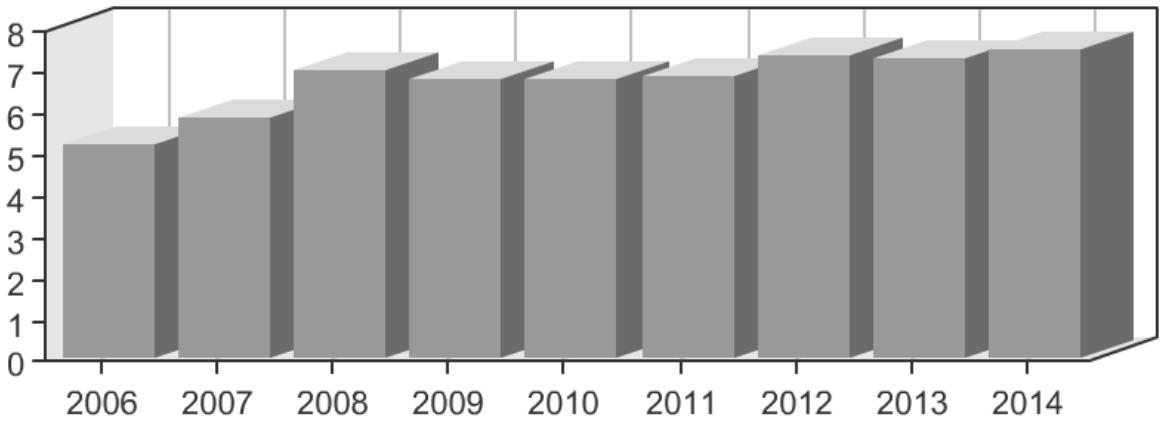

Figure 2: United States Exports of Broilers (Billions of pounds) 2006-2014 (Data from USDA Economic Research Service, 9)

1.4 Trade and Economic Implications as a result of the 2014-2015 HPAI Outbreak

In response to the 2014-2015 outbreak of HPAI, several countries implemented trade bans on U.S. broiler and turkey meat, and to a lesser extent, eggs. By the beginning of 2015, U.S. broiler exports shrunk by 8.4 percent (12) compared to a year prior. Moreover, turkey exports have declined by 11.4 percent in 2015 (12). There have been fifteen countries that have implemented national bans, such as Russia and China, two of the largest importers. Additionally, several other countries have placed bans on specific U.S. states or regions, including most European countries, Canada, and Mexico, the largest importer of U.S. poultry (Figure 3) (12, 13).

According to USDA economic analysis, as of November 30, 2015, cold storage stocks of broiler meat were 28 percent higher than they were a year ago, partly due to trade restrictions from aforementioned countries (14). Due to the increased supply, the 2015 average price for chicken breast decreased by 22 percent from prices a year previously, and other chicken parts

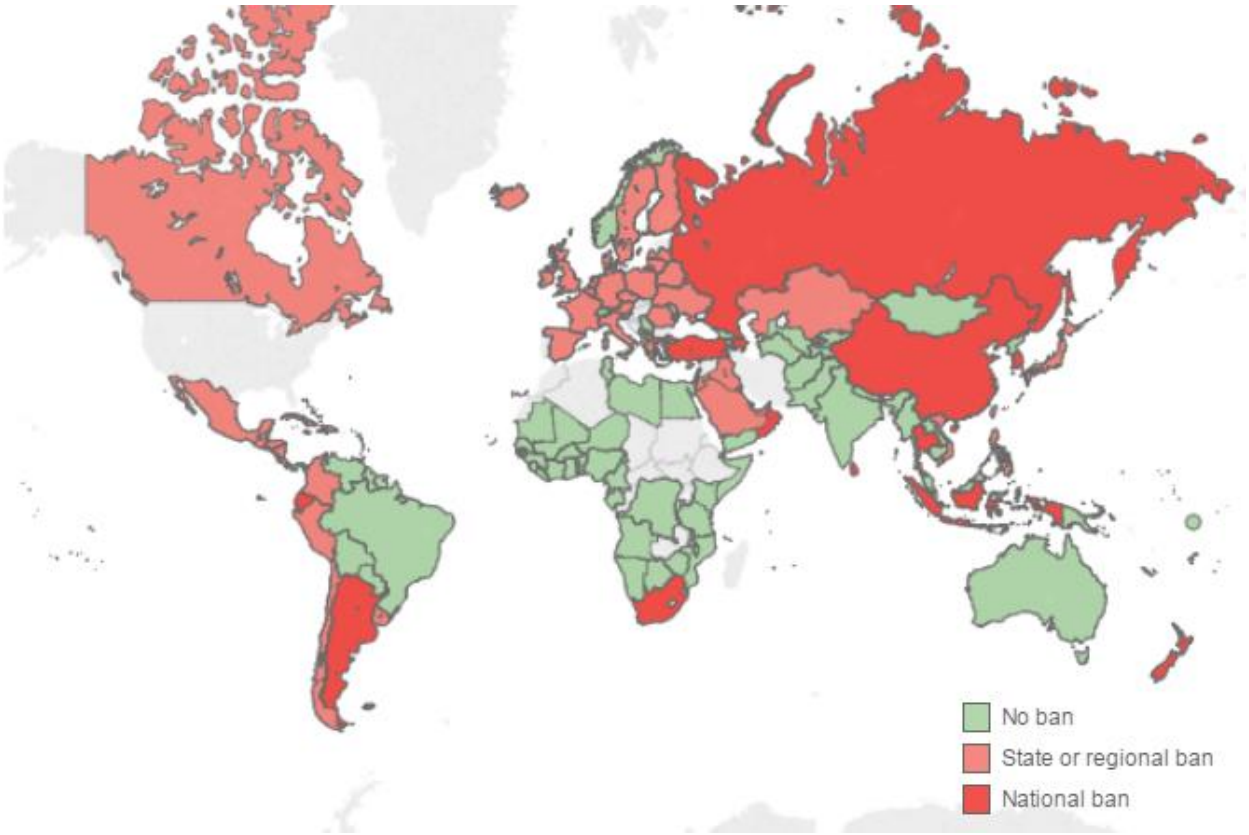

Figure 3: Trade Bans of U.S. Exports of Broiler and Turkey Meat related to HPAI as of June 16, 2015 (Data from USDA Economic Research Service, 12)

saw similar weakened prices (Figure 4) (14). Sustained low prices and a high supply of chicken products can lead to job loss and some producers exiting the industry. An ongoing disease outbreak is not just bad for the poultry, but also the producers and the industry. However, low prices lead some countries to increase imports. Despite the trade bans by several countries, many countries in East and Southeast Asia increased their imports of U.S. broilers due to the lower prices. Vietnam, Taiwan, and Hong Kong all increased their imports by more than 30 percent from 2014 (14). The last case of the 2014-2015 outbreak was in June 2015, and economic forecasters predict that exports will continue to recover, and prices for whole birds will see an upward trend in 2016 (14). It may be difficult to predict when and under what terms countries

will lift their trade bans on U.S. poultry. An outbreak of HPAI in the State of Georgia would likely have global implications.

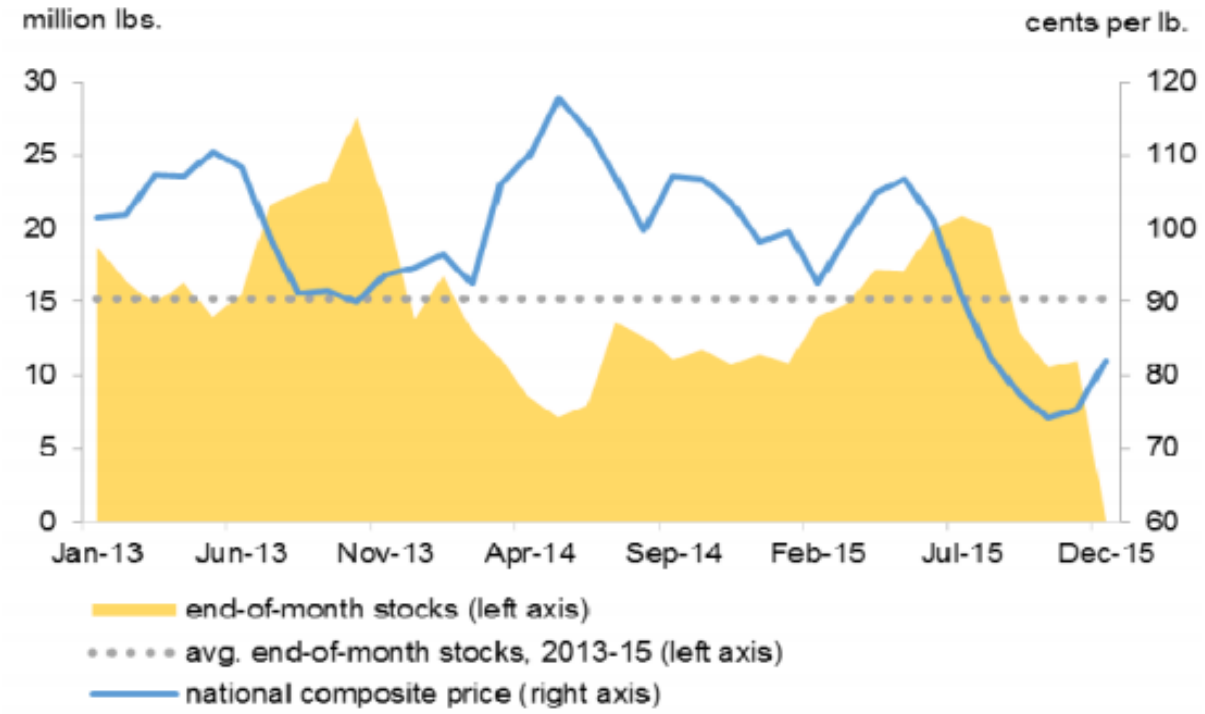

Figure 4: Whole Broiler Stocks and Prices, 2013-2015 (Data from National Agricultural Statistics Service, Agricultural Marketing Service, 14)

1.5 Biology of Highly Pathogenic Avian Influenza

Understanding viral biology allows various stakeholders to better prepare and develop mitigation strategies to prevent and control the spread of the virus. Highly pathogenic avian influenza is caused by a virus that predominantly affects wild and domestic birds and is highly contagious. The virus is naturally carried by wild waterfowl where it typically does not cause disease (17, 18). When wild birds come into contact with domestic poultry, outbreaks can occur. Domestic bird species such as chickens, turkeys, guinea fowl and more than 90 other avian species are susceptible (17). As such, poultry producers should prevent contact from wild birds.

Avian influenza viruses may be generally classified as low pathogenic or highly pathogenic, determined by their pathogenicity for chickens (17). According to the College of Veterinary Medicine at Cornell University,

> Virus classification is based on antigenic differences in the nucleoprotein (NP) and matrix proteins (M1). Further subtyping of the [Avian Influenza (AI)] virus is made based on the presence of 2 glycoproteins on the surface of the virus, hemagglutinin (HA) and neuraminidase (NA). Each AI virus has 1 of 16 different HA subtype glycoproteins and 1 of 9 different NA subtype glycoproteins (e.g. H5N1). The HA and NA protein subtypes confer differences in viral pathogenicity. In LP strains, the HA protein can be cleaved by proteases present only in the respiratory and digestive tracts. In HP strains, proteases in most cells of the body can cleave the protein, resulting in a much wider tissue tropism than mildly pathogenic strains…To date, all highly pathogenic strains of AI have been of the H5 or H7 subtypes (17).

The virus is considered to be unstable, and because of this, it is possible for the virus to mutate from a low pathogenic strain to a highly pathogenic strain (17). This can result in increased spread and mortality among domestic poultry flocks and indicates an urgent response is needed in the event of an outbreak. As waterfowl and other birds migrate, they can transport the virus between various geographic areas, facilitating the spread of the virus. Humans and other mammalian species can become infected with avian influenza virus, but this is rare and most cases are a result of close contact with infected birds (17). For this reason, it is critical that personal protective equipment (PPE) be worn when responding to a potential outbreak.

Highly pathogenic avian influenza can spread quickly through a flock of domestic poultry. The average incubation period is 1-7 days, with a maximum incubation period of 21 days (17, 18). Various factors such as the virus strain, the bird species, age and health status of the bird may affect incubation time, morbidity and mortality. Within 2-12 days of the first sign of illness, morbidity and mortality may reach 100 percent for HPAI (17). This virus can be devastating to large poultry farms that may have thousands of birds on each farm. Knowledge of viral biology has helped determine the most effective biosecurity practices, which can be implemented on poultry farms.

1.6 Laboratory Confirmation of HPAI

If HPAI is suspected on a poultry farm, clinical samples should be promptly submitted to a laboratory with the capacity to accurately diagnose AI. Several laboratories across the United States are able to perform the required reverse transcriptase-polymerase chain reaction (RT-PCR) or real time reverse transcriptase-polymerase chain reaction (rRT-PCR) to test for AI (17). The Georgia Poultry Laboratory Network (GPLN), the Athens Veterinary Diagnostic Laboratory, and the Tifton Veterinary Diagnostic Laboratory are all part of the National Animal Health Lab Network (NAHLN) and a critical component to the outbreak response. The GPLN is primed and ready to perform surge testing capabilities for a regional HPAI event. All HPAI tests should be submitted to NAHLN labs to confirm results. All presumptive cases are then sent to the National Veterinary Services Laboratory (NVSL) in Ames, Iowa for confirmatory testing and results. Rapid testing is an effective way to combat the spread of the virus. Positive test results should be promptly shared with the appropriate stakeholders to determine the best course of

action. Lab directors are a critical component to the overall HPAI response effort and the coordination between the response operations and the lab are crucial.

1.7 Biosecurity Practices

Preventing and controlling the lateral spread of HPAI through biosecurity practices is a main component of Georgia's HPAI response plan. Poultry farms should have established biosecurity practices, and all personnel should be educated in these practices. Eliminating the virus from infected flocks is critical to prevent and control disease spread. Regulators take a stamping out approach to controlling this disease. Depopulation of the poultry flocks is the main method of eliminating the virus, as this eliminates the host of the virus. Depopulation methods such as foaming, ventilation shut-down, and the use of carbon dioxide are effective, tested methods used in an HPAI response. Disease surveillance and rapid diagnostics should be carried out to efficiently detect HPAI. If the virus is detected, appropriate stakeholders, such as the State Veterinarian, Department of Agriculture, USDA Assistant Director, and other predetermined state and federal authorities should be immediately notified. All birds within an infected flock should be euthanized and properly disposed of, and barns should be promptly cleaned and disinfected. This is reflected in the HPAI response plan and appendices.

2.0 Methodology

The 2014-2015 HPAI outbreak served as a catalyst for the creation of the HPAI response plan for the State of Georgia. The HPAI response plan outlines procedures for multi-agency command, handling positive cases, notification activities, and surveillance, among others. To supplement the HPAI response plan, several documents were created to improve response

capacity, including: job descriptions for depopulation teams; mission ready packages describing biosecurity measures, case manager duties, and depopulation protocol; and biosecurity recommendations for responders to include in training methods. In addition to the USDA Poultry Epidemiologist and Emergency Response Coordinator, and GPLN Laboratory Director, several GDA staff members had input in the creation of these documents and HPAI response planning efforts. They include the State and Associate State Veterinarians, the Chief Information Officer, Director of Communications, Chief Financial Officer, Inspector General, Director of Emergency Management, Rapid Response Team Program Manager, Policy Advisors, and Market and Animal Protection Managers. There is the potential for significant public health and economic implications from an outbreak; a detailed and tested HPAI response plan with input from key players will help to mitigate these. Submission to the Institutional Review Board was not required as human subject research was not conducted.

2.1 Creating the HPAI Response Plan

The Georgia LPAI Response Plan, USDA Secure Broiler Supply Plan, and USDA APHIS HPAI Response Plan ("Red Book") were the main documents used to structure the HPAI response plan for Georgia. Producers, Georgia Department of Agriculture staff, Georgia Poultry Laboratory Network staff, subject matter experts and other stakeholders were consulted. The HPAI response plan for the State of Georgia has added updated communication and notification methodologies, case manager duties and responsibilities, indemnity guidelines and additional precautions to the planning document.

The student researcher worked under the direct leadership of the Director of Emergency Management at the Georgia Department of Agriculture to create the HPAI response plan.

Information was gathered by listening to subject matter experts, attending weekly meetings at the GDA with government staff and potential responders, and reviewing documents produced by the USDA, the United States Centers for Disease Control and Prevention (CDC), and various other states that have faced an outbreak of HPAI. These documents ranged from meeting notes, Georgia laws and regulations, university extension guidance documents, state disease response plans, and federal documents and reports from agencies such as the USDA and CDC, among others. The HPAI response plan supports the USDA Animal and Plant Health Inspection Service (APHIS) HPAI Response Plan and reflects the structures and processes of the National Response Framework and National Incident Management System, established by the Federal Emergency Management Agency. This plan can be used by staff at the Georgia Department of Agriculture, as well as other state and federal agencies as applicable. Detailed activities specific to HPAI are compiled in separate annexes of the HPAI response plan.

Prior to developing the plan, the student researcher was trained in infectious disease epidemiology, logistics operations in complex emergencies, and emergency plan development through coursework at the Rollins School of Public Health at Emory University. An initial meeting was held between the student researcher, the Director of Emergency Management at the Georgia Department of Agriculture and the Director of the Georgia Poultry Laboratory Network to discuss updating the existing low pathogenic avian influenza response plan and creating a highly pathogenic avian influenza response plan. The main priorities included creating a plan that is current based on the scientific literature, state and federal regulations and existing response plans, and the methodology of other states in their response to HPAI. All drafts of sections of the HPAI response plan were sent to the Director of Emergency Management at the Georgia Department of Agriculture and the Director of the Georgia Poultry Laboratory Network

for review. The final version of the response plan will be disseminated throughout the GDA and GPLN and to other stakeholders as applicable.

2.2 Supporting Documents to the HPAI Response Plan

Support documents, such as Mission Ready Packages; job descriptions for specific duties, such as depopulation; presentations to describe appropriate biosecurity measures for responders; and workshop training materials for zoos and special collections were created to supplement the HPAI response plan. Additionally, annexes were created to further describe response activities and were adapted from the Georgia LPAI Response Plan, USDA Secure Broiler Supply Plan, and USDA APHIS HPAI Response Plan. Content for these documents was supported and approved by the GDA Director of Emergency Management, and other GDA staff as applicable. These documents were developed from existing protocols, standard operating procedures or other familiar methodology whenever possible to bolster their likeliness of being followed.

2.2.1 HPAI Group Leader Job Descriptions

An organized response to an HPAI outbreak will require the coordination of numerous leaders and key players. Job descriptions for the supervisors of various response groups were developed by the student researcher based on the USDA APHIS HPAI Response Plan in conjunction with the GDA HPAI Incident Commander, the GDA Director of Emergency Management, the Operations Section Chief, and the group supervisors (Appendix C). Six group supervisor job descriptions were created and include: HPAI Surveillance and Testing, Depopulation, Disposal, Cleaning and Disinfection, Biosecurity, and Indemnity. These job descriptions outline the tasks that need to be completed by each group during an HPAI outbreak

response. Specific details of required trainings, needed equipment, job requirements and tasks to be performed help to ensure a more organized response, and will hold group supervisors accountable for their role in a response. Group supervisors will refer to the HPAI response plan for additional details on response efforts.

2.2.2 Mission Ready Packages

The function of a Mission Ready Package (MRP) is to succinctly describe all the resources and support needed for an emergency response and to facilitate requests across states to ensure the recipient is getting the support needed to address a response. An MRP details the task and purpose of the emergency response, required support, equipment, special instructions, and cost, among others. This allows responders to efficiently mobilize, track resources, and budget. Moreover, following a response, an MRP can also ensure timely reimbursement. Three Mission Ready Packages were created for the HPAI response effort, specifically for decontamination, depopulation and disposal (Appendix D). These were developed following meetings with GDA staff, including the GDA Director of Emergency Management and Rapid Response Team Program Manager, and livestock poultry field staff that will work directly in the field during an HPAI response. The creation of these documents will allow for a more organized and efficient response, which is critical during an HPAI outbreak, and can be added to the HPAI response plan as support tools for the State of Georgia.

2.2.3 Biosecurity Presentations

Ensuring strict biosecurity practices are followed on poultry farms is key to preventing an HPAI outbreak. A formal biosecurity powerpoint presentation was developed by the student

researcher and delivered to producers, GDA staff, and other relevant stakeholders at the Georgia National Fair in Perry, Georgia and again at the "HPAI Preparedness Workshop for Animal Parks and Special Collections" at Zoo Atlanta in Atlanta, Georgia (Appendix E). This presentation describes various biosecurity practices that should be implemented on any premise with livestock. Content for the presentation was developed using the USDA Foreign Animal Disease Preparedness and Response Plan (FADPReP) and USDA Secure Broiler Supply Plan. The biosecurity practices demonstrated in the presentations are widely applicable and are outlined in the HPAI response plan for the State of Georgia.

2.3 Updating the HPAI Response Plan

The HPAI response plan is designed to be multi-faceted and dynamic. This plan is a tool to reduce economic impact from HPAI, and as with any response plan, should be adapted as needed for each situation. To combat changes in staffing, organization, and other factors, the plan should be reviewed annually and updated as appropriate. Keeping the plan current and relevant will be the responsibility of the Georgia Department of Agriculture, USDA District 2, the Georgia Poultry Laboratory Network, and other stakeholders to address. All formal updates to the HPAI response plan will be completed by the Georgia Department of Agriculture and will be distributed to stakeholders.

3.0 Results

The final result of the project consists of a combined LPAI and HPAI response plan for the State of Georgia. The response plan is designed to be a streamlined document with further details of the plan moved into annexes. A list of these annexes has been compiled as the last page

of the response plan for easy reference; annexes specific to HPAI are bolded. A document containing all annexes to the LPAI response plan already existed and has been revised to include newly created annexes specific to HPAI.

The purpose of the response plan is to outline the detailed steps that should take place in the event of an outbreak in the State of Georgia.

The plan and annexes cover:

- Establishing a multi-agency command system
- Handling of a presumptive positive case and confirmed positive case;
- Implementing a quarantine or isolation and zone plan;
- Testing and surveillance activities;
- Indemnity;
- Documentation;
- Vaccinating;
- Marketing;
- Education and information sharing;
- Depopulation;
- Disposal;
- Cleaning and disinfection;
- Biosecurity;

The final draft of the response plan and annexes for the State of Georgia will become an appendix to the Emergency Support Function 11 Annex to the Georgia Emergency Operations Plan. It is a goal of this response plan to serve as a reference tool for information and protocols during an HPAI emergency response effort. The response plan will be disseminated

electronically or in hard copy as needed to all stakeholders and responders during an HPAI emergency.

3.1 HPAI Preparedness Workshop for Animal Parks & Special Collections

In an effort to reach producers of backyard poultry flocks, zoos, aquariums, petting farms, wildlife rehabilitators, and other special collections of birds, the student researcher coordinated an HPAI Preparedness Workshop for Animal Parks and Avian Special Collections that was held on March 31, 2016 at Zoo Atlanta in Atlanta, Georgia (Appendix B). Special topics included an overview of the 2014-2015 HPAI outbreak, the role of the GDA, laboratory testing and biosecurity and the role of the GPLN, and HPAI preparedness at Zoo Atlanta and other national zoos. Aspects of the HPAI response plan were presented to the group and were followed by open discussion. Open dialogue is critical for keeping the HPAI response plan relevant for all stakeholders.

4.0 Discussion

The development and creation of the LPAI and HPAI response plan for the State of Georgia is one strategic tool to protect the health of the billions of chickens produced in the State every year, and the people and industry that care for them. The updated plan will be an operational document for the GDA personnel and stakeholders across the State of Georgia and will be shared with producers, and other state departments of agriculture, nationally, if requested. At the interface of the international travel of humans and migration of birds across country borders, there is a growing threat of HPAI to domestic poultry flocks. By developing a response

plan, pre-existing biosecurity practices can be refined, new protocols may be created, and better partnerships may be cultivated between common stakeholders.

During the fall of 2015, the student researcher met with the GDA Director of Emergency Management and GPLN Director to discuss the creation of an HPAI plan with priority items including incident command systems, and communication protocols. After evaluation of the LPAI response plan for the State of Georgia, the LPAI response plan annexes, and the USDA Secure Broiler Supply Plan, it was determined that it would be most effective to create one response plan for LPAI and HPAI, as there would be overlap in response activities for both. Through the duration of this project, plan verbiage and annexes specific to HPAI, such as indemnity and the roles of various state departments, were developed for the overall plan and reviewed by GDA and GPLN staff.

The most difficult, yet arguably most important aspect of creating the response plan was meeting the needs of each stakeholder, and complying with federal response plan standards, established by USDA. There are specific protocols in place from when HPAI virus is detected, to when poultry farms are restocked following cleaning and disinfection. Organizing the needs of stakeholders and building upon a pre-existing response plan for LPAI comprises the scope of this response plan. Steps were taken to ensure that this response plan followed existing federal response plans for HPAI. The HPAI response plan for the State of Georgia will be continually evolving. New plan verbiage for unexpected response efforts will be periodically added, especially given the rapidly moving and evolving field of global infectious diseases and the diversity of poultry producers in the State of Georgia.

The LPAI and HPAI response plan is in the process of becoming an active operational document for the GDA. Once approved by GDA and GPLN staff, it will become an appendix to

the Emergency Support Function 11 Annex to the Georgia Emergency Operations Plan. This strategic plan has been adopted by the State for the coordination and management of disasters between local, state, federal and non-governmental partners. As HPAI has already caused agricultural disasters in other states, it is pertinent that the HPAI response plan be added to this official document.

5.0 Public Health Implications

Through diligent planning and preparedness efforts, the State of Georgia has had no cases of highly pathogenic avian influenza in any poultry flocks, nor humans. However, biosecurity practices should always be closely followed to prevent an outbreak from occurring. Highly pathogenic avian influenza is contagious among susceptible birds, and can spread rapidly, especially among densely populated poultry farms. While humans are not susceptible to the highly pathogenic strain of the virus detected during the 2014-2015 outbreak, influenza viruses have a tendency to mutate. HPAI is zoonotic, and under certain circumstances, it is possible for the virus to mutate and subsequently infect humans. Therefore, any responders should wear the appropriate personal protective equipment. Animal health and public health officials must monitor avian influenza cases to detect novel strains. Ongoing coordination between GDA and the Georgia Department of Public Health has taken place regarding preparedness efforts and recommendations throughout the duration of this project.

From a planning perspective, there must be a sustainable commitment from planners and other stakeholders to update and maintain the LPAI and HPAI response plan and annexes. Challenges such as staff turnover, budget cuts, and economic uncertainty must be considered to prevent gaps in the plan. This response plan is meant to be a functional document, subject to

timely revision to meet the needs of producers, government, industry, and other stakeholders. It has been designed to be brief and easy to read to increase its acceptability and the likelihood that it will be read and used. All responders should be aware of the plan, and be able to access it as needed. The plan should be used and referenced during any planning exercises to maintain its usability.

Highly pathogenic avian influenza does not respect country borders. A single case detected in the State of Georgia could have global implications, resulting in a decreased food supply for countries that ban imports of U.S. poultry products. Should a human case be detected from a mutated strain, there is a potential risk to global health. The Georgia Department of Agriculture strives to protect the health of the State's poultry industry, and through dedicated efforts and the creation of the LPAI and HPAI response plan for the State of Georgia, they are meeting this challenge.

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Appendix A: LPAI and HPAI Response Plan for the State of Georgia

Low Pathogenic Avian Influenza (LPAI) and High Pathogenic Avian Influenza (HPAI) RESPONSE PLAN FOR THE STATE OF GEORGIA 2016

Introduction

- Response Plan to LPAI & HPAI in Commercial & Non-Commercial Poultry in Georgia
- Plan can be modified as outbreak unfolds
- Minimum biosecurity applies to all Georgia farms (Annex 7j)

LPAI Standing Emergency Disease Management Committee, Diagnostic Resources and GPLN

- Standing Emergency Disease Committee is Current Poultry Technical Advisory Committee (PTAC) (Annex 7i)
- Members involved in response would be the ones with farms within the region where the case is located (NW, NE, South GA).

IMPORTANT: Note that in this Plan, GPLN is involved in the following activities for LPAI:

1. Event coordination
2. GIS mapping origination
3. First response teams
4. Diagnostic and monitoring NAHLN Lab activities (Annex 2a & 7k)
    a. Tifton Veterinary Diagnostic Laboratory (TVDL)
    b. Athens Veterinary Diagnostic Laboratory (AVDL)
    c. National Veterinary Services Laboratory (NVSL)

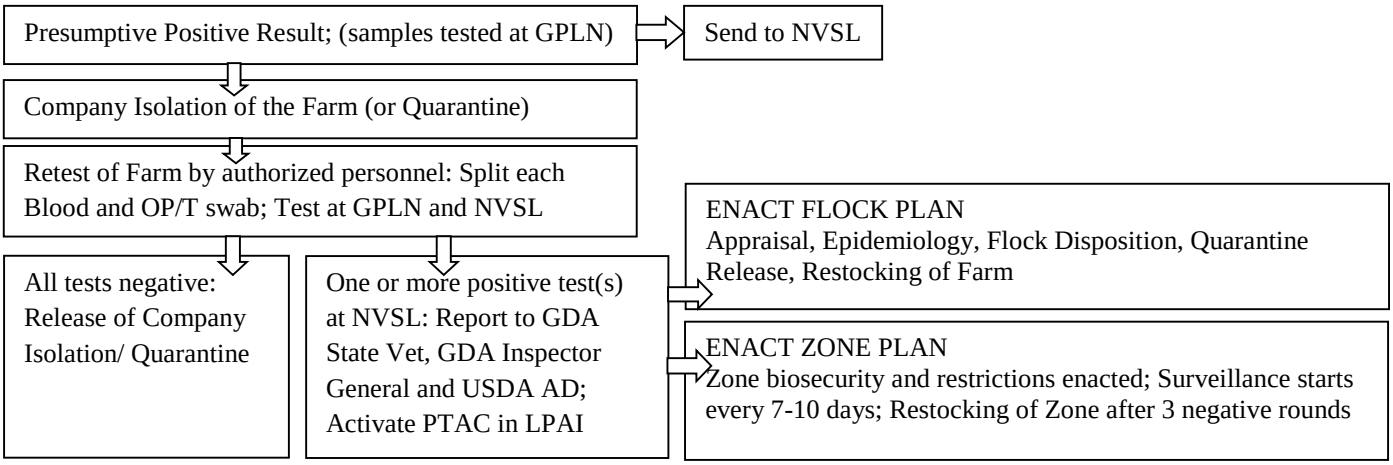
HPAI Multi-Agency Command

- The Georgia Department of Agriculture (GDA) is the primary regulatory agency for animal disease emergencies within the State of Georgia and will coordinate the HPAI response (Annex 8a). The GDA will collaborate with other state departments for specific aspects of a response (Annexes 8b-8i)
- Multi-agency command (MAC) will be notified upon presumptive positive case and will provide policy and coordination efforts for the duration of the response.
    - GDA (State Veterinarian, Inspector General, Director of Emergency Management)
    - USDA Veterinary Services Assistant Director (USDA AD) – District 2
    - GPLN (Laboratory Director)
    - GEMA/HS (Director of Homeland Security)
    - Georgia Poultry Federation (GPF) (President)

IMPORTANT: Note that in this Plan, GPLN is involved in the following activities for HPAI:

1. Support GIS mapping origination
2. Diagnostic and monitoring NAHLN Lab activities
    a. Tifton Veterinary Diagnostic Laboratory
    b. Athens Veterinary Diagnostic Laboratory
    c. National Veterinary Services Laboratory

Summary of Overall Response Activities



HANDLING OF A PRESUMPTIVE POSITIVE CASE

A presumptive positive case is one from which one or more samples is (are): Annex 7n for early testing details

- Positive on serology (AGID) at GPLN, not yet confirmed by NVSL
- Positive on rRT-PCR at GPLN, not yet confirmed by NVSL

1. Presumptive positive samples are sent overnight to NVSL, even if the samples are from a farm outside of GA.
2. With presumptive results at GPLN, the poultry epidemiologist, USDA AD and State Veterinarian are alerted that samples are being sent to NVSL. From that point on, they are made aware of all results and activities.
3. GPLN lets company/owner know of the presumptive positive, GPLN sends Annex 3p to company: Company Isolation (No quarantine yet unless warranted – uncooperative grower or private owner)
4. GPLN arranges for farm visit for 30 blood/30 swabs/house retest the same day when possible; Use pre-prepared "Diagnostic kit" with fresh brain heart infusion broth; Instructions in Annex 1h. Preliminary epidemiological investigation with the grower is started at the time of the re-sampling (Annex 3c); if the farm is in another state, that state's State Veterinarian is notified by GA's State Veterinarian. The follow up testing is decided upon by them, and by the USDA District Office.
5. When retest samples come in to GPLN, each one is split, resulting in 2 identical sets of samples; GPLN retests one split of the samples and overnights the other to NVSL
6. If the result is negative at NVSL, the company is immediately notified by GPLN and the isolation is released: all normal business resumes for the company.

HANDLING OF A POSITIVE CASE

When a sample is confirmed positive at NVSL, GPLN does the following (unless otherwise noted underlined):

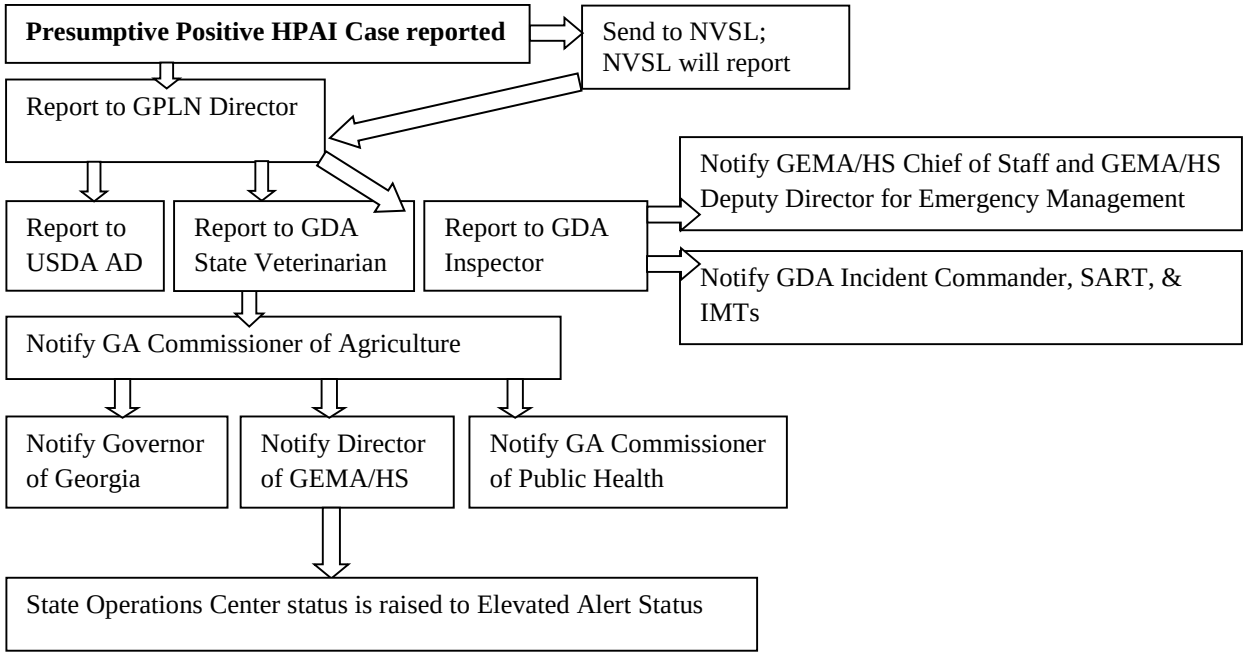
1. The GPLN Director will notify the USDA AD, GDA State Veterinarian, and GDA Inspector General.
2. Submit signed Lab MOU (Annex 3k) to USDA District office.
3. A quarantine is placed on the premise by GDA (Annex 3v) as soon as the case is confirmed positive by NVSL. Quarantines are also placed as needed if dangerous contacts and epidemiological links are identified.

4. Inform the Senior coordinator of the NPIP for LPAI cases, neighboring State Veterinarians, local EMA for HPAI, and as decided by the Committee (GDA) for LPAI.
5. Activate the PTAC (members within 50 miles of case, or by region – Annex 7i) for LPAI: Meetings on a daily basis or as needed, by phone or in person for situation updates.
6. Activate the MAC and IMT for HPAI: Meetings on a daily basis or as needed, by phone or in person for situation updates.
7. Request that non-commercial assemblages that involve poultry in GA be cancelled if deemed necessary. By GDA
8. Request for free range birds to be placed inside by GDA State Veterinarian (Annex 3u).
9. Meet with affected company and discuss their Flock Plan.
10. Preparation for first meeting or conference call:
    - Summarize Lab findings/preliminary epidemiological findings (situational awareness report)
    - Activate GIS, draw 6 mile zone (zones may be added/modified as risk is assessed by PTAC or MAC), with farms labeled on the map and listed
    - Contact companies to get farm status and/or age of birds of all farms in Zones
11. Implement Flock and Zone Plans with PTAC or MAC
    - Summarize case description and lab findings
    - Summarize immediate actions by company
    - Designate embedded official for LPAI
    - Share Flock Plan

NOTIFICATION ACTIVITIES FOR HPAI

Notifications for a presumptive positive test for HPAI will be communicated by the Director of the GPLN to the USDA Assistant Director for District 2, the Georgia Department of Agriculture (GDA) State Veterinarian, and GDA Inspector General (Annex 2g). The presumptive positive sample will be sent to the National Veterinary Services Laboratory (NVSL) in Ames, Iowa for confirmation. The State Operations Center will move from a level 3 (Active Monitoring) to a Level 2 (Elevated Activation) status.

Flow Diagram of Notification Activities for HPAI



Flock Plan by COMPANY, conducted with embedded official; All decisions are risk based (Annex 3l).

- Security: The need for premise security is assessed. The entry to the farm is secured. This will be done by the company and overseen if necessary by GDA, USDA or local law enforcement, who will see that the necessary equipment and personnel are available.
- For suspected HPAI cases, 24 hour security will be provided.
- Enhanced premise biosecurity should be implemented at all times: Follow Annex 1e for grower, Annex 1a for company, Annex 1b for Premise Control Point.
- Schedule Appraisal ASAP:
  - Commercial poultry: Inventory is taken by embedded official before euthanasia, form 1-23 (Annex 3n, 3x, 3y) is filled out and sent the District Office.
  - Non-commercial poultry: A USDA appraiser comes on site (Annex 3n).
- Schedule Epidemiological Investigation: Started by the veterinarian visiting the farm for sampling; completed by a designated poultry veterinarian on a visit within the first week of the diagnosis.
- Decide on depopulation method (in accordance with AVMA & USDA guidelines): GOAL: depopulate within 24 hours of confirmation (Annex 4k).
- Decide on disposal method in accordance with GDA guidelines (Annex 5).
- Decide on C&D procedure (by company or contract) (Annex 6).
- Schedule post C&D testing (Annex 6b).
- Quarantine released after clean post C&D test.

SURVEILLANCE

Implement Zone Plan (6 mile Zone)

- Describe location of farms in 6 mile zone.
- Summarize status of farms in zone.
- Establish if there are dangerous contacts to quarantine.
- Follow Zone Biosecurity (Annex 1f).
- Agree on a 24 hour no movement period; follow Annex 1c for movement and permits (Permit form Annex 3t).
- Surveillance by industry teams. Start within 24 hours. Give lab forms out (Annex 3d).
- GDA starts non-commercial survey in 2 mile Zone.
- Forms to complete (if applicable):
  - Compliance agreement birds (Annex 3f)
  - Compliance agreement eggs (Annex 3g)
  - Cooperative agreement surveillance (Annex 3k)

Priorities for testing within Zones

Test first:

- Farms with an epidemiological link to the suspect flock
- Flocks with higher than expected mortality
- Flocks with clinical signs: drop in egg production or feed refusal
- All broilers ready to go to processing within 6 mile Zone; only negative flocks move (virus detection test within 48 hours of movement)
- On the first round of testing, breeders and layers are tested using virus detection and serology; subsequent testing is virus detection only

Guidelines for surveillance activities (Annex 7b for procedures):

- Use monitoring kit and instructions, Annex 1i.
- Retest every 7-10 days until the affected farm quarantine is lifted.
- Numbers: All bird types: Minimum 10 samples/house, minimum 30 samples/premise.
- Broilers are tested when 21days or older.
- Before releasing the Zone, all farms not yet tested because of age get one round of testing.
- Adult birds are bled on the first round of testing. No eggs are submitted for testing.
- Barrel Surveillance: Annex 7b.
- Instructions for sampling using pre-made kits: Annexes 1h and 1i.

Monitoring Activity: SURVEILLANCE every 7-10 days, 10/house; min 30/premise		
	Serology	**Virus detection**
Zone broilers over 21 days	no	yes
Zone adult birds	Yes; 1st round of testing only	yes
Monitoring Activity: TESTING within 48 hours of movement; If bleeding, within 5 days of movement		
6 mile Zone Adult birds for movement	No, unless this is their first test	yes
6 mile Zone Processing Age broilers	No	yes

Survey and surveillance of non-commercial birds:

Start survey for non-commercial birds within the 2 mile zone (by GDA). Test schedule 10 oropharyngeal/trachea (OP/T) swabs from live birds and, if available, OP/T swabs from mortality. Follow Annex 1g for instructions regarding sample type and handling different species. During the visit, explain and leave Annex 3w. Repeat every 7-10 days.

Quarantine release and repopulation and continue surveillance:

- The positive farm will be released from quarantine after C&D and proof of absence of virus (Annex 6b).
- The quarantines on dangerous contacts and epidemiological links are lifted after 2 rounds of negative testing
- The farms in the 2 mile Zone can be repopulated after 3 rounds of negative testing of the 6 mile Zone; although decisions about repopulating the farms within 1 mile to the case will be made by the Committee/MAC, and will depend on risk.
- Surveillance every 7-10 days in the 6 mile Zone continues until the affected farm is released from quarantine.
- After the 3 rounds of testing in the 6 mile Zone every 7-10 days, relax to every 2-3 weeks
- Monitoring after last positive flock is released from quarantine
    - All populated farms (over 21 days old) within the 2 mile Zone once a month for 2 more months.
    - Sixty days after the affected farm quarantine is lifted, monitoring returns to NPIP levels.

NON-COMMERCIAL POULTRY ACTIVITIES WITHIN THE ZONE

- When the premises are found and tested, the situation is explained to the non-commercial poultry owners to not buy or sell/give away birds for the period of the outbreak. Letters are left with them and explained (Annex 3w).
- Quarantine, testing, and repopulation activities in non-commercial poultry will follow the same guidelines listed above.

INDEMNITY

Low Pathogenic Avian Influenza

USDA has 100% indemnity for flocks in states that participate in the NPIP AI monitored program and that have an approved avian influenza Containment and First Response Plan, only if funds are available. Indemnity may not be available if birds are depopulated prior to USDA approval. Companies have to submit an estimate of costs for depopulation, disposal and C&D for approval. Annex 3r can be used as a guide. After the activities, receipts have to be submitted for reimbursement. Specific rules addressing appraisals, destruction, disinfection and claims are addressed in 9CFR 53.3-11 and 9CFR 56.8.

High Pathogenic Avian Influenza

According to USDA APHIS, for indemnity and compensation specific to HPAI, the assigned case manager will work with producers to sign an appraisal and indemnity request form and accept fair market value for birds. Once this paperwork is complete, and depopulation work is underway, APHIS will prepare the full appraisal and related paperwork with the compensation amount, which is split between owner and grower if they are separate entities. Once the full appraisal and related paperwork is signed and returned to the case manager, USDA can finalize the indemnity payment.

For a producer to receive payment, they must register their "DUNS" number through the Federal Government's System for Award Management (SAM). A DUNS number is the standard business identifier for Federal electronic commerce (Annex 3u & 3v).

DOCUMENTATION

Throughout the outbreak, situational awareness reports will be prepared every day or as needed, by the person in charge of the event or designee (Annex 3b & 3z).

VACCINES

GDA would consider vaccination:

- In some extreme circumstances where very large numbers of confined poultry would be found positive such as commercial layers.
- As a means towards eradication, and <u>not</u> as a sole control method.

The process of approval will include concurrence of the State Veterinarian and approval of the Deputy Administrator of USDA for vaccines as part of the eradication program.

Forms needed:

- Transfer of vaccine (Annex 3j)
- Covering cost of vaccination (Annex 3i)

Vaccine would be purchased and administered by the company and be under the control and permitted for use by the State of GA. The Federal and State role in the vaccination process will be limited to oversight and monitoring. The State of Georgia's strategy would use inactivated vaccine (Same H type, different N type in vaccine). Vaccinating will only be considered for primary breeders, and/or pullets or adult birds on multiage complexes with the goal of eradicating avian influenza.

CONTROLLED MARKETING FOR LPAI

Controlled marketing (processing virus negative, antibody positive flock) will only be considered under extreme circumstances. This will not be considered for HPAI.

EDUCATION PROGRAMS

In 2014, an educational poster was placed on every GA farm as a result of a USDA cooperative agreement. GPLN is consistently in contact with industry regarding disease events. In 2015 and 2016, outreach efforts have included meetings, workshops, and other events with industry representatives, backyard poultry growers, animal parks and special collections, county extension agents, emergency management agencies, healthcare coalitions, and elected officials to promote biosecurity initiatives and the potential impact of avian influenza.

Plan Quick Reference Chart

GPLN LPAI/HPAI Plan Quick Reference Chart	
Quarantine released and farm repopulation	After C&D and negative environment test
2 mile Zone repopulation	After 2 rounds of negative tests for all farms
Number of samples monitored/ farm	10 per house – 30 minimum
Number of foamers in GA	5 (3 trailer foamers at GPLN, 1 Kifco at GPLN, 1 Kifco at Fieldale)
Zone sizes	2 and 6 miles
Critical Forms	MOU Flock Plan (3l) and Appraisal Form (3n)
Depopulation method of choice	Foaming
Anticipated cost of E, D, and C&D	Breeders: $3/bird; Broilers: $0.75/bird (commercial poultry)
Approved AI testing labs	GPLN, AVDL, TVDL
Embedded Officials for LPAI	Drs. Anderson, Crane, Johnson, Smeltzer, Surles, Zavala

Annexes

(**Bold** delineates HPAI specific)

1. Biosecurity
    a. Biosecure deliveries (Feed trucks)
    b. Biosecure essential visit to a positive farm
    c. Movement of poultry and poultry products
    d. Premise control point (PCP)
    e. Positive farm biosecurity (grower/company)
    f. Zone Biosecurity
    g. Monitoring a non-commercial flock
    h. AI Diagnostic sampling
    i. AI Monitoring sampling

2. Contacts
    a. Laboratory contacts
    b. Industry Contacts
    c. GDA Livestock and Poultry
    d. USDA Contacts
    e. Landfills
    f. Rendering Plants
    g. Notification Activities

3. Forms
    a. NVSL submission form (10-4)
    b. Situation report (LPAI)
    c. Epi questionnaire
    d. Lab submission form for GPLN
    e. Utilities form letter
    f. Compliance agreement for euthanasia and disposal
    g. Compliance agreement for egg destruction
    h. Compliance agreement for C&D
    i. Cooperative agreement for payment for vaccine administration
    j. Cooperative agreement for vaccine transfer
    k. Cooperative agreement for the payment of surveillance costs
    l. MOU Flock Plan
    m. PCP Form
    n. Appraisal form 1-23
    o. CVI for movement of poultry from LPAI
    p. Company isolation: Letter of notification
    q. Euthanasia to proceed
    r. Estimated costs and useful numbers
    s. Indemnity request for LPAI
    t. Permit for movement
    u. Letter for free range birds
    v. Quarantine placement
    w. Letter to non-commercial poultry owners
    x. Indemnity Information for HPAI
    y. HPAI Indemnity Process
    z. Situational Awareness Reporting (HPAI)

4. Euthanasia
    a. CO2: Breeder floor
    b. CO2: Broiler floor
    c. CO2: Enclosures
    d. CO2: Whole House
    e. CO2: Carts
    f. CO2: Backyard
    g. Foaming using trailer
    h. Foaming trailer: Checklist of supplies
    i. Foaming using Kifco
    j. Kifco: Checklist of supplies
    k. Selecting Depopulation Method

5. Disposal
    a. GDA animal mortality summary
    b. Disposal by county
    c. Composting summary
    d. Moving materials off premises

6. Cleaning and Disinfection
    a. GDA C&D document
    b. Swabbing after C&D

7. Miscellaneous
    a. Supplies available at Oakwood
    b. Blood and Barrel Surveillance SOGs
    c. PPE
    d. GA rule for poultry movement from an LPAI state
    e. Approved appraisers
    f. Embedded officials
    g. Trade issues
    h. Packaging & Labeling requirements for shipment
    i. PTAC contacts
    j. Minimum biosecurity for all farms
    k. Diagnostic resources (Labs)
    l. GA AI Surveillance Programs
    m. Definitions and Acronyms
    n. GPLN Early testing details

8. Roles of State Departments
    a. Georgia Department of Agriculture
    b. Georgia Department of Public Health
    c. Georgia Department of Transportation
    d. Georgia Forestry Commission
    e. Georgia Department of Natural Resources
    f. Georgia Department of Public Safety
    g. Georgia Department of Defense
    h. Georgia Emergency Management Agency/Homeland Security
    i. Georgia Information Sharing & Analysis Center

Appendix B: Agenda for HPAI Preparedness Workshop for Animal Parks & Special Collections

Agenda

Prevention & Control of Highly Pathogenic Avian Influenza
For Animal Parks & Special Collections

March 31, 2016 | Zoo Atlanta

9:00am Welcome and Introductions

9:15am Highly Pathogenic Avian Influenza Outbreak History & Overview
Joanna Davis, DVM
Emergency Coordinator, USDA APHIS Veterinary Services

9:30am Role of the GA Department of Agriculture in an HPAI Response
Venessa Sims, Director of Emergency Management
Georgia Department of Agriculture

10:00am HPAI Testing & Biosecurity
Doug Anderson, DVM
Veterinary Director, Georgia Poultry Laboratory Network

Break

10:45am Active Monitoring for HPAI in Georgia
Audrey Kunkes, MPH
Influenza Surveillance Coordinator, Georgia Department of Public Health

11:00am Avian Influenza Response Guidelines at Zoo Atlanta
Hayley Murphy, DVM
VP of Animal Divisions, Zoo Atlanta

11:30am HPAI Preparedness for Animal Parks and Special Collections
Jeanie Lin, DVM, MPH, MLA
Veterinary Medical Officer, National Emergency Management, Animal Care, USDA
Yvonne Nadler, DVM, MPH
Program Manager, ZAHP Fusion Center

12:00pm Open Discussion & Question/Answer Session
All Participants

12:30pm Adjourn for Lunch
Little Azio, Pizza & Pasta
749 Moreland Ave.
Atlanta, GA 30316

Appendix C: HPAI Group Supervisor Job Descriptions

HPAI Surveillance

Group Supervisor:

Name & Job Title:	**Contact Number:**
Job Requirements ▪ Implement surveillance plans within 48 hours of the confirmation of an outbreak. ▪ Implement a surveillance plan that will (1) define the present extent of HPAI and (2) detect unknown infected premises. ▪ Coordinate with APHIS Wildlife Services, the U.S. Department of Interior, State wildlife agencies, and State agriculture departments to perform appropriate HPAI surveillance in susceptible wildlife populations. ▪ Provide complete surveillance data summaries and data analysis at intervals as specified by IC. ▪ Develop effective surveillance plans that can achieve desired outcomes by leveraging available resources, satisfying jurisdictional requirements, and implementing continuity of business measures.	**Training Required** ▪ Medical Clearance & Fit Testing ▪ Biosecurity Training ▪ Current Driver's License ▪ ICS 100, 200, 300, 400, 700 & 800
Tasks to be Performed ▪ Detect HPAI infected premises during an outbreak (pages 11-15, 32). ▪ Determine the size and extent of an HPAI outbreak (pages 19-29). ▪ Supply information to evaluate outbreak control activities. ▪ Provide information for animal and product movement within the Control Area. ▪ Provide information for animal and product movement out of the Control Area. ▪ Prove disease freedom and regain disease-free status after the outbreak (pages 24-29).	**Equipment Needed to Perform Tasks** ▪ See attached equipment list (pages 34-36) of USDA HPAI Surveillance Plan (link below)
Completion Time & Date	
Additional Needs Adapted from USDA HPAI Surveillance Plan: https://www.aphis.usda.gov/animal_health/emergency_management/downloads/sop/sop_hpai_surveillance.pdf	

HPAI Depopulation

Group Supervisor:

Name & Job Title:	**Contact Number:**
Job Requirements ▪ Primary responsibility for ensuring that depopulation measures are implemented effectively during an HPAI response and that all personnel are familiar with the proper techniques for the specific incident being managed. ▪ Determining the number and types of personnel, vehicles, and equipment needed to conduct depopulation operations. This includes communicating with the Operations Section Chief to ensure that the required resources are available. ▪ Coordinating with farm owners and/or managers regarding all phases of depopulation. ▪ After a presumptive positive HPAI case, initiate depopulation within 24 hours (carbon dioxide/other gas, foaming, ventilation shut down).	**Training Required** ▪ Medical Clearance & Fit Testing ▪ Biosecurity Training ▪ Current Driver's License ▪ ICS 100, 200, 300, 400, 700 & 800
Tasks to be Performed ▪ Investigate contact premises and determine appropriate depopulation method. ▪ Depopulate premises based on standard protocol and guidelines, maintaining biosecurity ▪ Ensure biosecurity practices at all stages of depopulation. ▪ Work closely with Disposal Team and others.	**Equipment Needed to Perform Tasks** ▪ 1 NC poultry foaming unit, tool kit, hose pipe ▪ 2 pallets of foam (480 gallons) ▪ Disinfectant (Clorox/Virkon) & PPE (Chemtec suits & muck boots, respirators, respirator cartridges, gloves) for 2 days ▪ 6 metal fence posts ▪ Trash bags ▪ Large Tub, (3) foot baths, (5) 5 gallon buckets, (3) 50 gallon trash cans ▪ 5 Long handle scrub brushes (2 soft, 3 bristle) ▪ Duct tape & caution tape ▪ Honda generator & fuel cans (generator & foamers) ▪ Batteries, battery charger, extension cord, power strip ▪ Water cooler ▪ Portable lights
Completion Time & Date	
Additional Needs Adapted from USDA Guidelines for Mass Depopulation: http://www.cfsph.iastate.edu/pdf/fad-prep-nahems-guidelines-mass-depopulation-and-euthanasia	

HPAI Disposal

Group Supervisor:

Name & Job Title:	**Contact Number:**
Job Requirements ▪ The Disposal Group Supervisor is in charge of all Disposal Teams (Strike Team and Task Force) and Disposal Team members. Must have extensive training and experience in the proper disposal methods of euthanized animals and animal materials, including biohazard materials generated during a response following an outbreak. ▪ Demonstrate knowledge of applicable environmental and waste transportation regulations. ▪ Serve as a technical resource for information on current disposal methods and procedures, and consult with a disposal subject matter expert as needed to select a site and method, and to determine the operational timeline. ▪ Possesses management skills needed to organize and direct all disposal activities for an incident. ▪ The Disposal Group Supervisor reports to the Disease Management Branch Director. Individuals selected as Disposal Group Supervisors should be identified and trained before an animal health emergency occurs.	**Training Required** ▪ Medical Clearance & Fit Testing ▪ Biosecurity Training ▪ Current Driver's License ▪ ICS 100, 200, 300, 400, 700 & 800
Tasks to be Performed ▪ Identify services: dead stock haulers (transportation), heavy equipment operators, disposal/treatment sites, material suppliers, PPE, other disposal equipment. ▪ Inventory of the supplies, equipment, and personnel available on-site. ▪ Verify all permits and approvals obtained. ▪ Identify all waste materials and determine disposal method. ▪ Dispose of hazardous materials according to standard protocol and guidelines, ensuring biosecurity, and abiding by local, state, and federal regulations.	**Equipment Needed to Perform Tasks** ▪ 2 fence posts ▪ Disinfectant (Clorox/Virkon) for 2 days; Lysol (case); Dawn soap ▪ PPE (Chemtec suits & muck boots, respirators, respirator cartridges, gloves) ▪ 5 long handle scrub brushes (2 soft, 3 bristle) ▪ Duct tape, caution tape ▪ Trash bags ▪ Pressure washer or similar device ▪ Generator, fuel can, work lights ▪ Tub, 3 foot baths, (3) 50 gallon trash cans ▪ Undercarriage extension cleaner ▪ Canopy tent
Completion Time & Date	
Additional Needs Adapted from USDA Disposal SOP: https://www.aphis.usda.gov/animal_health/emergency_management/downloads/sop/sop_disposal.pdf	

HPAI Cleaning & Disinfection

Group Supervisor:

Name & Job Title:	**Contact Number:**
Job Requirements ▪ This individual is in charge of all C&D Teams and has the primary responsibility for ensuring that C&D measures are implemented effectively during an HPAI outbreak. ▪ Ensures all C&D personnel are familiar with the proper C&D techniques to manage or eliminate transmission of the pathogen. ▪ Coordinating C&D Group activities with other response Groups. ▪ Management skills to direct and supervise all activities of the C&D Group for an incident. ▪ Extensive job or knowledge and experience in C&D in past incidents or part of FT position.	**Training Required** ▪ Medical Clearance & Fit Testing ▪ Biosecurity Training ▪ Current Driver's License ▪ ICS 100, 200, 300, 400, 700 & 800
Tasks to be Performed ▪ Perform cleaning for ongoing biosecurity measures on premise(s). Cleaning is the removal of gross contamination, organic material, and debris from the premises. ▪ Clean through mechanical means like sweeping (dry cleaning) and/or the use of water and a soap or detergent (wet cleaning). ▪ Perform disinfection for ongoing biosecurity measures on premise(s). Disinfection refers to the methods that are used on surfaces to destroy or eliminate HPAI virus. ▪ Perform disinfection via physical (e.g., heat) or chemical (e.g. disinfectant) means. A combination of methods may be required; all disinfectants must be EPA approved for HPAI. ▪ Cleaning and disinfection of vehicles (on and off farm) and equipment.	**Equipment Needed to Perform Tasks** ▪ 2 fence posts ▪ Disinfectant (Clorox/Virkon) for 2 days; Lysol (case); Dawn soap ▪ 5 long handle scrub brushes (2 soft, 3 bristle) ▪ PPE (Chemtec suits & muck boots, respirators, respirator cartridges, gloves) ▪ Duct tape, caution tape ▪ Trash bags ▪ Pressure washer or similar device ▪ Generator, fuel can, work lights ▪ Tub, 3 foot baths, (3) 50 gallon trash cans ▪ Undercarriage extension cleaner ▪ Canopy tent
Completion Time & Date	
Additional Needs Adapted from USDA Cleaning & Disinfection Guidelines: https://www.aphis.usda.gov/animal_health/emergency_management/downloads/nahems_guidelines/cleaning_disfection.pdf	

HPAI Biosecurity

Group Supervisor:

Name & Job Title:	**Contact Number:**
Job Requirements ▪ Develop incident biosecurity plans, fixed operation biosecurity plans, and mobile operation biosecurity plans before the incident or outbreak. ▪ Train personnel and/or develop just-in-time training that can be readily available for additional personnel. ▪ Ensure that biosecurity procedures to prevent the spread of HPAI are implemented within 24 hours of identifying the index case to prevent the spread of HPAI. ▪ Implement rapid coordination and identification of the resources needed to implement biosecurity operations, including the necessary types and quantity of PPE and disinfectants, and the personnel requirements to implement biosecurity plans. ▪ Implement a biosecurity plan for all Infected Premises (IP), Contact Premises (CP), Suspect Premises (SP), checkpoints, and livestock and poultry facilities.	**Training Required** ▪ Medical Clearance & Fit Testing ▪ Biosecurity Training ▪ Current Driver's License ▪ ICS 100, 200, 300, 400, 700 & 800
Tasks to be Performed ▪ Create a site-specific biosecurity plan and submit it to the Incident Commander for approval. ▪ Consult with Biosecurity Team Leaders to assess the need for biosecurity personnel, vehicles, and equipment during a response. ▪ Determine the number and type of personnel and resources needed to conduct biosecurity operations. ▪ Communicate with the Operations Section Chief to ensure availability of resources and advise the Operations Section Chief of personnel requirements that cannot be satisfied locally so that arrangements for additional personnel can be made. ▪ Verify the credentials, training, and security clearances of all personnel assigned to the Biosecurity Group. Maintain documentation indicating that credentialing requirements have been met. ▪ Serve as a resource for technical information about biosecurity methods and procedures and maintain files and resource materials.	**Equipment Needed to Perform Tasks** ▪ Respirator ▪ PPE (Chemtec suits & muck boots, respirators, respirator cartridges, gloves) ▪ Pens, Pencils & Paper, Calculators ▪ Disinfectant (Clorox/Virkon) for 2 days; Lysol (case); Dawn soap ▪ 5 long handle scrub brushes (2 soft, 3 bristle) ▪ Garbage bags ▪ Water supply ▪ Duct tape, caution tape ▪ Pressure washer or similar device ▪ Generator, fuel can, work lights ▪ Tub, 3 foot baths, (3) 50 gallon trash cans
Completion Time & Date	
Additional Needs Adapted from USDA Biosecurity Guidelines/SOP: https://www.aphis.usda.gov/animal_health/emergency_management/downloads/sop/sop_hpai_biosecurity.pdf	

HPAI Indemnity

Group Supervisor:

Name & Job Title:	**Contact Number:**
Job Requirements ▪ Knowledge regarding the indemnity process. Indemnity payments are used to encourage disease reporting, reduce the spread of animal disease, and compensate owners on the basis of fair market value. ▪ Management skills to direct and supervise all activities of the Indemnity Group on an incident ▪ Extensive job or knowledge and experience in Indemnity in past incidents or part of FT position. ▪ Oral, written, and communication skills.	**Training Required** ▪ Medical Clearance & Fit Testing ▪ Biosecurity Training ▪ Current Driver's License ▪ ICS 100, 200, 300, 400, 700 & 800
Tasks to be Performed ▪ Verify approval of depopulation of poultry prior to indemnity process beginning. ▪ Assemble and bring Appraisal Packets (VS Form 1-23 with continuation sheets VS 1-23a to allow for the listing of animals and materials to be destroyed) to premise. ▪ Verify Owner(s) name & address. ▪ Explain the appraisal process and the purpose of compensation to the owner or the owner's representative. ▪ Ensure owner or owner's representative(s) are aware of the Owner –Claimant Mortgage Certification on VS Form 1-23 concerning liens and mortgages. The Owner-Claimant Mortgage Certification is to be signed by the owner and by each person holding a mortgage on the animals or materials. ▪ Determine inventory of animals and materials to be destroyed. Indemnity is based upon inventory (verify number of birds on day of confirmatory disease diagnosis). ▪ Collect comprehensive visual records of animals and property made with a camera, or video camera. ▪ Cross-check the figures on appraisal forms to verify accuracy and completeness; once cross-checking is complete obtain signature of the owner or owner's representative on the forms, forward the forms to the USDA Point of Contact (POC) for Indemnity Claims (APHIS's Marketing and Regulatory Programs Business Services/FSA) or alternate as defined by IC. ▪ Bring in Special Expert Appraiser (USDA staff) for special/exotic collections, as necessary. ▪ Oversee and coordinate handling of appraisal disputes.	**Equipment Needed to Perform Tasks** ▪ Respirator ▪ PPE (Chemtec suits & muck boots, respirators, respirator cartridges, gloves) ▪ VS Form 1-23 "Appraisal and Indemnity Claim Form" & VS 1-23a "Continuation Sheets" ▪ Pens, Pencils & Paper, Calculators
Completion Time & Date	
Additional Needs Adapted from USDA Indemnity Details for Bird and Egg Appraisal & Indemnity Procedures: https://www.aphis.usda.gov/animal_health/emergency_management/downloads/hpai/2-detailhpaiappraisalindemnitybirdegg.pdf	

Appendix D: HPAI Mission Ready Packages

	Poultry Depopulation Strike Team—Mission Ready Package		
a.	**TASK & PURPOSE:** ▪ To provide poultry depopulation for disaster/disease operations ▪ To prevent disease transmission from infected site location ▪ To prevent public health implications by remaining live/dead poultry impacted by disaster/disease	**b.**	**MISSION:** ▪ Perform tasks according to established biosecurity guidelines to prevent disease spread ▪ Perform Situational Assessment of poultry house with local authorities regarding structural safety for personnel and animals ▪ Poultry depopulation by foam machine or other recognized means
c.	**ESFs:** 8, 11	**d.**	**LIMITATIONS:** ▪ Re-supply of foam and water will require assistance ▪ Water needs to be sourced by local authorities (10,000 gallons/house) ▪ Water required for C&D capabilities as well
e.	**PERSONNEL:** ▪ 6-8 person strike team, including Team Lead	**f.**	**EQUIPMENT:** ▪ 1 NC poultry foaming unit, Tool kit, Hose pipe ▪ 2 pallets of Foam (480 gallons) ▪ Disinfectant (Clorox/Virkon) & PPE (Chemtec suits & muck boots, respirators, respirator cartridges, gloves) for 2 days ▪ 6 metal fence posts ▪ Trash bags ▪ Large Tub, (3) foot baths, (5) 5 gallon buckets, (3) 50 gallon trash cans ▪ 5 Long Handle Scrub Brushes (2 soft, 3 bristle) ▪ Duct Tape & Caution Tape ▪ Honda Generator & Fuel Cans (Generator & Foamers) ▪ Batteries, Battery Charger, Extension Cord, Power Strip ▪ Water Cooler ▪ Portable Lights
g.	**REQUIRED SUPPORT:** ▪ Billeting and meal support ▪ Vehicles/Transportation ▪ Fuel support for vehicles ▪ Water source ▪ Maps of disaster response area	**h.**	**WORKS WITH:** ▪ State and Local EOC's ▪ Local Public Works/Fire Department ▪ Environmental Protection Agency (EPA) ▪ Zoning
i.	**N-HOUR SEQUENCE:** N+48	**j.**	**SPECIAL INSTRUCTIONS:** ▪ Self-supporting for up to first 72 hours ▪ Interface with local/state/federal public health environmental health, business, and emergency response operations ▪ 30 day deployment ▪ Team size based upon facility square footage and/or field size ▪ Cost will vary upon number of foam units returned
k.	**ESTIMATED COST PER DAY: PERSONNEL: $ EQUIPMENT: $ TOTAL: $**		

HPAI Decontamination Strike Team—Mission Ready Package

TASK & PURPOSE:
- To conduct C& D operations and associated decontamination efforts for animal disease response and assigned to animal depopulation team
- Assist personnel exiting the hot zone
- To prevent disease transmission from infected site location
- To protect workers and maintain the hot and cold line
- Assist cold side team member with resupply

b. MISSION:
- Provide site assessment of property to determine appropriate decon line site and appropriate premise point of entry location(s)
- Set up hot, warm, cold zone and decontamination stations for site location
- Perform decontamination of people, vehicles and equipment entering and exiting site location
- Coordinate disposal of spent PPE

ESFs:
5, 8, 11

d. LIMITATIONS:
- Need water to perform operations
- Require disinfectant to perform operations
- Equipment breakdowns; maintenance support may be required based upon team composition

PERSONNEL:
- 2-4 person strike team, including Team Lead

f. EQUIPMENT:
- 2 fence posts
- Disinfectant (Clorox/Virkon) for 2 days; Lysol (case); Dawn soap
- 5 long handle scrub brushes (2 soft, 3 bristle)
- Duct tape, caution tape
- Trash bags
- Pressure washer or similar device
- Generator, fuel can, work lights
- Tub, 3 foot baths, (3) 50 gallon trash cans
- Undercarriage extension cleaner
- Canopy Tent

REQUIRED SUPPORT:
- Billeting and meal support
- Vehicles/Transportation
- Fuel support for vehicles
- Water source
- Maps of disaster response area

h. WORKS WITH:
- State and local EOC's
- Farm/Property Owner
- Environmental Protection Agency
- Zoning

N-HOUR SEQUENCE:
N+48

j. SPECIAL INSTRUCTIONS:
- Self-supporting for up to first 72 hours
- Interface with local/state/federal public health environmental health, business, and emergency response operations
- 30 day deployment
- Team size based upon farm/property ingress/egress points
- Cost will vary upon number of foam units returned

ESTIMATED COST PER DAY: PERSONNEL: $ EQUIPMENT: $ TOTAL: $

Poultry Disposal Strike Team—Mission Ready Package

a. TASK & PURPOSE:

- Coordinate disposal methodology with IC and calculate input requirements based on the # of birds and type of disposal: compost, bury, incineration, rendering or landfill
- Burial: Coordinate equipment operators and dimensions of pit area depending on EPA/state requirements. Oversee pit construction area (venting, etc.)
- Composting: Determine in house or external site composting depending on bird type. In House/External: Coordinate equipment and windrow set-up, carbon and nitrogen sources, water, and compost construction. In-House Composting, Breeder houses include movement of slat structures. Monitor temps according to established guidelines
- Rendering and Landfill: Coordinate with business owners regarding animal disposal and personnel exposure requirements
- Coordinate site assessment with soil scientists or state EPA
- Implement disposal strategy to deal with poultry impacted by natural disaster or disease

b. MISSION:

- Perform tasks according to established biosecurity guidelines to prevent disease spread
- Protect public health and food and agriculture infrastructure
- Conduct disposal assessment
- Perform selected disposal implementation method at poultry site
- Assess poultry house with local authorities regarding structural safety for personnel and animals and perform disposal method according to established procedures
- Dispose of disease/disaster impacted poultry
- Perform disposal monitoring

c. ESFs:

3, 5, 8, 11

d. LIMITATIONS:

- Head room restraints for equipment in houses (short/no cabs)
- House construction may impact response efforts in breeder house
- Carbon and nitrogen source, and water are essential to perform composting tasks
- Heavy equipment and trainer operators

e. PERSONNEL:

- 5-6 person strike team, including Team Lead

f. EQUIPMENT:

- 2 fence posts
- Disinfectant (Clorox/Virkon) for 2 days; Lysol (case); Dawn soap
- 5 long handle scrub brushes (2 soft, 3 bristle)
- Duct tape, caution tape
- Trash bags
- Pressure washer or similar device
- Generator, fuel can, work lights
- Tub, 3 foot baths, (3) 50 gallon trash cans
- Undercarriage extension cleaner
- Canopy Tent

g. REQUIRED SUPPORT:

- Billeting and meal support
- Vehicles/Transportation
- Fuel support for vehicles
- Water source
- Maps of disaster response area

h. WORKS WITH:

- State and Local EOC's
- Farm/Property Owner
- Environmental Protection Agency
- Zoning

i.	**N-HOUR SEQUENCE:** N+48	**j.**	**SPECIAL INSTRUCTIONS:** ▪ Self-supporting for up to first 72 hours ▪ Interface with local/state/federal public health environmental health, business, and emergency response operations ▪ 30 day deployment ▪ Team size based upon farm/property ingress/egress points ▪ Cost will vary upon number of foam units returned
k.	**ESTIMATED COST PER DAY: PERSONNEL: $ EQUIPMENT: $ TOTAL: $**		

Appendix E: HPAI Biosecurity Powerpoint Presentation

Georgia Dept. of Agriculture

Highly Pathogenic Avian Influenza

Response

Jacob D. Swanson

1

What the GA Dept. of Ag is Doing

- Dedicated Staff for HPAI Response
  - Developed Org Charts and Job Descriptions
- Created Mission Ready Packages
  - Case Managers & RRT
  - Surveillance
  - Biosecurity
  - Depopulation
  - Cleaning & Disinfection
- Conducting Trainings
- Educating Producers & Consumers
- Continuously developing Response Plans

Response Preparations

GPLN Georgia Poultry Laboratory Network

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

- Weekly HPAI planning meetings with state and federal staff
- Ongoing coordination efforts with GPLN, GEMA, DNR, DPH, USDA & DOD; and other local, state & federal partners

USDA

GEMA

DPH

Biosecurity

- Management practices designed to prevent the introduction & spread of disease in animal production facilities

Biosecurity: Key Players

- Bird owners
- Local, **state**, federal government
- Industry
- Academia

Goals: determine the nature of disease outbreak, initiate response, eliminate/control the disease, facilitate recovery

Biosecurity: Two Main Functions

- Prevent the introduction of virus via movement of personnel & material to naïve poultry and premises (Bioexclusion)

- Contain the virus on infected premises (Biocontainment)

Measures to Mitigate Risk

- Clean & disinfect premises, vehicles, equipment
- Account for movement of all poultry & equipment for accurate records
- Provide location to carry out appropriate cleaning & disinfection procedures
- Prevent entry of pests, ground water, & wild birds
- Communicate Biosecurity Plan

Personal Protective Equipment (PPE)

- Places a barrier between the individual and hazard
- Donning and Doffing PPE at the farm
  - http://vetmed.tamu.edu/files/etc/FADD/PPE.html

Biosecurity Measure: Closed Flocks

- Close the flock to the introduction of new poultry and other livestock
- If not possible, isolate newly introduced poultry for at least 30 days
- Vaccination status of introduced poultry should be known & documented

Biosecurity Measure: Waiting Period

- Do not allow personnel to travel between infected premises and unknown/uninfected premises
- Personnel should wait 12-72hours between premise visits; determined by incident commander

Quarantine & Movement Control

- Accomplished through a permit system
- After case is identified, establish an infected zone & buffer zone
- State animal health emergency response plan will describe the implementation of quarantine and movement controls
- **Goal**: to keep HPAI out of poultry populations in areas free of HPAI

Quarantine & Movement Control

- Surveillance measures required for movement of poultry & poultry products from infected premises
  - Visual surveillance
  - Diagnostic testing for at least 2 days prior to movement
  - Additional measures
- **Goal**: to keep HPAI out of poultry populations in areas free of HPAI

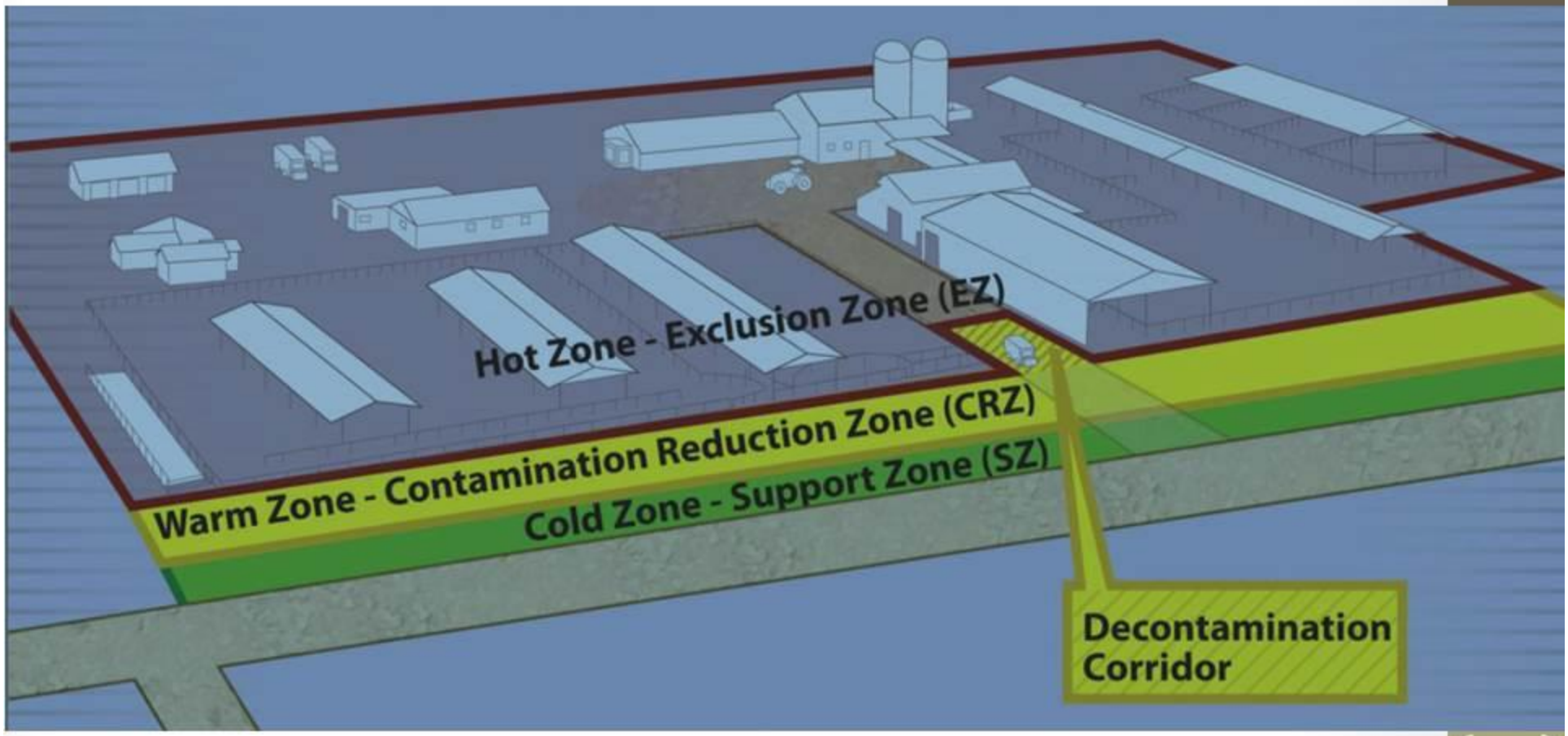
Before Entering a Premise

- Park vehicle 500ft away from premise and/or ensure that vehicle tires, wheel wells, and undercarriage have been cleaned with soapy water and are free of dirt & debris
- Put on appropriate PPE
- Wash your hands with soap
- Consult with producer

Before Leaving a Premise

- Disinfect all clothing, equipment & vehicles
- Safely dispose of all contaminated clothing & supplies
- Wash hands with soap
- Consult with producer
- Be wary of waiting periods

Control of Work Zones



Depopulation

- Should be completed as soon as possible; ideally **within 24 hours** of positive test
- Infected poultry shed large amounts of virus, increasing difficulty for control

Cleaning & Disinfection

Physical and chemical processes that kill or remove pathogenic microorganisms to control/eliminate disease

- Methods: Physical & Chemical
  - **Physical**: High heat
  - **Chemical**: Use of disinfectants
  - If not possible, fallowing is necessary (120 days recommended)

Cleaning & Disinfection

Step 1 CLEANING OPTIONS

Dry Cleaning
Timing & method of dry cleaning must not aerosolize virus.

and/or

Wet Cleaning

Step 2 DISINFECTION OPTIONS

Wet Disinfection with EPA Approved Pesticide

and/or as needed

Drying & Heating (100-120°F for 7 days)
At least three days must be consecutive days drying and heating at specified temperature of the seven days total.

and/or as needed

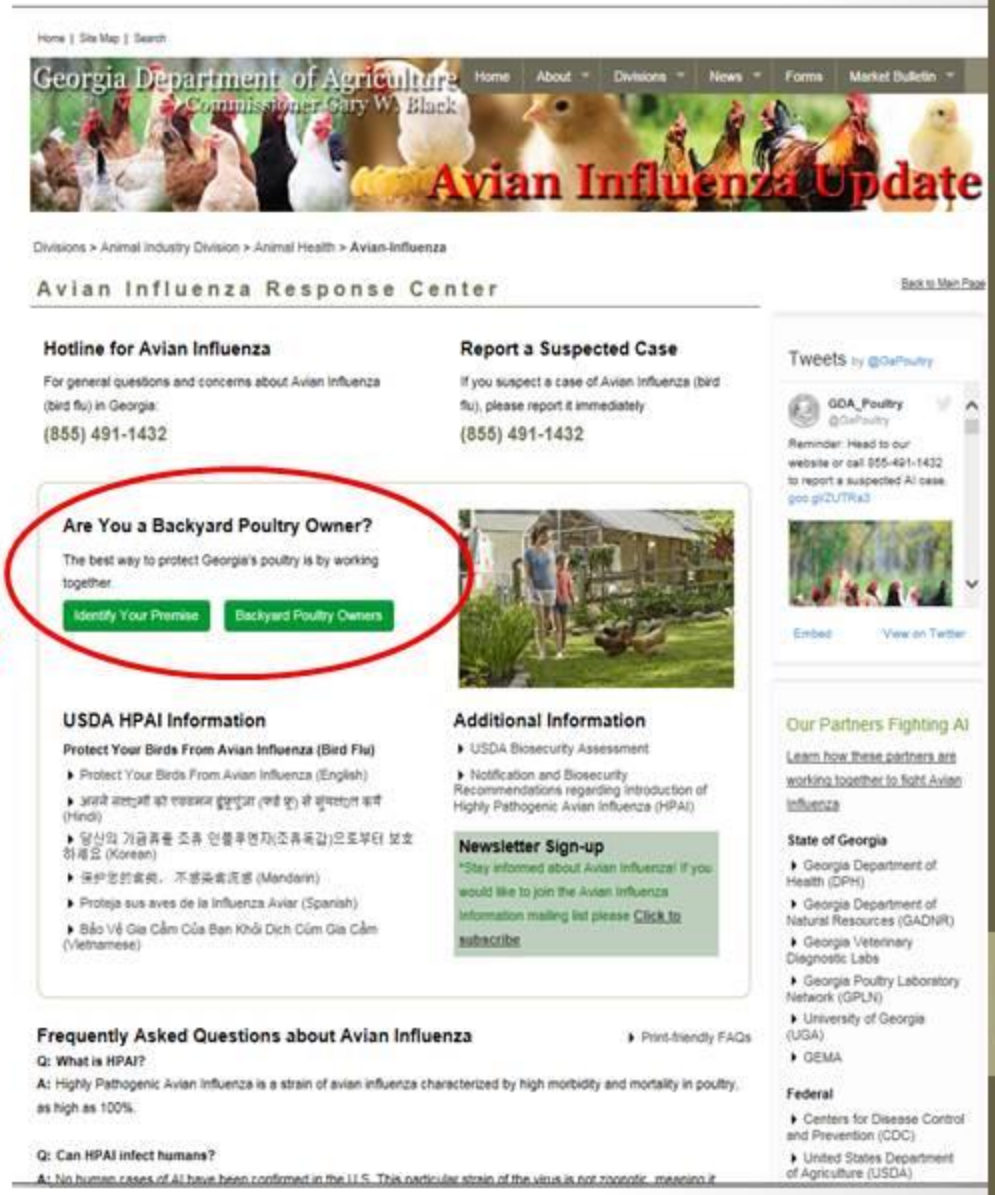
Fumigation or Alternative Science-Based Methods
If APHIS is paying for service, then APHIS must approve prior to application.

Risk Communication

- Communicate the biosecurity plan with everyone involved in operation
  - Owner/producer
  - Managers
  - Employees
  - Family members
- Effectiveness at preventing disease is only as good as the efforts of the people using it

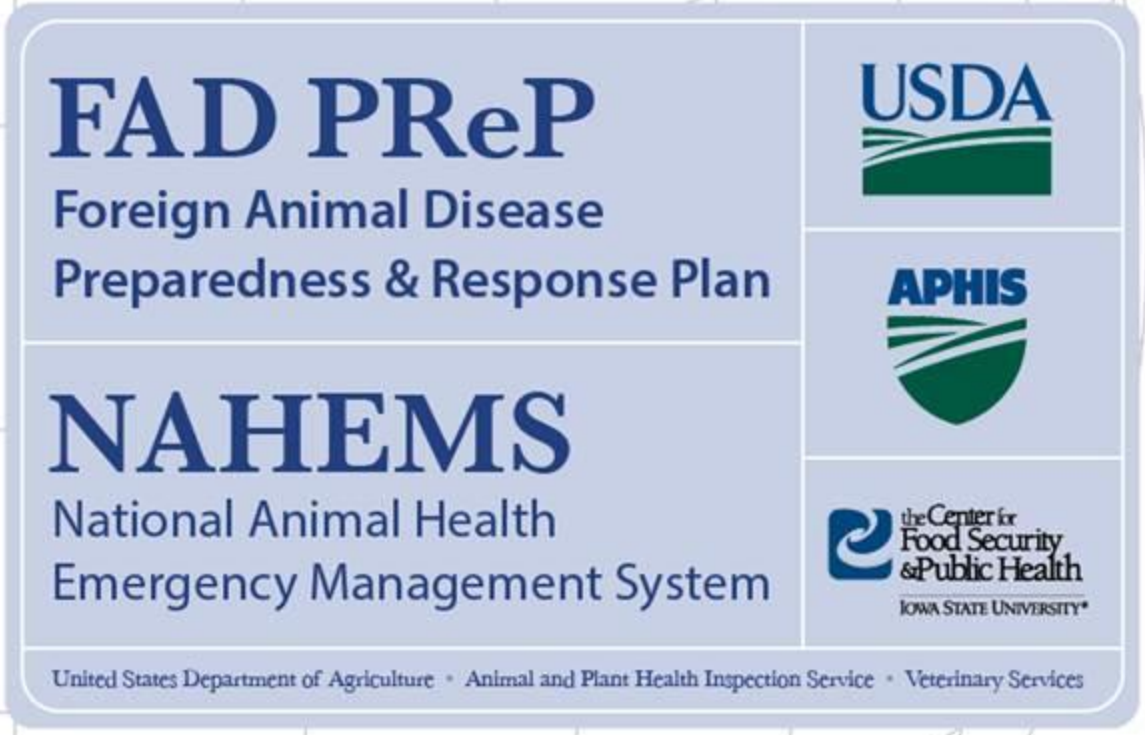
Risk Communication

- GDA will communicate any HPAI-related news to the media
- Chief Information Officer
- Premise Identification is important!



Content Derived From

NAHEMS GUIDELINES: BIOSECURITY



https://www.aphis.usda.gov/animal_health/emergency_management/downloads/hpai_response_plan.pdf

Scenario/Exercise:

- On April 18, 2016, 10% of your birds have suddenly and unexpectedly died from an unknown illness.

- What do you do?
- Who do you call?

Hotline for Avian Influenza

- If you suspect a case of Avian Influenza, please report it immediately
- For general questions and concerns about Avian Influenza in Georgia

(855) 491-1432

http://agr.georgia.gov/avian-influenza.aspx

What will happen when I call?

- State Veterinarian and/or HPAI Incident Commander will be notified
- Backyard surveillance team will be dispatched to collect samples for testing
- Premise will be placed under quarantine until test results are confirmed

What will happen when I call?

- **Negative test result for AI**:

  Quarantine lifted, resume business

- **Positive test result for AI:**

  Quarantine maintained, GDA will assist with response

  - Communications
  - Assist with depopulation of birds as necessary
  - Disposal
  - Cleaning & Disinfection
  - Indemnity

Questions