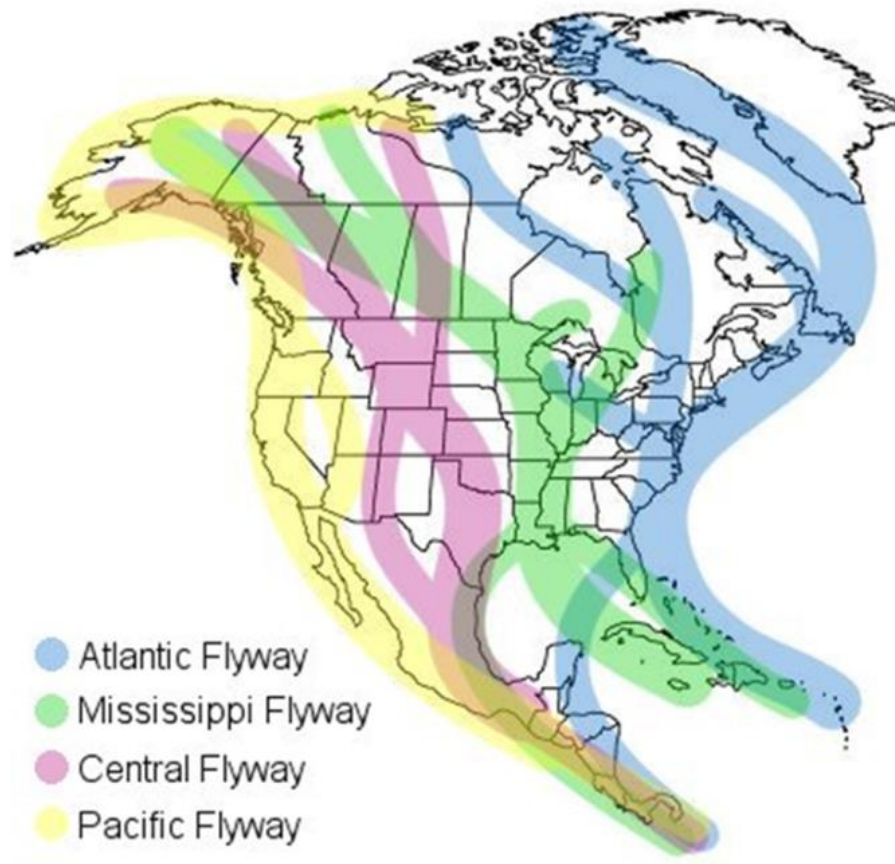


High Path Avian Influenza

October 14, 2015

Reservoir – Migrating Wild Waterfowl



▶ Most Severe Animal Disease Outbreak in US History

- 232 Domestic Poultry Flocks
 - Small flocks (21) to large commercial (211)
- Hardest Hit Industries
 - Turkeys
 - Laying Hens/Pullets
- Iowa, Minnesota
 - Also Nebraska, Wisconsin, South Dakota, Arkansas, Missouri, North Dakota
- 49.6 million birds lost

Economic Impacts Elsewhere

- 10% of nation's egg-laying hens killed
- Iowa (#1 in U.S. egg production):
 - 33 million-plus birds killed worth \$84 million
 - Lost 24 million, or over 40%, of its egg-laying hens
 - Loss estimates exceed \$1 billion
 - Expect 1,500 lost jobs
- Minnesota:
 - \$310 million - direct poultry industry loss
 - \$1.8 billion – loss by allied industries

Cost of Disease Eradication

- \$700 from Commodity Credit Corporation
 - \$500 million to control spread
 - \$190 million in direct indemnity payments
- Industry Costs
 - \$1.6 million in turkey and laying hen industry losses
 - \$3.3 billion loss to broader economy
 - International trade bans (including partial and regional)
 - 38 at the peak

Current Disease Status

- A lull in newly infected flocks in the Upper Midwest since late June – warm weather conditions.
- HPAI is expected to return with cooler weather this fall.
 - Possibly to major poultry production regions in the Southeast and East that were previously untouched.
- Worst case scenario is 500 additional flocks nationwide.

Poultry Density and Risk

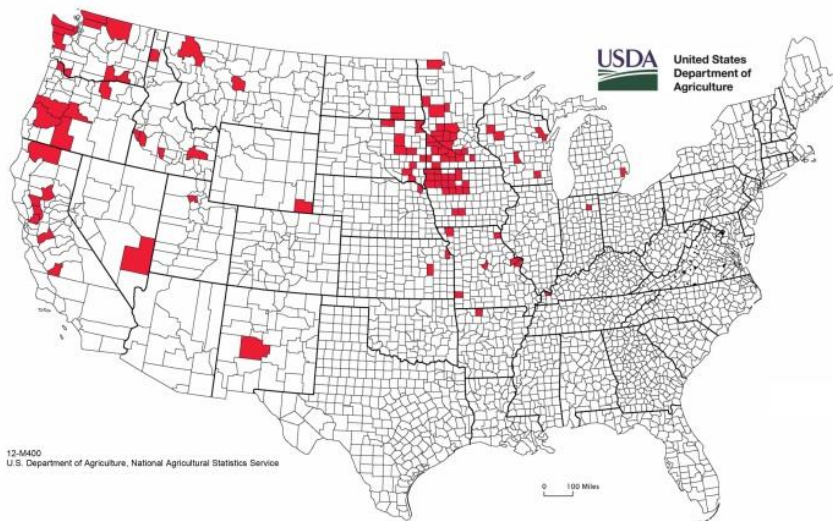
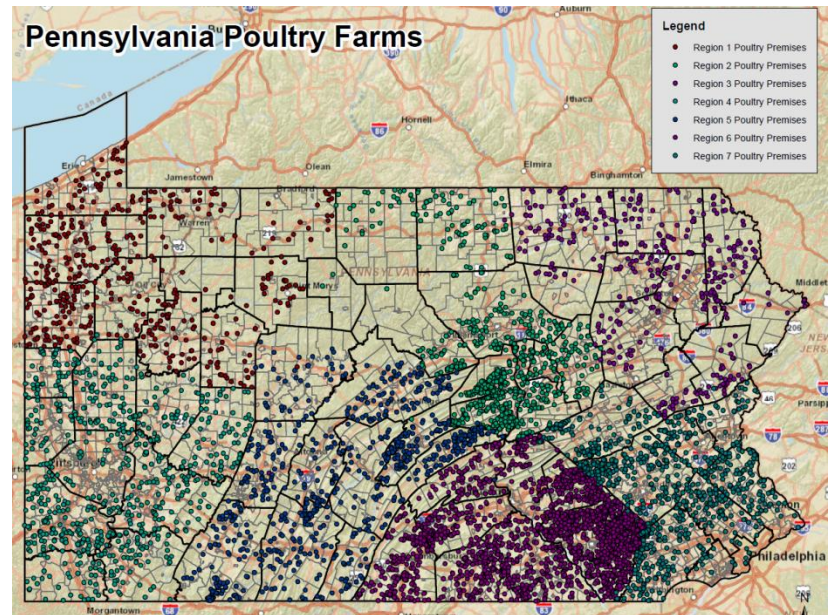


Figure 1. All HPAI Detections As Of June 5, 2015 PM (as reported on www.aphis.usda.gov)
*one or more detections may have occurred in county



Potential Costs and Losses

Costs Include

- Loss of birds – farmer/integrator indemnity
- Depopulation (estimates from \$6-\$26 per bird)
- Disposal of dead birds and contaminated materials (litter, feed, manure, eggs, bedding)
- Cleaning and disinfection of premises
- Down time of production facilities
- Losses to allied industries (poultry service companies, feed providers, the poultry and egg processing industries, etc.)

Indemnity

- For birds that must be euthanized – those alive at time of disease confirmation
- Fair market value of inventory based on calculator that takes into consideration age and intended use of birds.
- Indemnity is not paid for:
 - Birds that die prior to HPAI confirmation.
 - Lost income from idled facilities
- Indemnity is not restorative

Public Health

- Most HPAI strains are not transmissible to humans.
 - Exception Asian H5N1 with limited infectivity for humans. Causes severe disease in limited number of human cases.
- According to the Centers for Disease Control no human infections have been associated with the ongoing US HPAI outbreak.
- Personal protective equipment recommendations for all responders.

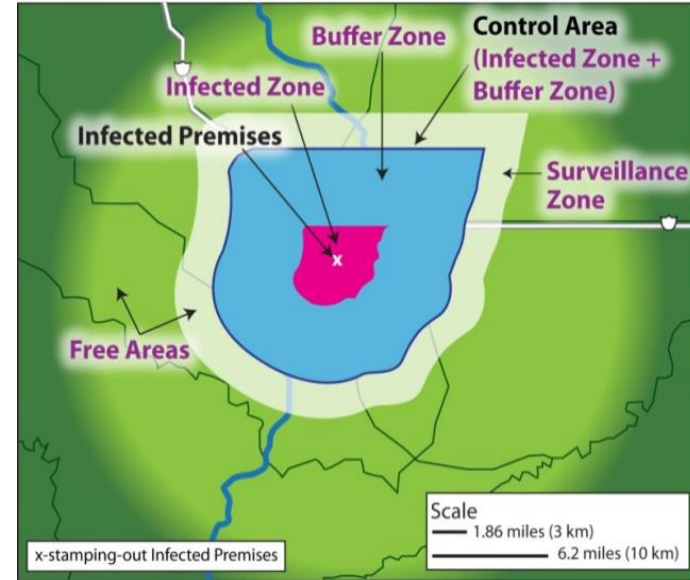
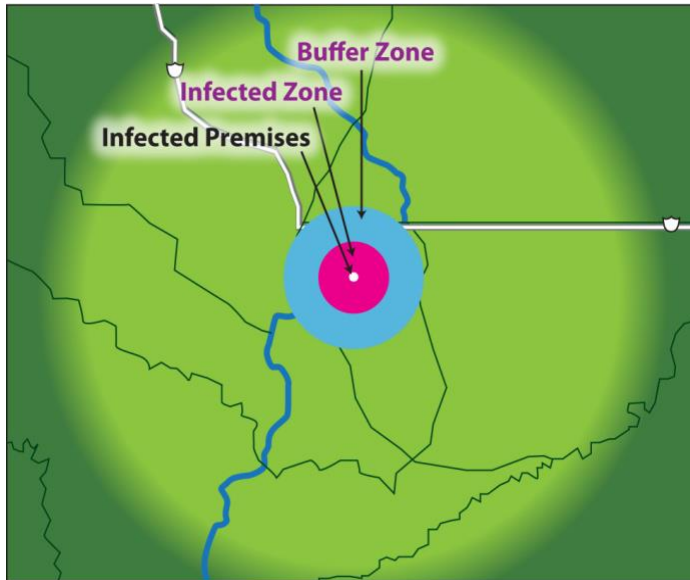
HPAI Vaccination

- A possible strategy as an emergency measure for disease containment and elimination.
- Considered a last resort under extreme conditions in severe outbreaks.
 - Protect susceptible population.
 - Reduce severity of disease.
- Inactivated vaccine is under development
 - Field isolate genetically modified by USDA, ARS
 - Recent contracts to two manufacturers for vaccines to be held in the National Veterinary Stockpile (10-13-2015)
- Concerns:
 - International trade
 - Re-establishing the nation's disease-free status.
 - Testing – differentiating vaccinated poultry from naturally infected poultry.

Disease Eradication

- HPAI is a foreign animal disease dealt with by stamping out procedures per Federal requirements.
- Federal financial assistance to producers
 - Indemnity for birds alive at time HPAI diagnosis is laboratory-confirmed.
 - Testing, Depopulation, Disposal, Cleaning and Disinfection assistance.
 - Small flocks – compliance agreement with producer
 - Larger firms – cooperative agreement with producer
 - Based on flock plan agreement signed by Federal officials, State officials and producer once HPAI is confirmed

Control & Surveillance Zones



Infected Zone (IZ) - at least 3 kilometer (1.86 mi.) perimeter to extend from infected premises. Initially encompasses infected (IP), suspect (SP), contact (CP), at risk (ARP), and monitored premises (MP). Within infected zone - IP, SP, and CP - subject to quarantine ARP and MP subject to movement controls.

Buffer Zone (BZ) - at least 7 kilometer (4.35 mi.) perimeter beyond infected zone to surround infected zone. Within buffer zone - any CPs are subject to quarantine, ARPs and MPs are subject to movement controls.

Control Area (CA) = Infected Zone + Buffer Zone. Shape is subject to change depending on outbreak circumstances.

Virus Inactivation on Infected Premises

- Takes a minimum of about 30 days in decomposing carcasses.
- Disposal options:
 - Composting – preferably in-house
 - Burial
 - Incineration
 - Landfill

Repopulation/Restocking

- Minimum of 21 days after:
 - Cleaning and Disinfection
 - Negative confirmatory environmental testing
 - Generally restocking criteria are met 2 – 6 months after disease outbreak depending on conditions.
 - Phased restocking of laying operations takes longer (18 mo. +/-)
- Restocking must be approved by USDA, APHIS
 - Farms that restock without APHIS approval will not be indemnified if they become re-infected.

Current Status of Midwest Recovery

- USDA HPAI Status Report 10-9-2015
 - All control areas have been released
 - The last newly infected flocks were identified in late June
 - 197 of 211 infected commercial flocks approved for restocking

Exercise – Real Time

- September 12, 2015
- Franklin County Meat Turkey Flock
 - 7000 birds – 18 weeks old
 - September 11 – 6 mortalities “normal”
 - September 12 – 100 mortalities
 - Ongoing mortalities through the day
- Emergency notification to PDA.
- Emergency testing at PVL.
- Initial steps in notification/activation.
- PCR test results negative for HPAI at 7:00 PM, 9-12-15
- Further testing in PADLS – Fowl Cholera Diagnosed

USDA Epidemiologic Analysis

- 81 Turkey Farms
 - Common biosecurity practices – audited biosecurity protocols
 - Spraying vehicle tires.
 - PPE for visitors/employees – coveralls and shoe covers.
 - Disinfectant foot baths.
 - Establishment of clean/dirty lines of separation.
 - Identified risk factors
 - Fomites – shared equipment.
 - Mechanical transfer of virus by wild birds, rodents and personnel.

https://www.aphis.usda.gov/animal_health/animal_dis_spec/poultry/downloads/Epidemiologic-Analysis-July-15-2015.pdf

Epidemiologic Analysis

- Layer operations in Iowa and Nebraska
 - Risk Factors
 - Being located within a 10 KM control zone.
 - Rendering of dead birds – risks associated with rendering company pick-ups.
 - Equipment sharing trucks, trailers, other vehicles, egg racks, pallets and flats.
 - Lowered risk of infection
 - Being > 100 yards from a public gravel or dirt road.
 - Having vehicle wash stations.
 - Being > 100 miles from the egg processing facility used by the farm.

Questions