



Overview of Avian Influenza Surveillance in the United States

Dr. T.J. Myers

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services
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Surveillance Programs

- Active surveillance
 - National Poultry Improvement Plan (NPIP)
 - Live bird marketing system (LBMS)
- Passive surveillance
 - Disease reporting
 - Foreign animal disease investigations
- Wild bird surveillance
- Biosecurity for Birds campaign

CFR Definition of H5/H7 Infection

H5/H7 LPAI **virus** has been isolated and identified as such from poultry; **OR**

Viral antigen or viral RNA specific to the H5 and H7 subtype of AI virus has been detected in poultry; **OR**

Antibodies to the H5 or H7 subtype of the AI virus that are not a consequence of vaccination have been detected in poultry. In the case of isolated serological positive results, H5/H7 LPAI infection may be ruled out on the basis of a thorough epidemiological investigation.

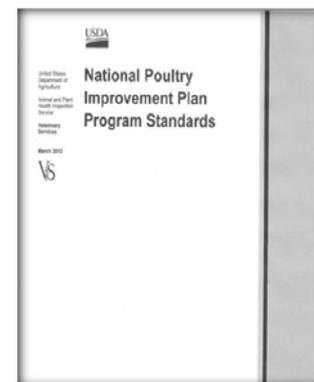
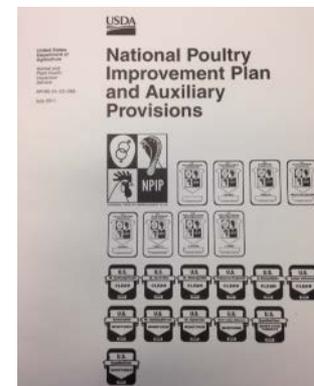
National Poultry Improvement Plan

Objective: To provide a cooperative Industry-State-Federal program through which new diagnostic technology can be effectively applied to the improvement of poultry and poultry products throughout the country.



Administration of NPIP

- Operates through a memorandum of understanding with each State.
- Governed by the General Conference Committee, an official advisory committee to the Secretary
- Codified by regulations and standards developed jointly by industry, State, and Federal officials.



NPIP Participants

NPIP covers the following:

- Breeders
- Commercial production poultry
- Nontraditional poultry species

Participants responsible for following program guidelines, including biosecurity.



NPIP Diseases

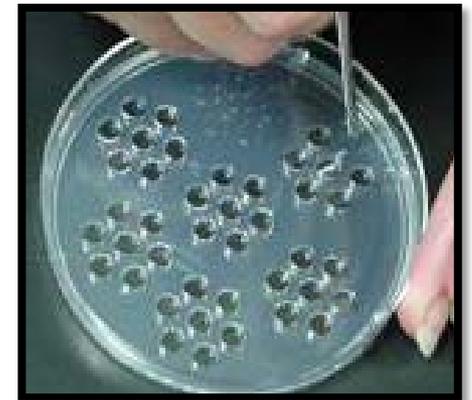
- Salmonella
- Mycoplasma
- Avian influenza
- H5/H7 LPAI



97 laboratories are authorized to
conduct NPIP testing.

Official Tests for AI

- Qualifying tests: Antibody detection
 - ELISA (enzyme linked immunosorbent assay)
 - AGID (agar gel immunodiffusion)
- For suspect flocks: Agent detection
 - RRT-PCR (Real-time reverse transcriptase PCR)
 - USDA licensed influenza A ACIA (antigen capture immunoassay)
 - Virus isolation



AI Clean Program

- Egg-type and meat-type primary or multiplier breeding chickens
 - Qualify: Negative serology at 4 months and prior to onset of egg production
 - Retain: Tests every 90 days and within 21 days of slaughter
- Similar program for Ostrich/Rhea/Emu/Cassowary

H5/H7 Clean Program

- Turkey & meat-type waterfowl breeders
 - Qualify: Negative serology at 4 months and prior to onset of egg production
 - Retain: Negative serology every 90 days
- Similar program for exhibition, game, backyard breeders





H5/H7 Monitored Program

- Commercial layers
 - Negative serology within 30 days prior to movement **OR** ongoing surveillance (egg-type pullets) approved by APHIS and OSA
 - Negative serology 30 days prior to disposal and within 12 months **OR** ongoing surveillance (egg-type layers) approved by APHIS and OSA
- Broilers
 - Negative testing per shift at the plant **OR** no more than 21 days prior to slaughter **OR** ongoing surveillance (meat-type chickens) approved by APHIS and OSA
- Turkeys
 - Negative serology within 21 days prior to slaughter **OR** ongoing surveillance approved by APHIS and OSA
- Also includes upland game birds and raised-for-release

Determination of H5/H7 LPAI

- Official determination of a flock as positive for H5 or H7 is made only by NVSL.





Indemnity and Initial State Response and Containment Plans (ISRCP)

Indemnity Regulations

- APHIS pays 100% of eligible costs related to infected or exposed commercial or breeding poultry from participating flocks in States that:
 - Participate in an APHIS-approved surveillance program
 - Conduct active surveillance for H5/H7 LPAI
 - Have an APHIS-approved ISRCP
- Nonparticipating commercial and breeder flocks are eligible for only 25% of costs
- LBMS and small flocks eligible for 100% if State meets above criteria (size defined in regulations)

Guidelines for ISRCs

State should establish or consider the following:

1. Disease management committee
2. Biosecurity plan
3. Provisions for adequate diagnostic resources
4. Procedure for initial investigations of suspect H5/H7 LPAI
5. Procedure for reporting test results
6. Quarantine measures
7. Flock plans for infected/exposed flocks

Guidelines for ISRCPs

8. Disposal plans
9. Cleaning and disinfection and repopulation plans
10. Monitoring zones, restricted movements
11. Monitoring activities within control zones
12. Vaccination option, if approved by APHIS
13. Controlled marketing options
14. Public awareness and education



Live Bird Marketing System

- Covers retail live bird markets and their production and distribution systems
- Voluntary Federal-state-industry program
- Guidance provided through program standards
- Includes an active and passive AI surveillance program that protects LBMS and reduces risk to commercial poultry



NPIP AI Surveillance, July 2013-June 2014

Subpart	Flocks	Birds	Tests
Egg-Type Chicken Breeders	285	4,767,282	25,196
Table-Egg Layers-Commercial	5,151	1,287,343,146	78,217
Chicken Breeders	5,921	100,934,447	304,670
Chickens-Commercial	76,823	6,181,374,286	1,145,549
Turkey Breeders	949	8,785,331	36,575
Turkeys-Commercial	19,275	323,465,462	170,558
Waterfowl, Upland Game birds, Ex. Poultry	2,123	1,152,151	34,384
Upland Game birds, Waterfowl, Raised for Release Upland Game birds, Raised for Release Waterfowl-Commercial	2,563	37,502,099	33,294
Total	113,090	7,945,324,204	1,828,443

LBMS AI Surveillance

Fiscal Year	Tests
2014	111,972
2013	212,280
2012	146,533
2011	131,946
2010	167,633
2009	136,074
2008	131,973
2007	161,368

Surveillance Results since Nov 2013

NPIP commercial LPAI detections:

- H5N8 in California (April 2014); Commercial quail layer flock
- H7N3 in New Jersey (Sept 2014); Commercial game bird farm
- LBM detections
 - H5 positive (rRT-PCR) from quail in NJ LBM (Feb 2014)
 - Three detections in poultry auctions:
 - H7N2 virus isolated from chickens in PA (Nov 2013)
 - H7N7 virus isolated from chickens in DE (Nov 2013)
 - H5 viral RNA isolated from Muscovy ducks in PA (Apr 2014)

Wild Bird Surveillance for HPAI



Pacific Flyway

- Over 4,000 hunter-harvested samples collected since fall 2014
- 63 positive samples
- Three strains found: Eurasian H5N8 and mixed-origin H5N2 and H5N1

Central and Mississippi Flyways

- ~400 from each flyway from apparently healthy birds: All negative
- ~300 hunter-harvested snow geese: 1 positive
- ~300 environmental fecal samples from Minnesota: All negative
- ~200 environmental fecal samples from Indiana: All negative
- Morbidity/mortality samples: 12 positive

Future Wild Bird Surveillance

Goal: A flexible surveillance framework that can monitor wild waterfowl populations for the distribution, spread and genetic makeup of HPAI viruses

- Passive (morbidity/mortality): Year round, all species
- Active (apparently healthy birds)
 - In dabbling ducks
 - During post-nesting season (summer) and fall/winter migration
- Environmental fecal sampling: Year round, targeted

Biosecurity for Birds Campaign

- Aimed at backyard flock and pet bird owners
- Reaches a diverse audience through print materials, website, radio, and local cooperatives
- Stresses bird care and biosecurity:
 - **Look** for signs
 - **Report** sick birds
 - **Protect** your birds



Questions?

