

AVIAN INFLUENZA (AIV): Laboratory Submissions 101



Serological analysis

Blood test for antibodies (exposure) to virus

ELISA:

Fast results
(same day
as tested)
Screening test

AGID:

Overnight test
(24-hour
incubation
period)

HI:

Only at NVSL (National Vet
Service Lab) for subtyping
AI (H and N type)
3 day turn-around
Confirm the REASON for
positive AGID

Molecular diagnostics

Swab test for genetic material of virus (sick birds)

PCR matrix:

Fast results (same
day as tested)
Screens for all
influenza A virus

PCR H5/H7:

Specifically tests
for H5/H7 AI
virus types. Only
performed by a
state approved
laboratory

Sequencing:

Only at NVSL
(National Vet
Service Lab)
Identifies the
virus (LPAI/HPAI)



IOWA STATE UNIVERSITY
Veterinary Diagnostic Laboratory
1850 Christensen Drive
Ames, IA 50011-1134

IOWA STATE UNIVERSITY
College of Veterinary Medicine

Spring – 2022

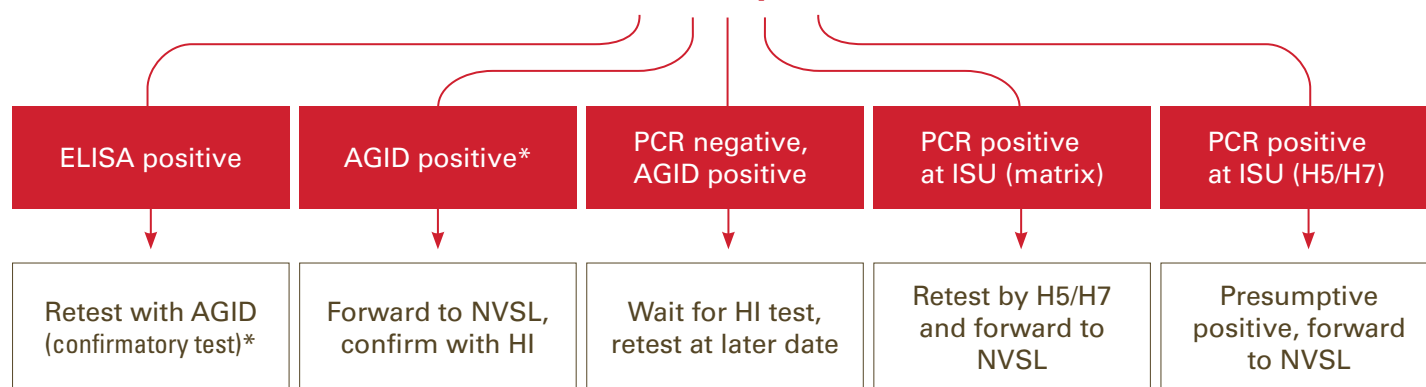
NEWSLETTER

**Veterinary
Diagnostic
Laboratory**

1850 Christensen Drive
Ames, IA 50011-1134

Phone: 515-294-1950
Email: isuvdl@iastate.edu

What to do with a positive result?



*If commercial, collect swab samples ASAP to determine virus status of flock



Yuko Sato Poultry Extension Veterinarian

Yuko was born and raised in Osaka, known as the 3rd largest city in Japan with a population over 2.7 million. Growing up in a large urban area is what drew her to animal agriculture, which she had no background in until working at the college dairy farm during her undergraduate studies at Berry College in Rome, GA. Yuko received her DVM in 2012 and completed a poultry residency in 2015, both from Purdue University in Indiana. She joined Iowa State University in August 2015 as the university's Poultry Extension Veterinarian and Diagnostic Pathologist. She has been a diplomate of the American College of Poultry Veterinarians since 2015.

Yuko's extension programs focus on poultry infectious disease diagnosis, prevention, and investigation. She is very active in scientific organizations such as the American Association of Avian Pathologists and United States American Health Association. She also serves on numerous advisory boards locally, such as the state poultry associations, as well as nationally, including the United Egg Producers scientific advisory committee.

She believes the best part about working at the ISU VDL is the tremendous support she gets from the lab and staff to have the freedom to pursue diagnostic questions from the robust egg (#1 in the US) and turkey industry (#7, #5 in processing) in Iowa. She has inherited the title "Poultry Princess" from her mentor back at Purdue, therefore her office and house are covered with chicken stuff (help)! In her free time, she enjoys horseback riding, going to the gym, and running half marathons to justify all the calories she consumes by eating good food.

STAFF HIGHLIGHT

Highly Pathogenic Avian Influenza What you need to know as a practitioner of backyard flocks

Highly pathogenic avian influenza (HPAI) is a deadly disease of poultry. Recently, H5N1, a subtype of HPAI, was detected in wild birds, commercial poultry, and backyard flocks in several U.S. States. You can help your clients protect their backyard flocks and pet birds by showing them how to recognize the signs of HPAI and urging them to report sick birds. Rapid reporting is critical to stop the spread of this disease.

What is HPAI?

Avian influenza is a respiratory disease of birds caused by influenza type A viruses. These viruses are common in wild birds in the United States and around the world. In most cases, they cause few or no signs of infection. However, some subtypes, like H5N1, can cause severe illness and death in poultry.

How does HPAI spread, and which bird species are most susceptible?

HPAI spreads quickly through direct, bird-to-bird contact. Wild birds can spread the virus to new areas through their feces. It can also be transmitted via contaminated surfaces (shoes, clothing, and vehicles). Domestic poultry such as chickens and turkeys are most likely to experience severe disease and death with mortality rates often exceeding 90 percent. However, birds of prey, ratites, and psittacine are also susceptible to HPAI infection.

What are the signs of HPAI?

The most common signs of HPAI include sudden death, drop in egg production, decreased food and water consumption, lethargy, respiratory distress, nasal discharge, purple discoloration or swelling around the legs and head, and diarrhea.

What can your clients do to keep their birds safe?

Good biosecurity is the key to keeping poultry safe.



Urge your clients to:

- ✓ **Keep wild birds and rodents out of coops and away from backyard flocks and pet birds.**
- ✓ **Secure feed bins and water.**
- ✓ **Consider removing bird feeders to avoid attracting wild birds.**
- ✓ **Keep visitors away from poultry and avoid visiting other birds.**
- ✓ **Wash hands and scrub boots before and after entering a poultry area. Wear disposable boot covers, if available.**
- ✓ **After visiting areas frequented by waterfowl, change clothes and shoes before handling poultry.**
- ✓ **Isolate any new birds or those returning from shows for 30 days before introducing them to the flock.**

What to do if you suspect HPAI?

Immediately report sick birds to your State Veterinarian.

To learn more about HPAI, go to www.aphis.usda.gov and search "avian influenza." For more biosecurity tips, go to www.aphis.usda.gov and search "defend the flock." For information about avian influenza and human health, visit the Centers for Disease Control and Prevention website.

ANNOUNCEMENTS:

Upcoming University Holidays:

Independence Day — Monday, July 4th

Labor Day — Monday, September 5th

HATS will be receiving drop-offs as normal on Monday, July 4th, and Monday, September 5th.

Beginning Q1 2023, the ISU VDL Newsletter will also be distributed electronically via email.



Questions?

Please contact ISU VDL Client Services
515-294-1950 — isuvdl@iastate.edu