

# Ensuring Biosecurity, Food Safety and Food Security Proactive Risk Assessments and the HPAI Secure Egg Supply Plan

United States Department of Agriculture

APHIS-Veterinary Services

University of Minnesota

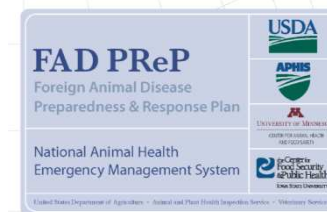
Center for Animal Health and Food Safety



# Outline

- U.S. HPAI Secure Egg Supply Plan
  - Contributors and Collaborators
  - Purpose
  - Components
- Foundational Proactive Risk Assessments
- One Health Approach
- Sources and Resources





# Egg Sector Working Group

UMN-CAHFS

USDA-APHIS-VS  
NCAHEM  
CEAH

ISU-CFSPH

United  
Egg  
Producers

Poultry  
Production  
Veterinarians

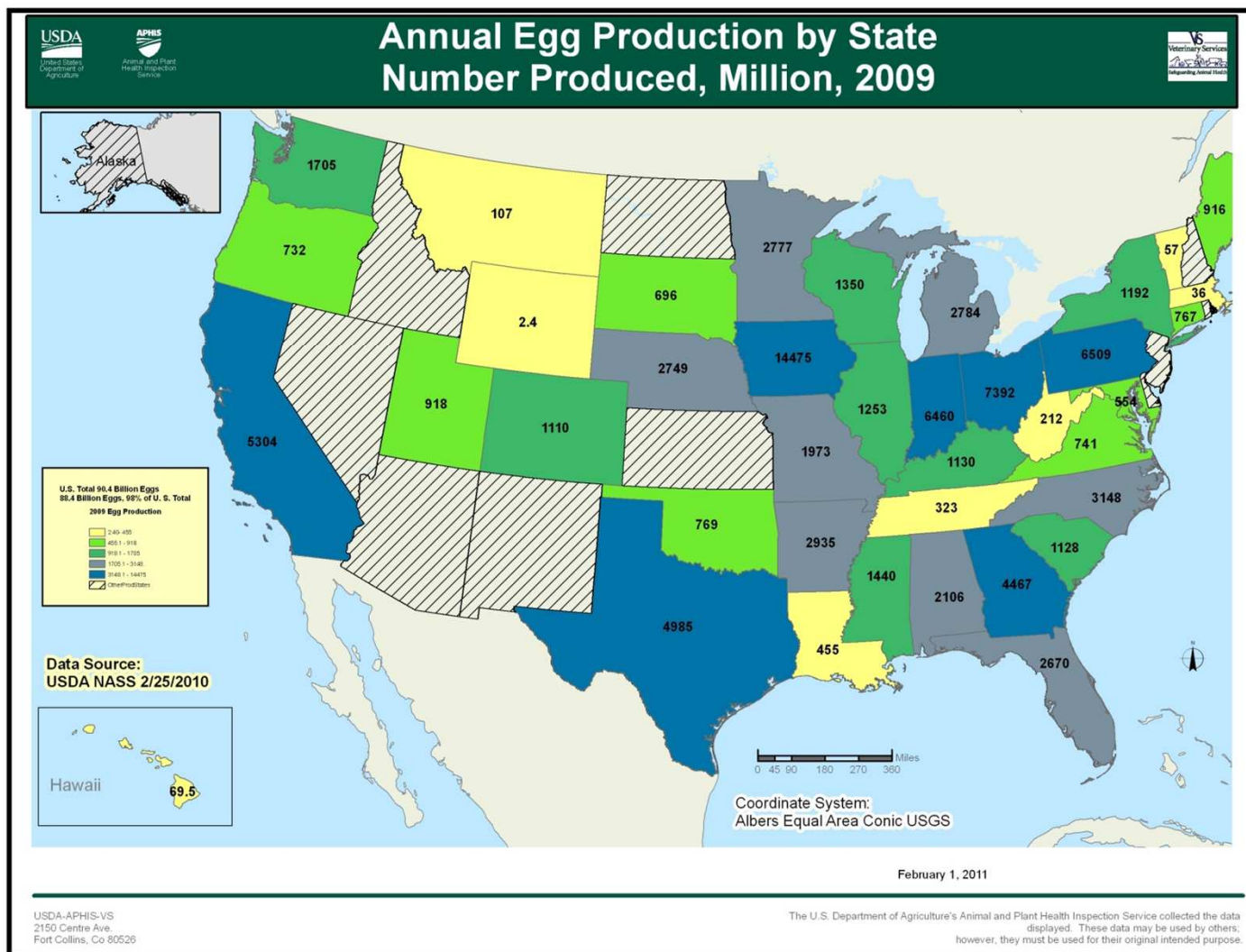
**Public-Private-Academic Partnership**



# SES Plan Purpose

- Ensure continuity of markets and egg supply
- Allow eggs/products to move during outbreak
- Confidence that HPAI virus is absent in eggs/food
- Avoid healthy animal/product destruction
- Fosters government, industry, consumer confidence in response planning





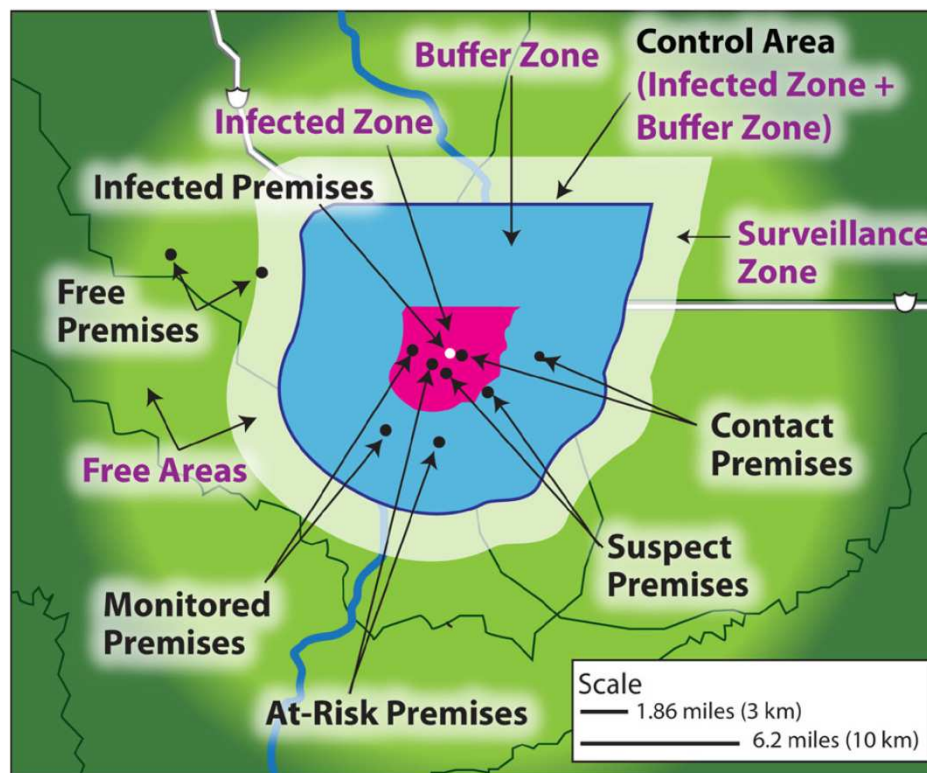
- Iowa: 14+B per year, 40M per day

# Egg Movement Control Plan

- “Just-in-Time” production
  - Product hold capacity diminished
- Enter marketing channel
  - 2 days post-production
  - 2 consecutive days of negative tests
- Strict permitting system based on proactive risk assessments



# Example OB Zones and Premises



# FAST Eggs

- Federal and State Transport (FAST)
- Iowa State University -CFSPH
- Components
  - Voluntary Participation
  - Audited Minimum Biosecurity Standards
  - Location Verification / Site Designation
  - Active Surveillance in Control Area
  - Epidemiologic Data & Production Parameters Prior to OB
  - Website for Communication with ICS



# Proactive Risk Assessments

- For high-impact FADs: HPAI, FMD
- Performed in advance of outbreak
  - Movement permits during OB requires RA
  - Rapid RA turnaround during OB is challenging
- Collaborative
- Stakeholder involvement



# Risk Assessment Components

- Risk from infected but undetected flocks
- Production-specific biosecurity practices
- C&D practices
- Applicable Federal regulations
- Active surveillance program



# Quantitative Risk Model

- USDA-FSIS, - APHIS, FDA model
- Transmission characteristics
- Likelihood eggs/products/hens carry virus
- Detection variability under surveillance protocol
- Production practices and parameters



# Surveillance Protocols

- Passive – normal operations
  - Daily mortality  $<3X$  past 7-day MA, or  $<0.03\%$
- Active – during outbreak
  - Sampling from sick/dead birds from each house (5/50)
  - 2 negative RRT-PCRs on pools 2 consecutive days



# Risk Assessment Results

Commodity	Risk Posed to Other Poultry
Pasteurized Liquid Eggs	Negligible
Non-Pasteurized Liquid Eggs	Negligible
Washed and Sanitized Shell Egg (no poultry on destination premises)	Negligible
Washed and Sanitized Shell Egg (poultry on destination premises)	Low
Nest-Run (unwashed) Eggs	Low
Egg-Type Hatching Eggs	Low
Egg-Type Day-Old Chicks	In progress
Egg Shells, Inedibles	In progress
Manure and Materials	In progress



# Permitting Guidance

Product	(1) And the Proactive Risk Assessment is:	And traceability information (Premises ID, GPS Coordinates, other) is available:	(2) And the farm complies with the Egg Movement Control (EMC) Plan:	(3) And the following biosecurity steps are in place:	(4) And the additional Product Specific Biosecurity steps are in place (from Section 2 in the SES Plan):	And the RRT PCR Results are negative:	Action	(5) Permit Guidance to move off farm (not to market):	And the Premises Biosecurity is Acceptable:	And the Epi Assessment is complete:	(6) Production Parameters are Normal	And the second RRT PCR result is negative	Action	Permit Guidance (to move into market channel)
Pasteurized Liquid Egg	Negligible Risk	YES	YES	Truck & Driver Biosecurity										Issue PERMIT to Market
Non-pasteurized Liquid Egg	Negligible Risk	YES	YES	Truck & Driver Biosecurity		YES		Issue PERMIT to move to pasteurization						
Washed & Sanitized Shell Egg (to premises without poultry)	Negligible Risk	YES	YES	Truck & Driver Biosecurity	1) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander.	YES		Issue PERMIT to move off farm	YES	YES	YES	YES		Issue PERMIT to market for eggs produced 2 days earlier
Washed & Sanitized Shell Egg (to premises with poultry)	Low Risk	YES	YES	Truck & Driver Biosecurity	1) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander. 2) Egg handling material used to transport eggs to breaking or further processing plants must be destroyed at the final destination or cleaned, sanitized and returned to the premises of origin without contacting materials going to other premises.	YES		Issue PERMIT to move off farm	YES	YES	YES	YES		Issue PERMIT to market for eggs produced 2 days earlier

Source: U.S. SES Plan, pp 2-4 – 2-5.

# How is this One Health?

**Recognition of the interdependence of human, animal, economic, social, environmental health**

Human: confidence in food safety and security

Animal : increased biosecurity and flock health;

prevents unnecessary destruction of healthy animals

Environment: prevents unnecessary disposal, C&D of unaffected premises

Economic: prevents unnecessary quarantines, reduces severity of OB consequences to industry, government



# Benefits of One Health

- **Private/public/academic partnership**
  - Combines expertise across multiple disciplines
  
- **Coordination and response planning by multiple Federal, State authorities**
  - USDA-APHIS, -FSIS, State veterinarians
  - U.S. EPA
    - Disinfectants for food, contact materials and surfaces
    - Disposal

# Continuing Work

- USAHA Resolution 42
  - State-to-State agreements
  - Adopt SES Plan as part of State HPAI response plans
- Ready for tabletop exercises
- Risk assessments and planning for other commodities and FMD



# Sources and Resources

- **U.S. Secure Egg Supply Plan**  
[www.secureeggsupply.com](http://www.secureeggsupply.com)
- **FAD-PReP**  
 Secure website: [fadprep.lmi.org](http://fadprep.lmi.org)
- **UMN-CAHFS and NCFPD**  
[www.cahfs.umn.edu](http://www.cahfs.umn.edu)  
[www.ncfpd.umn.edu](http://www.ncfpd.umn.edu)
- **ISU-CFSPH**  
[www.cfsph.iastate.edu](http://www.cfsph.iastate.edu)
- **Interagency RA**  
[www.fsis.usda.gov/Science/risk\\_assessments/index.asp](http://www.fsis.usda.gov/Science/risk_assessments/index.asp)



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