

Highly Pathogenic Avian Influenza Preparedness and
Response Capability in North Carolina
for
The Joint Legislative Emergency Management Oversight
Committee
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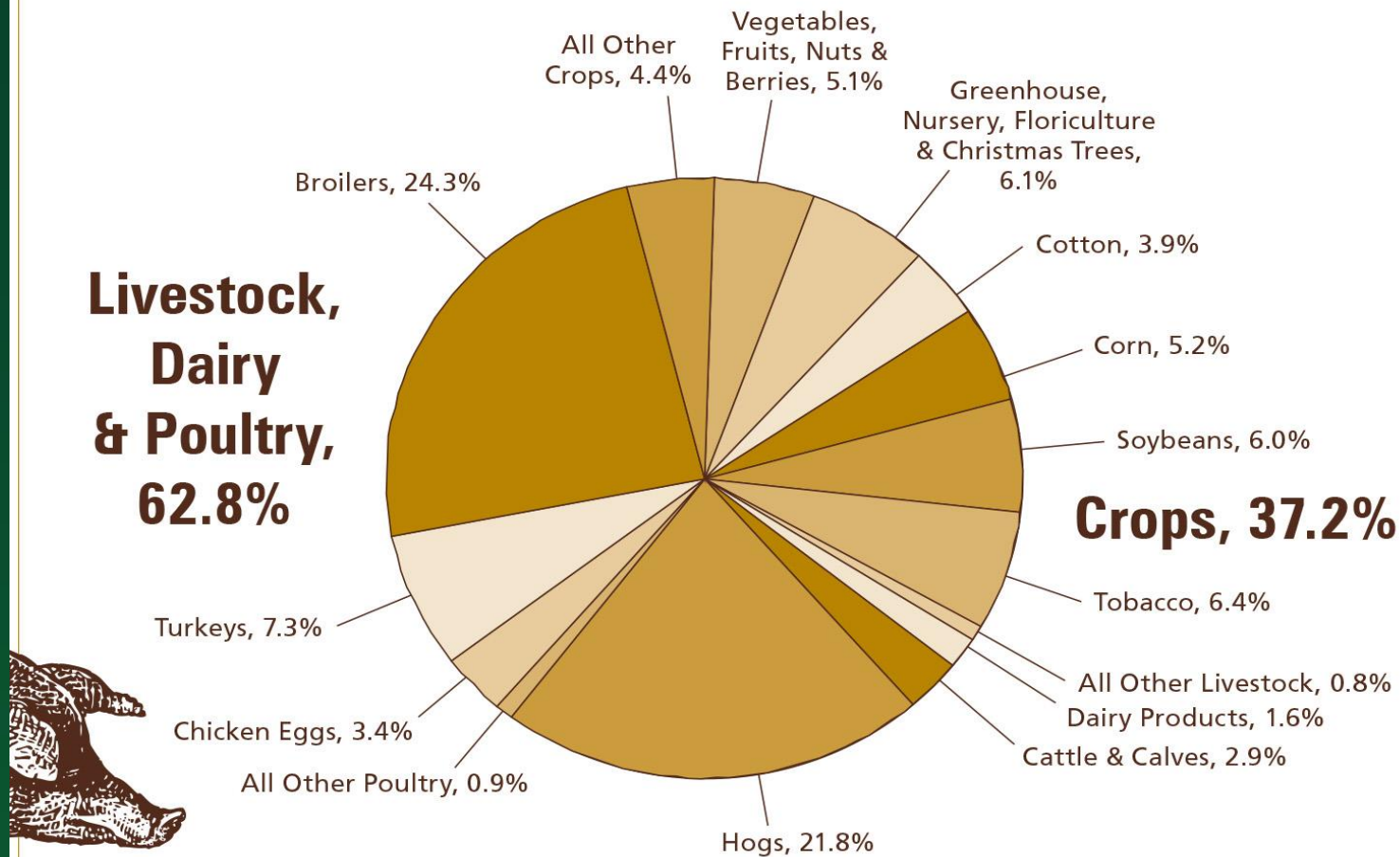
The Nation's Agriculture and Food Sector

- Recognized and a Critical Infrastructure and Key Resource
- HSPD-9 Defense of U.S. Agriculture and Food 2004
- 8-14% of GDP
- 8-12% of the Work Force
- Highly Vulnerable – the Farm to Fork Continuum
- Concentrated Animal Feeding Operations
- High Daily Transit Volume – 1,000,000 pigs, 500,000 cattle and 25 million birds on the road every day



SOURCE OF FARM CASH RECEIPTS, 2012

\$11,706,602,000



The Importance of NC Agriculture

N.C. is the fourth most diverse state agriculturally in the United States



Where We Began:

- Three HPAI H5 viruses have been detected in the current U.S. outbreak since December 2014 – H5N8, H5N2, and H5N1.
- The HPAI H5N8 virus circulating in the U.S. is of Eurasian (EA) lineage and is similar to the H5N8 first detected in South Korea in January 2014; the virus has since been identified in Europe and North America.
- The HPAI H5N2 is a reassortant of the H5N8 EA and North American (AM) lineage viruses. This H5N2 is similar to the strain found in British Columbia in the December 2014 Canadian outbreak and subsequently infected flocks throughout the U.S.
- The novel HPAI H5N1 detected in Washington state in January 2015 is not the same H5N1 that caused human infections in Asia, Europe and Africa.



Where We Are:

- Since the current HPAI outbreak started in December 2014, 21 States have had HPAI detections in commercial premises, backyard flocks, captive wild birds and/or wild birds (AR, CA, IA, ID, IN, KS, KY, MI, MN, MO, MT, NE, ND, NM, NV, OR, SD, UT, WA, WI, WY).
- There have been 232 premises positive for HPAI (211 commercial, 21 backyard). Commercial premises with HPAI have been found in nine States: MN-109, IA-71, SD-10, WI-9, NE-5, CA-2, MO-2, ND-2, and AR-1.
- Approximately 49.6 million commercial birds are affected and have been depopulated or are pending depopulation: approximately 7.5 million turkeys and approximately 42.1 million chickens. This represents 3.16% of U.S. annual turkey production (7.46% of average U.S. turkey inventory), 10.01% of U.S. average layer inventory, and 6.33% of U.S. average pullet inventory.



Where We Are:

- On September 4, 2015, the Secretary transferred approximately \$291 million in Commodity Credit Corporation (CCC) funds to APHIS for HPAI activities. This is in addition to emergency funding in the amount of \$698 million previously made available to respond to HPAI: \$858,996,676 has been paid out for response activities, indemnity, and contractors, \$200,728,722 has been committed for indemnity for appraised flocks; and, of this, \$200,247,466 in total indemnity has been paid to date.
- Federal responders, including contracted personnel, number approximately 2,550. This includes the following: 231 APHIS employees deployed to field; approximately 155 State personnel; and approximately 2,182 contractors.
- No new premises have been found positive for HPAI since the national situation report dated June 18, 2015. 😊
- Cleaning and disinfection has been complete on 205 premises, 6 have chosen to fallow as of December 18, 2015, the Final Report issued regarding the 2014-2015 outbreak.
- As of November 18, 2015, the HPAI event in the U.S. is considered closed by the World Organization for Animal Health (OIE).



What Are Implications?

- HPAI has had a profound economic impact. By late June, 52 countries and the European Union had implemented import restrictions on U.S. poultry and poultry products. While generally limited to counties or states, a number of countries, including China, Russia and South Korea, have banned imports of all poultry products from the entire country.
- An estimated 18% of all poultry products are exported, valued at \$3.6 billion.
- Lost direct economic activity in Iowa as of late August was calculated at \$658.1 million and a total effect of \$1.24 billion (every million in direct losses leads to an overall loss of \$1.8 million and includes \$450,00 in lost employee wages). Lost direct economic activity has been less, estimated at \$309.9 million, and the cumulative effect is \$580.9 million. Iowa and Minnesota losses (180 premises of the 211 commercial units) equal a staggering \$1.82 billion.



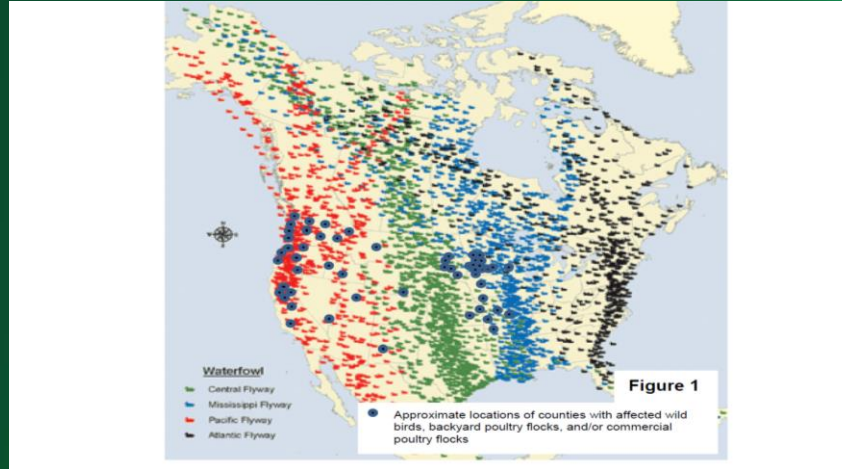
What Happened?

- USDA has conducted initial epidemiological investigations on more than 80 farms to determine how the H5N2 spread from the Pacific Northwest to the Midwestern states.
- They suggest wild birds likely introduced the virus to farms but lapses in biosecurity and other environmental factors allowed the virus to spread.
- Shared equipment, vehicle movements on and off the premises without cleaning and disinfection, wild birds and rodents inside poultry houses and employee movements were deemed significant among biosecurity breaches.
- Chief among the environmental factors was the wind.
- **BioSecurity, BioSecurity, BioSecurity**



What's Next?

US FLYWAYS



- A publication in the April 2015 *Journal of Virology* indicates that waterfowl from multiple global flyways congregated during the summer of 2014 in northern Russia and carried the H5N8 HPAI viruses back south into North America, Europe and East Asia.
- The same phenomenon could occur this year with H5N2 HPAI – the mixing of birds from multiple flyways in the North American breeding grounds could promote the migration of the virus down different flyways this fall, potentially into the poultry-dense Atlantic Flyway.
- However, during the 2015-2016 southern waterfowl migration, the USDA Wildlife Services has examined over 40,000 migratory waterfowl and has not identified the HPAI H5N2 virus in any sample.



What's the possible impact for NC?



BROILERS

(chickens raised for meat production) are the **top ag commodity** in the state, representing more than \$2.8 billion in cash receipts in 2012. 795 million broilers were raised in 2013.

North Carolina ranks No. 3 in the nation in poultry and egg cash receipts.

N.C.'s poultry industry is worth more than \$4.1 billion in cash receipts alone.



TURKEYS

In 2013 North Carolina growers raised **28.5 million** turkeys, worth more than \$848 million. North Carolina is the **third largest** turkey producing state in the nation.



EGGS

In 2013, the N.C. egg industry contributed more than \$392 million to the state's economy. More than 13 million layers produced more than **1.8 billion eggs**.



What's the possible impact for NC?

North Carolina has Nearly 4500 Commercial Poultry Farms

- Most production types represented—NPIP Certified
 - Primary Chicken Breeders
 - Multiplier Turkey Breeders and Multiplier Broiler Breeders
 - Meat Turkeys and Broilers
 - Table Egg Pullets and Layers
 - A few Live Bird Market Production Units

Prior to the 2014-2015 HPAI outbreak, North Carolina had more than 3500 Backyard Flocks Documented in Database

- Approximately 520 NPIP active flocks
- The recent request for registration of backyard birds/poultry/flocks resulted in over 3000 additional registrants (some were duplicates of previously identified “backyarders birders”). Total registered now: in excess of 5000 entities.



Indiana HPAI Outbreak

- H7N8 confirmed 1-15-16—
previously tested negative January 6
- Flock depopulated 1-16-16
- Surveillance revealed 8 (9) more
flocks with evidence of AI—LPAI
- These flocks depopulated by 1-20-16
- A “dangerous contact” flock
depopulated as well—chicken layers
- Surveillance zone increased to 20km
for commercial poultry
- Over 1000 homes investigated door-
to-door for backyard flocks
- 150 backyard flocks tested—all
negative on first test
- Testing still ongoing in zones



Depopulation Statistics Indiana

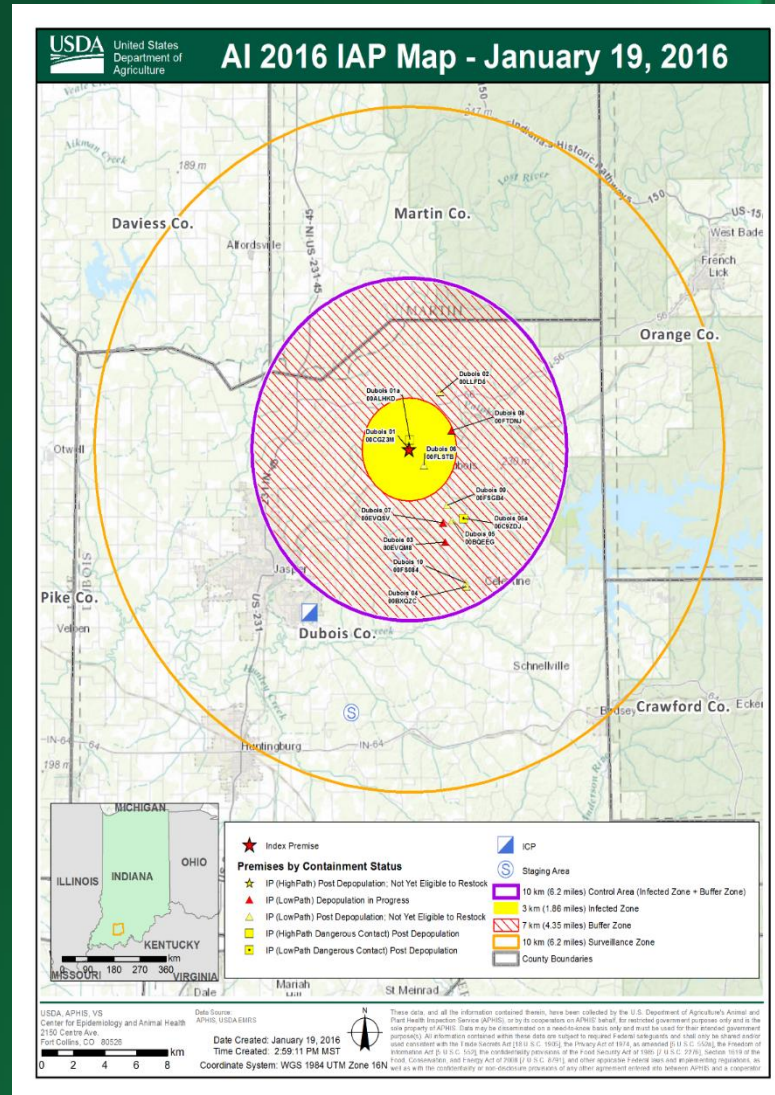
Birds Depopulated				
State	Commercial H7 Pos. HPAI Birds DEPOP'D*	Number Depop'd		
		Flock Type		
		Turkey	Chicken Layer-Type	Other
Indiana	62,109	62,109	0	0
Totals	62,109	62,109	0	0
State	Commercial H7 Pos. LPAI Birds DEPOP'D*	Number Depop'd		
		Flock Type		
		Turkey	Chicken Layer-Type	Other
Indiana	352,394	196,216	156,178	0
Totals	352,394	196,216	156,178	0
*Includes birds on Dangerous Contact Premises.				

414,503 total birds depopulated



Indiana H7N8 Virus

- H7N8 of North American Origin—different from Midwest outbreak virus
- H7N8 previously found in KY during 2015 in wild bird
- Estimated indemnity for Indiana outbreak is \$4.5 million—for 10 farms
- Estimated response costs so far are \$13,568,709
- Estimated USDA costs for HPAI and LPAI response 2014-2015, and 2016 \$872,656,385—this does not include costs to states, industry and farmers



Goals of NC HPAI Response

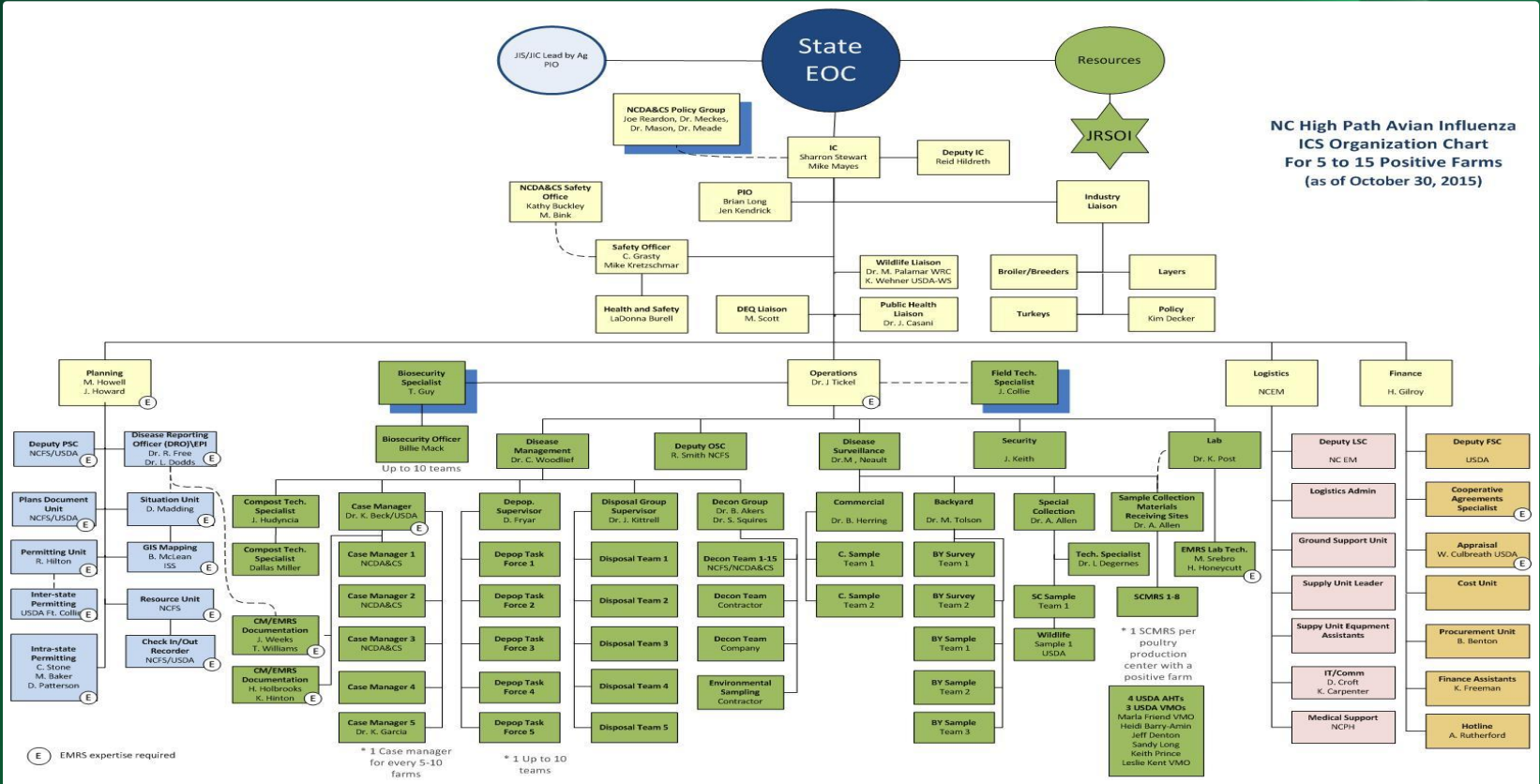
prevent lateral spread

- Rapidly Assess Situation
- Rapid Lab Confirmation
- Rapid Notification Process
- Team Activation and Deployment
- Depopulation within 24 hours
- Disposal within 48 hours
- Decon all vehicles and people moving off Infected Premises
- Permitted movement in Control Area



Response Team using Incident Command Structure

**NC High Path Avian Influenza
ICS Organization Chart
For 5 to 15 Positive Farms
(as of October 30, 2015)**



Response Personnel

- HPAI Foam Depopulation Teams 8 teams
- Decon Teams 6 teams
- Biosecurity Officers 6
- Case Managers 15
- Compost Experts 13



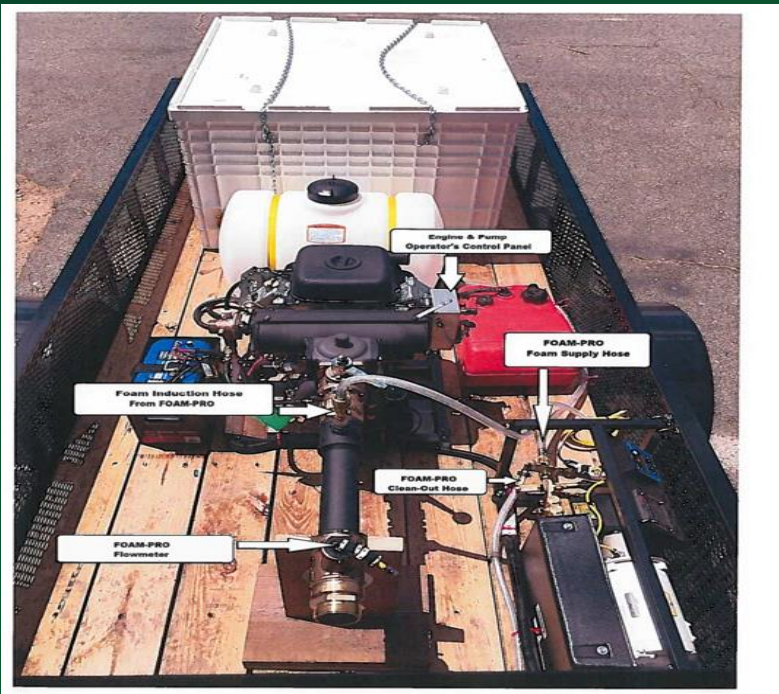
Training and Outreach

- Immediate communication and cooperation –USDA/NC
- Meetings- EM, PH, CES, Soil and Water Districts, Local DOT, Law Enforcement
- Industry/Grower Meetings
- Traveled to other states- Minnesota, Iowa
- Met with DEQ- Identified 54 employees/trained/equipped



NC Foam Unit- Work Horse for Depopulation

NC Foam Unit



Stats on Units

- 16 units within cache
- Industry units
- Built 10 of 16 units in NC cache and all Maintained by NCDACS personnel
- Uses Class A foam
- >12 states have sought info or been assisted
- Building slide in unit



Decontamination Units



Approved Funding Support

- OSBM approved \$400,000 to be spent on planning in spring of 2015 (~ 114,000 remaining)

• Training/travel	9,940
• Equipment/supplies/hardware	127,100
• PPE	100,104
• Communication	10,440
• Office personnel/supplies	38,500



Industry Funding Contributions \$700,000

- 13 Companies- Mix- Turkey, Broiler, Table Egg Producers
- 14 Units Built- 11 stayed in NC
- Federation originally supported building units prior to company investment



Additional Preparations

- Safety Teams being identified
- Backyard surveillance teams identified
- Fit testing tested responders
- Training of responders—foam, decon, case managers, administrative



Additional Preparations

- Special Avian Collections HPAI Plans
- Sick bird Hot line – 1-866-506-6222
- Public Health--Poison Control Hot line will handle questions from public
- HPAI Tabletop Exercise held December 8



Additional Preparations

- Biosecurity Protocol written and approved—employee biosecurity requirements in progress
- EMRS trainings have been held and are continuing
- Continued National ID submission—state personnel completing correction of farms that federal database kicks out



Questions for Us?

- Dr. Doug Meckes, State Veterinarian
- Dr. Sarah Mason, Director of Poultry Health
- Sharron Stewart, Director of Emergency Programs

