

# Submitting Poultry Cases to the Animal Diagnostic Lab

What you need to know before submitting an avian specimen or sample to the Pennsylvania State University (Penn State) Animal Diagnostic Lab (ADL).

Updated: August 19, 2024



The ADL is located at 131 Pastureview Rd, University Park, PA 16802. Photo by D. Bubka.

## Pennsylvania Animal Diagnostic Laboratory System

In Pennsylvania, the three state diagnostic labs all operate under the umbrella of the Pennsylvania Animal Diagnostic Laboratory System (PADLS).

- The Animal Diagnostic Lab (ADL): Located in University Park, affiliated with Pennsylvania State University
- The New Bolton Center (NBC) Veterinary Laboratory: Located in Kennett Square, affiliated with the University of Pennsylvania School of Veterinary Medicine
- The Pennsylvania Veterinary Laboratory (PVL): Located in Harrisburg, a division of the Bureau of Animal Health and Diagnostic Services under the Pennsylvania Department of Agriculture

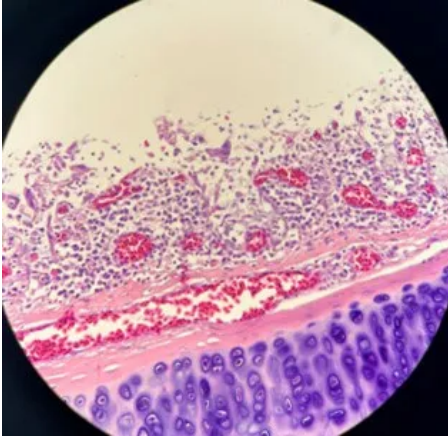
All three laboratories are accredited by the American Association of Veterinary Laboratory Diagnosticians (AAVLD), and each is a member of the National Animal Health Laboratory Network (NAHLN).

### Diagnostic lab terminology

**Necropsy:** Postmortem examination of an animal; synonymous with autopsy in humans.

**Serology:** Diagnostic tests that evaluate the serum component of blood. For example, antibody testing against specific infectious diseases can be performed using serum.

**Histopathology:** The study of tissue samples under the microscope. Pathologists can evaluate tissue sections to help diagnose or determine the cause of certain diseases.



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*Histopathology of an avian trachea viewed with a microscope. Photo by D. Bubka.*

**Bacterial Culture:** Diagnostic method to grow and identify bacteria from a sample. For example, a sterile swab of a site of bacterial infection can then be used to culture and identify the causative bacteria.

**PCR:** Polymerase Chain Reaction; a diagnostic method used to amplify genetic material (DNA or RNA) from samples to test for the presence of a specific pathogen, such as a bacterial or viral species.

**Molecular Diagnostics:** A field of pathology that works to diagnose diseases at the level of DNA and RNA. Molecular diagnostic tests include PCR and gene sequencing.

## Steps to submit an avian specimen or sample

### 1. Deciding to submit a case

It's important to know the steps involved in submitting a bird or sample from your flock to the ADL before moving forward with this decision. Although the avian diagnosticians at the ADL are veterinarians, the diagnostic process here works differently than at a veterinary hospital or clinic. At veterinary clinics, veterinarians work with individual patients and can provide supportive care or hospitalize pets that need immediate treatment. At diagnostic labs like the ADL, post-mortem specimens along with samples from live birds are used to diagnose diseases and then make recommendations for the health of the rest of the flock. Because our pathologists use necropsy as a tool to identify illness in your flock, it's important that you submit samples that are representative of the problem you're observing. For example, you should submit recently deceased birds for cases of increased flock mortality, coughing or sneezing birds if you notice respiratory issues in your flock, birds that are limping or have swollen joints if you're seeing a lameness problem, etc. Please also consider that we would be conducting post-mortem examinations on these representative samples, meaning that any birds submitted live would be euthanized. The ADL strongly encourages that you work alongside a local veterinarian to help choose cases to submit to the lab, as veterinarians can also assist with necessary treatments or follow through with ADL recommendations at the conclusion of our testing. Alternatively, you can contact the lab for guidance on choosing samples for submission. Please be aware that specimens accepted by the lab for testing cannot be returned to owners.

### 2. Finding the submission form

For avian necropsies, use the form titled "Avian Necropsy/Diagnostic Specimen Form." For this and other submission forms, please visit the [Animal Diagnostic Lab website](https://vbs.psu.edu/adl/submit/forms)(<https://vbs.psu.edu/adl/submit/forms>).

To find submission forms for other PADLS laboratory locations, please visit the [PADLS website](http://www.padls.agriculture.pa.gov/InnerPages/Forms.html) (http://www.padls.agriculture.pa.gov/InnerPages/Forms.html).

### 3. Completing the submission form

Be sure to fill out every section as thoroughly as you can -- the more detail, the better!

First Page: Make sure to include the appropriate contact information so that our veterinarians can follow up with the correct people. It is important to fill out the "Premises/Animal Information" section as well as the "Specimens Submitted" sections so that our staff knows the who/what/where/when involved with your case, as well as how many samples to expect. The age, breed, species, sex, and nature of death are key pieces of information that comprise the "signalment" of your bird(s). The diagnosticians can better evaluate the likelihood of certain disease processes based on the signalment of the affected bird(s).

**Avian Submission Form**  
 Animal Diagnostic Laboratory  
 Penn State University  
 Wiley Lane  
 University Park, PA 16802  
 Ph: 814-863-0837 FAX: 814-865-3907  
<http://adl.psu.edu> [adlhelp@psu.edu](mailto:adlhelp@psu.edu)

**FOR LABORATORY USE ONLY**  
 Accession No. \_\_\_\_\_  
 Data Entry \_\_\_\_\_  
 Case Coordinator \_\_\_\_\_  
 Date Submitted \_\_\_\_\_

**Owner/Company:** \_\_\_\_\_  
 Address: \_\_\_\_\_  
 County: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
**Report Distribution:**  Do not send  
 E-mail: \_\_\_\_\_  
 FAX \_\_\_\_\_  US Mail

**Submitter/Service Person:** \_\_\_\_\_  
 Business: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 County: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
**Report Distribution:**  Do not send  
 E-mail: \_\_\_\_\_  
 FAX \_\_\_\_\_  US Mail

**Bill to:** Account number: \_\_\_\_\_  
 Owner  Vet Practice  Submitter  Other  
 Invoice by:  Fax  US Mail  Email: \_\_\_\_\_

**Premise/Animal Information:**  
 Age: \_\_\_d \_\_\_w \_\_\_y  
 Adult  Juvenile  Embryo  Unknown  
 Species: \_\_\_\_\_  
 Breed: \_\_\_\_\_ Sex: \_\_\_\_\_  
 Date of Death: \_\_\_\_\_  
 Natural Death  Euthanized (method) \_\_\_\_\_  
 Production Type: \_\_\_\_\_  
 Farm Name: \_\_\_\_\_  
 Federal/State Premise ID #: \_\_\_\_\_  
 Premise Address: \_\_\_\_\_  
 Flock ID/House #/Animal ID: \_\_\_\_\_

**Specimens Submitted:** #Submitted  
 Animal(s) \_\_\_\_\_  
 Eggs/Egg Pools \_\_\_\_\_  
 Environmental \_\_\_\_\_  
 Feces \_\_\_\_\_  
 Feed \_\_\_\_\_  
 Serum/Clotted blood \_\_\_\_\_  
 Tissue, Fixed \_\_\_\_\_  
 Tissue Fresh \_\_\_\_\_  
 Referral Plate \_\_\_\_\_  
 Swab(s) (source) \_\_\_\_\_  
 Other \_\_\_\_\_

PS FORM 002 Avian Submission Form January 2023 Page 1 of 3

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Page 1 of the ADL "Avian Necropsy/Diagnostic Specimen" Form.

Second Page: Please include a thorough and complete history to explain why you're submitting a sample and provide additional information to describe the issue(s) afflicting your bird(s). These details include the number of affected birds, date you first noticed the problem, total number of birds in the flock and on the premises, as well as your best description of the clinical signs that you've seen. It's also important to fill out the vaccine history, medication history, and any details you can provide about the management and diet on the second half of the page. Providing the pathologists with a thorough history can help them assess disease risks more accurately and gain a more comprehensive understanding of the problem.

Date submitted: _____	Accession #: _____
<b>AVIAN HISTORY</b>	
No. in affected flock: _____	Date of onset of flock problem: _____
No. of flocks on farm: _____	Total number of birds on farm: _____
Reason for submission: _____ _____	
Mortality pattern: _____ _____	
Growth pattern/rate/issues: _____ _____	
Egg production issues: _____ _____	
<b>Clinical signs:</b>	
Respiratory: _____	
Gastrointestinal: _____	
Musculoskeletal: _____	
Nervous: _____	
Integument (skin): _____	
Feed, water consumption: _____	
<b>Vaccine history:</b>	
Date of most recent vaccination: _____	
Type of most recent vaccination: _____	
Vaccination reaction observed: _____	
Additional vaccination info: _____	
<b>Medication history:</b>	
Recent medication(s) administered: _____ _____	
Date begun: _____ Date ended: _____	
Type(s): _____	
Additional info: _____	
<b>Management/Nutrition history:</b> _____ _____	
<small>A submission of specimens for diagnostic purposes constitutes your acknowledgement that some tests may be performed at other laboratories.</small>	
<small>Submission forms and additional information may be found on our website <a href="http://adl.psu.edu">http://adl.psu.edu</a></small>	
<small>PS FORM 002 Avian Submission Form January 2023 Page 2 of 3</small>	

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Page 2 of the ADL "Avian Necropsy/Diagnostic Specimen" Form.

#### 4. Delivering the specimen/sample to the ADL

Specimens for necropsy should be fresh, recently dead birds; live animals may be submitted only by prior arrangement and during business hours. Please refrigerate any deceased birds and keep them cold during transport to the lab, if possible, but do not freeze them. Detailed instructions for proper packaging of refrigerated samples can be found on the [Animal Diagnostic Lab website](http://adl.psu.edu).

(<https://vbs.psu.edu/adl/submit/shipping>) Do not leave live animals in the cooler or on the loading dock. The ADL recommends that you work alongside a local veterinarian to submit a case, as they can assist you with selecting the proper samples and/or specimens, as well as preparing and packaging them appropriately. You may elect to drop your submission off at the ADL yourself, or you can ship it to the lab. If dropping off a submission yourself, please speak with the front desk to let us know you've arrived, confirm that the correct paperwork has been filled out and so that we can direct you to the loading dock to leave your specimens. All submissions must include a completed submission form and be labeled with the following information:

- Owner's name and address
- Veterinarian's name, address, phone, and fax numbers
- Animal identification
- Type of sample
- Test(s) requested

The ADL is open Monday-Friday from 8am-5pm, except on major holidays. After-hours, holiday, or weekend submissions may be placed in the walk-in cooler by completing the form located on the loading dock. Samples should be shipped overnight and specific shipping guidelines, including how to properly package your submission, are provided on the [Animal Diagnostic Lab website](http://adl.psu.edu).

(<https://vbs.psu.edu/adl/submit/shipping>)

ADL Shipping Address:

Animal Diagnostic Lab  
131 Pastureview Road  
University Park, PA 16802

## Diagnostic testing at the ADL

Necropsies and disease testing occur during business hours. Preliminary gross findings from a necropsy are usually available within 1-3 business days after post-mortem evaluation, but further testing such as histopathology, serology, bacteriology, and virology results will require additional time. Information about specific testing available at the ADL, as well as associated fees for individual tests, can be found in the [PADLS catalog](http://padls.agriculture.pa.gov/InnerPages/Services&Fees.html).(http://padls.agriculture.pa.gov/InnerPages/Services&Fees.html) For owners outside of Pennsylvania, a 30% surcharge is applied for out-of-state submissions to any PADLS lab.

## A note on Highly Pathogenic Avian Influenza (HPAI)

Characteristic signs of HPAI can include a sudden and significant increase in flock mortality, meaning that many of the birds in a flock pass away in quick succession, sometimes without showing any signs of illness. Additionally, birds may develop purple discoloration or swelling of the head, comb, wattles, eyelids, and/or legs; they may produce less eggs than normal or lay soft-shelled/misshapen eggs. They can also develop clinical signs such as nasal discharge, coughing, sneezing, lack of coordination, low energy, decreased appetite, and diarrhea. For additional information and resources on HPAI, visit the [Penn State Extension website](https://extension.psu.edu/avian-influenza).(https://extension.psu.edu/avian-influenza)

If you suspect HPAI in your flock, contact:

- Pennsylvania Department of Agriculture (PDA) emergency number: 717-772-2852 (press option 1 to reach the veterinarian on call)  
or
- United States Department of Agriculture (USDA) toll-free hotline at 1-866-536-7593

## Contact information

For further questions about submitting samples to the ADL, testing offered at the lab, or any additional assistance, please call or email using the contacts listed below.

Phone number: 814-863-0837

Email: [adlhelp@psu.edu](mailto:adlhelp@psu.edu)(mailto:adlhelp@psu.edu)

To find more information about NAHLN laboratories in other states, please visit the [USDA NAHLN webpage](https://www.aphis.usda.gov/labs/nahln/approved-labs) (https://www.aphis.usda.gov/labs/nahln/approved-labs).

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# Authors

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Associate Clinical Professor

### Expertise

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- Field diagnostic investigations – chickens, turkeys, upland gamebirds, waterfowl, hatchery, and processing
- Emphasis on diagnosis, prevention, and control of infectious diseases of commercial poultry

## Kayla Niel, DVM, MS, DACPV

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### Expertise

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- Field diagnostic investigations
- Layer and layer breeder production medicine
- Poultry and egg food safety

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