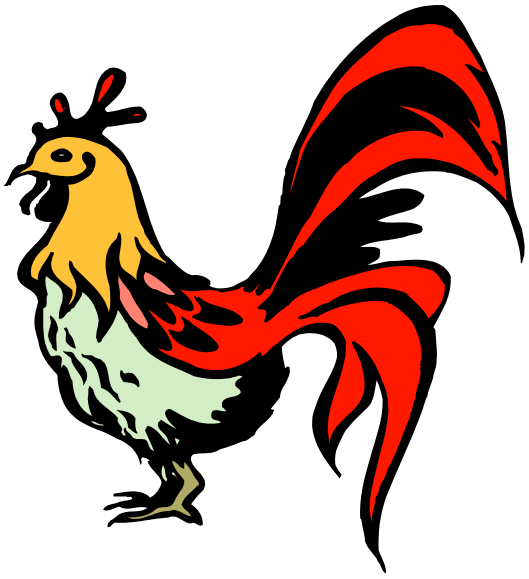
pennsylvania
DEPARTMENT OF AGRICULTURE

CERTIFIED POULTRY TECHNICIAN

USER GUIDE

Revised 11-27-18



*Contact the laboratory for a current **testing fee schedule** before sample submission!! There is a charge for testing of poultry.*

Certified Poultry Technician Course User Guide

AGENDA

- Welcome
- Introductions
- Review of Course Objectives
- Review of Continuing Education Requirements
- Review of User Guide and Reference Materials
- *Break*
- Power Point Presentation
- Demonstration of the Pullorum Rapid Whole Blood Agglutination Plate Test
- Live Bird Market (LBM) Presentation for those interested in LBM sampling
- Skills Check-off for classroom topics (requires instructor signature)
- Evaluation of the Course (optional)

After completion of this class, students must schedule the field skill test with the regional PDA veterinarian to demonstrate the techniques for sample collection, handling, and submission (refer to the CPT User Guide):

- **Blood samples**
- **Tracheal, oropharyngeal, and cloacal swabs**
- **Rapid pullorum test (if applicable)**

Your skill checklist must be signed by the classroom instructor and the field instructor, and must then be sent to the Department along with your license fee to obtain a license.

Licenses expire on December 31 of every year and must be renewed.

Pennsylvania Certified Poultry Technicians are not authorized to collect samples from poultry outside of Pennsylvania without a reciprocal agreement.

Certified Poultry Technicians collecting samples from PA poultry for entry into the NY/NJ live bird market system must complete the LBMS training, and must request LBMS status before being added to the list of approved LBMS technicians.

Course Objectives

The Pennsylvania Department of Agriculture Certified Poultry Technician Course is designed to provide trained technicians for collection of samples from poultry for regulatory testing purposes. This testing may be required for various reasons, including testing to meet poultry health program requirements, interstate movement, or for show birds to gain entry into exhibitions. The importance of proper sample collection, handling, and submission of these samples cannot be stressed enough.

In addition, technicians will be trained to recognize symptoms of diseases in poultry, reporting protocols for suspected disease, and proper biosecurity practices to reduce the risk of spreading disease. Certified Poultry Technicians (CPTs) are vital to the protection of avian health through identifying and reporting birds suspected to be infected with dangerous transmissible diseases and through proper sample collection and submission.

The safety of technicians is paramount and can be promoted through learning proper sampling techniques and biosecurity practices.

At the completion of this course, the individual should have the knowledge and skills to:

- Recognize signs of avian disease.
- Report suspected dangerous transmissible diseases to the Department.
- Be familiar with precautions necessary to reduce the spread of disease.
- Develop and follow proper biosecurity and cleaning and disinfection protocols.
- Be familiar with proper personal protective equipment and personal safety.
- Be familiar with the Department's avian health programs, including testing requirements.
- Be familiar with the Department's requirements for testing for exhibition.
- Be competent with blood and swab sample collection, handling, and submission.
- If applicable, be competent performing and interpreting the Pullorum Rapid Whole Blood Agglutination Plate Test.
- Understand proper bird identification and record-keeping requirements (official leg bands).
- If sampling birds for entry into the NY/NJ LBMS, be competent in filling out PICs and understand the rules for entry into the LBMS.

The Pennsylvania Department of Agriculture may monitor any certified poultry technician's performance, including sample collection, handling, and submission; and record-keeping.

Please note: If you are not on the Department's email notification system, please provide your email address to Stacy Rakocy at srakocy@pa.gov. You will be notified of important updates, issues, and events as needed via email. In addition, please include your email address on your license renewal application.

CERTIFIED POULTRY TECHNICIAN USER GUIDE
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CPT Skills Checklist

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- ☐ Department of Agriculture and PADLS Contacts
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- ☐ Guidelines for Reporting Suspected Dangerous Transmissible Disease

Section II: Collection, Handling, and Submission of Samples

- ☐ Guidelines for Collection, Handling, and Submission of Blood and Swab Samples from Poultry (PADLS)
- ☐ Fact sheet for Poultry Blood Collection
- ☐ Guidelines for Collection of Environmental Swab Samples for Salmonella Programs

Section III: PADLS Avian Sample Submission Form

- ☐ Pennsylvania Animal Diagnostic Laboratory System – Avian Sample Submission Form

Section IV: Instructions for Conducting Pullorum Rapid Whole Blood Agglutination Plate Test

- ☐ Instructions for Conducting Pullorum Rapid Whole Blood Agglutination Plate Test (recommended only if doing a lot of pullorum testing on breeder flocks)

Section V: Essential Equipment

- ☐ Equipment List

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- ☐ PA AI Monitored Flock Program Standards

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- ☐ PDA AI Quarantine Order (import requirements)

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- ☐ Summary of Poultry Programs and Testing Requirements

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- ☐ PA Dangerous Transmissible Diseases of Poultry

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Commonwealth of Pennsylvania
Department of Agriculture
Bureau of Animal Health and Diagnostic Services
2301 N. Cameron St.
Harrisburg, PA 17110
Telephone: 717-783-6897
Fax: 717-787-1868

APPLICATION FOR CERTIFIED POULTRY TECHNICIAN LICENSE

Instructions:

- Please Print Clearly.
- Applicants must be at least 18 years of age.
- Please complete every question. Do not leave any blank spaces. Put "none" or "n/a," as appropriate, in any space you would otherwise leave blank.

1. NAME: _____
Last Middle Initial First

2. ADDRESS: _____
Street or Box Number

_____
City State Zip

3. COUNTY: _____

4. TELEPHONE NUMBER: _____

5. FAX NUMBER: _____

6. E-MAIL ADDRESS: _____

7. CURRENT AGE: _____ 8. DATE OF BIRTH: _____

9. ARE YOU A CITIZEN OF THE UNITED STATES OF AMERICA? Check one:
Yes: _____ No: _____

10. HAVE YOU EVER BEEN CONVICTED OF A CRIME OTHER THAN A SUMMARY TRAFFIC CITATION? (note: for purposes of this response, please consider a criminal "conviction" to apply to any crime with respect to which you were found guilty, or entered a guilty plea, or entered a plea of *nollo contendere* / "no contest".) Check one:
Yes: _____ No: _____

If you checked "yes," please provide the following information with respect to ***each*** criminal conviction for other than a summary traffic citation (note: for purposes of this response, please attach additional pages, if needed):

a. Location and Name of Court: _____
b. Criminal charge/offense: _____
c. Date of Violation: _____
d. Description of Violation: _____
_____
e. Sentence Imposed: _____
f. Whether you are currently on parole or probation for this offense and, if so, until when: _____

11. DESCRIBE THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED:
    a. If elementary school, highest grade completed: ____
    b. If high school, highest grade completed: ____
    c. If college, number of years completed, and any degrees awarded:
    _____
    d. If postgraduate education, number of years completed, and any degrees awarded: _____
    e. Other education: _____

Verification: I understand that this document is an application to the Pennsylvania Department of Agriculture for a Certified Poultry Technician License. I offer the foregoing (and any attachments) in support of this application. All statements in this application are true and correct to the best of my knowledge, information and belief; and I make these statements subject to the penalties of 18 Pa.C.S.A. section 4904 (realting to unsworn falsification to authorities).

SIGNATURE OF APPLICANT: _____
(DO NOT PRINT)

DATE: _____

*What classification best describes your work as a CPT? (CHOOSE ONE)

Backyard (exhibition) poultry ☐**;** **Commercial poultry** ☐**;** or

Live bird market system poultry ☐

*Would you like to have your contact information posted on the PDA website to be available to the public? Yes: _____ No: _____

To register for CPT training, please forward this completed application to Stacy Rakocy (srakocy@pa.gov) at the Bureau of Animal Health and Diagnostic Services, 2301 N Cameron St, Harrisburg PA 17110. Fax number: 717-787-1868.

After classroom and field training is successfully completed, please forward the **completed skills checklist and a check in the amount of $10.00** (made out to Commonwealth of PA) to Stacy Rakocy at the Bureau of Animal Health and Diagnostic Services to receive your Certified Poultry Technician license.

pennsylvania
DEPARTMENT OF AGRICULTURE

2301 N. Cameron St. Harrisburg, PA 17110
Telephone: 717-783-6897 Fax: 717-787-1868

SKILL CHECKLIST FOR CERTIFIED POULTRY TECHNICIAN LICENSE
(Please fill out the contact information and then have the instructor check off the required skills as you complete them).

DATE: Classroom training:_____Field Skill test:_____

NAME:_____
Last Middle Initial First

ADDRESS:_____
Street or Box Number

_____
City State Zip

TELEPHONE NUMBER:_____EMAIL:_____

SKILLS COMPLETED SATISFACTORILY:

Classroom:

_____Understanding of proper sample handling and submission

_____Understanding of proper bird identification and records retention (leg bands)

_____Understanding of Biosecurity

_____Understanding of LBM requirements and Poultry Inspection Certificates

_____Understanding of the rapid whole blood agglutination plate test (pullorum)

In field:

_____Blood sample collection

_____Tracheal/oropharyngeal swab collection

_____Cloacal swab collection

_____Rapid whole blood agglutination plate test (pullorum) if applicable

PRINTED NAME AND SIGNATURE OF CLASSROOM INSTRUCTOR:

_____ _____
(PRINTED NAME) (SIGNATURE-DO NOT PRINT) DATE

PRINTED NAME AND SIGNATURE OF FIELD INSTRUCTOR:

_____ _____
(PRINTED NAME) (SIGNATURE-DO NOT PRINT) DATE

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CERTIFIED POULTRY TECHNICIAN

COURSE EVALUATION

The course evaluation will be utilized to determine if changes are necessary to provide a better program for Certified Poultry Technicians. Please take the time to fill out this evaluation.

Date of Course:_____

Instructor:_____

1. Course Objectives: The course objectives are relevant to my goals as a Certified Poultry Technician:

   _____ Yes _____ No

   If no; please explain:

   _____
   _____
   _____

2. Course Content: The course provided me with the information which fulfilled the course objectives.

   _____ Yes _____ No

   If no; please explain:

   _____
   _____

3. Reference Materials: The reference materials provided are helpful and relevant to my work as a Certified Poultry Technician.

   _____ Yes _____ No

   If no; please explain:

   _____
   _____

4. Presentation of Material: The course material was presented in a manner which was easy to follow and understand.

   _____ Yes _____ No

If no; please explain:

_____
_____
_____

5. (Field skills) Hands-on Experience: The course provided me with the hands-on experience I need to act as a Certified Poultry Technician in the following areas:

Blood sample collection:

_____ Yes _____ No

If no; please explain:

_____
_____

Tracheal, oropharyngeal, and cloacal swab collection:

_____ Yes _____ No

If no; please explain:

_____
_____

6. Other Comments:

Your Name (Optional):_____

We hope you enjoyed the course.
Thank you.

SECTION I: CONTACT INFORMATION

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PA DEPARTMENT OF AGRICULTURE and PADLS
Contact List

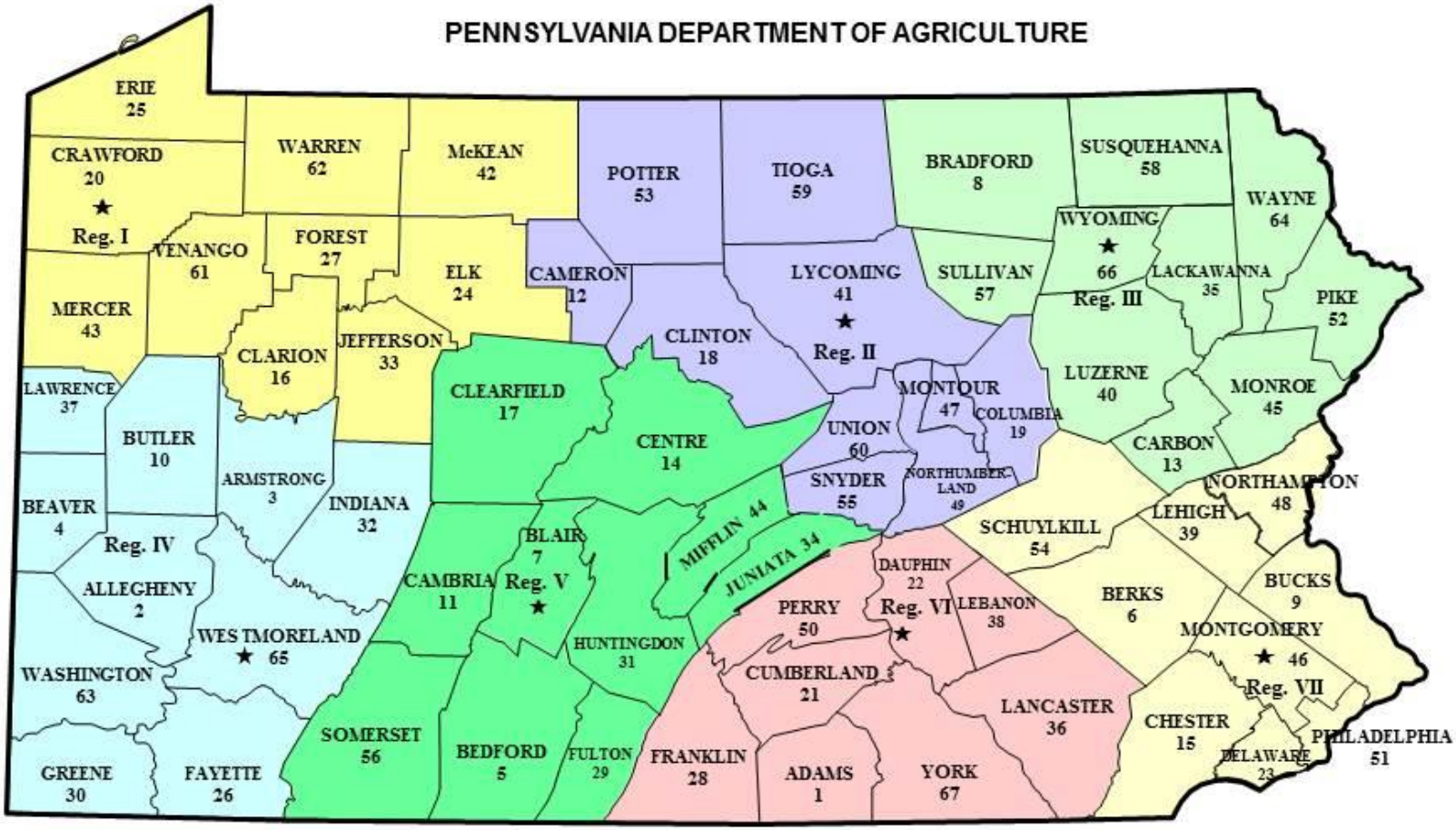
	ANIMAL AND POULTRY HEALTH DIVISION				
Dr. Nan Hanshaw	**Division Chief**	410	717-783-6677	717-787-1868	**nhanshaw@pa.gov**
Stacy Rakocy	**NPIP, Pullorum Equivalent program, Poultry Exhibits, Monitored flock program, CPT licensing**	410	717-783-6897	717-787-1868	**srakocy@pa.gov**
	REGULATIONS AND COMPLIANCE DIVISION				
Dr. Lauren Weiss	**Division Chief**	412	717-783-6851	717-787-1868	**laweiss@pa.gov**

PA DEPARTMENT OF AGRICULTURE and PADLS
Contact List

	BAHDS REGIONAL OFFICES		TELEPHONE	**FAX**	
REGION 1	**13410 Dunham Road, Meadville, PA 16335**				
Dr. Heather Palm	Veterinary Medical Field Officer		814-332-6890	814-333-1431	**hpalm@pa.gov**
Sarah Yurisic	Domestic Animal Health inspector		814-332-6890	814-333-1431	**syurisic@pa.gov**
Joel Brocious	Domestic Animal Health Inspector		814-332-6890	814-333-1431	**jbrocious@pa.gov**
REGION 2	**542 County Farm Road, Suite 102, Montoursville, PA 17754-9685**				
Dr. Amy J. Nesselrodt	Veterinary Medical Field Officer		570-433-2640	570-433-4770	**anesselrod@pa.gov**
Erin Ackerman	Domestic Animal Health Inspector		570-433-2640	570-433-4770	**erackerman@pa.gov**
Karin Ross	Domestic Animal Health Inspector		570-433-2640	570-433-4770	**kariross@pa.gov**
REGION 3	**Route 92 South, P.O. Box C, Tunkhannock, PA 18657**				
Dr. Tony LaBarbera	Veterinary Medical Field Officer		570-836-2181	570-836-6266	**alabarbera@pa.gov**
Maureen Kane-Campbell	Domestic Animal Health Inspector		570-836-2181	570-836-6266	**mkanecampb@pa.gov**
REGION 4	**226 Donohoe Rd. Greensburg PA 15601**				
Dr. Erin Moore	Veterinary Medical Field Officer		(724) 832-1073	724-832-1013	**erimoore@pa.gov**
James Govan	Domestic Animal Health Inspector		(724) 832-1073	724-832-1013	**jgovan@pa.gov**
David Myers	Domestic Animal Health Inspector		(724) 832-1073	724-832-1013	**damyers@pa.gov**
REGION 5	**403 East Christiana Street, Suite 3, Martinsburg, PA 16662**				
Dr. Elizabeth Santini	Veterinary Medical Field Officer		814-793-1849	814-793-1869	**esantini@pa.gov**
Dawn M. Dilling	Domestic Animal Health Inspector		814-793-1849	814-793-1869	**ddilling@pa.gov**
Jennifer Johnson	Domestic Animal Health Inspector		814-793-1849	814-793-1869	**jenjohnson@pa.gov**

PA DEPARTMENT OF AGRICULTURE and PADLS
Contact List

REGION 6	**2301 North Cameron Street, Room 411, Harrisburg, PA 17110**				
Dr. John Roberts	Veterinary Medical Field Officer		717-836-3237	717-346-3229	joroberts@pa.gov
Sarah Mcalanis	Domestic Animal Health Inspector		717-836-3237	717-346-3229	smcalanis@pa.gov
Eric Kessel	Domestic Animal Health Inspector		717-836-3237	717-346-3229	ekessel@pa.gov
Patricia Massie	Domestic Animal Health Inspector		717-836-3237	717-346-3229	pmassie@pa.gov
Christine Mooney	Domestic Animal Health Inspector		717-836-3237	717-346-3229	chmooney@pa.gov
Suzette Thompson	Domestic Animal Health Inspector		717-836-3237	717-346-3229	suthompson@pa.gov
REGION 7	**1015 Bridge Rd., Collegeville, PA 19426**				
Dr. Aliza J. Simeone	Veterinary Medical Field Officer		610-489-1003	610-489-6119	asimeone@pa.gov
Christopher Hosler	Domestic Animal Health Inspector		610-489-1003	610-489-6119	chosler@pa.gov
B. K. Parambath	Domestic Animal Health Inspector		610-489-1003	610-489-6119	bparambath@pa.gov
Jennifer Hartlieb	Domestic Animal Health Inspector		610-489-1003	610-489-6119	jhartlieb@pa.gov
	PA ANIMAL DIAGNOSTIC LABORATORY SYSTEM (PADLS)		**TELEPHONE**	**FAX**	
PA VETERINARY LABORATORY (PVL)	2305 North Cameron Street, Harrisburg, PA 17110		717-787-8808	717-772-3895	
	Client Services		717-787-8808	717-772-3895	
NEW BOLTON CENTER (NBC)	382 West Street Road Kennett Square, PA 19348-1692				
	Pathology		610-444-5800	610-925-8110	
	Toxicology		610-444-5800	610-925-8117	
	Avian Medicine and Pathology		610-444-4282	610-925-8106	
	Microbiology PADLS		610-444-5800	610-925-8116	
	Microbiology		610-444-5800	610-925-8115	
PENN STATE UNIVERSITY Animal Diagnostic Laboratory (PSU ADL)	Animal Diagnostic Laboratory Wiley Road University Park, PA 16802		814-863-0837	814-865-3907	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PIKE 52
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JEFFERSON 33
CLINTON 18
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MONROE 45
LAWRENCE 37
BUTLER 10
CLEARFIELD 17
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COLUMBIA 19
UNION 60
CARBON 13
ARMSTRONG 3
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NORTHAMPTON 48
BEAVER 4
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LEHIGH 39
SCHUYLKILL 54
ALLEGHENY 2
CAMBRIA 11
Reg. V
DAUPHIN 22
PERRY 50
Reg. VI
LEBANON 38
BERKS 6
BUCKS 9
WESTMORELAND 65
HUNTINGDON 31
MONTGOMERY 46
Reg. VII
WASHINGTON 63
CUMBERLAND 21
LANCASTER 36
CHESTER 15
PHILADELPHIA 51
SOMERSET 56
BEDFORD 5
FULTON 29
FRANKLIN 28
ADAMS 1
YORK 67
DELAWARE 23
GREENE 30
FAYETTE 26
Dr. Heather Palm
REGION I
13410 Dunham Rd.
Meadville, PA 16335
(814) 332-6890
Dr. Amy Nesselrodt
REGION II
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Montoursville, PA 17754
(570) 433-2640
Dr. Tony LaBarbera
REGION III
Route 92 South, PO Box C
Tunkhannock, PA 18657
(570) 836-2181
Dr. Erin Moore
REGION IV
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Greensburg, PA 15601
(724) 832-1073
Dr. Elizabeth Santini
REGION V
Martinsburg Commons
403 Christiana St.
Martinsburg, PA 16662
814-793-1849
Dr. John Roberts
REGION VI
2301 N. Cameron St., G-5
Harrisburg, PA 17110
(717) 346-3223
Dr. Aliza Simeone
REGION VII
1015 Bridge Road
Collegeville, PA 19426
(610) 489-1003
02/09/15

GUIDELINES FOR REPORTING SUSPECTED DANGEROUS TRANSMISSIBLE DISEASE

- Report any signs suggestive of Avian Influenza (AI) or other dangerous transmissible diseases in a flock immediately to the Pennsylvania Department of Agriculture at: 717-772-2852.

- Signs suggestive of AI include the following:

    - Increased mortality;
    - Decreased egg production;
    - Swollen eyelids/sinuses/combs or wattles;
    - Purple or bluish discoloration of wattles and combs;
    - Respiratory snicking; and
    - Generally depressed birds.
    - Commonly, the producer will notice mortality increases if the flock is infected with HPAI, and in the case of layers, decreased egg production, which usually follows the increased mortality by several days.
    - These are general guidelines only.

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SECTION II: COLLECTION, HANDLING, AND SUBMISSION OF SAMPLES

Guidelines for Collection, Handling, and Submission of Samples

PA VETERINARY LABORATORY (PVL)	2305 North Cameron Street, Harrisburg, PA 17110	717-787-8808
NEW BOLTON CENTER (NBC)	382 West Street Road Kennett Square, PA 19348-1692	610-444-5800
PENN STATE UNIVERSITY (PSU-ADL)	Animal Diagnostic Laboratory Wiley Road University Park, PA 16802	814-863-0837

- *Blood and swab sample tubes, swabs, cardboard boxes for tubes, whirlpak bags, virus transport media, and submission forms are available from PVL.*

- *Samples can be tested at any PADLS laboratory. Call the laboratory in advance to let them know when the samples will arrive.*

- *Samples can be hand carried to the laboratory (preferred method) or shipped by overnight mail or courier. Samples should be delivered to the laboratory between Monday morning and Thursday noon. Samples should not be delivered on a day before a holiday or on weekends. If shipping samples, send early in the week, preferably before Wednesday morning.* ***Do not drop samples off at a PDA regional office for shipment unless you have made special arrangements with the regional staff.***

- **BIRDS TESTED FOR PULLORUM MUST BE LEG BANDED WITH AN OFFICIAL PDA BAND. OFFICIAL LEG BANDS ARE AVAILABLE FROM YOUR PDA REGIONAL OFFICE. EACH BLOOD SAMPLE TUBE MUST BE LABELED WITH THE BAND NUMBER OF THE BIRD FROM WHICH THE SAMPLE WAS COLLECTED OR A CORRESPONDING NUMBER SO THAT THE SAMPLE CAN BE TRACED BACK TO THAT BIRD.**

    - **RECORDS OF LEG BAND DISPOSITION MUST BE MAINTAINED FOR A MINIMUM OF TWO YEARS AND MUST BE MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.**
    - **IF TESTING FLOCKS ON SITE USING THE RAPID PULLORUM TEST, ALL SUSPECTS (REACTORS) MUST BE BANDED AND EITHER BLOOD FROM THE REACTOR IS SENT TO THE LAB FOR FURTHER TESTING, OR THE BIRD IS SENT TO THE LAB FOR CULTURE.**
    - **ALL BIRDS TESTED FOR SHOW MUST BE LEG BANDED WITH AN OFFICIAL PDA BAND, EVEN IF TESTED USING THE RAPID PULLORUM TEST.**

- **ALL BIRDS ENTERING A SHOW MUST BE LEG BANDED WITH AN OFFICIAL PDA BAND (ENFORCED AFTER JUNE 1, 2017).**
- **APPLICATORS ARE NOT PROVIDED BY PDA BUT ARE AVAILABLE FROM:**

National Band & Tag Company
721 York St., PO Box 72430
Newport KY 41072-0430 USA
859-261-2035
USA FAX: 800-261-8247
nationalband.com

(OR YOU CAN USE PLIERS TO APPLY THE BANDS)

- *For biosecurity purposes, take only enough tubes and supplies needed for each flock onto a premises. Do not take tubes or boxes onto more than one premises.*

- Pennsylvania Certified Poultry Technicians are not authorized to collect official samples from poultry located outside of Pennsylvania without a reciprocal state agreement in place.

- Certified Poultry Technicians collecting samples for the NY/NJ live bird market system must first be pre-approved and added to the Department's list of CPTs approved to sample for the live bird market system.

Sample Collection - Blood

Refer to the *Ohio State University Extension Guidelines for additional information concerning Collection of Poultry Blood Samples.*

Please note that only the clear serum, obtained after the blood sample has clotted and has been separated at the laboratory, is used for testing. The CPT must submit enough blood from each bird to provide sufficient serum for all testing.

Large tubes:

- Large (5 ml) tubes should be used when more than one test will be performed on the samples so a greater quantity of blood can be collected.
- Place the necessary number of empty tubes in the cardboard tube box and tilt the box approximately 30 degrees. Brace the box in this position while you collect samples to facilitate clot formation in the samples. If using large, open-top tubes for hand delivery to the laboratory, place a large piece of tape over the tops of the tubes in the box. Do not use open-top tubes with tape over the top for shipping – the labs can provide caps for the large tubes if requested for shipping.
- **Collect 2.5 milliliters (cc) of blood per bird** and place it in a large (5-ml) tube. Place the sample in the tube using only gentle, steady pressure on the syringe to avoid damaging the blood cells.
- **Complete the submission form** and place it on top of the samples. **If samples are to be tested for pullorum, label tubes to correspond to the offical band number of each bird sampled. Include the band number on the submission form.**
- Place the box lid on tightly.
- Label the box (not the lid) with the owner name and Premise ID.
- Place the box into a plastic bag. Seal the bag.
- Disinfect the outside of the plastic bag.
- **Keep the samples cool on frozen ice packs in a cooler during transport – do not use ice. Do not allow the blood samples to freeze.**

Plastic snap-cap tubes:

- If only one test will be performed on the samples, smaller plastic snap cap tubes are acceptable.
- If using plastic snap cap tubes, collect **2.0 cc of blood per bird** and place it in a tube. Fill the tube, but leave a small air space at the top so the lid does not pop open during transport. Place the sample in the tube using only gentle, steady pressure on the syringe to avoid damaging the blood cells.
- Plastic snap cap tubes with samples should be placed into a labeled whirlpak bag for submission to the laboratory. If you have sampled more than one bird type, place only one bird type per bag, and write the bird type on the corresponding bag (chickens in one bag, turkeys or game birds in another). Seal the bag.
- Label the whirlpak bag with the owner name and premise ID.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.

- Keep the samples cool on frozen ice packs in a cooler during transport – do not use ice. Do not allow the blood samples to freeze.
- **The USDA National Veterinary Services Laboratory does not recommend avian influenza AGID testing of blood from waterfowl- collect cloacal swabs from waterfowl for AI testing.**

Sample Submission - Hand Carried Blood Samples (Preferred Method)

After collection:

- Place tape over the top of the tubes if you have not already done so.
- Place the ***completed submission form*** on top of the samples.
- Place the box lid on tightly.
- Label the box (not the lid) with the owner name and Premise ID.
- Place the box into a plastic bag. Seal the bag.
- Disinfect the outside of the plastic bag.
- Plastic snap cap tubes with samples should be placed into a labeled whirlpak bag for submission to the laboratory. Seal the bag.
- Label the whirlpak bag with the owner name and premise ID, as well as bird type if submitting samples from more than one bird type.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.
- If you are not transporting the samples immediately, hold blood tubes at *room* temperature until the serum separates if possible. If it is not possible, keep the samples cool (see next bulleted item). Submit samples as soon as possible (preferably within 24-48 hours).
- **Keep the samples cool on frozen ice packs in a cooler during transport – do not use ice. Do not allow the blood samples to freeze.**
- Deliver samples to the reception area of the laboratory.
- Samples must be delivered to the laboratory between Monday morning and Thursday noon. Samples should not be delivered on a day before a holiday or on weekends.

Sample Submission – Overnight Mail or Courier Delivery of Blood Samples

After collection:

- Do not use open-top tubes with tape over the top for shipping – the labs can provide caps for the large tubes if requested for shipping.
- Place the ***completed submission form*** on top of the samples.
- Place the box lid on tightly.
- Label the box (not the lid) with the owner name and Premise ID. Place the box into a plastic bag. Seal the bag.
- Disinfect the outside of the plastic bag.
- Plastic snap cap tubes with samples should be placed into a labeled whirlpak bag for submission to the laboratory. Seal the bag.
- Label the whirlpak bag with the owner name and premise ID, as well as bird type if submitting samples from more than one bird type.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.
- If you are not transporting the samples immediately, hold blood tubes at *room* temperature until the serum separates if possible. If it is not possible, keep the samples cool (see next bulleted item). Submit samples as soon as possible (preferably within 24-48 hours).
- Keep the samples cool on frozen ice packs in an approved, sealed Styrofoam container (placed inside of a sealed cardboard box) during transport – do not use ice. Do not allow the samples to freeze. Remember that samples can freeze in cold weather if held too long in a delivery truck.
- If shipping samples, send early in the week, preferably before Wednesday morning.

Sample Collection – Swabs for AI testing

Tracheal/oropharyngeal swabs (gallinaceous birds such as chickens, turkeys, and game birds):

- Swab testing may be used instead of blood testing to test gallinaceous birds for avian influenza. Swabs may not be used for pullorum testing of any type of bird.
- Keep Brain Heart Infusion (BHI) broth tubes refrigerated at all times.
- Use tubes containing 5.5 mls BHI.
- Collect tracheal/oropharyngeal swabs for virus detection testing from birds representative of the flock.
- Insert the **dry** swab and rub the mucosa vigorously.
- Use one swab for each bird.
- Avoid contaminating the swab through allowing contact with other surfaces.
- Place material from up to 11 swabs (from up to 11 different birds of one type) into one tube (gallinaceous birds only). **Do not combine swab material from different bird types in a tube.**
- Do not leave swabs in the tubes- insert each swab into the tube, swirl the tip in the BHI, press the tip against the inner surface of the tube to remove excess material into the tube, and then discard the swab in a biosecure manner. **NVSL permits material from up to 11 swabs per tube of 5.5 mls BHI.**
- Secure tube tops.
- Place tubes into a labeled whirlpak bag. If you have sampled more than one bird type, place only one bird type per bag, and write the bird type on the corresponding bag (chickens in one bag, turkeys or game birds in another). Seal the bag.
- Label the bag with owner name and Premise ID.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.
- **Keep the samples cool on frozen ice packs in a cooler during transport** – do not use ice. If you cannot get the samples to the lab within 48 hours of collection, freeze the swab samples and keep frozen until delivered to the lab. It is recommended that you submit samples as soon as possible after collection (preferably within 24-48 hours) to ensure sample integrity.
- If shipping samples, send early in the week, preferably before Wednesday morning.
- Please note: Viral transport medium (VTM) may replace BHI at the discretion of the PADLS laboratories. VTM should be an orange color when fresh. It becomes a violet color as it becomes unsuitable for use. Do not use VTM that has changed color or that has passed its expiration date. VTM should be kept refrigerated at all times, so keep the tubes on frozen ice packs as you collect samples. Brain Heart Infusion (BHI) broth may be provided instead of VTM for swab submissions. BHI should be clear. Do not use BHI that is cloudy or that has passed its expiration date. BHI should be kept refrigerated at all times, so keep the tubes on frozen ice packs as you collect samples.

Cloacal swabs* (waterfowl) for AI testing*: All waterfowl tested for exhibition in PA must have cloacal swabs submitted for testing).

- Swabs may not be used for pullorum testing of any type of bird.
- Keep Brain Heart Infusion (BHI) broth tubes refrigerated at all times.
- Collect cloacal swabs for virus detection testing from birds representative of the flock.
- Use dry swabs.
- Insert the swab and rub the mucosa vigorously.
- Use one swab for each bird.
- Avoid contaminating the swab by allowing it to contact other surfaces.
- Place swabs into tubes containing enough BHI to moisten and cover the end of the swabs. 5.5 ml BHI tubes may be used.
- **Place up to 5 swabs (from up to 5 different birds of one type) into one tube.**
- **Do not mix duck and goose swabs in a tube.**
- Break off the ends of the swab handles so the swabs fit into the tubes (only the tip with the sample is needed for testing).
- Secure tube tops.
- Place tubes into a labeled whirlpak bag. If you have sampled more than one bird type (such as ducks and geese), place only one bird type per bag, and write the bird type on the corresponding bag. Seal the bag.
- Label the bag with owner name and Premise ID.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.
- **Keep the samples cool on frozen ice packs in a cooler during transport** – do not use ice. If you cannot get the samples to the lab within 48 hours of collection, freeze the swab samples and keep frozen until delivered to the lab. It is recommended that you submit samples as soon as possible after collection (preferably within 24-48 hours) to ensure sample integrity.
- If shipping samples, send early in the week, preferably before Wednesday morning.
- Please note: Viral transport medium (VTM) may replace BHI at the discretion of the PADLS laboratories. VTM should be an orange color when fresh. It becomes a violet color as it becomes unsuitable for use. Do not use VTM that has changed color or that has passed its expiration date. VTM should be kept refrigerated at all times, so keep the tubes on frozen ice packs as you collect samples. Brain Heart Infusion (BHI) broth may be provided instead of VTM for swab submissions. BHI should be clear. Do not use BHI that is cloudy or that has passed its expiration date. BHI should be kept refrigerated at all times, so keep the tubes on frozen ice packs as you collect samples.

For sample collection and handling requirements for other disease testing, contact the laboratory.

Sample Submission - Hand Carried Swab Samples (Preferred Method)

After collection:

- Place tubes into a labeled whirlpak bag.
- Label the bag with owner name and Premise ID. If you have sampled more than one bird type (such as ducks and geese), place only one bird type per bag, and write the bird type on the corresponding bag (ducks in one bag, geese in another). Seal the bag.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.
- Keep the samples cool on frozen ice packs in a cooler during transport – do not use ice. If you cannot get the samples to the lab within 48 hours of collection, freeze the swab samples and keep frozen until delivered to the lab. It is recommended that you submit samples as soon as possible after collection to ensure sample integrity.
- Deliver samples to the reception area of the laboratory.
- Samples should be be delivered to the laboratory between Monday morning and Thursday noon. Samples should not be delivered on a day before a holiday or on weekends.

Sample Submission – Overnight Mail or Courier Delivery of Swab Samples

After collection:

- Place tubes into a labeled whirlpak bag.
- Label the bag with owner name and Premise ID. If you have sampled more than one bird type (such as ducks and geese), place only one bird type per bag, and write the bird type on the corresponding bag (ducks in one bag, geese in another). Seal the bag.
- **Complete the submission form** and place it in the bag pocket.
- Disinfect the outside of the whirlpak bag.
- Keep the samples cool on frozen ice packs in an approved, sealed Styrofoam container (placed inside of a sealed cardboard box) during transport – do not use ice. If you cannot get the samples to the lab within 48 hours of collection, freeze the swab samples and keep frozen until delivered to the lab. It is recommended that you submit samples as soon as possible after collection to ensure sample integrity.
- If shipping samples, send early in the week, preferably before Wednesday morning.

GUIDELINES FOR SUBMISSION OF BIRDS TO THE LABORATORY

Diagnosis of disease can be difficult if the history of the flock is unknown or the specimens for testing are not submitted properly. The following guidelines were designed to assist in the submission of birds to the laboratory:

1. Submission Form: It is vital that the submission form be filled out accurately and completely, and that the information is printed clearly. Current contact information must be listed. If the form is not filled out properly, the proper testing may not be done, and/or the submitter may not receive the results.

2. History: Any health problems in the flock should be included on the submission form. A detailed description of any health problems in the flock, including changes in production, symptoms of illness, and mortality, should be included with the submission. In addition, field necropsy findings, recent feed changes, vaccinations, treatments, litter changes, etc. should be included to assist with the diagnosis.

3. Number of Birds in the Submission: As a general guideline, the following numbers may be used:

    a. Growing and adult chickens and turkeys: 4 to 8 birds
    b. Baby chicks and poults: 8 to 10 birds

4. Which Birds to Submit: It is important to choose birds for submission which will be most likely to provide the proper diagnosis of the problem in the flock. Please contact the diagnostician at the receiving lab to discuss the problem for further guidance on bird selection. The following guidelines apply:

    a. If the flock has increased mortality, always include several fresh dead birds representative of the mortality of the day.
    b. If there are specific symptoms noted (respiratory signs such as snicking, foamy eyes, labored breathing; diarrhea or other changes in droppings; neurologic signs; leg problems; generally depressed; inactive; decreased feed consumption; failing to thrive; poor growth; weight loss; etc.), include live birds that are showing the specific symptom(s) of interest.
    c. Include birds in different stages of illness if available.

THE OHIO STATE UNIVERSITY EXTENSION

Extension FactSheet

VME-23-05

Veterinary Preventive Medicine, 1900 Coffey Road, Columbus, Ohio 43210

Poultry Blood Collection

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Why Bleed Your Birds?

Phlebotomy (blood collection) can play an important role in determining the cause of morbidity (sickness) and mortality (death loss) experienced in your flock. In addition, flock health monitoring can be achieved by obtaining serum samples. A veterinarian (or flock specialist) can perform such a procedure to provide the samples needed for laboratory diagnostic testing. Three types of blood samples can be used for diagnostic testing: whole blood, plasma, and serum. Whole blood samples are usually used by the veterinarian or flock specialist to examine, by microscopy, the condition of the erythrocytes (red blood cells), leukocytes (white blood cells), and thrombocytes (platelet-type cells). Plasma samples are often used by the veterinarian to obtain the chemical profile of the bird's blood. Serum samples are used by the veterinarian to obtain antibody titer levels present to determine flock exposure to disease agents.

What Will You Need to Collect Blood?

- 3 mL syringes (1 mL = 1 cc)
- Needles (the higher the gauge, the smaller the diameter of the needle). The 25 gauge x 1 inch length is preferable for most birds.
- Blood collection vials
- Mini cooler (for transportation of blood samples to the laboratory)

Needles and syringes commonly used to bleed poultry.

Blood Vial	Contents	Collection Sample
Red	None / No additives—Blood clots on its own; this allows serum to separate from cells	Serum
Red with grey marbling	Gel separator / No additives—Centrifugation causes the gel to separate insoluble material (cells) from serum	
Green	Heparin-anticoagulant—Contains polysaccharides that inhibit blood clotting by preventing release of coagulating factors	Plasma
Purple	Anticoagulant EDTA (ethylenediaminetetra-acetic acid)—Binds calcium salts in blood by chelation to preserve cells	Whole Blood and Plasma

Note the colored caps/ plugs identifying the type of blood vials.

Examples of sick birds that have ruffled feathers and appear "depressed."

Example of a hematoma.

How Much Blood Can One Collect?

The amount of blood that can be safely collected from a clinically healthy bird is 1% of its body weight, in grams. For example, the maximum amount of blood to take from a 500 g bird is 5 mL (5 cc) of blood. In addition, one should collect less blood from birds that are sick.

PA CPT: If you can't collect the amount of blood required for testing, consider swabbing for AI testing.

Where Are the Blood Collection Sites?

The large vein under the wing (brachial vein)

- Place the bird on a table, setting it on its side.
- Lift up the wing with one hand and part the feathers along the wing. Water can be used to help keep the feathers separated.
- Place the needle at a slight angle, bevel up, against the vein on the underside of the wing. (The bevel is the side of the needle with the angle and the hole.) Insert the needle into the vein and slowly withdraw blood.

Separation of wing feathers, exposing the brachial vein (left). Vein puncture and the withdrawal of blood (right).

- Remove the needle and apply pressure to the vein for a few seconds. This will help to minimize the development of large hematomas, which can be common with poultry. Fill the appropriate vial 1/3 to 1/2 of its full volume. Allow the vacuum in the vial to empty the syringe, rather than pushing on the plunger, as this will prevent hemolysis (rupture of red blood cells). This volume is needed to ensure enough blood is collected to obtain an adequate sample.

The vein on the side of the outstretched neck (jugular vein)

- Place the bird on a table, setting it on its side.
- Stretch out the neck with one hand and part the feathers along the neck. The right jugular vein is usually larger.
- Place the needle at a slight angle, bevel up, against the vein.
- Puncture the vein and slowly withdraw blood.
- Remove the needle and apply pressure to the vein for a few seconds. Fill the appropriate vial 1/3 to 1/2 of its full volume.

Exposed jugular vein (left) and withdrawal of blood (right).

The vein on the inner leg, above the hock (medial metatarsal vein)

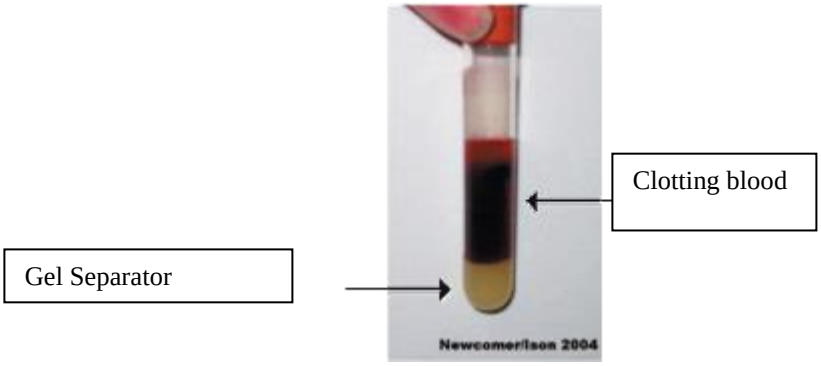
- Place the bird on a table, setting it on its side.
- Stretch out the leg with one hand and part the feathers along the hock joint.
- Place the needle at a slight angle, bevel up, against the vein.
- Puncture the vein and slowly withdraw blood.
- Remove the syringe and apply pressure to the vein for a few seconds. Fill the appropriate vial 1/3 to 1/2 of its full volume.

Withdrawal of blood from the medial metatarsal vein.

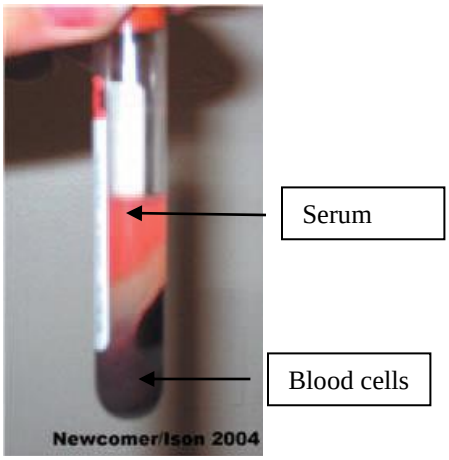
What Should Be Done After the Blood Is Collected?

For Pennsylvania CPTs, refer to the PA Guidelines for collection, handling, and submission of samples.

Vial with gel separator and whole blood before centrifugation.



Vial with gel separator after centrifugation. Note the gel separator separates the blood cells from the serum.



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Please note: PADLS laboratories may provide plain red-top tubes or serum separator tubes for blood sample submissions.

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Environmental Swabbing for Salmonella Programs

Refer to NPIP Program Standard B: NPIP Procedures for collection, isolation, and identification of Salmonella from environmental samples, cloacal swabs, chick box papers, and meconium samples. These standards apply to egg- and meat-type chickens, waterfowl, exhibition poultry, and game birds.

Information concerning the pen arrangement and number of birds per pen should be obtained from the owner so that the required number of samples per pen and per flock can be determined. A means of identifying each sample by pen of origin should be provided. The vehicle transporting the personnel taking the samples should be left as far as practical from the poultry pens. Sanitary precautions, including personal cleanliness, should be observed during the sampling procedure. The hands should be carefully washed with a sanitizing soap prior to the sampling. Outer clothing, including gloves, should be changed between visits to different premises so that clean clothing is worn upon entering each premises. A minimum size of three inches by three inches should be used for the sterile gauze pads.

The used and clean apparel should be kept separate. Boots or footwear should be cleaned and disinfected between visits to different premises. Disposable caps should be provided and discarded after use on each premises. After collection, the samples should be protected from drying, light, and excessive temperatures and delivered to the laboratory within one day. If delivery is delayed, samples should be refrigerated.

(1) Poultry House Environmental Samples. Fecal material, litter, dust, or floor litter surface or nest box drag swab samples to be submitted for bacteriological examination shall be collected in accordance with the procedures described below:

(i) **Fecal material, litter or dust**. With a clean gloved hand or sterile collection device, collect fecal material, litter, or dust from several locations representing all areas of the pen or house into a sterile bag or container. A suggested number of samples is five samples from pens or houses with less than 500 birds; ten samples from pens or houses of 500 to 2,500 birds; and 15 samples from pens or houses with more than 2,500 birds.

(ii) **Drag swabs (DS).** DS, which consist of gauze pads or commercially available sponges, enable the sampling of large areas of the pen or house.

(A) Preparation. DS may be purchased commercially or be user prepared. One suggested method of making the DS assemblies is as follows: A sterile gauze pad is folded in half and a two-foot long (60cm) piece of twine is securely attached to the folded pad using a paper clip, staple, or similar device. A second sterile gauze pad is similarly fastened to a five-foot (150 cm) long piece of twine. The shorter piece of twine is then tied to the longer piece producing a DS sample set of two swabs arranged in a Y-shaped configuration. Alternatively, two separate DS samplers may be prepared. The twine is wrapped around the swabs, and the swabs *moistened* with double-strength skim milk (DSSM) (evaporated milk). The moistened swabs are placed in an instrument package. The sterilized swabs contained in the instrument package may be frozen (to prevent drying) until use.

(B) Procedure. At the farm the thawed DS assemblies are unraveled and the ends of the twine held in gloved hands. The swabs are dragged across the environmental surfaces of the house for 15 minutes or the length of the house (down and back). One set of swabs (two individual pads) is dragged across the center of the house floor and another set of swabs (two individual pads) is dragged across the inside perimeter of the house floor. The four pads are individually placed in labeled, sterile bags. If necessary to prevent drying out, additional DSSM may be added to the bags. The bags should be protected from excessive heat and submitted as soon as possible to the authorized laboratory for testing. If the samples cannot be submitted to the laboratory the same day, they should be stored 2°- 4 °C or placed in a cooler with ice or ice packs for no more than five days before culturing.

(iii) **Shoe cover swabs.**

Absorbable fabric shoe covers involve the exposure of the bottom surface of shoe covers to the surface of floor litter and slat areas. Wearing clean gloves, place the shoe covers over footwear that is only worn inside the poultry house. This can be footwear dedicated to the facility or disposable overshoes. Each pair of shoe covers should be worn while walking at a normal pace over a distance of 1,000 feet (305 meters). For flocks with fewer than 500 breeders, at least one pair of shoe covers should be worn to sample the floor of the bird area. For flocks with 500 or more breeders, at least two pairs of shoe covers should be worn to sample the floor of the bird area. After sampling, place each shoe cover in a sterile container with 30 ml of double strength skim milk, unless pre-moistened swabs are used. Seal the sterile containers and promptly refrigerate them at 2° to 4 °C or place in a cooler with ice or ice packs. Do not freeze. Samples should be stored at refrigerator temperatures of 2° to 4 °C no more than five days before culturing.

(iv) **Nest box or egg belt swabs as alternative sampling source**.

(A) Two sterile pre-moistened (ex. DSSM) gauze pads or sponges are swabbed along the inside of approximately 10 percent of the nest boxes. Each swab or sponge is placed into a separate sterile bag and submitted to the authorized laboratory.

(B) Two sterile pre-moistened (ex. DSSM) gauze pads or sponges are used to swab the egg belts. At least 30 feet of belt material is swabbed with each swab. Each swab is placed into a separate sterile bag and submitted to the authorized laboratory.

(2) ***Cloacal Swabs.*** Cloacal swabs for bacteriological examination shall be taken from each bird in the flock or from a minimum of 500 birds in accordance with the procedure described this section. A sterile cotton-tipped applicator or swab is inserted into the cloaca and rectum of the bird in such a manner to ensure the collection of fecal material. The applicator may be broken off into a sterile tube. The cloacal swabs may be combined in multiples of five or in combinations specified by the authorized laboratory. *Note- if collecting cloacal swabs for salmonella testing, do not use tubes with BHI broth as is required for AI testing.*

***(3) Hatchery Samples*.** Hatchery-related samples, such as chick box papers, meconium, and fluff, may be examined for the presence of Salmonella to indicate the transfer of Salmonella from parent to offspring.

(i) **Chick box papers (swabs).** Chick box paper samples may be collected by an authorized agent according to paragraph (a)(3)(i)(A) of this section (see below) or may be submitted directly to an authorized laboratory for testing according to paragraph (a)(3)(ii)(B) of this section (see below). It is important to remove the paper from the chick box before the box is placed in the brooding house.

(A) Instructions for sampling chick box papers. One chick box paper is collected for every 10 boxes of chicks placed in a house. With sanitized and gloved hands lay out the papers on a clean, disinfected surface. Saturate a sterile gauze pad or sponge with DSSM and swab the surface of five chick box papers. The pad should be rubbed over approximately 75 percent of each paper with sufficient pressure to remove any dried meconium. Addition of more DSSM may facilitate sampling. The process is repeated with a second swab and the other five chick box papers. Both swabs may be added to a single sterile, labeled plastic bag and submitted to the authorized laboratory. Promptly refrigerate the Whirl-Pak bags containing the samples and transport them, on ice or otherwise refrigerated, to a laboratory to be cultured within five days of collection.

(ii) **Chick box papers.** The Plan participant may send chick box papers directly to a laboratory, where samples may be collected as described in paragraph (a)(3)(i)(A) of this section (see above). To send chick box papers directly to a laboratory:

(A) Collect one chick box paper for each 10 boxes of chicks placed in a house and place the chick papers immediately into large plastic bags and label and seal the bags.

(B) Place the plastic bags containing the chick box papers in a clean box and transport them within 48 hours to a laboratory. The plastic bags do not require refrigeration.

(iii) **Chick meconium.** After collection, the container of meconium is mixed to obtain a uniform consistency. In the laboratory a 25-gram sample will be removed for bacteriological examination.

(iv) **Fluff.** Fluff samples may be collected from the floor of the hatchery or from the tray following hatching. The fluff sample may be collected by either swabbing the floor or tray with a pre-moistened gauze pad or sponge or by placing fluff material directly into a sterile bag.

Guidelines for Environmental Swab Handling for Salmonella Testing

(Guidelines taken from PA Egg Quality Assurance Program operations annex and using swabbing kits provided by PADLS laboratories)

Equipment

1. Standard biosecurity equipment
2. Small cooler with three frozen ice packs
3. Large garbage bag to serve as a tablecloth
4. Scissors
5. Can opener
6. Waterproof permanent marker
7. DSSM (double strength skim milk)
8. Optional: Manure drag pole (recommendation of constructing one from a 3/8" by 42" solid aluminum rod with a 1/4" hole drilled 1/2" from one end, or from a 1/2" by 36" conduit with a 1/4" hole drilled 1/2" from one end - the solid aluminum rods are easier to clean and disinfect).
9. PEQAP drag swab kit from Penn State Animal Diagnostic Laboratory or New Bolton Center; kit contains:
    a) Whirl-Pak bags (18-ounce size)
    b) Sterile gauze pads

Manure Swabbing:

1. Prior to swabbing, label the sample bags with flock name and collection date.
2. Suit up with protective clothing and disinfect boots and swabbing equipment before entering the house in accordance with standard biosecurity practices.
3. Bring all materials to the bottom floor of the house. Use the bottom utility area if the house has one. Bring a bucket filled with a disinfecting solution.
4. Spread out the large garbage bag and arrange the sampling materials on top of the bag. Label the bags.
5. Place on a pair of disposable exam gloves.
6. Open the alcohol swab and wipe the top of the can of DSSM and the can opener. Wipe excess alcohol from the can and can opener with a clean paper towel before opening the can to minimize contamination of the milk with alcohol.
7. Disinfect the scissors with the disinfecting solution in your bucket. Wipe excess disinfectant off the scissors with a clean paper towel.
8. Use disinfected scissors to cut open the autoclave pack of swabs near the top of the pack.
9. Shake the can of DSSM and moisten the swabs in the pack by pouring a small amount of DSSM into the pack and massaging the outside of the pack. Lay the pack on the garbage bag.

Be sure to clean and sanitize gloved hands after touching non-sterile items and before taking samples with sterile swabs. Wipe excess disinfectant from gloved hands with a clean paper towel.

10. Tear the top off Whirl-Pak bags.

11. Tie two swabs to the strings per NPIP protocol.

12. Sample the manure per NPIP protocol.

13. Place the 2 swabs into separate Whirl-Pak bags *without touching the swabs* (one swab per bag). Cut attaching strings with the scissors and disinfect the scissors in between each sample; wipe excess disinfectant from the scissors with a clean paper towel or pull the strings off per NPIP guidelines.

    Note- Adding too much DSSM can affect test results.

14. After the manure is dragged, place the Whirl-Pak bags (with samples) into the gallon-size bag, seal tightly, and place in the cooler with the frozen icepacks.

15. Put all discarded material into the garbage bag and dispose of properly.

16. Place the cooler outside the house; clean and disinfect it; then load it into your vehicle.

17. Follow standard biosecurity procedures when leaving.

18. Transport samples to a processing facility within 24 hours, if possible. In rare cases, when samples cannot be shipped to the laboratory within 48 hours, freeze the samples for future shipment at the earliest time. Delayed processing may alter test results and may result in additional testing requirements.

Egg Belts and Nest boxes:

Hand-swab the egg belts and nest boxes per NPIP protocol and handle as per manure swabbing guidelines.

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SECTION III: PADLS AVIAN SAMPLE SUBMISSION FORM

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Pennsylvania Animal Diagnostic Laboratory System
Avian Sample Submission Form

P*A*D*L*S — THREE INSTITUTIONS ONE LABORATORY

University of Pennsylvania
New Bolton Center
382 West Street Road
Kennett Square, PA 19348
(610) 444-4282

Pennsylvania State University
Animal Diagnostic Laboratory
Wiley Lane
University Park, PA 16802
(814) 863-0837

Pennsylvania Department of Agriculture
Pennsylvania Veterinary Laboratory
2305 North Cameron Street
Harrisburg, PA 17110-9408
(717) 787-8808

Bill To:
☐ Sample Collector
☐ Owner/Company
☐ Premises Owner

Report To:
☐ Sample Collector
☐ Owner/Company
☐ Premises Owner

By: ☐ Fax ☐ Email ☐ US Mail

Accession # _____

Sample Collector	Owner/Company	Premises
Certified Poultry Tech ID Number	Owner	MF# NPIP#
Name	Company	Premises Identification Number
Address	Address	Flock ID/Name/House #/Floor #/Pen # or Q #
City, State, Zip	City, State, Zip	Address
Phone Fax	Phone Fax	City, State, Zip
Email	Email	Phone Fax
Signature	See back of form if submitting multiple premises	Email

For a report sent to other than above. Name: _____ Fax/E-mail: _____

Date Collected: _____ **Date Submitted:** _____ Age of flock: _____ Years _____ Weeks _____ Days

Blood: _____ # Eggs: _____ # Swabs: _____ Swab Source: _____

☐ Chicken ☐ Duck ☐ Guinea ☐ Turkey ☐ Other: _____ Breed: _____ Production type: _____

Description (color / distinctive markings): _____

(If submitting multiple species, flocks, or sample types, see back of form to identify samples)

Number of Birds on Premises: _____ Comments/History: _____

Hatchery name where birds originated: _____ If Breeders, hatchery name to incubate eggs: _____

PROGRAM TESTING (Purpose of test): (Check all that apply for this submission) – If applicable, enter individual bird/flock IDs on back.

- **Live Bird Market System (Avian Influenza)**
  ☐ Auction/Swap Meet/Small Sale ☐ Backyard ☐ Dealer
  ☐ Feed Store ☐ Hauler ☐ Live Bird Market (At Market)
  ☐ Passive Surveillance ☐ Truck/Crate Wash ☐ Wholesaler
  ☐ Production Unit (On Farm) – Moving to state of _____

☐ **Pennsylvania Avian Influenza Monitored Flock Program**

☐ **Export/Movement To:** _____

- **National Poultry Improvement Plan (NPIP)**
  ☐ US AI Clean (Breeders)
  ☐ US H5/H7 LPAI Monitored: (Non-Breeders)
  US MG Clean: ☐ Routine Program Test ☐ Suspect Retest
  US MS Clean: ☐ Routine Program Test ☐ Suspect Retest
  US MM Clean: ☐ Routine Program Test ☐ Suspect Retest
  US Pullorum-Typhoid Clean: ☐ Routine Program Test
  ☐ Reactor Retest ☐ Bird Culture
  ☐ US Salmonella Monitored
  ☐ US Sanitation Monitored
  US SE Clean: ☐Routine Program Test ☐ Bird Culture
  Related accession number for retests _____

- **Exhibition/Show:**
  ☐ AI/Pullorum ☐ AI Only ☐ Pullorum Only ☐ Reactor Retest

- **Pennsylvania Pullorum Equivalent**:
  ☐ Routine Program Testing ☐ Reactor Retest
  Related accession number for retests _____

- **FDA SE Egg Safety** Registration Number: _____
  ☐ Eggs ☐ Environmental- Layer
  ☐ Environmental- Post-Molt ☐ Environmental- Pullet

- **Pennsylvania Egg Quality Assurance Program (PEQAP)**
  ☐ PS1 ☐ PS2 ☐ LY1 ☐ LY2 ☐ LY3 ☐ LY4 ☐ LY5
  ☐ LY6 ☐ LY7 ☐ LY8 ☐ LCD ☐ EGG ☐ QC
  ☐ Other _____
  Pullet House Name _____
  Layer House Destination _____

- **Regulatory Investigation / Disease** _____
  ☐ Association Unknown ☐ Circle Testing ☐ Epidemiology Linked
  ☐ Index ☐Trace Back ☐ Trace Forward ☐ Quarantine Release
  ☐ Other _____

☐ **Diagnostic Test Requests:** Enter the number of each type of test requested. (If applicable, enter individual bird IDs on back)

If chicken ELISA testing is requested, please indicate a preference of ELISA test system: ☐ IDEXX (ADL) ☐ BioChek (NBC)

_____ MG Plate	_____ NDV ELISA	_____ MG ELISA	_____ Pullorum –Typhoid Plate	**AI Virus Detection**
_____ MS Plate	_____ IBV ELISA	_____ MS ELISA	_____ Pullorum –Typhoid Tube	_____ Virus Isolation
_____ MM Plate	_____ IBD ELISA	_____ HEV ELISA	_____ Aerobic Culture	_____ RRT-PCR
_____ AI AGID	_____ REO ELISA	_____ BA ELISA	_____ Salmonella Culture	**Lab Use Only**
_____ IBD AGID	_____ AE ELISA	_____ PCR	_____ SE Culture Only	Grant(s)_____
_____ Other _____		_____ SE PCR Only	_____ RapidChek SE Test Only	

Please use the avian necropsy submission form if for diagnostic necropsy/analysis on birds or tissues

PD AVIAN FORM 01 (July, 2018) All Requested Data Must Be Provided 1 of 2

Blood Tube Identification*

Box # _____ Pen/House # _____ Species _____

Box # _____ Pen/House # _____ Species _____

*Please write band number (sample #) in space corresponding to sample location in box.

Multiple Flock Submission Information/ Swab Identification (only one accession will be created per form)

Sample source: T-Tracheal Swab, O-Oropharyngeal Swab, C-Cloacal Swab, E-Environmental Swab, Blood, Eggs, Birds

Date Collected	Tube # / Lot #	Species/Breed	Sample Source (Include # of samples)	Flock ID, Description and/or Comments	Age	Location Number

PADLS reserves the right to perform tests for any of the diseases regulated by the Pennsylvania Department of Agriculture on any specimen it receives.
PADLS reserves the right to perform any tests on animals or birds submitted for necropsy that the case coordinator deems necessary for obtaining a diagnosis.
Your submission of specimens for diagnostic purposes constitutes your acknowledgement that some tests may be performed at other laboratories.

SECTION IV: GUIDELINES FOR CONDUCTING THE PULLORUM RAPID WHOLE BLOOD AGGLUTINATION PLATE TEST FLOCKS

Pullorum Rapid Whole Blood Agglutination Plate Test Instructions
NOT VALIDATED FOR TURKEYS

- **Who can perform this test?**
  - Performance of this test is recommended only for CPTs performing a large amount of breeder flock testing.
  - CPTs must demonstrate proficiency before being approved to perform the test (certified after 5/1/18).
- **Equipment necessary for testing:**
  - Official leg bands, antigen, testing plate, thermometer, bleeding needle, blood loop (standardized), small glass of water for rinsing loop, disinfectant, a pail of water, soft cloths, and a device to hold birds individually (or in groups of 10 or less) while waiting for the test results.
  - For NPIP birds: NPIP form 9-2 (available from PDA (717-783-6897)).
  - For birds not on NPIP, an equivalent PDA rapid plate test form is available for exhibition bird testing (available from PDA at 717-783-6897).
  - Official leg bands are available from your PDA regional office.

***All birds tested individually for entry into a PA show must be banded at the time of test with an official PDA leg band, even if tested with the rapid plate test.**

***All birds with positive reactions on the plate test must be banded with an official PDA leg band. and must either be sent immediately to the laboratory for culture or must have a blood sample collected immediately and sent to the laboratory for testing. Reactors must remain isolated from the flock while a blood sample result is pending.**

- One known source of Polyvalent Pullorum Antigen:

LOHMANN ANIMAL HEALTH INTERNATIONAL (LAHI)
P.O. BOX 255, WATERVILLE, ME, 04903-0255

Domestic Order Desk:	207-873-3989, 800-655-1342
International Order Desk:	207-873-3989, 800-639-1581
Fax:	207-873-4975
Website:	www.lahinternational.com
Email:	info@lahinternational.com

Description (source – LAHI)**:** Pullorum antigen, stained antigen polyvalent type is designed for use in the rapid whole blood test for the detection of pullorum disease and fowl typhoid. When it is added to blood samples of the birds, it reacts to produce a clumping with the blood of an infected bird.

Antigen: This product consists of 50 per cent standard U.S. strains and 50 per cent Canadian variant strains of *Salmonella pullorum*. The antigen is harmless because the organisms in it are killed and cannot spread the disease.

Indications: Pullorum disease is caused by bacteria known as *Salmonella pullorum.* This bacterial infection endures in the ovaries of the laying female. The disease is transmitted from mother to chick through the incubated egg. If the egg hatches, the chick is already infected when it leaves the shell. Through the droppings other chicks become quickly infected, until the disease spreads through the brood. The one and only effective control measure for *Pullorum* disease is the elimination of infected breeders. This involves blood testing, so that *Pullorum* "carriers" may be detected and removed from the breeding flocks.

Test Procedure:

1. Shake the antigen well.
2. Place a drop of the stained antigen on a test plate with the dropper syringe contained in the bottle.
3. Draw blood from the bird by lancing the vein under the wing.
4. Using a wire loop, also supplied with every package, lift a loopful of blood from the wing of the bird, and add it to the stained antigen already on the test plate.
5. Mix with the Stained Antigen by stirring with the wire loop, and gently rotate the plate (make a smear about 1 inch in diameter).
6. Rinse and dry the loop between tests to prevent contamination of samples.
7. Send completed NPIP 9-2 form or PDA equivalent form to PDA to record flock testing in compliance with NPIP and PDA requirements.

Reading the test:

- Positive reactions are indicated by a clumping of the antigen in well-developed, blue-colored clusters surrounded by clear spaces, within 2 minutes. The greater the agglutination ability of the blood, the more rapid the clumping and the larger the clumps. A lesser reaction shows small, but clearly visible clumps surrounded by spaces only partially clear.
- A fine, barely visible granulation sometimes occurs and there may be a fine marginal flocculation (clumping) just before the smear dries. These samples should be regarded as negative.
- Reactions which occur after 2 minutes should not be considered positive.
- Biological reactions may vary between clear-cut positive and negative.

Storage: Keep product in the dark; refrigerate at 2-7°C (35-45°F). Avoid freezing.

Caution(s): It is imperative that the buyer or user of this product comply with the indications for use stated here. The product must be prepared and used as directed to obtain best results.

When testing birds, it is best to do the test in a shaded place; out of the direct sunlight, and where there is a minimum of dust. Rinse and dry the loop between tests in order to prevent contamination of one sample with another.

Warning(s): Care should be taken to avoid contaminating hands, eyes and clothing with the material.

Presentation: 1,000 tests - 50 mL.

Things to avoid:

- Deteriorated antigen may give false readings. Before testing, check a drop of antigen, without blood, on the plate to check for spontaneous agglutination. *(Don't use past expiration date).*
- Excessive evaporation, high temperatures, or incorrectly interpreting late powder or marginal flocculation as positive reactions may also lead to false readings.
- Delay in reading tests causes errors; tests should not be read after 2 minutes.
- Testers should use care, not speed, for the number of birds tested is less important than maximum accuracy.

Cleaning the testing surface:

- Clean plate with clear, warm or cool water. Hot water may coagulate blood, making it difficult to remove.
- Soaps, disinfectants, or cleaning compounds may leave a residue which may affect subsequent tests. Grease on plate may prevent blood antigen mixture from spreading properly, and grease may be removed with soap, after which plate must be thoroughly rinsed.
- After cleaning, polish plate with clean cloth, leaving no blood or lint on the surface.

(References - LAHI and Darrell W. Trampel, D.V.M., PhD. Iowa State University)

It is recommended that that only certified poultry technicians who frequently test large breeder flocks for pullorum use this testing method, since it is a subjective test and antigen must be fresh.

SECTION V: ESSENTIAL EQUIPMENT

Esssential Equipment List

The following is a list of items you will need to collect samples and/or conduct the whole blood rapid agglutination plate test for pullorum. Additional items may be used as needed, but it is recommended that you take only essential items onto a premises for biosecurity reasons.

- ☐ Clean cloth coveralls or new disposable coveralls
- ☐ Rubber boots (above ankle) or disposable booties
- ☐ Disposable gloves
- ☐ Disposable hair cover or washable plastic hard hat
- ☐ Disposable face masks (optional)
- ☐ Bucket and brush
- ☐ Disinfectant
- ☐ Hand sanitizer or soap
- ☐ Plastic garbage bags for disposable items, also for holding dirty coveralls, etc after collection
- ☐ Rapid Whole Blood Agglutination Plate Test supplies as needed
  - Antigen
  - Testing Kit (heating source, testing surface)
  - Loop and lance
  - Official leg bands (PDA bands) and pliers
- ☐ Sample collection supplies as needed
  - Syringes/needles
  - Tubes (large tubes or snap cap tubes)
  - Cardboard tube box (if using large tubes for blood collection) and plastic bags; or whirlpak bags (if using plastic snap cap tubes for blood collection or for tubes containing swabs)
  - Marking pen
  - Tape if using large blood tubes and hand delivery
  - Sterile swabs
  - Saline and jar or dish for cleaning needles between birds
  - Official PDA leg bands and pliers - Official leg bands must be obtained from your PDA regional office.
    ***Show poultry: All poultry tested for PA shows must be leg banded with an official PDA band, even if tested using the rapid pullorum test; and**
    ***All poultry entering a show must be leg banded with an official PDA band (enforced after June 1, 2017).**

***Commercial poultry: If testing commercial poultry on site using the rapid pullorum test, all suspects (reactors) must be banded and either blood from the reactor is sent to the lab for further testing, or the bird is sent to the lab for culture.**

* Each blood sample tube submitted to PADLS labs for pullorum testing must be labeled with the band number of the bird from which the sample was collected or a corresponding number so that the sample can be traced back to that bird.

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SECTION VI: BIOSECURITY

Biosecurity Guidelines for Collecting Samples

Certain poultry diseases can be easily spread between flocks by people, clothes, vehicles, and equipment. The following are guidelines designed to reduce the risk of spreading disease between flocks.

Overview:

- It is recommended that you visit only one premises per day. If you must visit more than one premises in a day, for each visit wear clean outerwear, including boots, and wash your vehicle between premises.
- NEVER visit a commercial poultry flock the same day you have been in contact with another flock unless these commercial flocks are under the same management and the management allows it.

Before entering a poultry house or yard:

- Park as far away from the poultry house/yard as possible.
- Avoid parking on an area where litter has been spread.
- Put on clean cloth coveralls or new disposable coveralls.
- Put on rubber boots which have been cleaned and disinfected or disposable booties.
- Put on a disposable hair cap or plastic hard hat which can be cleaned and disinfected.
- Put on disposable gloves (optional) or sanitize hands.
- Face shields, eyewear, disposable face masks, or respirators are optional.
- Take only essential equipment and supplies with you. Equipment must always be carefully cleaned and disinfected prior to use on a premises.

Before leaving a poultry premises:

- Do not enter your vehicle until you have removed your dirty outerwear.
- Remove and bag all items worn on the premises before leaving the premises.
- Dispose of any disposable items in a plastic garbage bag, and seal the bag.
- Place any non-disposable clothing, such as cloth coveralls and raincoats, etc, worn on the premises in a clean garbage bag and wash the clothing in warm or hot water before wearing it again.
- Clean and disinfect rubber boots before removal from the premises. Do not wear dirty boots in your vehicle.
- If you have parked near the poultry or manure areas, or there is known disease in the flock, scrub vehicle tires with a brush to remove organic material and spray the tires with disinfectant before entering another operation.
- Disinfect the outside of sample bags and other non-disposable equipment and supplies.
- Keep samples, dirty clothing, and used equipment in an area separate from clean items in your vehicle to avoid contamination.
- Wash or sanitize hands, including under fingernails.

Biosecurity Programs and Plans for Poultry Farms

In the aftermath of the HPAI outbreak in 2014/2015, investigators with USDA reported that although wild birds may have introducted AI initially, infection was spread from flock to flock predominately by people and equipment. USDA now requires that poultry farms affected by AI must have a biosecurity plan in place, and be following that plan, to be eligible for the maximum amount of indemnity and compensation. Commercial flocks meeting the minimum size requirement enrolled in the National Poultry Improvement Plan (NPIP) are required to have an effective biosecurity program and plan in place. All NPIP participants in PA, regardless of flock size, must address biosecurity to have a successful NPIP inspection. An effective plan will also be required for issuance of a permit for you to move product if a flock is located in a quarantined area. The National Poultry Improvement Plan (Program Standard E) outlines the major elements for an acceptable biosecurity plan (see below):

1. **Biosecurity Coordinator:**
   The Biosecurity Coordinator is responsible for the development, implementation, maintenance and ongoing effectiveness of the biosecurity program. Depending on the type and size of poultry operation, the Biosecurity Coordinator's responsibility could be at the farm, production site, production complex, or company level. The Biosecurity Coordinator should be knowledgeable in the principles of biosecurity. The Biosecurity Coordinator, along with the personnel and caretakers on the farms and production sites are responsible for the implementation of the biosecurity program. The Biosecurity Coordinator should review the biosecurity program at least once during each calendar year and make revisions as necessary. The Biosecurity Coordinator should be identified and recorded on the plan. This means a name, signature, date and time that the coordinator on the farm was made responsible for the farm plan.

2. **Training:**
   The biosecurity program should include training materials that cover both farm site-specific procedures as well as premises-wide and/or company-wide procedures as appropriate. All poultry owners and caretakers that regularly enter the perimeter buffer area (PBA) must complete this training. The training should be done at least once per calendar year and documented in a training log. New poultry caretakers should be trained at hire. Training logs should be retained for 3 years (or as per 9CFR (NPIP Provisions)).

3. **Lines of Separation on buildings w/ required sanitation (LOS):**
   The Line of Separation (LOS) is a functional line separating the poultry house(s) and the poultry inside from exposure to potential disease sources. Generally, it is defined by the walls of the poultry building with practical deviations to account for entry points, structural aspects, or outside access areas. The site-specific biosecurity plan should describe or illustrate the boundaries of the LOS and clearly outline the procedures to be followed when caretakers, visitors, or suppliers cross it. A LOS at the entrances can be marked by having a line at the doors where certain

sanitation steps would be required-this could include something as simple as putting on personal protective equipment (PPE) or washing and disinfecting boots before entering.

For poultry enclosed in outdoor pens, similar principles for the LOS can be applied for defining and controlling the LOS for each pen. In this circumstance, the walls of the outdoor pens would provide a template for defining the LOS to be used when entering or exiting the pens.

For poultry with non-enclosed outdoor access, the LOS is still recommended. In an emergency disease state where the transmissible disease risk is heightened, it may be required to enclose all poultry and enforce a LOS.

4. Perimeter Buffer Area (PBA):

The perimeter buffer area is a functional zone surrounding the poultry houses or poultry raising area that separates them from areas unrelated to poultry production on that site and/or adjoining properties. It is comprised of the poultry houses and poultry raising areas as well as nearby structures and high traffic areas involved in the daily function of the poultry farm. This would usually include but not be limited to such things as feed bins, manure sheds, composting areas, egg rooms, generators, pump rooms, etc. The site-specific biosecurity plan should describe or illustrate the boundaries of the PBA and clearly outline the procedures that caretakers, visitors, or suppliers must follow when entering and leaving the PBA. This would be setback distances from poultry buildings to help reduce fomite transmission by people or equipment. The PBA may also be called hot/cold zones.

5. **Personnel:**

The biosecurity program and/or the site-specific biosecurity plan should include provisions specifically addressing procedures and biosecurity PPE for site-dedicated personnel. The plan should likewise address the procedures and biosecurity PPE for non-farm personnel. The plan should also specify procedures which all personnel having had recent contact with other poultry or avian species should follow before re-entering the PBA.

6. Wild Birds, Rodents, Insects, and other animals:

Poultry operations should have control measures to prevent contact with and protect poultry from wild birds, their feces and their feathers as appropriate to the production system. These procedures should be reviewed further during periods of heightened risks of disease transmission. Control programs for rodents and insects should be in place and documented. Pets and livestock should not be allowed in the poultry areas.

7. Equipment and Vehicles:

The biosecurity plan should include provisions for procedures for cleaning, disinfection, or restriction of sharing of equipment where applicable. Vehicle access and traffic patterns should be defined in the site-specific biosecurity plan.

8. Mortality Disposal:

Mortality should be collected daily, stored and disposed of in a manner that does not attract wild birds, rodents, insects, and other animals and minimizes the potential for cross-contamination from other facilities or between premises. It is recommended that dead bird disposal be on-site, if possible. Mortality disposal should be described in the site-specific biosecurity plan.

9. Manure and Litter Management:

Manure and spent litter should be removed, stored and disposed of in a manner to prevent exposure of susceptible poultry to disease agents. On-site litter and manure storage should limit attraction of wild birds, rodents, insects, and other animals.

10. Replacement Poultry:

Replacement poultry should be sourced from health-monitored flocks which are in compliance with NPIP guidelines. They should be transported in equipment and vehicles that are regularly cleaned, disinfected and inspected. Biosecurity protocols should be in place for equipment and personnel involved in the transport of replacement poultry.

11. Water Supplies:

It is recommended that drinking water or water used for evaporative cooling be sourced from a contained supply such as a well or municipal system. If drinking water comes from a surface water source, water treatment must be used to reduce the level of disease agents. If surfaces have been cleaned or flushed with surface water, subsequent disinfection should be employed to prevent disease transmission. If water treatment is not possible, a risk analysis should be performed to determine actions needed to mitigate risks.

12. Feed and Replacement Litter:

Feed, feed ingredients, bedding, and litter should be delivered, stored and maintained in a manner that limits exposure to and contamination by wild birds, rodents, insects, and other animals. Feed spills within the PBA (outside of the LOS) should be cleaned up and disposed of in a timely fashion.

13. Reporting of Elevated Morbidity and Mortality

Elevation in morbidity and/or mortality above expected levels, as defined by the biosecurity plan, should be reported as required in the site-specific biosecurity plan and appropriate actions should be taken to rule out reportable disease agents (dangerous transmissible diseases).

If you need assistance when creating your plan, please contact your regional PDA veterinarian.

Biosecurity Plan Line of Separation and Perimeter Buffer Area Example

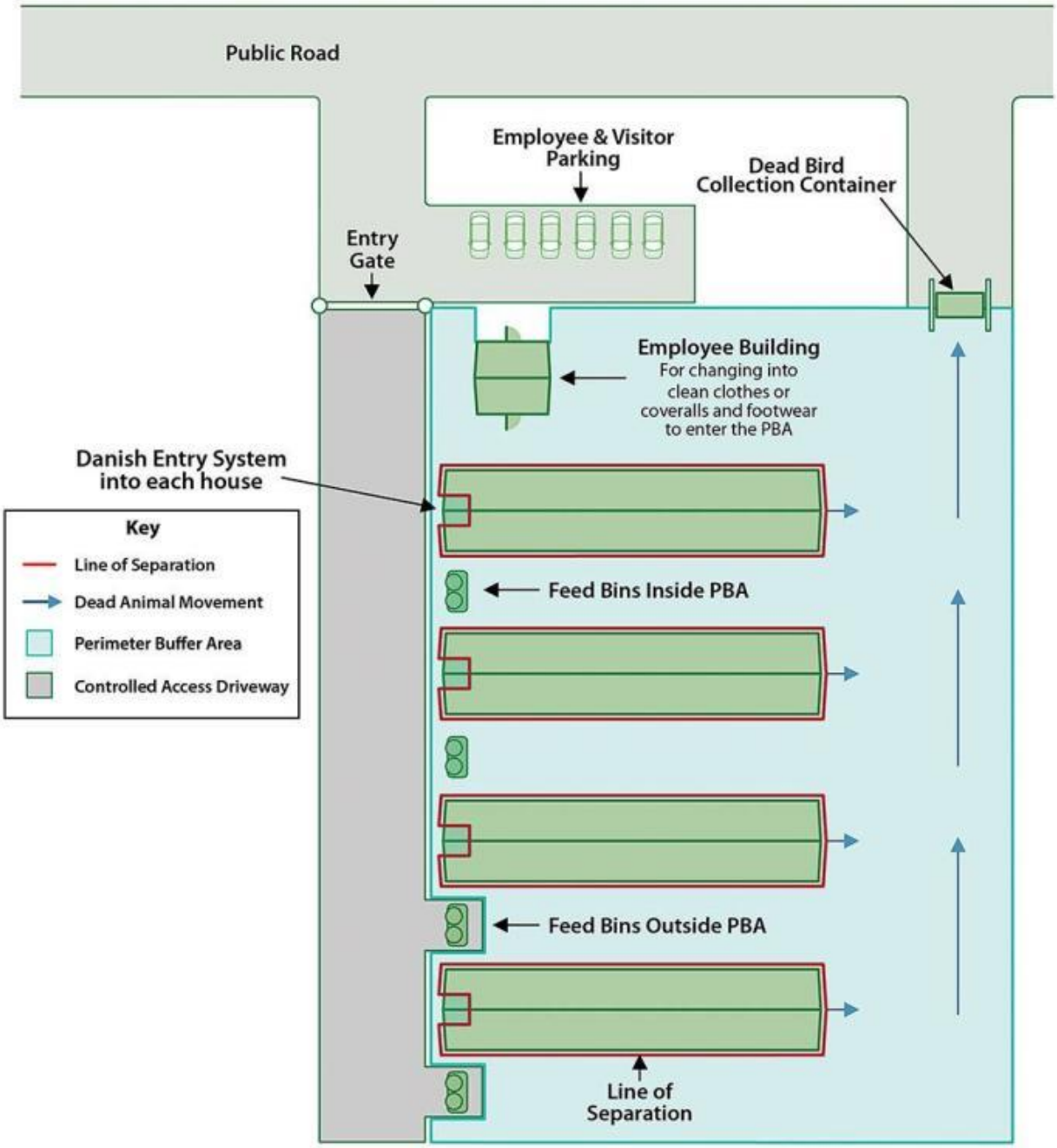

Figure courtesy of the Center for Food Security and Public Health, Iowa State University

SECTION VII: PREMISES REGISTRATION FORM

pennsylvania
DEPARTMENT OF AGRICULTURE
BUREAU OF ANIMAL HEALTH AND DIAGNOSTIC SERVICES

PA PREMISES DATA INFORMATION SHEET

Address:

County: Township:

Primary contact (Correspondence and Emergency Contact)

Name: Address:

Home Phone: Business Phone: Cell Phone:

Check all that apply: ☐ Land Owner ☐ Manager ☐ Animal Owner ☐ Other:

Secondary contact (correspondence and Emergency Contact)

Name: Address:

Home Phone: Business Phone: Cell Phone:

Check all that apply: ☐ Land Owner ☐ Manager ☐ Animal Owner ☐ Other:

Domestic Species at this location?
(Check all that apply & list number)

- ☐ **Dairy Cattle**
  - ☐ Heifer Grower
  - ☐ Veal Grower
- ☐ **Beef Cattle**
  - ☐ Cow/Calf
  - ☐ Backgrounder
  - ☐ Feedlot
- ☐ **Swine**
  - ☐ Grower
  - ☐ Nursery
  - ☐ Finisher
- ☐ **Sheep ***
- ☐ **Goats ***
  - ☐ Dairy
  - ☐ Meat
- ☐ **Camelids**
  - ☐ Alpaca
  - ☐ Llama
- ☐ **Cervids**
  - ☐ Deer
  - ☐ Elk
- ☐ **Equine**
- ☐ **Turkeys**
- ☐ **Waterfowl**
- ☐ **Ratite**
- ☐ **Upland Game Birds**
- ☐ **Pigeons**
- ☐ **Chickens**
  - ☐ Egg
  - ☐ Meat

***If you have a USDA Scrapie ID please list**

Return Form to: Bureau of Animal Health & Diagnostic Services
2301 N. Cameron St. | Harrisburg, PA 17110-9408 | Ste. 412 | 717.7[illegible] .agriculture.pa.gov

SECTION VIII: PA AI MONITORED FLOCK PROGRAM FOR LIVE BIRD MARKET PRODUCTION FLOCKS

Pennsylvania Department of Agriculture

Avian Influenza Monitored Flock Program

Program Overview
2018

Introduction:

The Pennsylvania Avian Influenza Monitored Flock Program is a voluntary monthly testing program designed to provide an early warning of AI in Pennsylvania poultry and to allow producers to meet requirements for movement of poultry for exhibits and live bird markets.

This program involves participation and cooperation by the Pennsylvania Department of Agriculture and Pennsylvania's poultry flock producers.

Program Overview:

A. Flock Owner Responsibilities:

1. **Collection and submission of diagnostic samples:**
    a. Samples shall be collected by a certified poultry technician or an accredited veterinarian.
    b. Samples shall be collected from 30 birds **representative of the flock** (birds of testing age tested from all pens and houses on the premises) and tested at a Pennsylvania Animal Diagnostic Laboratory System (PADLS) laboratory every 21-30 days.
    c. Samples shall be collected, transported to the laboratory, and tested at the flock owner's expense.

2. **Reporting of possible disease:**
    Flock owners shall immediately report any evidence or suspicion of avian influenza to the Department, and shall submit any samples requested for testing.

3. **Records:**
    Flock owners shall maintain records pertaining to the flock to include sources of birds, dates of additions to the flock, dates and results of testing, and other records that may be necessary to monitor compliance with this program, shall save these records for two years, and shall make these records available for review by the Department.

4. **Compliance with regulations:**
    a. **Marketing and transport:**

Flock owners shall market and transport live poultry in accordance with program requirements and utilize only marketing agents and transportation agents who are licensed or otherwise approved by the Department in accordance with the Domestic Animal Act (Act 100).

b. **Import/movement regulations:**
Flock owners shall comply with all Department poultry health regulations regarding import and movement of poultry as stated in Title 7 of the PA Code.

5. **Biosecurity:**
Flock owners shall adopt and implement the minimum biosecurity measures included in the appendix of this document for their flocks, and shall allow periodic inspection by the Department to evaluate flock and premises biosecurity.

B. Department Responsibilities:

1. **Monitoring:**
The Department will:
   a. Monitor testing and maintain records necessary to administer the program; and
   b. Monitor compliance with program standards through flock inspection as needed; and
   c. Provide certification that a flock has met program standards and is a Pennsylvania AI Monitored Flock.

2. **Information:**
The Department will, in cooperation with Penn State University and the University of Pennsylvania, provide technical information and advice to flock owners, veterinarians, and certified poultry technicians regarding the prevention and control of avian influenza.

C. Program Requirements:

1. To be certified as a Pennsylvania AI Monitored Flock, a flock must meet the following requirements:
   a. The flock is in compliance with the requirements set forth elsewhere in this document.
   b. To qualify as a flock the group must have been together without any additions from untested or unmonitored flocks for a minimum of 21 days prior to testing and no additional birds may be added between the testing date and the date that they leave the farm.
   c. The flock is tested for avian influenza as follows:

i. Samples from 30 birds, three weeks of age and older **from all pens and houses** on the premises shall be collected between 21 and 30 days after the previous collection. *Please note that you must count 21-30 days from the date of the last sample collection-do not use calendar dates. For example, a flock sampled on August 24 will be out of compliance if sampled again on September 24 since this is actually more than 30 days.*
ii. Flocks must be tested every month-not just the month that they are moving.
iii. Waterfowl should be swabbed (cloacal swabs) and tested using virus detection testing. **PCR testing is available for domestic ducks and geese fed a commercial diet.** AGID testing of serum from waterfowl will not be accepted for program purposes. Other birds, such as chickens, may have blood samples submitted for testing. Tracheal or oropharyngeal swabs will be accepted for other birds, but the testing fees for tracheal swabs are higher than for blood testing- more information is available from the PADLS laboratories. Check with PADLS for current fee schedules.

d. The first test must be conducted within 30 days of placement except for the following:
i. For serology, sample collection from silkies and other small breeds of chickens may be delayed until the birds are 6-8 weeks of age;
ii. For serology, sample collection from guineas, chukars, and quail may be delayed until the birds are 5-6 weeks of age.
iii. Eggs from gallinaceous poultry may be substituted for blood samples for testing by AGID only at the discretion of the receiving State.

2. The 30 birds selected for testing shall be selected randomly and shall be representative of the flock (birds of testing age tested from all pens and houses on the premises).
3. The sample collector is expected to conduct a flock inspection at the time of sample collection to assess the general health of the flock.
4. The samples shall be submitted to a PADLS laboratory for testing.
5. The flock owner shall notify the Department if 30 eligible birds are not available for testing within every 30 days.
6. A flock must be negative for AI on testing for 3 consecutive months before it is considered to be a monitored flock in good standing. *When new birds are added to the premises, birds coming from a source which is of equal or higher status (for example, another monitored flock) assume the monitored flock status of the previous flock and must be tested once as a monitored flock prior to moving into the LBMS. Chicks coming directly from an NPIP AI Clean hatchery must be tested once as a monitored flock before moving into the LBMS. If the added birds are*

from other sources, the flock must be tested for 3 months consecutively (with negative results) to be a monitored flock in good standing.

7. If a monthly test is missed or is done outside of the 21-30 day window on a flock, or birds of lower status are added to the flock:
    a. The flock must be tested negative within 10 days of movement into the NY or NJ LBMS and moved as a "tested flock"; AND
    b. The flock loses its monitored flock status and must start over with three months of negative testing 21-30 days apart, AND
    c. The previous monitored flock number will be made inactive and may not be used on submission forms or other paperwork until it has been re-activated after three months of negative testing.
8. Program flocks may be subject to inspections by animal health officials to ensure that the flocks are in compliance with program standards regarding sanitation, testing, and separation from non-program poultry.
9. ***Any monitored flock with a non-negative test for AI (confirmed at NVSL) must start over with three negative qualifying tests (new-2017).*** *(Regarding serum testing: If NVSL reports a non-negative AGID, but negative HI, the flock is considered to be negative and does not have to restart).*

D. Termination:

1. Flock owners may terminate participation in this program at any time.
2. The Department may remove a flock from the program on the basis of non-compliance with program requirements.
3. The terminating party will notify the other party of the termination as soon as possible.
4. The Department may terminate the AI Monitored Flock Program at any time, without advance notice to the participating flock owners. If the Department terminates this program, it will provide notice to the participating flock owners as soon as possible.
5. Failure to provide notice of termination described in this paragraph shall not affect termination.

E. It should be further understood that:

1. The accredited veterinarian or certified poultry technician who collects samples may negotiate fees with the flock owner for professional services required by this program.
2. No liability shall accrue to the Department for damages, losses, or injuries incidental to or arising by virtue of participation in this program.
3. Certification as an AI Monitored Flock does not constitute a warranty regarding the presence or absence of AI.

APPENDIX

Biosecurity Guidelines for Participating Flocks

Disease agents such as bacteria and viruses are easily introduced onto a farm by people, vehicles, farm equipment, and animals, including the poultry coming into the operation. Organic material, including manure, feathers, and dust, are the primary means by which the disease agents can be carried.

Listed below are practical measures which can be taken to reduce the risk of bringing disease agents onto a farm. These are minimal biosecurity recommendations and should be used only as guidelines for development of complete biosecurity practices on an individual farm.

- □ Avoid visiting farms with poor biosecurity practices.
- □ When visiting other farms or auctions with poultry, wear disposable outerwear and dispose of it, or change your clothes and clean your boots before returning to your own property.
- □ Limit visitors and reduce vehicular traffic on your property, and keep any visitors away from the poultry.
- □ Keep your poultry house locked. Allow only essential personnel into your poultry house. Provide clean or disposable coveralls, head covers, and plastic boots or boots that can be cleaned and disinfected for personnel who must enter the house.
- □ Personnel should change outerwear between poultry houses.
- □ Disinfecting foot baths are useful and should be placed at outside entries to the poultry house and egg room. Change the disinfectant in the foot baths daily.
- □ Do not share equipment or vehicles with other farms. If you must, insist that vehicles and equipment entering your premises be cleaned and disinfected. (Personnel and equipment that have been in direct or indirect contact with the live bird markets pose a great risk).
- □ Trucks from the Live Bird Market should not be going directly to any farm to load birds. It is recommended that birds are taken to a central location for loading onto trucks for the Live Bird Market. Vehicles transporting birds should be thoroughly cleaned and disinfected before returning to the farm. Special attention should be paid to the coops. If you must allow trucks from the LBM onto your premises, do not allow personnel or coops

from the live bird markets to enter your poultry house(s) unless those personnel are wearing proper clothing and coops have been cleaned and disinfected.

- ☐ Insist that supplies brought to your premises (egg flats, carts, etc.) be new (if disposable) or be washed and disinfected (plastic flats, carts, shelves, or dividers).

- ☐ Follow the “all-in/all-out” philosophy of flock management.

- ☐ Protect open range or backyard poultry flocks from contact with wild birds and water that may have been contaminated by wild birds.

- ☐ Dispose of dead birds safely (incineration, burial, composting, rendering). Never pile dead birds outside of a building or spread in fields.

- ☐ If multiple loadouts are required on your farm, try to have all birds off the farm within 3-4 days.

- ☐ Create and follow a biosecurity plan for each flock (refer to the National Poultry Improvement Plan Program Standard E).

- ☐ Report any increased illness or mortality to your company or to the Pennsylvania Department of Agriculture at (717) 772-2852.

PENNSYLVANIA DEPARTMENT OF AGRICULTURE
PENNSYLVANIA AVIAN INFLUENZA MONITORED FLOCK PROGRAM
Compliance Agreement

1. **DATE OF APPLICATION:** _____

2. **FLOCK OWNER INFORMATION:**

   a. NAME:_____

   b. ADDRESS:_____

   c. FEDERAL PREMISE ID NUMBER IF AVAILABLE:_____

   d. PHONE NUMBER: _____

   e. FAX NUMBER:_____

   f. EMAIL ADDRESS:_____

3. **INFORMATION FOR FARM WHERE POULTRY ARE HOUSED:**

   a. NAME OF FARM OWNER:_____

   b. ADDRESS:_____

   c. FEDERAL PREMISE ID NUMBER IF AVAILABLE:_____

   d. PHONE NUMBER:_____

   e. FAX NUMBER:_____

   f. EMAIL ADDRESS:_____

   Additional location information for farm (directions/distance from nearest crossroads, etc):
   _____

   _____

4. **FLOCK MANAGER INFORMATION IF DIFFERENT FROM FLOCK OWNER:**

   a. NAME:_____

   b. ADDRESS:_____

   c. FEDERAL PREMISE ID NUMBER IF AVAILABLE:_____

   d. PHONE NUMBER:_____

   e. FAX NUMBER:_____

   f. EMAIL ADDRESS:_____

5. **BIRD INFORMATION:**
   SPECIES, TYPE, AND NUMBER OF BIRDS Please list all types and approximate number of birds of each type on the farm (for example – Chickens/broilers – 50): _____
   _____

   SOURCE FLOCK:_____

6. HOUSING INFORMATION:
NUMBER OF HOUSES/PENS AND CAPACITY OF EACH HOUSE/PEN (for example – one 2,500 bird broiler house):

_____

_____

7. OTHER INFORMATION:

SERVICE PERSON

a. NAME:_____

b. ADDRESS:_____

c. PHONE NUMBER:_____

d. FAX NUMBER:_____

e. EMAIL ADDRESS:_____

INTEGRATOR AND/OR FEED DELIVERED BY (OR FEED PURCHASED FROM)

a. NAME:_____

b. ADDRESS:_____

c. PHONE NUMBER:_____

d. FAX NUMBER:_____

e. EMAIL ADDRESS:_____

SAMPLES COLLECTED BY (CPT OR ACCREDITED VETERINARIAN)

a. NAME:_____

b. ADDRESS:_____

c. PHONE NUMBER:_____

d. FAX NUMBER:_____

e. EMAIL ADDRESS:_____

8. SIGNATURE:
I agree to abide by the PA AI Monitored Flock Program standards;

_____
Flock owner signature

This agreement may be sent by fax or mail to the Department at:

Pennsylvania Department of Agriculture
Bureau of Animal Health and Diagnostic Services ATTN: Poultry Health
2301 N Cameron St Harrisburg, PA 17110
Phone: 717-783-6897; Fax: 717-787-1868

SECTION IX: PDA AI IMPORT REQUIREMENTS (QUARANTINE ORDER FOR IMPORTATION OF POULTRY INTO PENNSYLVANIA)

Pennsylvania Department of Agriculture

INTERSTATE/INTERNATIONAL **QUARANTINE ORDER: Avian Influenza**
Recitals

A. Avian influenza *is* an infectious disease of poultry.

B. Avian influenza is designated a "dangerous transmissible disease" of animals under the provisions of the Domestic Animal Law (3 Pa.C.S.A. §§ 2301-2389), at 3 Pa.C.S.A. § 232l(d).

C. The Pennsylvania Department of Agriculture (PDA) has broad authority under the Domestic Animal Law to regulate the keeping and handling of domestic animals in order to exclude, contain or eliminate dangerous transmissible diseases.

D. Avian influenza has caused significant loss in the past to the Pennsylvania poultry industry.

E. Avian influenza is of particular concern to the entire Pennsylvania poultry industry and may severely limit the market for Pennsylvania product.

F. Avian influenza sub-types HS and H7 are of particular concern due to their potential for developing into a virulent (highly pathogenic) form of disease.

G. Avian influenza exists, or is suspected to exist, outside this Commonwealth.

H. The Domestic Animal Law allows (at 3 Pa.C.S.A. § 2329(c)) for the establishment of an Interstate/International Quarantine under the circumstances described above.

I. Pursuant to that authority, PDA issued its initial Interstate/International Quarantine Order addressing avian influenza on January 24, 2006. In the course of implementing and administering this initial Order, PDA determined the need to refine the conditions of quarantine; and issued a February 7, 2008 and a revised March 16, 2009 Interstate/International Quarantine Order to supplant and rescind its initial Order.

J. PDA has *again* determined the need to refine the conditions of quarantine. Specifically, PDA seeks to further clarify the testing requirements applicable to poultry flocks.

Order.
PDA enters an Interstate/International Quarantine Order, incorporating the foregoing recitals. This order is entered under authority of the Domestic Animal Law (at 3 Pa.C.S.A. § 2329) and§ 1702 of the Administrative Code of 1929 (71 P.S. § 442), and establishes the following quarantine restrictions with respect to the shipment of live poultry into the Commonwealth of Pennsylvania:

1. For purposes of this Order, the term "poultry" includes all domesticated fowl, including chickens, turkeys, ostriches, emus, rheas, cassowaries, waterfowl, and game birds, except doves and pigeons, or as otherwise defined under subpart A of the current version of the National Poultry Improvement Plan (NPIP) and Auxiliary Provisions, and shall be 3 weeks of age or older.

2. Poultry shall only be allowed into the Commonwealth under any of the following circumstances:

a. The poultry originate from a flock that participates in the current version of the National Poultry Improvement Plan and Auxiliary Provisions "U.S. Avian Influenza Clean" or "U.S. H5/H7Avian Influenza Clean" program and the shipment is accompanied by a USDA form 9-3 or other approved NPIP form; or

b. The poultry originate from a flock in which a minimum of thirty (30) birds, three (3) weeks of age or older, were tested negative for avian influenza (serology, virus isolation, or real-time reverse-transcriptase polymerase chain reaction (RRT-PCR)). The date of sample collection must be within thirty (30) days of entry into Pennsylvania and the shipment must be accompanied by the test report. If there are fewer than 30 birds in the flock, all birds must be tested (RRTPCR, virus isolation, or serology). For waterfowl, virus detection testing (cloacal swabs) is required for entry. RR T-PCR testing is accepted for domestic ducks - virus isolation testing must be used for other waterfowl. No untested birds shall have been added to the flock after sample collection and before entry into Pennsylvania.

c. If a flock is serologically positive, poultry from that flock may be imported only if the flock is determined to be free of virus by virtue of a negative virus detection test (virus isolation or RRT-PCR) of oropharyngeal, tracheal and/or cloacal specimens from a minimum of one hundred and fifty (150) birds. If there are fewer than 150 birds in the flock, all birds must be tested. For waterfowl, virus detection testing on cloacal swabs is required for entry. RR T-PCR testing is accepted for domestic ducks-virus isolation testing must be used for other waterfowl. The date of sample collection must be within 30 days of entry into Pennsylvania and the shipment must be accompanied by the test report. No untested birds shall have been added to the flock after sample collection and before entry into Pennsylvania.

3. Poultry three (3) weeks of age and older, imported into the Commonwealth, shall meet all other import requirements required under PD A's regulations at Title 7 of the *Pennsylvania Code* (accessible through the following web site address: www.pacode.com).

4. Gallinaceous birds, water birds, and ratites three (3) weeks of age and older which are destined to be pet birds or destined to be part of a zoological or menagerie collection; and wild birds three (3) weeks of age and older (gallinaceous birds, water birds, and ratites) destined for domestication, confinement, or as pets must be test negative for avian influenza (swabs tested using virus isolation or real-time reverse-transcriptase polymerase chain reaction (RRT-PCR) techniques). These birds may be individually tested for import. The date of sample collection must be within thirty (30) days of entry into Pennsylvania and the shipment must be accompanied by the test report. RRT-PCR testing is accepted for domestic ducks. For wild water birds, virus isolation (cloacal swabs) is required for entry.

5. All other imported gallinaceous birds, water birds, and ratites three (3) weeks of age and older must meet all AI testing requirements stated for poultry (includes birds intended for release). For water birds, virus detection testing on cloacal swabs is required

for entry (refer to #2 and #4 above). RRT-PCR testing is accepted for domestic ducks. For wild water birds, virus isolation (cloacal swabs) is required for entry.

6. This Order shall not be construed as limiting PDA's authority to establish additional quarantine or testing requirements on imported poultry and/or poultry products.

7. This Order is effective July 1, 2012, and supplants the referenced Interstate/International Quarantine Order of March 16, 2009.

BY THE PENNSYLVANIA DEPARTMENT OF AGRICULTURE

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SECTION X: SUMMARY OF POULTRY PROGRAMS AND TESTING REQUIREMENTS

SUMMARY OF POULTRY PROGRAMS AND TESTING REQUIREMENTS IN PENNSYLVANIA

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Breeder & Commercial Flocks

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Section IV: Waterfowl, Upland Game Birds, and Exhibition Birds

Exhibition Only

Section V: Exhibition Birds

Programs and program requirements may change - please refer to the most current NPIP Provisions or the individual show manager for the current requirements.

SUMMARY OF POULTRY PROGRAMS AND TESTING REQUIREMENTS IN PENNSYLVANIA

Section I: Layers

Layers - Avian Influenza

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. AI Clean 145 G	AI	Breeders, Primary flocks	On farm	Blood	30	30 birds tested negative initially, then 30 birds every 90 days or 30 birds during each 90 day period. AND 11 birds tested negative within 21 days of slaughter.	≥ 4 months of age
NPIP U.S AI Clean 145 B	AI	Breeders, Multiplier flocks	On farm	Blood	30	30 birds tested negative initially, then 30 birds every 90 days or 30 birds during each 90 day period. AND 11 birds tested negative within 21 days of slaughter.	≥ 4 months of age
NPIP U.S. H5/H7 AI Monitored (LPAI Voluntary Control Program)	AI	Commercial table-egg Layers	On farm	Blood OR Eggs	11 birds or eggs	11 birds or eggs every 12 months AND 11 birds or eggs tested negative within-21 days of disposal	Flock size; at least 75,000 birds total on premises Biosecurity plan required for all premises ≥ 75,000 bird capacity H5/H7
NPIP U.S. H5/H7 AI Monitored (LPAI Voluntary Control Program)	AI	Commercial table-egg Layer- **PULLETS**	On farm	Blood	11 birds	Test 11 pullets within 21 days of movement	Mandatory testing of pullets pre-placement for LPAI layer flock participants. Should enroll in program if ≥ 75,000 pullets total on premises. Biosecurity plan required for all premises ≥ 75,000 bird capacity. H5/H7
PA AI Monitored Flock Program	AI	Poultry	On farm	Gallinaceous birds - blood Waterfowl– cloacal swabs	30 birds (Min. 3 weeks of age)	Within every 21-30 day period. Age exceptions: Silkies: 6-8 wks Guineas, chukars, quail: 5-6 wks Quail/chukars: may substitute eggs with prior approval.	Must enroll with PDA. Meets NY/NJ LBMS req. If positive test, must restart; and test 150 birds for NY.

Layers - Salmonella pullorum

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. Pullorum-Typhoid Clean 145 G	Pullorum/Typhoid	Breeders; Primary Flock	On farm	Blood	300 or entire flock every 12 months	Every 12 months and 4 weeks after molt	≥4 months of age; If vaccinate for SE, wait until after blood test or band and then test 300 unvaccinated birds.
NPIP U.S. Pullorum-Typhoid Clean 145 B	Pullorum/Typhoid	Breeders; Multiplier Flock (from P/T Clean primary breeder flock)	On farm	Blood	300 birds or entire flock every 12 months; at PDA discretion, may be exempt from annual test	Every 12 months and 4 weeks after molt	≥ 4 months of age: If vaccinate for SE, wait until after blood test or band and then test 300 unvaccinated birds.

Layers – MG/MS

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. MG Clean 145 G	MG/MS	Breeders; Primary Flock	On Farm	Blood/Egg	Initial; 300 or entire flock once, then 150 birds	150 birds every 90 days or 150 birds in 90 day period	≥ 4 months of age
NPIP U.S. MG Clean 145 B	MG/MS	Breeders; Multiplier Flock (from MG/MS Clean primary breeder flock)	On Farm	Blood/Egg	Initial; 150 or entire flock once, then 75 birds or 25 cull chicks or egg yolk testing from 30 eggs taken during 1 day's production	75 birds every 90 days or 75 birds in 90 day period or 25 cull chicks every 30 days or egg yolk testing every 30 days	≥ 4 months of age
NPIP U.S. MG Clean Started Poultry	MG/MS	Pullets	On Farm	Blood	75 birds, minimum of 50 birds per house	15-20 days prior to flock moving to layer house	From MG/MS Clean breeder flock

Layers – Salmonella enteritidis

Program	Disease	Type of Bird	Location	Type of Sample	# of Samples Tested	Frequency of Testing	Comment
NPIP U.S. SE Clean 145G, 145 B	SE	Breeders: Primary & Multiplier	On farm	Environmental swabs; Blood	Environmental swabs; also 300 birds blood-tested once after 4 months of age	Env. swabs at 2-4 weeks of age, then every 30 days	Flock from SE Clean source flock or meconium and chicks which have died within 7 days are cultured.
PEQAP	SE	Table Egg Layers	On farm	Environmental swabs, eggs	Per PEQAP guidelines	Per PEQAP guidelines	
FDA Egg Safety Program	SE	Table Egg Layers	On farm	Environmental swabs, eggs	Per FDA guidelines	Per FDA guidelines	

Section II: Broilers

Broilers – Avian Influenza

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. AI Clean 145 H	AI	Breeders; Primary flocks	On farm	Blood	30	30 birds tested negative initially, then 30 birds every 90 days or 30 birds during each 90 day period. 11- 30 birds tested negative within 21 days of slaughter.	≥ 4 months of age
NPIP U.S. AI Clean 145 C	AI	Breeders; Multiplier flocks	On farm	Blood	30	30 birds tested negative initially, then 15 birds every 90 days or 15 birds during each 90 day period. 11- 30 birds tested negative within 21 days of slaughter.	≥4 months of age
NPIP U.S. H5/H7 AI Monitored (LPAI Voluntary Control Program)	AI	Commercial Broiler flocks - slaughter plants	On farm or at slaughter	Blood	11	11 birds tested negative within 21 days of slaughter or 11 birds per slaughter plant shift	Must use enrolled, FSIS inspected slaughter plants processing more than 200,000 chickens/week Plants must enroll with PDA/NPIP. Biosecurity plan required for all premises ≥ 100,000 birds in a year.
PA AI Monitored Flock Program	AI	Poultry	On farm	Gallinaceous birds - Blood	30 (Min. 3 weeks of age)	Within every 21-30 day pd. Age exceptions: Silkies: 6-8 wks Guineas, chukars, quail: 5-6 wks Quail/chukars: may substitute eggs with approval	Must enroll with PDA. Meets NY/NJ LBMS req. If positive test, must restart; and test 150 birds for NY.

Broilers - Salmonella pullorum

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. Pullorum-Typhoid Clean 145 H	Pullorum/Typhoid	Breeders; Primary Flock	On farm	Blood	300 birds or entire flock every 12 months	Every 12 months and 4 weeks after molt	≥ 4 months of age; If vaccinate for SE, wait until after blood test or band and then test 300 unvaccinated birds.
NPIP U.S. Pullorum-Typhoid Clean 145 C	Pullorum/Typhoid	Breeders; Multiplier Flock (from P/T Clean primary breeder flock)	On farm	Blood	300 birds or entire flock every 12 months; at PDA discretion, may be exempt from annual test	Every 12 months and 4 weeks after molt	≥ 4 months of age; If vaccinate for SE, wait until after blood test or band and then test 300 unvaccinated birds.

Broilers – MG/MS

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. MG Clean 145 H	MG/MS	Breeders; Primary Flock	On Farm	Blood/Egg	Initial; 300 or entire flock once, then 150 birds	150 birds every 90 days or 150 birds in 90 day period: May test 40 birds at 28 day intervals to meet 150 birds per 90 day period.	≥ 4 months of age
NPIP U.S. MG Clean 145 C	MG/MS	Breeders; Multiplier Flock (from MG Clean primary breeder flock)	On Farm	Blood/Egg	Initial; 150 or entire flock once, then 75 birds or 25 cull chicks or egg yolk testing from 30 eggs taken during 1 day's production	75 birds every 90 days or 75 birds in 90 day period or 25 cull chicks every 30 days or egg yolk testing every 30 days	Before adding breeding males to a multiplier flock, at least 30 birds, 10 per pen, to be added must be tested within 14 days prior to introduction. If less than 30, test all.
NPIP U.S. MG Clean Started Poultry	MG/MS	Pullets	On Farm	Blood	75 birds, minimum of 50 birds per house	15-20 days prior to flock moving to hatching egg layer house	
NPIP U.S. MG Monitored	MG/MS	Breeders; Multiplier Flock	On Farm	Blood	All birds or at least 30 birds per house initially after 4 months of age	Test again at 36-38 weeks, and at 48-50 weeks	Test 15 birds from front of house and 15 from back of house, male and female marked and representative of house

Broilers – Other Salmonella

Program	Disease	Type of Bird	Location	Type of Sample	# of Samples Tested	Frequency of Testing	Comment
NPIP U.S. Sanitation Monitored 145 C	Salmonella	Multiplier Breeders	On farm	Environment. swabs	Environmental swabs	Env. swabs at 4 months of age, then every 90 days	May vaccinate
NPIP U.S. SE Monitored 145 C	SE	Multiplier Breeders	On farm	Environment. swabs	Environmental swabs	Env. swabs at 16-18 wks & at 40-45 wks	Originate from an SE clean primary flock.
NPIP U.S. SE Clean 145 H	SE	Primary Breeders	On farm, in hatchery	Environment. Swabs; blood	Environmental swabs; also 300 birds blood-tested once after 4 months of age	Env. swabs at 4 months of age, then every 30 days; Also chick samples at hatchery	Flock from SE Clean source flock or meconium and chicks which have died within 7 days are cultured
NPIP U.S. Salmonella Monitored 145 H	Salmonella	Primary Breeders	On farm, in hatchery	Environment. swabs	Environmental swabs	Env. swabs at 4 months of age, then every 30 days; Also chick samples at hatchery	

Section III: Turkeys

Turkeys – Avian Influenza

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. AI Clean 145 D	AI	Breeders; Primary Flock	On farm	Blood	30	30 birds tested negative initially, then 30 birds every 90 days or 30 birds during each 90 day period. 6 birds tested negative within 21 days of slaughter.	≥ 4 months of age; H5/H7
NPIP U.S. AI Clean 145 D	AI	Breeders; Multiplier Flock	On farm	Blood	30	30 birds tested negative initially, then 30 birds every 90 days or 30 birds during each 90 day period. 6 birds tested negative within 21 days of slaughter.	≥ 4 months of age; H5/H7
NPIP U.S. H5/H7 AI Monitored (LPAI Voluntary Control Program)	AI	Commercial Turkey Flocks	On farm or at slaughter	Blood	6	6 birds per farm within 21 days of processing or equivalent number tested at plant.	For enrolled, FSIS inspected slaughter plants processing more than 2 million turkeys/year. Prefer birds ≥ 10 weeks of age with signs of illness; Plants must enroll with PDA/NPIP. Biosecurity plan required for all premises ≥ 30,000 birds in a year. H5/H7
PA AI Monitored Flock Program	AI	Poultry	On farm	Blood	30	Within every 21-30 days	Must enroll with PDA. Meets NY/NJ LBMS req. If positive test, must restart; and test 150 birds for NY.

Turkeys - Salmonella pullorum

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. Pullorum-Typhoid Clean 145 D	Pullorum/Typhoid	Breeders; Primary Flock	On farm	Blood (Whole blood plate test NOT ACCEPTABLE for turkeys)	300 or entire flock	Every 12 months and 4 weeks after molt	≥ 12 weeks of age
NPIP U.S. Pullorum-Typhoid Clean 145 D	Pullorum/Typhoid	Breeders; Multiplier Flock (from P/T Clean primary breeder flock)	On farm	Blood (Whole blood plate test NOT ACCEPTABLE for turkeys)	300 birds or entire flock every 12 months; at PDA discretion, may be exempt from annual test	Every 12 months and 4 weeks after molt	≥ 12 weeks of age

Turkeys – MG/MS/MM

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. MG Clean 145 D	MG,MS, MM	Breeders	On Farm	Blood	Refer to current version of the NPIP Provisions		

Turkeys – Other Salmonella

Program	Disease	Type of Bird	Location	Type of Sample	# of Samples Tested	Frequency of Testing	Comment
NPIP U.S. Sanitation Monitored 145 D	Salmonella	Breeders; Multiplier flocks	On farm	Hatchery debris and dead poults from breeder flock; Environmental swabs from breeder flock; and Dead poults and/or hatchery debris from poults produced from hatching eggs from breeder flock	Environmental swabs; hatchery debris, dead poults	Refer to NPIP Provisions	May vaccinate

Section IV: Waterfowl, Upland Game Birds, and Exhibition Poultry

Waterfowl, Upland Game Bird, and Exhibition Poultry – Avian Influenza

Program	Di-sease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. H5/H7 AI Clean (145 E)	AI	Breeders, Multiplier & Primary flocks; Hobby type Waterfowl, Upland Game Birds, Exhibition Poultry	On farm	Game birds, Exhibition poultry: Blood, swabs; or eggs for approved types of birds. Waterfowl: Cloacal swabs	30	30 birds tested negative initially, then 30 birds every180 days or 30 birds during each 180 day period. AND 30 birds tested negative within 21 days of slaughter.	≥ 4 months or sexual maturity; H5/H7
NPIP U.S. H5/H7 AI Clean (145 I)	AI	Waterfowl Breeders, Primary flocks	On farm	Waterfowl: Cloacal swabs	30	30 birds tested negative initially, then 30 birds every 90 days or 30 birds during each 90 day period. AND 30 birds tested negative within 21 days of slaughter.	≥ 4 months or sexual maturity; H5/H7
PA AI Monitored Flock Program	AI	Poultry	On farm	Within every 21-30 day pd. Waterfowl; cloacal swabs	30	Within every 21-30 day period (count number of days from last sample collection; do not go by calendar date)	Min.3 wks of age Age exceptions: Silkies: 6-8 wks Guineas, chukars, quail: 5-6 wks Quail/chukars: may substitute eggs with approval. Must enroll with PDA. Meets NY/NJ LBMS req. If positive test, must restart; and test 150 birds for NY.
NPIP H5/H7 LPAI Monitoring Program – Commercial Waterfowl and Commercial Upland Game Birds	AI	Meat – type Waterfowl and Game Birds and those producing eggs for human consumption	On farm (within 21 days of slaughter/ disposal) or at slaughter	Game birds: Blood, swabs Waterfowl: Cloacal swabs	11	Per shift or on farm within 21 days of processing/disposal	Plant processes ≥ 50,000 birds per year or egg production flock has ≥ 50,000 birds in a year
NPIP H5/H7 LPAI Monitoring Program – Raised for Release Waterfowl and Upland Game Birds	AI	Raised for Release Waterfowl and Upland Game Birds	On farm	Game birds: Blood, swabs Waterfowl: Cloacal swabs	30	30 birds within every 90 days	Flocks with ≥ 25,000 birds; Biosecurity plan required for all premises ≥ 25,000 birds in a year. H5/H7

Waterfowl, Upland Game Bird, and Exhibition Poultry - Salmonella pullorum

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. Pullorum-Typhoid Clean 145 E (exhibition type) or 145 I (primary waterfowl flocks)	Pullorum/Typhoid	Breeders; Primary Flock	On farm	Blood	300 birds or entire flock every 12 months. Small hobby flocks may be eligible to test % with PDA written agreement.	Every 12 months and 4 weeks after molt	≥ 4 months of age or sexual maturity
NPIP U.S. Pullorum-Typhoid Clean 145 E	Pullorum/Typhoid	Breeders; Multiplier Flock (from P/T Clean primary breeder flock)	On farm	Blood	300 birds or entire flock every 12 months. Small flocks may be eligible to test % with PDA written agreement.	Every 12 months and 4 weeks after molt	≥ 4 months of age or sexual maturity

Waterfowl, Upland Game Bird, and Exhibition Poultry – MG/MS

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
NPIP U.S. MG Clean 145 E or 145 I	MG/MS	Primary Breeder flock	On Farm	Blood	Refer to current version of the NPIP Provisions		
NPIP U.S. MG Clean 145 E	MG/MS	Multiplier Breeder flock (Originated as MG/MS Clean baby poultry from primary flock)	On Farm	Blood initially, then blood or eggs	Refer to current version of the NPIP Provisions		

Waterfowl, Upland Game Bird, and Exhibition Poultry- Other Salmonella

Program	Disease	Type of Bird	Location	Type of Sample	# of Samples Tested	Frequency of Testing	Comment
NPIP U.S. Salmonella Monitored 145 I	Salmonella	Waterfowl; Primary Breeders	On farm, in hatchery	Environment. swabs	Environmental swabs-flock & hatchery	Env. Swabs on farm at 4 months of age, then every 30 days; Also chick samples at hatchery every 30 days.	Written corrective action plan with PDA required if positive.
NPIP U.S. Salmonella Monitored 145 E	Salmonella	Primary and Multiplier Breeders	In hatchery	Environment. swabs	Environmental swabs-hatchery	Environmental swabs at hatchery every 30 days	Minimum of 5 environmental samples, e.g., chick papers, hatching trays, and chick transfer devices. Written corrective action plan with PDA required if positive.

Section V: Exhibition Poultry (All birds entering a show must be banded with official PDA leg bands)

Program	Disease	Type of Bird	Location	Type of Sample	# of Birds Tested	Frequency of Testing	Comment
AI testing for PA birds going to PA exhibition	AI	Exhibition 3 weeks of age and older	On farm	Gallinaceous birds: Blood or swabs; Waterfowl: cloacal swabs are required	**Pennsylvania Birds:** **30** birds from the flock must be tested negative on an official test within the **30 days** prior to entrance into the exhibition. **Out of state imports**: Refer to the current "Interstate, International Quarantine Order" for AI testing import requirements.	Within 30 days prior to exhibition.	Official PDA leg band if showing.
Pullorum testing for PA birds going to PA exhibition	Pullorum	Exhibition poultry, **except waterfowl; (waterfowl exempt)**	On farm	Blood	All birds except waterfowl and pigeons going to exhibition must come from NPIP P/T Clean Flock, OR a PA Pullorum Equivalent Program Flock, OR must be tested within 90 days prior.	Within 90 days prior to exhibition.	Official PDA leg band.
PA Pullorum Equivalent Program	Pullorum	Exhibition poultry, except waterfowl	On farm	Blood	300 or entire flock if less than 300 birds	Every 12 months	Official PDA leg band. Must enroll with PDA, annual inspection.

SECTION XI: PENNSYLVANIA DANGEROUS TRANSMISSIBLE DISEASES OF POULTRY

Pennsylvania Dangerous Transmissible Diseases of Poultry (Diseases which may result in regulatory action)

- Avian influenza
- Exotic Newcastle disease
- Avian mycoplasmosis (MG, MS)
- Pullorum disease (S. pullorum)
- Fowl typhoid (S. gallinarum)
- Duck viral enteritis
- Avian chlamydiosis (psittacosis, ornithosis)

SECTION XII: AVIAN DISEASE FACT SHEETS

Avian Influenza

Avian influenza (AI) viruses infect domestic poultry as well as pet, zoo, and wild birds. In domestic poultry, AI viruses are typically of low pathogenicity (LP), causing subclinical infections, respiratory disease, or drops in egg production. However, a few AI viruses cause severe systemic infections with high mortality. This highly pathogenic (HP) form of the disease has historically been called fowl plague. In most wild birds, AI viral infections are subclinical except for the recent H5N1 HP AI viruses of Eurasian lineage.

Etiology:
AI viruses are type A orthomyxoviruses characterized by antigenically homologous nucleoprotein and matrix internal proteins, which are identified by serology in agar gel immunodiffusion (AGID) tests. AI viruses are further divided into 16 hemagglutinin (H1-16) and 9 neuraminidase (N1-9) subtypes based on hemagglutinin inhibition and neuraminidase inhibition tests, respectively. Most AI viruses (H1-16 subtypes) are of low pathogenicity, but some of the H5 and H7 AI viruses are highly pathogenic for chickens, turkeys, and related gallinaceous domestic poultry.

Epidemiology and Transmission:
LP AI viruses are distributed worldwide and are recovered frequently from clinically normal shorebirds and migrating waterfowl. Occasionally, LP viruses are recovered from imported pet birds and ratites. The viruses may be present in village or backyard flocks and other birds sold through live-poultry markets, but most commercially raised poultry in developed countries are free of AI viruses. The HP viruses arise from mutation of some H5 and H7 LP viruses and cause devastating epidemics. Stamping-out programs are used to quickly eliminate the HP viruses in developed countries, but some developing countries may use vaccines to control HP viruses.
The incubation period is highly variable and ranges from a few days in individual birds to 2 wk in the flock. Transmission between individual birds is by ingestion or inhalation. Naturally and experimentally, cats and dogs have been infected with one strain of H5N1 Eurasian HP AI virus. Experimental infections occurred after respiratory exposure, ingestion of infected chickens, or contact exposure, but cats were more susceptible than dogs. Potentially, domestic pets could serve as a transmission vector between farms, but the ability of other AI viruses, including other H5N1 strains, to infect pets is unknown. Other mammals that have been experimentally infected include pigs, ferrets, rats, rabbits, guinea pigs, mice, mink, and nonhuman primates. Transmission between farms is the result of breaches in biosecurity practices, principally by movement of infected poultry or contaminated feces and respiratory secretions on fomites such as equipment or clothing. Airborne dissemination between farms may be important over limited distances. Limited spread by wild birds of the Eurasian H5N1 HP AI virus has been suggested but is not typical of other HP AI viruses. Other HP AI and all LP AI have minimal potential to infect dogs and cats.

Clinical Findings and Lesions:
Clinical signs, severity of disease, and mortality rates vary depending on AI virus strain and host species.

Low Pathogenicity Avian Influenza Viruses:
LP AI viruses typically produce respiratory signs such as sneezing, coughing, ocular and nasal discharge, and swollen infraorbital sinuses in poultry. Sinusitis is common in domestic ducks, quail, and turkeys. Lesions in the respiratory tract typically include congestion and inflammation of the trachea and lungs. In layers and breeders, there may be decreased egg production or fertility, ova rupture (evident as yolk in the abdominal cavity) or involution, or mucosal edema and inflammatory exudates in the lumen of the oviduct. A few layer and breeder chickens may have acute renal failure and visceral urate deposition (visceral gout). The morbidity and mortality is usually low unless accompanied by secondary bacterial or viral infections or aggravated by environmental stressors. Sporadic infections by any subtype of LP AI viruses can occur, but H9N2 LP AI is common in poultry in Asia, the Middle East, and North Africa.

High Pathogenicity Avian Influenza Viruses:
Even in the absence of secondary pathogens, HP AI viruses cause severe, systemic disease with high mortality in chickens, turkeys, and other gallinaceous poultry; mortality can be as high as 100% in a few days. In peracute cases, clinical signs or gross lesions may be lacking before death. However, in acute cases, lesions may include cyanosis and edema of the head, comb, wattle, and snood (turkey); edema and red discoloration of the shanks and feet due to subcutaneous ecchymotic hemorrhages; petechial hemorrhages on visceral organs and in muscles; and blood-tinged oral and nasal discharges. In severely affected birds, greenish diarrhea is common. Birds that survive the peracute infection may develop CNS involvement evident as torticollis, opisthotonos, incoordination, paralysis, and drooping wings. The location and severity of microscopic lesions are highly variable and may consist of edema, hemorrhage, and necrosis in parenchymal cells of multiple visceral organs, skin, and CNS.

Diagnosis:
LP and HP AI viruses can be readily isolated from oropharyngeal and cloacal swabs, and HP AI viruses from many internal organs. AI viruses grow well in the allantoic sac of 9- to 11-day-old embryonating chicken eggs, and they agglutinate RBCs. The hemagglutination is not inhibited by Newcastle disease or other paramyxoviral antiserum. AI viruses are identified by demonstrating the presence of 1) influenza A matrix or nucleoprotein antigens using AGID or other suitable immunoassays, or 2) viral RNA using an influenza A–specific reverse transcriptase-PCR test.
LP AI must be differentiated from other respiratory diseases or causes of decreased egg production, including 1) acute to subacute viral diseases such as infectious bronchitis, infectious laryngotracheitis, low virulent Newcastle disease, and infections by other paramyxoviruses; 2) bacterial diseases such as mycoplasmosis, infectious coryza, ornithobacteriosis, turkey coryza, and the respiratory form of fowl cholera; and 3) fungal diseases such as aspergillosis. HP AI must be differentiated from other causes of high mortality such as virulent Newcastle disease, peracute septicemic fowl cholera, heat exhaustion, and severe water deprivation.

Prevention and Treatment:
Vaccines can prevent clinical signs and death. Furthermore, viral replication and shedding from the respiratory and GI tracts may be reduced in vaccinated birds. Specific protection is achieved through autogenous virus vaccines or from vaccines prepared from AI virus of the same hemagglutinin subtype. Antibodies to the homologous viral neuraminidase antigens may provide partial protection. Currently, only inactivated whole AI virus, recombinant fowlpox-AI-H5, and recombinant herpesvirus-turkey-AI-H5 (rHVT-AI-H5) vaccines are licensed in the USA. The use of any licensed AI vaccine requires approval of the State Veterinarian. In addition, use of H5 and H7 AI vaccines in the USA requires USDA approval. Treating LP-affected flocks with broad-spectrum antibiotics to control secondary pathogens and increasing house temperatures may reduce morbidity and mortality. Treatment with antiviral compounds is not approved or recommended. Suspected outbreaks should be reported to appropriate regulatory authorities.

Zoonotic Risk:
AI viruses exhibit host adaptation to birds. Human infections have occurred, usually as isolated, rare, individual cases. Most human cases have originated from infection with Eurasian H5N1 HP AI virus and, most recently, Chinese H7N9 LP AI virus. The total accumulated human cases of H5N1 HP AI virus in Asia and Africa from 2003–2013 is 648, of which 384 were fatal. The primary risk factor for human infection has been direct contact with live or dead infected poultry, but a few cases have resulted from consumption of uncooked poultry products, defeathering of infected wild swans, or close contact with human cases. Respiratory infection has been the most frequent presentation of human H5N1 cases. For H7N9 LP AI, total accumulated human cases in China for 2013 is 137, of which 45 were fatal. Most cases had exposure risk to live-poultry markets. Conjunctivitis was the most frequent symptom in human cases of H7N7 HP AI virus infection in the Netherlands during 2003, with 89 confirmed cases and 1 fatality. Other HP AI viruses and all LP AI viruses have produced very rare or no human infections.

Source; The Merck Manual (Dr. David Swayne)

USDA
United States Department of Agriculture

Highly Pathogenic Avian Influenza (HPAI)

HPAI in Poultry:
What To Expect If You Suspect

USDA file photo
Complete paralysis

Highly pathogenic avian influenza (HPAI) is a serious poultry disease that spreads very quickly. With this threat, it's more important than ever for you to keep strict biosecurity measures at your poultry operations and watch your birds closely for any signs of the disease. We need you to quickly report problems in your flocks and work with us to respond. Your help will be vital in protecting the U.S. poultry industry from this deadly disease. The faster we can respond and depopulate sick birds, the faster we can stop the virus from spreading.

Be on the lookout for HPAI. Here's what to watch for, where to report, and what to expect from State and Federal responders if you have a suspected case in your birds.

HPAI is a deadly disease for poultry. It can infect all types of chickens and turkeys, plus many other kinds of birds. HPAI can strike suddenly and spread fast. It is devastating for poultry industries.

Know the Warning Signs

- Sudden increase in bird deaths without any clinical signs
- Lack of energy and appetite
- Decrease in egg production
- Soft- or thin-shelled or misshapen eggs
- Swelling of the head, eyelids, comb, wattles, and hocks
- Purple discoloration of the wattles, comb, and legs
- Gasping for air (difficulty breathing)
- Coughing, sneezing, and/or nasal discharge (runny nose)
- Stumbling or falling down
- Diarrhea

Report It!

If your birds are sick or dying, report it right away. This is one of the most important things you can do to keep HPAI from spreading. Call:

- Your flock or local veterinarian,
- The State Veterinarian,
- The State animal health/poultry diagnostic laboratory, or
- USDA toll-free at **1-866-536-7593**.

USDA file photo
Swelling of the tissue around the eyes and neck

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

Exotic Newcastle Disease

Newcastle disease is an infection of domestic poultry and other bird species with Newcastle disease virus (NDV). It is a worldwide problem that presents primarily as an acute respiratory disease, but depression, nervous manifestations, or diarrhea may be the predominant clinical form. Severity depends on the virulence of the infecting virus and host susceptibility. Occurrence of the disease is reportable and may result in trade restrictions.

Previously known as velogenic viscerotropic Newcastle disease, END is one of the most infectious diseases of poultry in the world. The mortality in unvaccinated birds can reach 100 percent, and birds may die without any clinical signs of disease. Though recommended and widely used, vaccination does not fully protect against END and may obscure the disease, resulting in further spread.

Identifying Affected Birds

END affects the respiratory, digestive, and nervous systems. The incubation period ranges from 2 to 15 days. An infected bird may exhibit some or all of the following signs:

- Sneezing, gasping, nasal discharge, coughing;
- Greenish, watery diarrhea;
- Depression, muscular tremors, droopy wings, opisthotonus, circling, and complete paralysis;
- Partial to complete drop in egg production and thin-shelled eggs;
- Swelling of tissues around the eyes and in the neck;
- Sudden death; and
- Increased flock mortality.

Transmission

END is spread primarily through direct contact with droppings and nasal, ocular, or oral secretions of infected birds. The virus is present in high concentrations in body fluids and discharges and spreads rapidly through birds in confinement. The virus can be carried from one premises to another on contaminated shoes and clothing of service crews and visitors and their contaminated vehicles. END virus survives for several weeks in a warm and humid environment on feathers and in manure and other materials and can survive indefinitely in frozen material. It is rapidly destroyed by dehydration and ultraviolet rays. Smuggled psittacines, especially Amazon parrots from Latin America, pose great risks for introducing the virus into the United States. These parrots are asymptomatic carriers and can carry the virus for up to 400 days.

Biosecurity Measures on the Farm

Veterinarians should work with poultry producers to strengthen biosecurity practices. Established and enforced biosecurity protocols will help prevent introduction of END and other infectious agents. Recommend biosecurity measures include:

- Establishing an “all-in, all-out” flock-management policy;
- Protecting against exposure to wild birds or water or ground contaminated by wild birds;
- Closing bird areas to nonessential personnel or vehicles;

- Providing employees with clean clothing and disinfection facilities and directions for their use;
- Thoroughly cleaning and disinfecting equipment and vehicles (including tires and undercarriage) when entering or leaving the farm;
- Banning the borrowing or lending of equipment or vehicles;
- Banning visiting other poultry farms, exhibitions, fairs, and sales or swap meets (if visits must occur, direct workers to change footwear and clothing on their return); and
- Banning bringing birds in slaughter channels back to the farm.

Vaccination
Vaccines are available for chickens, turkeys, and pigeons and are used to induce an antibody response, so vaccinated bids must be exposed to a larger dose of END to be infected. Unfortunately, ND vaccines do not provide sterile immunity, and in many areas of the world vaccines are used to prevent losses from sickness and death.

Fowlpox or turkey herpesvirus–vectored NDV vaccines are commercially available for chickens and have the advantage of being able to be administered in ovo at the hatchery. These vaccines must be reconstituted as directed by the manufacturer and, because they take 3–4 wk to produce a protective level of immunity, biosecurity is even more important.

Zoonotic Risk:
All NDV strains can produce a transitory conjunctivitis in people, but the condition has been limited primarily to laboratory workers and vaccination teams exposed to large quantities of virus. Before poultry vaccination was widely practiced, conjunctivitis from NDV infection occurred in crews eviscerating poultry in processing plants. The disease has not been reported in people who rear poultry or consume poultry products.
Source; The Merck Manual and USDA

Mycoplasma synoviae (MS) Facts

*Mycoplasma synoviae i*s generally a subclinical upper respiratory bacterial infection of chickens and turkeys. The microorganism is transmitted by direct contact although egg transmission (breeder flocks) and carrier birds (multi-age flocks) can contribute to infection. Systemic infection can result in inflammation of synovial membranes, resulting in exudates in the joints (arthritis), tendons sheaths and sternal bursae of infected birds (see photo). Affected birds are usually immature and are lame or recumbent with swollen hocks, footpads or sternal bursae. Infected layer flocks can have decreased egg production.

Mycoplasma synoviae was first recognized as an acute to chronic infection of chickens and turkeys that produced an exudative tendinitis and synovitis (infectious synovitis); it now occurs most commonly as a subclinical infection of the upper respiratory tract, especially in multi-age layer flocks. M synoviae infection is also a complication of airsacculitis in association with Newcastle disease or infectious bronchitis. It is distributed worldwide and is seen primarily in chickens and turkeys, but ducks, geese, guinea fowl, parrots, pheasants, and quail may also be susceptible.

M synoviae isolates vary widely in virulence.

Epidemiology and Transmission

M synoviae is egg transmitted (transovarian), but the infection rate in breeder hens is low, and some hatches of progeny may be free of infection. Horizontal transmission is similar to that of M gallisepticum, primarily via the respiratory tract, with direct and indirect routes.

The incidence of M synoviae infection in commercial poultry in the USA has decreased because of the National Poultry Improvement Plan control programs implemented for chicken and turkey breeders. However, M synoviae infections of multiple-age layer flocks are common and may contribute to decreased egg production.

Clinical Signs and Lesions

Although slight rales may be present in birds with M synoviae respiratory infection, usually no signs are noticed. Birds under stress or with concurrent infections are more likely to be clinically affected. The first signs of infectious synovitis include pale-bluish head parts and lameness in many birds with a tendency to sit. The more severely affected birds are depressed and found resting around feeders and waterers. Hocks and footpads are swollen, and sternal bursitis (breast blisters) may be seen. Morbidity is usually low to moderate with mortality of 1%–10%. Effects on egg production are usually not apparent, but instances of transient egg production drops have occurred in layer flocks.

Respiratory lesions may be absent, or consist of mild mucoid tracheitis or sinusitis with airsacculitis when birds are stressed from poor air quality or challenged with Newcastle disease or infectious bronchitis. Early in infectious synovitis, a creamy to viscous yellow-gray exudate is present in most synovial structures but most commonly seen in swollen hock and

wing joints. In chronic cases, this exudate may become inspissated; livers are enlarged and sometimes green, spleens are enlarged, kidneys are enlarged and pale, and birds may be weak and thin with breast blisters from sternal recumbency.

Diagnosis

Skeletal abnormalities and trauma must be eliminated as the cause of lameness. Differential diagnoses include viral tenosynovitis as well as staphylococcal and other bacterial joint infections.

A presumptive diagnosis based on clinical signs and gross lesions should be confirmed by laboratory tests. Serum plate agglutination or ELISA are used to detect M synoviae antibodies, but cross-reactions with M gallisepticum and other nonspecific reactions may occur. These reactors are confirmed as seropositive by hemagglutination-inhibition or by culture, isolation, and identification of the organism. PCR may be used to rapidly detect M synoviae DNA from pre- or postmortem specimens. In turkeys, the agglutination test for M synoviae may not be reliable, especially in birds with predominantly respiratory infection.

Treatment, Control, and Prevention

The National Poultry Improvement Plan coordinates control and serology-based surveillance programs for M synoviae similar to those for M gallisepticum. These programs have resulted in eradication of the infection in most primary breeder flocks of chickens and turkeys in the USA. Chicks and poults should be obtained from M synoviae-free breeders and raised with biosecurity to prevent introduction. Antibiotics in the feed may be beneficial in prevention of synovitis but are expensive and not very effective in established cases. When M synoviae involvement in airsacculitis is an anticipated problem, preventive antibiotic therapy during the time of respiratory reaction to Newcastle disease and infectious bronchitis vaccines may be helpful. A live temperature-sensitive vaccine (MS-H) is commercially available and permitted in some areas.

Source; the Merck Manual:

Photo source -Minnesota Veterinary Diagnostic Laboratory

Mycoplasma gallisepticum (MG) Facts

Mycoplasma gallisepticum is commonly involved in the polymicrobial "chronic respiratory disease" of chickens; in turkeys, it frequently results in swollen infraorbital sinues and is called "infectious sinusitis." These diseases affect chickens and turkeys worldwide, causing the most significant economic losses in large commercial operations, and are commonly seen in noncommercial flocks. Infection also occurs in pheasants, chukar partridges, peafowl, pigeons, quail, ducks, geese, and psittacine birds. Songbirds are generally resistant, although M gallisepticum causes conjunctivitis in wild house finches (and some similar species) in North America.

M gallisepticum is the most pathogenic avian mycoplasma; however, considerable strain variability is manifest in a range of host susceptibility, virulence, clinical presentation, and immunologic response.

Epidemiology and Transmission

M gallisepticum is transmitted vertically within some eggs (transovarian) from infected breeders to progeny, and horizontally via infectious aerosols and through contamination of feed, water, and the environment, and by human activity on fomites (shoes, equipment, etc). Infection may be latent in some birds for days to months, but when birds are stressed horizontal transmission may occur rapidly via aerosols and the respiratory route, after which infection and clinical disease spread through the flock. Flock-to-flock transmission occurs readily by direct or indirect contact from the movement of birds, people, or fomites from infected to susceptible flocks. Some potential reservoirs of M gallisepticum in the USA are noncommercial (backyard) flocks, multiple-age layer flocks, and some free-ranging songbird species. Good management and biosecurity practices are necessary to ensure that M gallisepticum infections are not introduced to commercial poultry from these and other sources. In many outbreaks, the source of infection is unknown. Cold weather, poor air quality or crowding, concurrent infections, and some live virus vaccinations may facilitate infection, disease, and transmission.

Epithelium of the conjunctiva, nasal passages, sinuses, and trachea are most susceptible to initial colonization and infection; however, in severe, acute disease, infection may also involve the bronchi, air sacs, and occasionally lungs. *Once infected, birds may remain carriers for life.* There is a marked interaction (polymicrobial disease) between respiratory viruses, Escherichia coli, and M gallisepticum in the pathogenesis and severity of chronic respiratory disease.

Clinical Findings and Lesions

In chickens, infection may be inapparent or result in varying degrees of respiratory distress, with slight to marked rales, difficulty breathing, coughing, and/or sneezing. Morbidity is high and mortality low in uncomplicated cases. Nasal discharge and conjunctivitis with frothiness about the eyes may be present. The disease is generally more severe in turkeys than in chickens, and swelling of the infraorbital sinuses is common. Feed efficiency and weight gains are reduced. Commercial broiler chickens and market turkeys may suffer high

condemnations at processing due to airsacculitis. In laying flocks, birds may fail to reach peak egg production, and the overall production rate is lower than normal.

Uncomplicated M gallisepticum infections in chickens result in relatively mild catarrhal sinusitis, tracheitis, and airsacculitis. E coli infections are often concurrent and result in severe air sac thickening and turbidity, with exudative accumulations, adhesive pericarditis, and fibrinous perihepatitis. Turkeys develop severe mucopurulent sinusitis and varying degrees of tracheitis and airsacculitis. Microscopically, involved mucous membranes are thickened, hyperplastic, necrotic, and infiltrated with inflammatory cells. The mucosal lamina propria contains focal areas of lymphoid hypoplasia and germinal center formations.

Diagnosis

History, clinical signs, and typical gross lesions may be suggestive of M gallisepticum. Serology by agglutination and ELISA methods are commonly used for surveillance. Hemagglutination-inhibition is used as a confirmatory test, because nonspecific false agglutination reactions may occur, especially after injection of inactivated oil-emulsion vaccines or infection with M synoviae. M gallisepticum should be confirmed by isolation from swab samples of infraorbital sinuses, nasal turbinates, choanal cleft, trachea, air sacs, lungs, or conjunctiva. Primary isolation is made in mycoplasma medium containing 10%–15% serum. Colonies on agar medium are used for species identification by immunofluorescence with species-specific antibodies. PCR can also be used for detection of M gallisepticum DNA using swabs taken directly from infected sites (choana, sinuses, trachea, air sacs) or after growth in culture.

Mycoplasma isolates must be identified by species, because birds may also be infected with nonpathogenic mycoplasmas. E coli infection, Newcastle disease, avian influenza, and other respiratory diseases (eg, infectious bronchitis in chickens) should be considered in the differential diagnosis and can act as inciting or contributing pathogens.

Treatment, Control, and Prevention

Most strains of M gallisepticum are sensitive to a number of broad-spectrum antibiotics, including tylosin, tetracyclines, and others but not to penicillins or those that act on the cell wall. Tylosin or tetracyclines have been commonly used to reduce egg transmission or as prophylactic treatment to prevent respiratory disease in broilers and turkeys. Antibiotics may alleviate the clinical signs and lesions but do not eliminate infection. Regulations on the use of antibiotics in food animals are rapidly evolving and should be consulted before use.

Prevention is based largely on obtaining chicks or poults from M gallisepticum–free breeder flocks. Eradication of M gallisepticum from chicken and turkey commercial breeding stock is well advanced in the USA because of control programs coordinated by the National Poultry Improvement Plan. The most effective control program is to establish M gallisepticum–free breeder flocks, managed and maintained under good biosecurity to prevent introductions, and monitored regularly with serology to continually confirm infection-free status. In valuable breeding stock, treatment of eggs with antibiotics or heat has been used to eliminate egg

transmission to progeny. Medication is not a good long-term control method but has been of value in treating individual infected flocks.

Laying chickens free of M gallisepticum are desirable, but infection in commercial multiple-age egg farms where depopulation is not feasible is a problem. Inactivated, oil-emulsion bacterins are available and help prevent egg production losses but not infection. Three live vaccines (F-strain, ts-11, and 6/85) have been licensed in the USA for use during the growing phase to provide some protection during lay and may be used in some areas with permission of the state veterinarian. F-strain is of low virulence in chickens but is fully virulent for turkeys. Vaccinated chickens remain carriers of F-strain, and immunity lasts through the laying season. Vaccine strains ts-11 and 6/85 are less virulent, offer the advantage of improved safety for nontarget birds, and are widely used in commercial layers. A commercial recombinant fowlpox–M gallisepticum vaccine has been marketed.
Source; The Merck Manual

Salmonella pullorum - 'Bacillary White Diarrhea' Facts

Etiology and Transmission:
Infections with *Salmonella Pullorum* usually cause very high mortality (potentially approaching 100%) in young chickens and turkeys within the first 2–3 wk of age. In adult chickens, mortality may be high but frequently there are no clinical signs. Pullorum disease was once common but has been eradicated from most commercial chicken stock in the USA, although it may be seen in other avian species (eg, guinea fowl, quail, pheasants, sparrows, parrots, canaries, and bullfinches) and in small backyard or hobby flocks. Infection in mammals is rare, although experimental or natural infections have been reported (chimpanzees, rabbits, guinea pigs, chinchillas, pigs, kittens, foxes, dogs, swine, mink, cows, and wild rats).
Transmission can be vertical (transovarian) but also occurs via direct or indirect contact with infected birds (respiratory or fecal) or contaminated feed, water, or litter. Infection transmitted via egg or hatchery contamination usually results in death during the first few days of life up to 2–3 wk of age. Transmission between farms is due to poor biosecurity.

Clinical Findings and Lesions:
The disease may be seen in all age groups, but birds <4 wk old are most commonly affected. Birds may die in the hatchery shortly after hatching. Affected birds huddle near a heat source, are anorectic, appear weak, and have whitish fecal pasting around the vent (diarrhea). Survivors are small in size and frequently become asymptomatic carriers with localized infection of the ovary. Some of the eggs laid by such hens hatch and produce infected progeny.
There may be no lesions due to an acute septicemia and death. Lesions in young birds usually include unabsorbed yolk sacs and classic gray nodules in the liver, spleen, lungs, heart, gizzard, and intestine. Firm, cheesy material in the ceca (cecal cores) and raised plaques in the mucosa of the lower intestine are sometimes seen. Occasionally, synovitis is prominent. Adult carriers usually have no gross lesions but may have nodular pericarditis; fibrinous peritonitis; or hemorrhagic, atrophic, regressing ovarian follicles with caseous contents. In mature chickens, chronic infections produce lesions indistinguishable from those of fowl typhoid.

Diagnosis:
Lesions may be highly suggestive, but diagnosis should be confirmed by isolation, identification, and serotyping of S pullorum. Infections in mature birds can be identified by serologic tests, followed by necropsy evaluation complemented by microbiologic culture and typing for confirmation. Official testing recommendations for flocks in the USA are outlined in the National Poultry Improvement Plan.

Treatment and Control:
Treatment of infected flocks to alleviate the perpetuation of the carrier state is not recommended. Control is based on routine serologic testing of breeding stock to assure freedom from infection. In addition, management and biosecurity measures should be taken to reduce the introduction of S pullorum from feed, water, wild birds, rodents, insects, or people. Birds should be purchased from sources free of S pullorum. Source; the Merck Manual

Fowl Typhoid (*Salmonella gallinarum*)

Etiology and Transmission:
The causal agent is *Salmonella gallinarum.* The incidence of fowl typhoid is low in the USA, Canada, and some European countries but is much higher in other countries. Although S gallinarum can be egg-transmitted and produces lesions in chicks and poults similar to those produced by S pullorum, there is a much greater tendency to spread among growing or mature flocks through direct contact with infected birds. Mortality in young birds is similar to that seen in S pullorum infection but may be higher in older birds.

Clinical Findings and Lesions:
The disease may be acute or chronic. Clinical signs and lesions in young birds are similar to those seen with S pullorum infection. Older birds may be pale, dehydrated, and have diarrhea. Lesions in older birds may include a swollen, friable and often bile-stained liver, with or without necrotic foci; enlarged spleen and kidneys; anemia; and enteritis.

Diagnosis:
Diagnosis should be confirmed by isolation, identification, and serotyping of S gallinarum (National Poultry Improvement Plan testing procedure).

Treatment and Control:
Treatment and control are as for pullorum disease. There are no federally licensed vaccines in the USA. The standard serologic tests for pullorum disease are equally effective in detecting fowl typhoid.
Source; The Merck Manual

Duck Viral Enteritis (DVE)

Duck viral enteritis (DVE) is an acute, highly contagious disease of ducks, geese, and swans of all ages, characterized by sudden death, high mortality (particularly among older ducks), and hemorrhages and necrosis in internal organs. It has been reported in domestic and wild waterfowl in Europe, Asia, North America, and Africa, resulting in limited to serious economic losses on domestic duck farms and sporadic, limited to massive die-offs in wild waterfowl. In the USA, considerable losses due to DVE have been reported in the concentrated duck-producing areas located in Long Island, New York.

Members of the family Anatidae (ducks, geese, and swans) are the natural hosts for the virus. There are differences in susceptibility to the virus, with Muscovy ducks being the most susceptible. However, naturally occurring infections have been reported in a variety of domestic ducks such as Pekin, Khaki Campbell, Indian runners, and mixed breeds. The age at infection ranges from 7 days to maturity. The infection has not been reported in other avian species, mammals, or people and does not pose a zoonotic risk.

Etiology and Pathogenesis:
The causative agent of DVE (species Anatid herpesvirus 1) is a member of the family Herpesviridae. The virus induces vascular damage, especially in smaller blood vessels. This results in the development of generalized hemorrhages and progressive degenerative changes of parenchymatous organs. An immunosuppressive state induced by DVE may also explain the presence of secondary infections by *Pasteurella multocida*, *Riemerella anatipestifer*, and *Escherichia coli*, which are frequently seen in natural outbreaks of DVE in ducklings.

Epidemiology and Transmission:
The virus is mainly transmitted by direct contact from infected to susceptible ducks or by indirect contact with a contaminated environment. Water seems to be a natural route of viral transmission. Outbreaks are frequent in duck flocks with access to bodies of water cohabited with free-living waterfowl. A carrier condition is suspected in wild birds. Recovered birds become latently infected carriers and may shed the virus periodically. DVE virus may undergo latency like other herpesviruses, and the trigeminal ganglion seems to be a latency site for the virus. Recovered birds may carry the virus in its latent form, and viral reactivation may be the cause of outbreaks in susceptible wild and domestic ducks.

Clinical Findings:
The incubation period is 3–7 days. Sudden high and persistent mortality is often the first sign of the disease. Mortality varies and can be 5%–100%, depending on virulence of the infecting viral strain. Adult ducks usually die in higher proportions than young ones, increasing the economic significance of the disease. Sick birds are unable to stand and show indication of weakness and depression. Photophobia, inappetence, extreme thirst, droopiness, ataxia, nasal discharge, soiled vents, and watery or bloody diarrhea may be seen. Adult ducks may die in good flesh. In contrast, ducklings frequently show dehydration and weight loss, as well as blue beaks and blood-stained vents. In laying flocks, egg production may drop sharply.
Source; The Merck Manual

Avian Chlamydiosis (psittacosis)

Avian chlamydiosis can be an inapparent subclinical infection or acute, subacute, or chronic disease of wild and domestic birds characterized by respiratory, digestive, or systemic infection. Infections occur worldwide and have been identified in at least 460 avian species, particularly caged birds (primarily psittacines), colonial nesting birds (eg, egrets, herons), ratites, raptors, and poultry. Among poultry, turkeys, ducks, and pigeons are most often affected. The disease is a significant cause of economic loss and human exposure in many parts of the world.

Etiology:
Chlamydia psittaci, renamed *Chlamydophila psittaci*, is an obligate intracellular bacterium. Transmission is by the fecal-oral route or by inhalation. Respiratory discharge or feces from infected birds contain elementary bodies that are resistant to drying and can remain infective for several months when protected by organic debris (eg, litter and feces). Airborne particles and dust spread the organism. The incubation period is typically 3–10 days but may be up to several months in older birds or after low exposure. Host and microbial factors, route and intensity of exposure, and treatment determine clinical course.

The prevalence of infection varies considerably between species and by geographic location. Infection is endemic in commercial turkey flocks; no clinical signs or mild respiratory signs and low mortality are the common presentations. Outbreaks are rare. Although chickens are relatively resistant to clinical disease, asymptomatic infection is frequent.

Clinical Findings and Lesions:
Severity of clinical signs and lesions depends on the virulence of the organism, infectious dose, stress factors, and susceptibility of the bird species; asymptomatic infections are common. Nasal and ocular discharge, conjunctivitis, sinusitis, green to yellow-green droppings, fever, inactivity, ruffled feathers, weakness, inappetence, and weight loss can be seen in clinically affected birds.

Diagnosis:
The combination of a serologic and an antigen detection test, especially PCR, or culture, is a practical diagnostic scheme to confirm chlamydiosis. In live birds, the preferred sample for bacterial culture or PCR is a single conjunctival, choanal, or cloacal swab. Multiple samples collected throughout 3–5 days are recommended for detection of intermittent shedding by asymptomatic birds.

Antibodies may or may not be detectable depending on the test used and on the level and stage of infection. Interpretation of titers from single serum samples is difficult. A 4-fold increase in titers between paired acute and convalescent samples is diagnostic, and high titers in a majority of samples from several birds in a population are sufficient for a presumptive diagnosis.

Prevention and Treatment:
Human and avian chlamydiosis is a reportable disease; state and local governmental regulations should be followed wherever applicable. No effective vaccine for use in birds is

available. Treatment prevents mortality and shedding but cannot be relied on to eliminate latent infection; shedding may recur. Tetracyclines (chlortetracycline, oxytetracycline, doxycycline) are the antibiotics of choice.

Appropriate biosecurity practices are necessary to control the introduction and spread of chlamydiae in an avian population. Minimal standards include quarantine and examination of all new birds, prevention of exposure to wild birds, traffic control to minimize cross-contamination, isolation and treatment of affected and contact birds, thorough cleaning and disinfection of premises and equipment (preferably with small units managed on an all-in/all-out basis), provision of uncontaminated feed, maintenance of records on all bird movements, and continual monitoring for presence of chlamydial infection.

The organism is susceptible to heat (it may be destroyed in <5 min at 56°C) and most disinfectants (eg, 1:1,000 quaternary ammonium chloride, 1:100 bleach solution, 70% alcohol, etc) but is resistant to acid and alkali. It may persist for months in organic matter such as litter and nest material, but thorough cleaning before disinfection is necessary.

Zoonotic Risk:
Avian chlamydiosis is a zoonotic disease that can affect people after exposure to aerosolized organisms shed from the digestive or respiratory tracts of infected live or dead birds or by direct contact with infected birds or tissues. Human disease most often results from exposure to pet psittacines and can occur even if there is only brief contact with a single infected bird. Other persons in close contact with birds such as pigeon fanciers, veterinarians, farmers, wildlife rehabilitators, zoo keepers, and employees in slaughtering and processing plants or hatcheries are also at risk. Recent studies showed that zoonotic transmission of *C psittaci* in poultry industry workers is likely underestimated. Precautions should be taken when examining live or dead infected birds to avoid exposure (eg, dust mask and plastic face shield or goggles, gloves, detergent disinfectant to wet feathers, and fan-exhausted examining hood).
Some individuals, especially pregnant women and those with impaired immunity, are more susceptible than others. The illness in people is usually respiratory and varies from flu-like symptoms to systemic disease with pneumonia and possibly endocarditis and encephalitis.
Source; The Merck Manual

Infectious Laryngotracheitis Virus (ILT) Facts

What is ILT?
Infectious Laryngotracheitis virus is a herpes virus that causes respiratory disease in chickens, turkeys, pheasants, and some other species of birds.

Can ILT survive in the environment?
ILT cannot survive for a long period of time in the environment, since the virus is susceptible to heat and sunlight. It is also killed by most disinfectants.

How long are birds contagious?
Once a bird is infected with ILT, it becomes a life-long carrier of ILT and can shed the virus during times of stress, infecting other birds. A bird is most contagious while it is showing clinical signs of disease.

How is ILT transmitted?
The main source of transmission is the infected bird, which infects other birds. The proximity to other poultry that are infected with either the vaccine or field strain of ILT can cause disease in susceptible birds nearby. Especially at risk are farms located near major highways that have live poultry truck traffic or houses down-wind of egg-type pullet houses that use ILT vaccine on a routine basis. In addition, farms that practice multiple harvests in which crews take out only a part of the flock at a time greatly increase the risk of introducing ILT due to contamination from trucks, coops, and the crew's clothing, since ILT can also be spread by contaminated clothing, boots, equipment, and other mechanical carriers.

What clinical signs are present in ILT-infected birds?
Birds infected with ILT initially show signs similar to other poultry respiratory diseases. These signs include:

- Discharge from the eyes;
- Nasal discharge;
- Sneezing;
- Decreased growth and a failure to thrive; and
- Decreased egg production.

As the disease progresses, the birds may show worsening signs, including:

- Bloody discharge from the mouth and nose;
- Difficulty breathing and gasping for air; and
- Coughing, which may include coughing up bloody mucus.

Morbidity can range from 50% to 100%.

Will infected birds die?
The course of the disease varies with the severity of the lesions caused by the virus, but most birds recover in 10-14 days. Mild forms of the disease result in very low mortality (less than 2%). Severe forms of the disease result in variable mortality (5-70%), with an average mortality of 10-20%.

Is treatment available?
There is no treatment effective against ILT, but antibiotics may be used to control secondary infections in severe cases. Some relief from signs is obtained by keeping the birds quiet, and lowering the dust level. Maintaining a clean water system may avoid transmission between flock members.

How is ILT diagnosed?
Since the clinical signs of ILT can also be seen with other diseases, including AI, it is important to get a rapid diagnosis. Sick or dead birds should be submitted to a diagnostic laboratory for testing.

What is seen on post-mortem examination?
Usually infected birds have severe laryngotracheitis, often with blood in the lumen, and caseous plugs may be present. Microscopically, there are often intranuclear inclusions in the tracheal epithelium.

Can ILT be transmitted to people?
No.

Is it safe to eat meat and eggs from birds with ILT?
Yes. ILT does not affect human health, and cooking will destroy any virus that is present.

Is a vaccine available?
Yes, 3 vaccine types are available; 1) chick embryo origin (CEO), 2) tissue culture origin (TCO), and 3) a pox-vectored recombinant vaccine.

1. Chicken embryo origin (CEO) vaccines can be administered through an eye drop or mass vaccination, such as spray or water. **While these CEO vaccines result in a better immunity, CEO vaccines have the capability of reverting to virulence and causing full-blown ILT signs. It can cause severe clinical signs and disease. Also, chickens treated with CEO vaccine can become carriers of the virus, putting unvaccinated flocks at risk**.

2. Tissue culture origin (TCO) vaccines have a relatively low level of infectiousness and are administered by an eye drop. A disadvantage of TCO vaccines is that the level of immunity is limited; the advantage of this is that it causes a less severe reaction. *The TCO vaccine is only given by eyedrop and does not spread significantly or revert to virulence and is therefore a very safe vaccine to use for show birds.*

3. Recombinant ILT vaccines have been developed. The pox-vectored recombinant vaccine is given by the wing-web route to birds that are at least 8 weeks of age, as are all pox vaccines. If a bird has had previous exposure to pox prior to being given the pox-vectored recombinant, immunity to ILT will be minimal. If pox exposure is not a problem, this vaccine would also be very safe for use in show birds.

Please note that vaccination of show birds in PA is not required by PDA for show entry, and if used, it must be used properly.

Vaccination in the face of the outbreak in egg-type layers is used quite often to reduce the severity and longevity of the disease. In this case, double dosing of vaccine is done by administering one dose of chick embryo origin (CEO) vaccine per bird via water early in the morning followed by the second dose once the first dose has been consumed. The appropriate amount of vaccine is placed in about 10 gallons of drinking water per 1000 birds (about 8 gallons of stock solution metered at one ounce per gallon drinking water for 100,000 birds). This is done following a short water starvation period. Dye is added to the vaccine solution so that when starting to add the vaccine to the water lines the lines can be opened at the end of the line and closed when water containing dye is viewed.

How can I prevent ILT from infecting my flock?

Egg-type birds –

- Apply one dose of CEO vaccine at 6 to 8 weeks by eyedrop followed with a booster vaccination of one dose of CEO vaccine at 12 to 15 weeks (by eyedrop preferably, but can also be applied by water or coarse spray).
- Use good biosecurity measures to reduce exposure, especially during movement of birds out of pullet houses and into or out of layer houses.

Broilers –

- Broiler vaccination is not routinely done as it increases the problems associated with upper respiratory diseases.

Exhibition Poultry –

Isolate all show birds from the rest of your flock for 30 days after returning from the show, and care for those birds last every day. Do not share equipment between the birds during this time.

ILT should be prevented by using good biosecurity:

Keep out possibly contaminated fomites (mechanical carriers):

- Wild birds in the house or nesting in the air inlets;
- People - feed truck drivers, catch crews, coops, repairpersons, pest management persons, gas haulers, veterinarians, servicepersons, etc. Persons can be allowed entry if the proper procedures of clean hands, headgear, clothing, and footwear are followed;
- Equipment - litter hauling, tractors, pest management equipment, etc. Equipment can be allowed into the house if proper precautions of cleaning and disinfection are done; and
- Practice all-in all-out marketing if possible. If multiple harvests will be done, be sure that the equipment and catch persons' clothing are decontaminated prior to use.
- For the next flock placed following a break or flocks at high risk of infection:
  *Complete cleaning and disinfection of the house is recommended.
  * If built up litter is to be used, close up the house and heat the house to 100 + degrees F for three days prior to placement, in an effort to kill the ILT herpesvirus, and discuss vaccination options with a veterinarian.

Source; Dr. Eric Gingerich; DVM, Donna K. Carver, DVM, PhD, ACPV; PDA

Salmonella enteritidis (SE) Facts

Egg-associated salmonellosis is considered to be an important public health problem in the United States and several European countries. A bacterium, *Salmonella enteritidis,* can be inside perfectly normal-appearing eggs, and if the eggs are eaten raw or undercooked, the bacterium can cause illness. During the 1980s, illness related to contaminated eggs occurred most frequently in the northeastern United States. Since then, SE risk-reduction programs for table egg layer flocks and breeder flocks which produce them have been developed in many states and at the federal level. Consumers should be aware of the disease and learn how to minimize the chances of becoming ill.

A person infected with the *Salmonella enteritidis* bacterium may have a fever, abdominal cramps, and diarrhea beginning 12 to 72 hours after consuming a contaminated food or beverage. The illness usually lasts 4 to 7 days, and most persons recover without antibiotic treatment. However, the diarrhea can be severe, and the person may be ill enough to require hospitalization. The elderly, infants, and those with impaired immune systems may have a more severe illness.

How eggs become contaminated

Most types of Salmonella live in the intestinal tracts of animals and birds and are transmitted to humans by contaminated foods of animal origin.

Salmonella enteritidis may infect the ovaries of healthy appearing hens and may contaminate the eggs before the shells are formed.

Due to intermittent shedding by the hen, an infected hen can lay many normal eggs while only occasionally laying an egg contaminated with the Salmonella bacterium.

Reducing the risk of *Salmonella enteritidis* infection

- Keep eggs refrigerated.
- Discard cracked or dirty eggs.
- Wash hands and cooking utensils with soap and water after contact with raw eggs.
- Eat eggs promptly after cooking. Cook thoroughly. Do not keep eggs warm for more than 2 hours.
- Refrigerate unused or leftover egg- containing foods.
- Avoid eating raw eggs (as in homemade ice cream or eggnog) unless using pasteurized eggs.
- Avoid restaurant dishes made with raw or undercooked, unpasteurized eggs. Restaurants should use pasteurized eggs in any recipe that calls for pooling of raw eggs.

Poultry producers can take steps to reduce the risk of salmonella in their flocks, to include purchasing stock from NPIP SE-clean breeding stock, maintaining a sanitary flock environment, and environmental testing.

Content source: National Center for Infectious Diseases, www.cdc.gov; PDA

HEALTHY FAMILIES AND FLOCKS

Live poultry, such as chickens, ducks, geese, and turkeys, often carry harmful germs such as *Salmonella*. While it usually doesn't make the birds sick, *Salmonella* can cause serious illness when it is passed to people.

HANDWASHING PROTECTS YOU FROM GERMS

- Always wash your hands with soap and water right after touching live poultry or anything in the area where they live and roam.
- Adults should supervise handwashing for young children.
- Use hand sanitizer if soap and water are not readily available.

HANDLE BIRDS SAFELY

- Children younger than 5 years, adults older than 65 years, and people with weakened immune systems should not handle or touch chicks, ducklings, or other live poultry.
- Do not bring chicks, ducklings and other live poultry to schools, childcare centers, or nursing homes.
- Do not snuggle or kiss the birds, touch your mouth, or eat or drink around live poultry.

SAFELY CLEAN COOPS

- Clean any equipment used to care for live poultry outside, such as cages or feed or water containers.
- Set aside a pair of shoes to wear while taking care of poultry and keep those shoes outside of the house.

POULTRY BELONG OUTSIDE

- Do not let live poultry inside the house, especially in kitchens.
- Do not let live poultry in areas where food or drink is prepared, served, or stored.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Have a Backyard Flock? Don't Wing it.
Visit www.cdc.gov/features/salmonellapoultry for more information

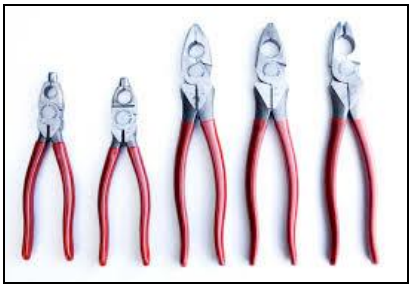
CS274178A

SECTION XIII: LEG BAND SIZE CHARTS (Approximate Sizes)

Butt-End Style Leg Band Size Chart (Approximate)

Band Size #	Inside Diameter	Recommendation
4	1/8"	Canaries, day old Quail
5	5/32"	Parakeet, 1-4 week old Quail, Doves, Cockatiels, Guinea keets
8	1/4"	Baby Chicken, Coturnix Quail, small Pigeon, adult Bobwhite Quail
10	5/16"	Pheasant hen, Tumblers, medium Pigeon, Homers
12	3/8"	Pheasant males, month old Chickens, large Pigeons, Chukar Partridge, Wood Duck
14	7/16"	Ringneck Pheasants, Mallards, Wild Ducks, Bantams, Feather Leg and Runt Pigeons
18	9/16"	Wild Ducks, Pheasants, Leghorn hens, Ancona, Silkie, Gamebirds
20	5/8"	Wild Turkey, Minorcas, Cross breeds, adult Guineas
22	11/16"	Plymouth Rock hens, Wyandottes, Rhode Island Red hens, Leghorn males, medium Ducks: Runners, Swedish, Harlequin
24	3/4"	Wild Geese, Plymouth Rock Males, Turkey hens, Geese, Orpingtons, larger ducks: Pekins, Rouens, Muscovy
28	7/8"	Canada Geese, Turkeys, Honkers

Each band size requires an appropriately sized applicator. Regular plier-type tools may also be used if effective in applying bands.



National Band & Tag Company
721 York St., PO Box 72430
Newport KY 41072-0430 USA
859-261-2035

Official Leg Band Distribution Sheet

CPT Name:

CPT License #:

DISTRIBUTION INFORMATION			OFFICIAL LEG BAND INFORMATION	
Date	Bands Issued To:	Premise ID #	Starting Leg Band #	Ending Leg Band #

SECTION XIV: PA EXHIBIT BIRD RAPID PULLORUM PLATE TEST FORM and OWNER-ENDORSED POULTRY HEALTH CERTIFICATE

PENNSYLVANIA DEPARTMENT OF AGRICULTURE
FLOCK TESTING REPORT FOR RAPID WHOLE BLOOD AGGLUTINATION PLATE TEST
(BIRD-SIDE TEST)

Name of flock owner:_____

Address of flock owner:_____

Location of flock (Premises owner/address):_____

_____

Premise ID # of flock location:_____

Breed/strain/trade name of birds:_____

Number of birds in flock:_____

Age of birds:_____

Blood testing for Pullorum-typhoid (blood samples from all reactors on the rapid plate test, or the reactors, must be sent to a PADLS laboratory for further testing):

Number of males tested	**Number of females tested**	**Number of reactors**	**Number of samples sent to laboratory**	**Laboratory results**

Name of Certified Poultry Technician (please print):_____

Signature of Certified Poultry Technician:_____

Date:_____

A copy of this completed form must be sent to the PA Department of Agriculture BAHDS as soon as possible after testing has been completed. Keep a copy of this form and any laboratory results for your records. Remember that all exhibition birds tested for Pullorum using this test must be officially identified with a PDA leg band.

PA Department of Agriculture
BAHDS - POULTRY
2301 N Cameron St
Harrisburg PA 17220
717-783-6897

PDA rev 11/2/16

OFFICIAL OWNER ENDORSED POULTRY HEALTH CERTIFICATE FOR ALL EXHIBITION POULTRY, WATERFOWL, UPLAND GAME BIRDS, RATITES, AND PIGEONS (As of June 1, 2017)

A completed owner-endorsed poultry health certificate must accompany all poultry, waterfowl, upland game birds, ratites, and pigeons to an exhibition. The certificate must be presented to exhibition management prior to cooping of the birds. This certificate *must* be endorsed with the bird owner's signature.

The following information is required:

1. **Exhibition Information:**
   - **a.** Name of exhibition: _____
   - **b.** Address of exhibition: _____
     Street, Route, or Box Number

     _____
     City State Zip
2. **Owner Information:**
   - **a.** Owner name: _____
   - **b.** Owner address: _____
     Street, Route, or Box Number

     _____
     City State Zip
   - **c.** Owner telephone number: (____)_____-_____
   - **d.** Owner email address: _____
3. **Verification of Testing for PENNSYLVANIA Birds:**

A. The birds must originate from a flock in which a minimum of 30 birds, 3 weeks of age or older, were tested negative for avian influenza within the 30 days prior to opening date of the exhibition and the birds must be accompanied by the negative test report (copy acceptable). Samples must be collected from a random, representative sample of the entire flock. If there are fewer than 30 birds in the flock, test all birds. For domestic ducks and geese, cloacal swab samples must be collected for testing, and the swabs may be tested using virus isolation or PCR (one bird type per tube) techniques.

B. Pullorum-Typhoid Clean Testing and Verification (***pigeons and waterfowl excluded***). All samples must be collected by a Certified Poultry Technician or an Accredited Veterinarian:
All poultry, upland game birds, and ratites (***pigeons and waterfowl excluded***) must originate from a flock in good standing in the NPIP Pullorum-Typhoid Clean Program or from a flock in good standing in the PA Pullorum Equivalent Program and the birds must be accompanied by the most recent negative test report (copy acceptable). The NPIP number must be noted on the report for NPIP Pullorum-Typhoid Clean flocks. If bird-side testing was done, the 9-2 or state equivalent form must accompany the birds (copy acceptable);

OR

Individual birds (***pigeons and waterfowl excluded***) for exhibition must have had a negative pullorum-typhoid test within the 90 days prior to the opening date of the exhibition. The birds must be accompanied by the negative test report (copy acceptable). The following age restrictions apply to comply with NPIP standards:

- Chickens shall be tested at 4 months of age or older.
- Turkeys shall be tested at 12 weeks of age or older.
- Game birds shall be tested at 4 months of age or older, or upon sexual maturity, whichever comes first.
- Ratites shall be tested at 12 months of age or older.
- All birds not meeting these age restrictions are exempt from pullorum testing requirements.

4. Verification of Testing for OUT-OF-STATE Birds:

A. Avian Influenza Clean Testing and Verification: All samples must be collected by a Certified Poultry Technician or an Accredited Veterinarian. Poultry, waterfowl, upland game birds, and ratites (***pigeons excluded***) shall only be allowed into the Commonwealth and the exhibition after meeting one of the following requirements:

The birds originate from a flock in good standing in the NPIP Avian Influenza Clean program and the shipment is accompanied by a USDA form 9-3 or equivalent Department-approved form;

OR

The birds originate from a flock that participates in an equivalent avian influenza monitoring program and the shipment is accompanied by a document from the state, nation, or province of origin indicating participation;

OR

The birds originate from a flock in which a minimum of 30 birds, 3 weeks of age or older, were tested negative for avian influenza within the 30 days prior to opening date of the exhibition and the birds must be accompanied by the negative test report (copy acceptable). Samples must be collected from a random, representative sample of the entire flock. If there are fewer than 30 birds in the flock, test all birds. For domestic ducks and geese, cloacal swab samples must be collected for testing, and the swabs may be tested using virus isolation or PCR (one bird type per tube) techniques.

B. Pullorum-Typhoid Clean Testing and Verification (***pigeons and waterfowl excluded***). All samples must be collected by a Certified Poultry Technician or an Accredited Veterinarian:

All poultry, upland game birds, and ratites (***pigeons and waterfowl excluded***) must come from NPIP Pullorum-Typhoid Clean flocks and the birds must be accompanied by a USDA form 9-3 or equivalent Department-approved form;

OR

Individual birds (***pigeons and waterfowl excluded***) for exhibition must have had a negative pullorum-typhoid test within the 90 days prior to the opening date of the exhibition. The birds must be accompanied by the negative test report (copy acceptable). If bird-side testing was done, the 9-2 form must accompany the birds (copy acceptable). The following age restrictions apply to comply with NPIP standards:

Chickens shall be tested at 4 months of age or older.

- Turkeys shall be tested at 12 weeks of age or older.
- Game birds shall be tested at 4 months of age or older, or upon sexual maturity, whichever comes first.
- Ratites shall be tested at 12 months of age or older.
- All birds not meeting these age restrictions must come from a flock in which all of the birds in the flock have been test negative within the 90 days prior to the exhibition.

5. Bird identification: All poultry, waterfowl, upland game birds, and pigeons entering an exhibition must bear an individual OFFICIAL PDA LEG BAND. Ratites must be identified with a neck band or an electronic implant device (the exhibitor must supply a reader).

6. Verification of flock health status:

All poultry, waterfowl, upland game birds, ratites, and pigeons for exhibit or display are part of a flock which is free from evidence of contagious diseases.

7. Verification of pigeons:

Description of pigeons (number, age, color, gender):_____

8. Owner Endorsement:

I certify that the above information represents a true and accurate statement regarding my bird(s) and their home flock(s). I further attest and affirm that a "veterinarian consultation relationship" – as that phrase is defined in the Animal Exhibition Sanitation Law found at 3 Pa.C.S.A. § 2501 *et seq*. and any amendments thereto – exists with regard to any poultry, waterfowl, upland game birds, ratites and pigeons I will be exhibiting.

Owner Signature: _____ **Date:** _____

To report illness or mortality in your flock, call the Pennsylvania Department of Agriculture at 717-772-2852.

SECTION XV: CPT COURSE POWER POINT PRESENTATION HANDOUT

Pennsylvania Department of Agriculture

Certified Poultry Technician Course

Bureau of Animal Health and Diagnostic Services

Certified Poultry Technician Course Goals

- ✓ Recognize signs of avian disease
- ✓ Report suspected disease to PDA
- ✓ Understand how to reduce the risk of disease spread
- ✓ Use good biosecurity practices
- ✓ Understand basic PPE and personal safety
- ✓ Be familiar with PDA avian health programs
- ✓ Properly collect and submit samples for testing
- ✓ Be familiar with the whole blood agglutination plate test for pullorum
- ✓ Understand LBMS procedures-remember, if doing LBMS sampling, ***extra training is required and you must be licensed as a LBMS CPT***

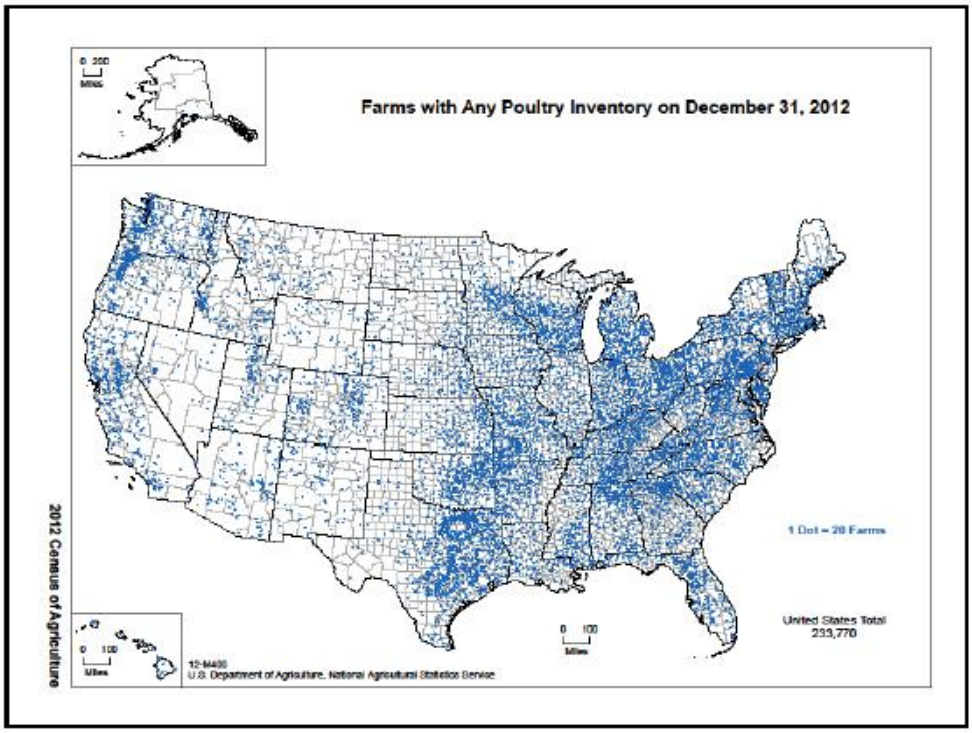
Signs of Illness in Birds/Flocks

- Depression
  (ruffled feathers, reluctance to move)
- Decreased water and feed consumption
- Weight loss
- Diarrhea, pasty vent
- Coughing, gurgling, discharge from eyes, nostrils
- Mortality

Reportable Dangerous Transmissible Avian Diseases

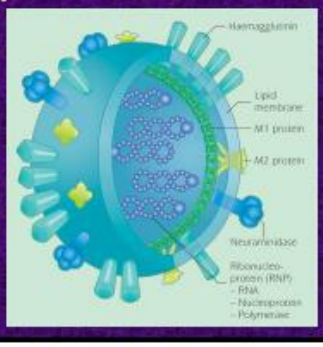
- ✓Avian influenza
- ✓Newcastle disease
- ✓Avian mycoplasmosis (MG/MS)
- ✓Salmonella pullorum
- ✓Salmonella gallisepticum (fowl typhoid)
- ✓Avian chlamydiosis (psittacosis)
- ✓Duck viral enteritis

Highly Pathogenic Avian Influenza (HPAI)



AI Classification- surface proteins

- H (hemagglutinin) type (H1 – H18)
- N (neuraminidase) type (N1 – N11)
- Low pathogenicity vs high pathogenicity
- A low path virus can mutate and become high path

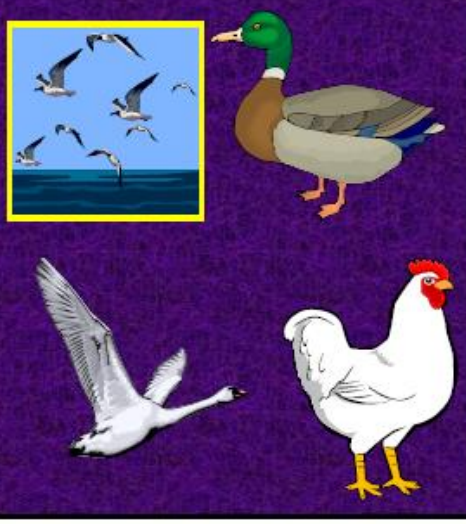


Avian Influenza (Bird Flu)

- Low pathogenic AI (LPAI)
  - Mild to moderate disease
  - Severity of disease related to environmental conditions and concurrent infections
- Highly pathogenic AI (HPAI)
  - Severe disease
  - High mortality

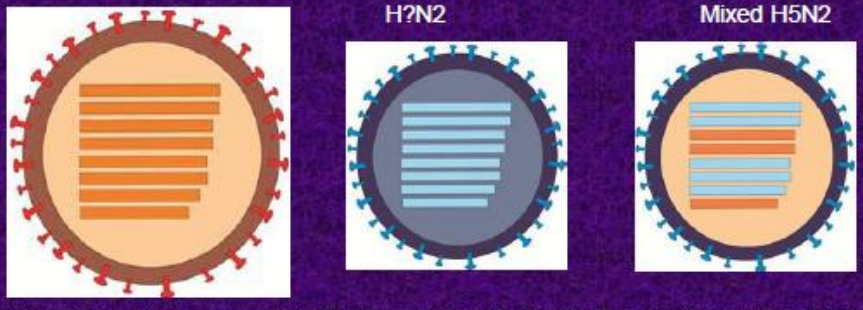
Reservoirs of AI viruses

- Wild migratory birds, waterfowl, shorebirds- ("natural" hosts)
- NE urban live bird markets - poultry ("accidental" hosts)
- Contact = risk factor



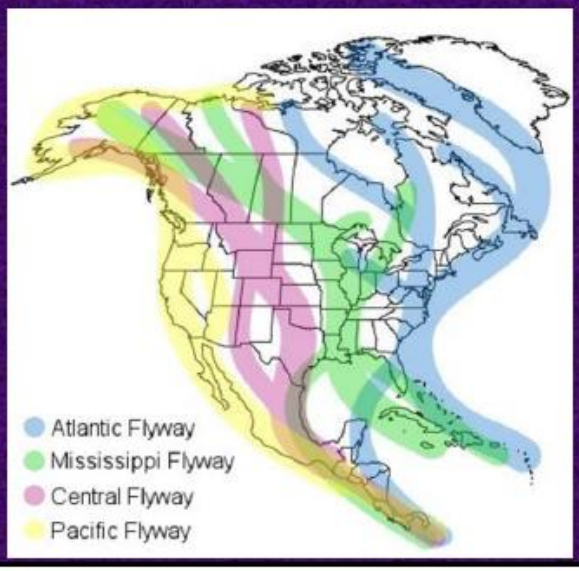
HPAI H5N2

Eurasian H5N8 + North America H?N2 = Genetically Mixed H5N2



Late 2014 - Asian sourced H5N8 virus spreads to Pacific flyway via migratory birds & mixes with current North American LPAI virus strain

Wild Bird Migration Flyways



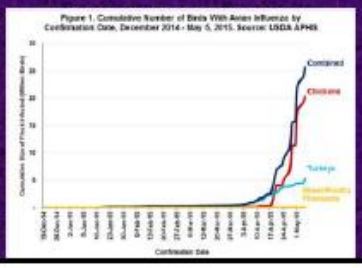
HPAI 2015

- HPAI virus was found in 21 states
- 211 commercial flocks, 21 backyard flocks affected
- $176 million in indemnity payments
- ~$1 billion in total control costs
- 4 states declared emergencies

HPAI 2015

- About 50 million birds were lost
- ~10% of US average layer inventory
- ~7% of US annual turkey inventory
- ~6% of US pullet inventory
- < 0.01% of US broiler inventory

Very high mortality in layers and turkeys



US 2015 HPAI Incident

What we learned:

- ✓ Virus is not consistently being spread via migratory waterfowl, sea/shore birds
- ✓ New theories include: poor biosecurity, wind, weather, feathers, rodents, eggs, insects
- ✓ CDC reports risk to humans as LOW
- ✓ Poultry products are *still safe to consume* if prepared properly
- ✓ Communication is key!

Indiana Incident-2016

- H7N8
- Commercial turkey flock- **HPAI** identified in January
- Surveillance identified 8 epi-linked or nearby flocks infected - **LPAI**
- Depopulation of infected flocks plus 2 dangerous contact flocks completed
- 414,000 birds lost
- Surveillance of wild birds, surrounding commercial and backyard flocks- negative
- Last quarantine lifted in May

Early 2017 AI Incidents

- Mississippi and Atlantic Flyways
- LPAI and HPAI
- H5N2 and H7N9
- Commercial and backyard

Signs of HPAI

- ✓ Extremely infectious and fatal
- ✓ Spreads rapidly (3 -4 days)
- ✓ Birds are quiet and lethargic

- ✓ Swollen head, wattles, combs
- ✓ Leg hemorrhages

- ✓ Neurologic signs
- ✓ Respiratory signs are not typical with HPAI
- ✓ Signs are usually absent in wild waterfowl
- ✓ Sudden increase in death losses – ***may have no other signs***

Individual Flock Plans

- Have plans in place now for:
  1. PREVENTION/BIOSECURITY
  2. Flock plan for:
  - Depopulation
  - Disposal of birds, eggs, litter, feed, etc.
  - C&D

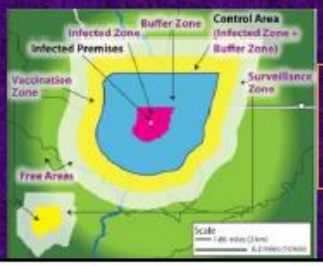
  *Remember…USDA may require a biosecurity plan be in place *and* be followed for all poultry flocks for indemnity

What to do with sick birds

- When disease is suspected, a necropsy is suggested
- If you suspect a reportable disease, call PDA for help (24/7: 717-772-2852)
- Handle bird(s) with gloves, double bag, keep cold (not frozen)
- Transport to PADLS lab ASAP if lab and PDA agree we don't have to sample on site first due to risk of disease transmission

If HPAI is Identified

- (Reported high mortality may lead to quarantine based on suspicion until testing is completed)
- Birds submitted for testing or sampled on site
- Control area established around infected flock
- Plans for depopulation and disposal of remaining birds in infected flock begin



infected zone
+ buffer zone
= control area

After HPAI is identified

- Flock plans, indemnity, investigations
- ***Notifications and surveillance of surrounding farms begins***
- ***Premises registration with current contact info*** is vital for us to contact you, and for your flock to be included in the surveillance for control area release
- A (federal) premise ID number is required by USDA for interstate movement permits if flock is located within a control area
- PA locator number: PA000000
- Federal number for interstate mvmt: 000ABCDE

FINDING THE SOURCE

- Find source through…
  - Epidemiological investigation
    - Trace back – for possible sources
    - Include inspection of premises to include wild bird contact, rodents, human vectors, shared equipment, bird additions, wind direction, etc.

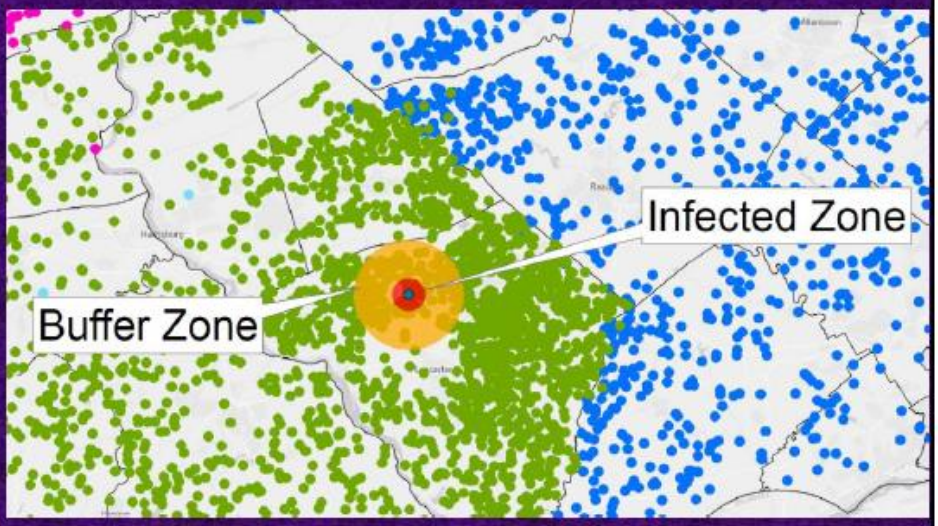
LOOKING FOR ADDITIONAL CASES

- Look for more by:
  - Circle testing (surveillance) of surrounding flocks
    - Voluntary, but….
      - Required for movement of birds and products
    - GIS mapping utilized
- Continued surveillance programs
- Epidemiological Investigation
  - Trace forward – for potential spread

Surveillance of flocks

- For USDA to allow release of our control area:
  - All commercial flocks in the control area must be tested
  - A percentage of non-commercial flocks in the control area must be tested
  - Small number of birds/flock actually tested

Control Area for AI-Example



USDA Indemnity for Condemned Flocks (DUNS & SAM)

- "Claimants (owners & contract growers) for HPAI indemnity claims must have a *Data Universal Numbering System* (DUNS) number and be currently registered in the *System for Award Management* (SAM) database to receive an indemnity payment from USDA APHIS".

(*Strongly* recommended even for non-commercial flocks)

Any questions about AI?

HPAI information resource:
www.aphis.usda.gov

Exotic Newcastle Disease (END)

- California: 2002-2003:
  - 3.16 million birds lost
  - $161 million
  - 7,000 responders to eradicate
  - Backyard to commercial poultry

- Respiratory signs
- Neurologic signs (circling, twisting head)
- Depression
- Diarrhea
- Swelling of tissue around eyes and neck
- Increased mortality

Purple discoloration of skin

Ulcers and necrosis in the gastrointestinal tract

Hemorrhages of conjunctiva and third eyelid

Pullorum Disease (Fowl Typhoid)

- Form of *Salmonella*
- Almost completely eradicated from US
- Infects chickens, turkeys, game birds and others
- Transmission is transovarial or horizontal
- Basis for National Poultry Improvement Plan (NPIP)

Clinical Signs and Lesions of Pullorum Disease

- Poor hatching rate, high early chick mortality
- Diarrhea, pasty vents, navel and yolk sac infections
- Localized granulomas in several tissues in birds that survive initial infection (heart, lung, joints, liver)
- Pedunculated, oily yellow or green misshapen yolks when ovary infected.
- Bronze colored enlarged liver

Pullorum Lesions

Ovary with misshapen yolks

Nodules in heart

Infected Navels

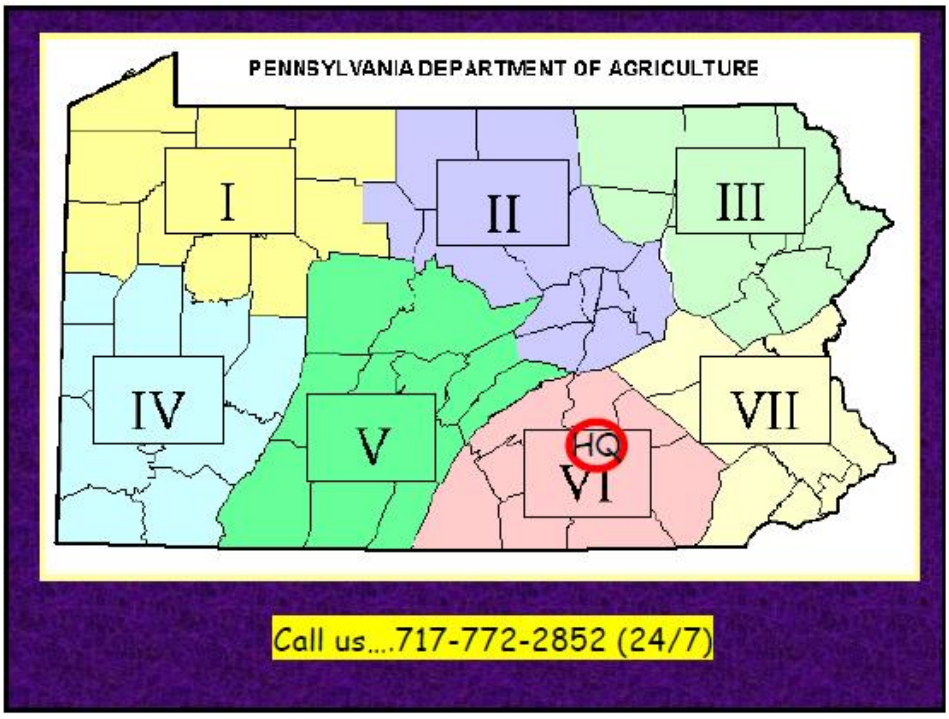
Joint infection

Enlarged liver

"Other" salmonellas

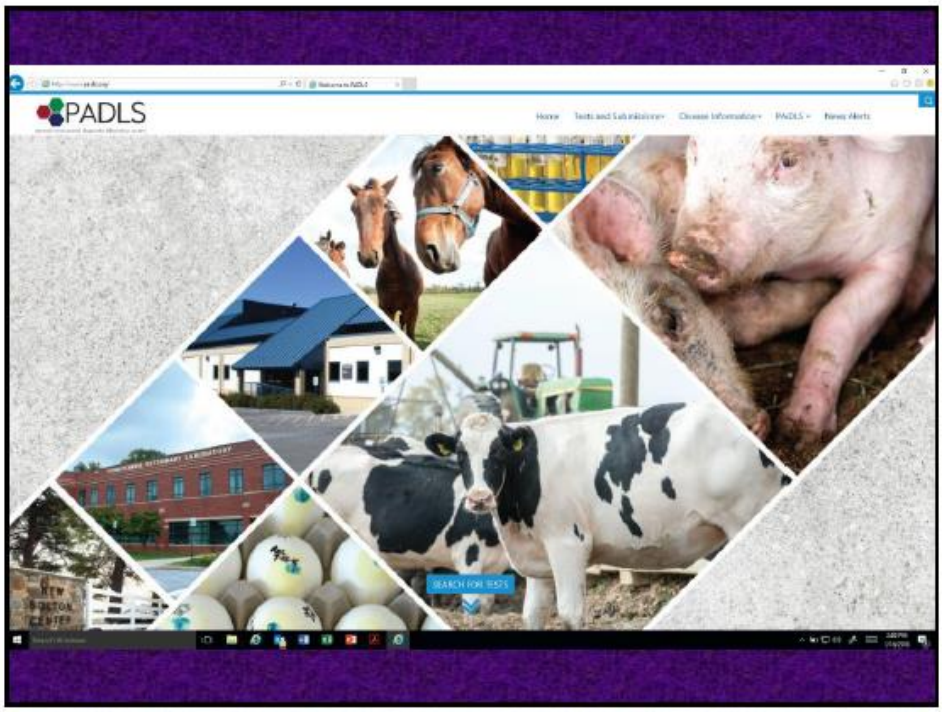
- Not "dangerous transmissible diseases" so no regulatory action except for program flocks & hatcheries
- Many salmonellas live in intestinal tract of healthy birds and other animals
- Some, like SE, are food-borne illness causing fever, abdominal cramps and diarrhea in humans
- May be spread by rodents, insects
- Baby poultry in farm stores – CDC reports illnesses

If you suspect a reportable disease…….



PADLS is here to help

- The poultry labs offer reasonably priced necropsy services for backyard & commercial birds
- Can help discover the cause of disease or death and help make recommendations for dealing with the problem
- New Bolton Center (Kennett Square, Chester Co)
- Pennsylvania Veterinary Lab (Harrisburg)
- Penn State Animal Diagnostic Lab (State College, Centre Co.)


PADLS
Home
Tests and Submissions
Disease Information
PADLS
News Alerts
SEARCH FOR TESTS

YOU AS A CPT….

Personal Safety

- ***Safety first*** – protect yourself
- NO needle sticks
- Don't put needle caps in your mouth
- Use proper disposal containers
- If birds appear ill, consider zoonotic disease
- Wash your hands

PREVENTING DISEASE SPREAD

BIOSECURITY

Biosecurity is not just for AI

- We worry a lot about the effects of AI
- Biosecurity protects your birds from many other diseases
  - Mycoplasma
  - Pullorum
  - Newcastle Disease
  - Infectious Laryngotracheitis
  - Parasites

BIOSECURITY

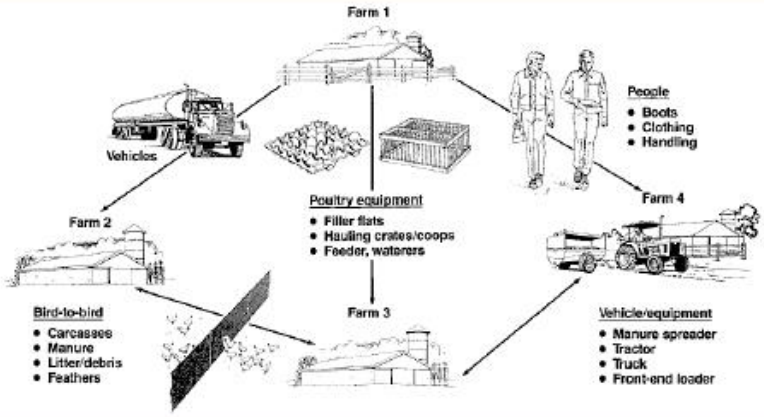
- ✓ Avoid contact with wild waterfowl, poultry auctions/swap meets, and live bird markets
- ✓ Avoid sharing equipment and use of non - disinfectable equipment (wooden crates)
- ✓ Restrict visitors/unauthorized personnel
- ✓ Disinfect footwear and vehicles properly
- ✓ Communicate biosecurity protocols to other farm personnel and family members

BIOSECURITY

- ✓ Purchase products, birds from credible sources
- ✓ Isolate new birds for 2 weeks or more
- ✓ Register your premises with PDA to stay informed
- ✓ Change clothes and footwear when visiting other common poultry areas
- ✓ Dispose of dead birds promptly and properly
- ✓ Eliminate rodents and insects
- ✓ Create a visitor's log
- ✓ Post biosecurity signs
- ✓ **Develop *and follow* a biosecurity plan on your premises- indemnity may depend on it**

Biosecurity - Use Signs

How Poultry Disease Spreads



United States Department of Agriculture
Animal and Plant Health Inspection Service

Disease Alert Number
APHIS 91-55-98
Issued June 2002

The US Department of Agriculture is an equal opportunity provider and employer.

When you visit, don't bring back souvenirs!

- Don't go to poultry auctions, swap meets, live bird markets, poultry shows, other flocks, commercial poultry houses and then go near your own birds
- Try to stay away from your own birds for at least 24 hours after visiting other poultry
- If that is not possible, wash your hands with soap and water and change your clothing and footwear

If you work as a CPT…

- If you have birds of your own and you act as a CPT for other flocks:
  - Make sure your birds are healthy
  - Follow strict biosecurity practices when visiting other backyard flocks and when returning to your own flock
  - Don't have others bring their birds to your place for sampling
  - If you do a lot of work for other flock owners, consider NOT having birds of your own

Show Birds

- When you bring birds to a show, they may pick up diseases that do not become apparent for awhile
- Keep birds that have been at shows separate from the rest of the flock for at least 2 weeks so if they develop illness, they have not spread it to other birds

New Additions to Your Flock

- ✓Add only healthy birds
- ✓Use a reputable supplier
- ✓Quarantine new birds before adding to your flock

Sometimes it is NOT nice to share

- Do not share poultry equipment, tools, lawn/garden equipment used around poultry
- Poultry disease is often carried on equipment, people, clothing, vehicles, etc..

Restrict Human Visitors

- Do not allow free access to your poultry areas
- If you must have visitors who have their own poultry, make sure they have disinfected or disposable footwear, clean clothing, and washed and/or gloved hands at a minimum
- Have them sign the visitor's log

Restrict Bird Visitors

- Wild birds can bring your birds diseases
- Many cases of AI in PA are in pastured poultry in contact with wild waterfowl
- Do not encourage wild bird visitation
- When possible, house poultry securely away from wild birds

Travel Precautions

- If you travel to other countries where they have poultry diseases that we do not have here (and don't want here)…
  - Avoid contact with any birds in those countries
  - Do NOT go anywhere near any birds in this country when you return for at least 48 hours and carefully wash all of the clothing and supplies you brought with you
  - NEVER bring back animals, animal products, or organic materials from foreign countries without specifically discussing it with USDA/APHIS

Be Sure To Always Obey Signage

Biosecurity signs

Farm Quarantines

Act 125

- Effective as of November, 2010
- Agricultural property owners can designate an "agricultural biosecurity area".
- A landowner may post a sign to designate measures required to avoid trespassing charges (PPE, etc.)

Things you can use to prevent disease spread.

- ✓Boots
- ✓Coveralls/clean clothing
- ✓Hairnet
- ✓Gloves
- ✓Masks
- ✓Soap and water
- ✓Foot baths
- ✓Physical lines of separation

Photo: minnesotaturkey.com

Always wear boots that are disposable or can be disinfected

Proper Cleaning Technique

- **Remove excess dirt**
- Use a disinfectant to clean boots and non-disposable equipment

Boot photos: bekina-boots & emaze.com

Disinfecting and Disposal of Equipment

Non-Disposable Equipment

Rubber Boots
Cloth Coveralls
Light Box and Plate for Pullorum Test
Nets
Crates

Types of Disinfectants

- Hypochlorites (Clorox®, et al = 5.25% sodium hypochloride)
  - 2 to 4 ounces (60-120 ml) per gallon of water
  - Damages rubber and clothing but inexpensive
- Iodophors (Betadine®, et al = 1% iodine solutions)
  - 2 to 4 ounces (60-120 ml) per gallon of water
- Phenolics (Lysol®, One-Stroke®)
  - follow label directions
  - may not be as effective and can be expensive

Types of Disinfectants

- Chlorhexidine (Nolvasan® = .5% chlorhexidine gluconate)
  - 1 to 3 ounces (30-90 ml) per gallon of water
  - may not be as effective and requires longer contact time
- Others
  - Virkon-S®: better for viruses, expensive
  - Quaternary ammoniums (Roccal ®): better for bacteria

Disposable Equipment

Gloves / Hairnets / Masks
Disposable Coveralls and Plastic Boots

* These items can be placed in a garbage bag and left at the farm for disposal.

Sampling Supplies

-Needles
-Syringes
-Sample Tubes
-Swabs

**Minimize amount of supplies taken onto farm

**Make needles & syringes unusable before disposal

***Dispose of these items properly

Vehicle

- Park in a low traffic location
- Try not to drive through manure
- Disinfect tires and wheel wells if needed

GENERAL RULE

ONE FARM VISIT PER DAY

Official Leg Bands

- All birds tested for pullorum must be identified with official PDA leg bands
  - Exception is a commercial flock tested with the rapid pullorum plate test (only reactors are banded and samples from reactors are sent to the lab)
  - Show birds tested with the rapid test must be officially identified
- All birds entering a show must be identified with official PDA leg bands

Official PDA Leg Bands
(available at no cost from PDA)

Butt-End leg bands

Applicators specific to band size

Butt-End Bands

- These aluminum bands are currently used for wild bird banding and are reported to be easy to apply, and to stay on for the life of the bird.

Use the applicator to open the band…

Butt-end Bands: Place c-shaped open band around lower leg, use the appropriate applicator to close…

Alternative Applicators for Butt-end Bands

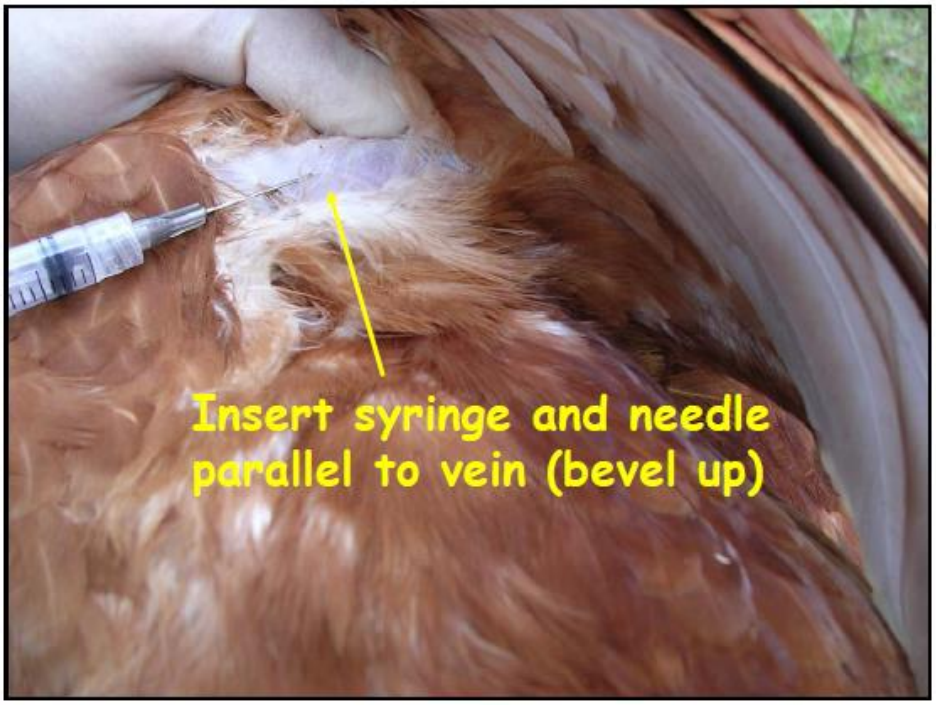
Leg Band Applicators
(applicators are not provided by PDA)

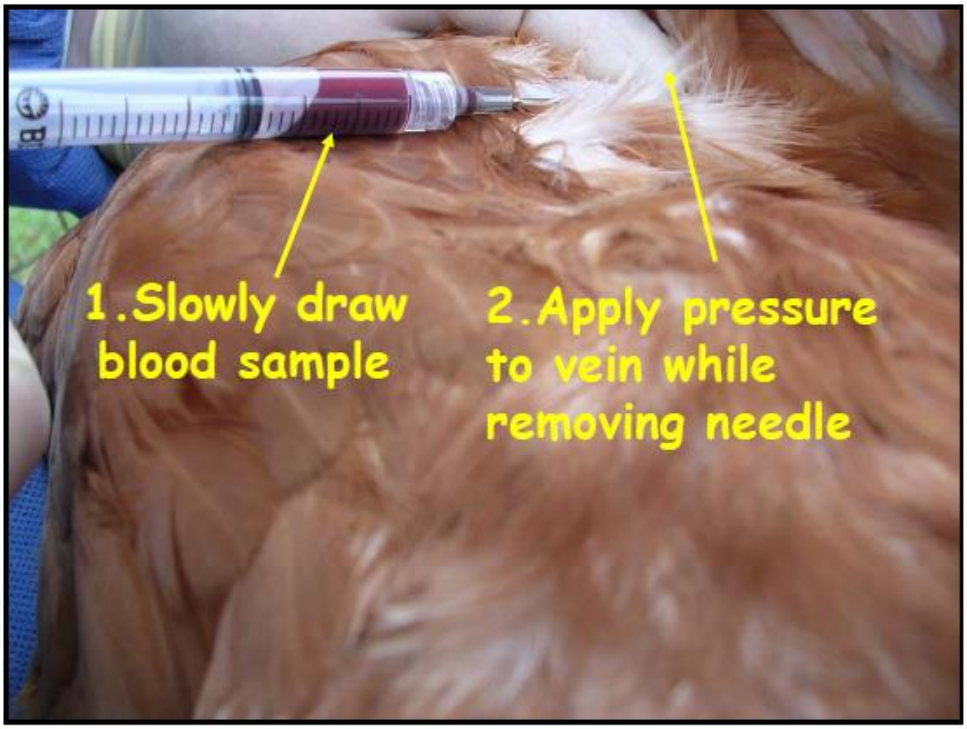
National Band & Tag Company
721 York St., PO Box 72430
Newport KY 41072-0430 USA
859-261-2035
USA FAX: 800-261-8247
nationalband.com
(Approximately $35)

Sample Collection and Testing

Blood Collection

Expose the Brachial Vein


Insert syringe and needle
parallel to vein (bevel up)



Syringes and Needles

- Expense of each CPT
- The bigger the number describing the gauge of needle, the smaller the diameter of the needle
- Smaller game birds: 26g or 25g X 3/8 in. (tuberculin syringe)
- Bigger game birds and chickens: 22g – 20g X 1 in. (3cc syringe)
- Waterfowl and turkeys: 22 – 20g X 1 in (3 cc syringe)

Other supplies

- Contact info in packet
- Blood tubes, boxes and submission paperwork are from the Pennsylvania Veterinary Lab
- Official leg bands are from PDA regional offices
- Banding pliers are available at a cost from the band manufacturer
- Media for swabs and the swabs can be obtained from the labs or, in some cases, from your regional PDA veterinarian

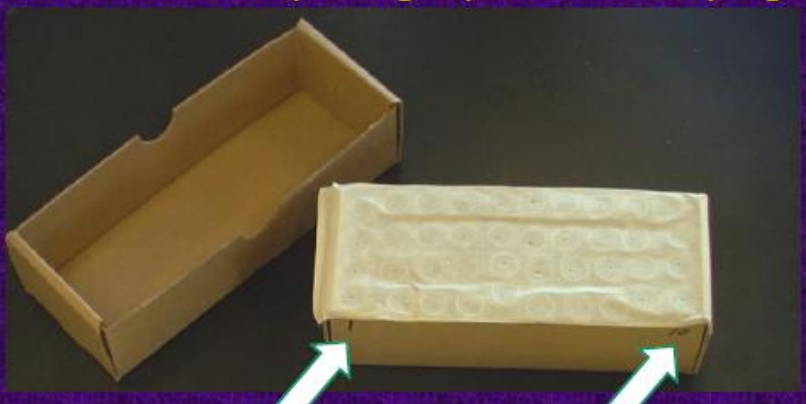
Blood samples

- One test (ex-AI only) – can use snap-cap tubes, place in labeled whirlpack bag
- More than one test (ex-AI & pullorum)- use blood tubes provided by lab, place labeled tubes (if pullorum testing) in labeled box (do not place labeled tubes in a whirlpack bag)

Blood tube box for shipping (seal with caps)

Blood tube box for hand delivery

(can cover with packing tape before sampling)



Include numbering system on box, which corresponds to tube labels, for pullorum testing

Blood Sample Handling and Packaging

- ✓ Label box properly with owner name, premise ID and date on side of box—not on lid (or on both). Tilt blood tube box 30 degrees in its lid while collecting samples.
- ✓ Label tubes to correspond to individual official leg bands.
- ✓ Dispense 2 ml blood into small tubes placed in boxes or red top blood tubes
- Cover tubes with tape if delivering to lab; if shipping, use tubes with tight caps
- Place completed submission form inside the box on top of the tubes
- Seal box, place into plastic bag, seal bag
- Disinfect plastic bag
- Keep at room temp for several hours, then chill and submit ASAP

Sample Handling and Packaging – Snap Cap Tubes

- **For one test only** – usually used for AI Monitored flock testing
- Put 2.0 mls of blood into tube
- Leave a small space at top so lid does not pop open during transport
- Seal tube
- Tubes into whirlpak bag, seal bag
- Label bag properly with owner name, premise ID
- Submission form into bag pocket
- Disinfect bag
- Keep at room temp for several hours, then chill

Sample Handling and Packaging - Snap Cap Tubes

Do's and Don'ts of Blood Submissions

Do:

- ✓ Place blood in a clean, dust free tube
- ✓ Submit samples to lab ASAP
- ✓ Submit min. 2.5 mls when multiple tests requested
- ✓ **Submit 2.0 mls minimum**
- ✓ Send samples refrigerated using overnight courier (if you can't drive them to the lab)
- ✓ Contact lab directly when special test arrangements needed
- ✓ Be aware of lab holiday closings and weekend submissions
- ✓ Submit enough blood for additional testing in case of a non-negative result at PADLS

Do's and Don'ts of Blood Submissions

Do not:

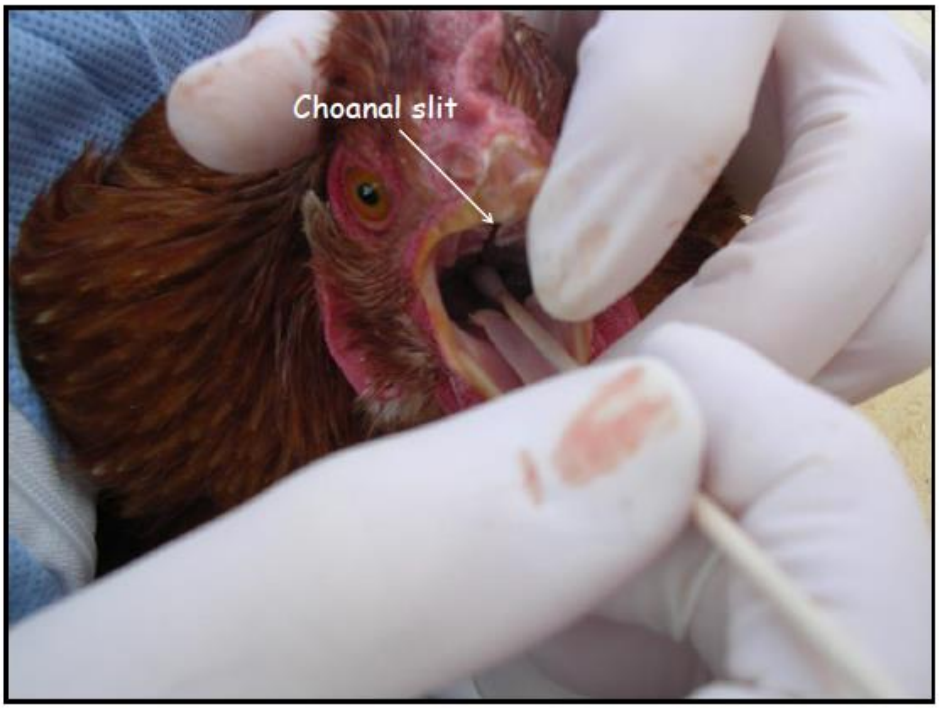
- ✓ Do not submit contaminated or hemolyzed blood
- ✓ Do not send blood w/out a stopper or sealed tube
- ✓ Do not send incomplete paperwork or samples without paperwork
- ✓ Do not label box lid!

PADLS accepts the right to determine suitability of a sample

Tracheal & Oropharyngeal Swab Collection and Handling

Tracheal Swabs

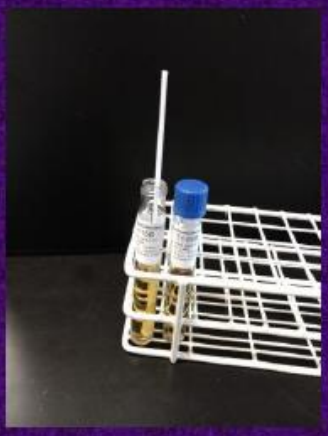
- To collect a tracheal swab sample, hold the bird's mouth open and watch the opening and closing of the larynx (opening to the trachea).
- Carefully introduce the swab down the trachea and gently rub the swab up and down along the trachea sides.
- The swab can also be drug along the tissues of the choanal slit.



Oropharyngeal (OP) Swabs

To collect an OP swab sample, hold the bird's mouth open and introduce the swab into the bird's mouth. Gently rub the swab around the tracheal opening, making sure to drag the swab through the choanal slit as you pull the swab out of the bird's mouth.

Swab Handling



Cloacal Swab Collection and Handling

For AI testing of waterfowl

Waterfowl Testing

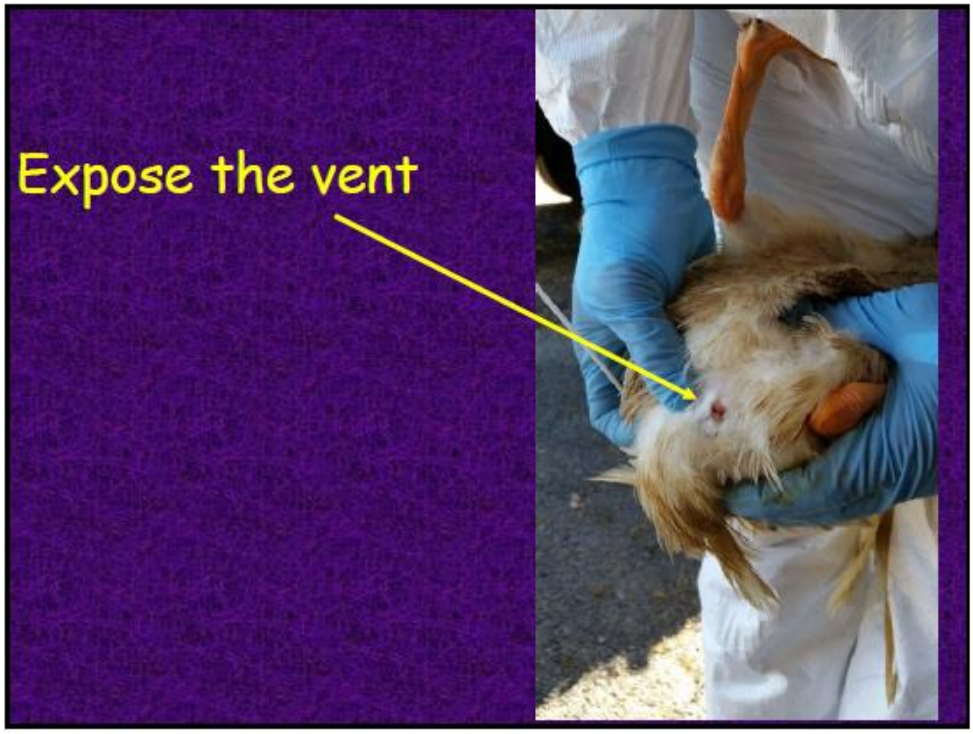
- Cloacal swabs required.
- Virus isolation or PCR for domestic ducks ***and geese.***
- PCR is only approved for waterfowl fed a commercial diet.
- One bird type from one flock per tube (up to 5 swabs). Do not mix ducks and geese swabs in one tube.

Domestic waterfowl testing

For LBMS, program testing, or show

Duck swabs (up to 5/tube)	Goose swabs (up to 5/tube)
PCR testing (1-2 days)	PCR testing (1-2 days)

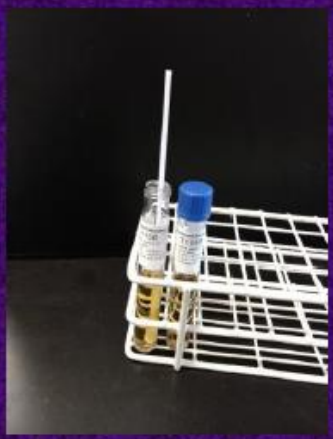
(PCR is for waterfowl fed a commercial diet)


Expose the vent

Insert the swab

Swab vigorously to get feces

Swab Handling



Do's and Don'ts of Swab Collection

Do:

- ✓ Use dry swabs
- ✓ Swab and rub mucosa vigorously
- ✓ Make sure enough medium is used to cover samples
- ✓ Store medium in refrigerator
- ✓ Place swabs from one bird type per tube

Do's and Don'ts of Swab Collection

Do not:

- ✓ Do not use the same swab for multiple samples or birds
- ✓ Do not use cloudy or discolored media
- ✓ Do not put more than allowed # of swabs per numbered tube

Number of Swabs/tube

- **Gallinaceous birds:**
- (chickens, turkeys, quail, guineas, pheasants, etc.)
- Up to 11 samples/tube
- If >5 swabs, swab bird, swirl swab in BHI, press to remove excess, discard swab
- If < 5 swabs, leave swabs in tube, break off ends

- **Waterfowl:**
- Up to 5 cloacal swabs/tube
- Leave swabs in tube, break off ends to cap tube

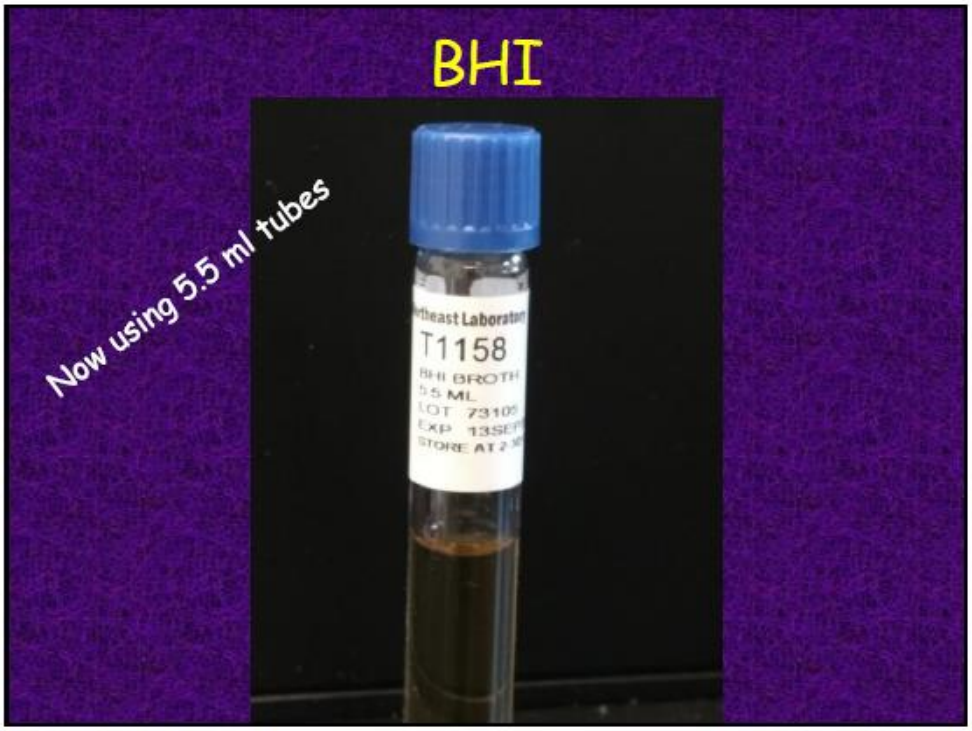
Swab Sample Handling and Packaging

- ✓ Label tubes appropriately (with bird type)
- ✓ Seal tubes securely
- ✓ Place in cardboard box (can be provided) or whirlpak bag with submission form attached.
- ✓ Bag or box must be properly labeled with owner name and premises ID and date
- ✓ Put box in a bag, seal, and disinfect outside of bag
- ✓ Store at refrigerator temperature
- ✓ Submit to diagnostic lab ASAP

BHI

- Media distributed for swab samples
- BHI is clear and a light yellow color
- Expiration dates will be provided with the media when you receive it
- A lab kit contains 6 tubes of BHI, swabs, and whirlpak bags

BHI



BHI

PADLS AI Swab Kit

Sample Submission to a Diagnostic Laboratory

- Samples can be delivered via (overnight) mail, courier, or drop off (*preferred method*)
- All samples must be properly packaged and labeled
- All samples must be accompanied by a completed submission form – or a test result may not be sent out

Do's and Don'ts of Sample Submission

Do:

- ✓ Place paperwork in plastic bag
- ✓ Secure lids on all boxes
- ✓ Keep samples at refrigerator temperature
  - ✓ (after the initial room temp. period for blood samples)
- ✓ Include ice pack with all submissions
- ✓ Ship samples in Styrofoam containers inside a cardboard box
- ✓ Call lab prior to arrival
- ✓ Apply official PDA leg bands to Pullorum tested birds and all birds going to a show

Shipping Containers

Do's and Don'ts of Sample Submission

Do not:

- ✓ Do not ship open-top tubes via mail/courier
- ✓ Do not ship or deliver samples just prior to holidays or weekends
- ✓ Do not ship or deliver samples without completed paperwork

Sample Submission Problems

- Common problems
  - Poor quality samples
  - Not enough serum!
  - Incomplete or illegible paperwork
  - Spilled/damaged samples in shipment
  - Pullorum tested birds not banded or band numbers not included on paperwork
- CPTs will be contacted by the diagnostic laboratory to discuss the problem. If repeated, re-training may be required.
- WHEN IN DOUBT, CALL THE LAB AHEAD TO CONFIRM YOUR PROCEDURES

Sample Submission Form (handout)

Reporting of NEGATIVE Test Results

- Test results are reported by the laboratory
  - Sent in writing to the flock owner
    - Mail
    - Fax or email (owner will receive results sooner)
  - Sent in writing to PA Department of Agriculture
  - **Sent in writing to the CPT only if requested on the submission form (or if the CPT is also the flock owner)**
    - Mail
    - Fax or email (CPT will receive results sooner)

Reporting of Non-negative Test Results

- Testing may yield non-negative results that require further sampling by regulatory officials
  - Flock owner is notified by PDA personnel via phone
    - Results also sent in writing (mail or fax)
  - Follow-up testing is scheduled with flock owner
  - CPTs can be notified if requested on the submission form
- CPTs are not involved in confirmatory or follow-up testing for suspect or positive test results in most cases - CPTs may be contacted by the PA Department of Agriculture for information pertaining to disease investigations

Rapid Whole Blood Agglutination Plate Test for Pullorum

Plate with Light Source

Plate Test Supplies

LOOP

Pullorum Stained Antigen

BLEEDER with LOOP

Identifying Birds

Remember to ID with official PDA leg bands:

*All birds for shows (even birds tested with the pullorum rapid plate test) (enforced after 6/1/17)

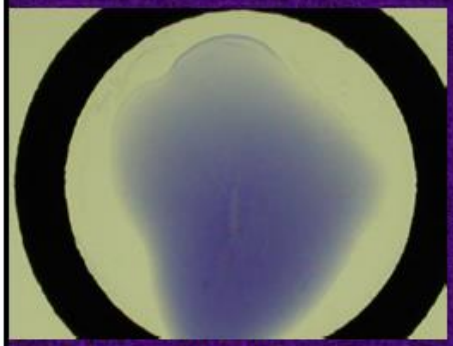
*Commercial birds which react on the rapid plate test (send reactor's blood to lab)

*Keep records of band distribution for 2 years

Pullorum Plate Test

- Whole blood test that cannot be used with turkeys
- 1 drop of whole blood to one drop of antigen
- Use only 1 test per square
- Rock plate for 2 minutes and read result
- Absence of agglutination (clumping) indicates negative result
- Agglutination indicates positive result-expect to get some positives if doing test properly
- Official ID required (for all show birds, and for commercial birds if reactors)
- Complete form and send to PDA
- CPTs using this test are expected to see some reactors, and testing may be observed

Pullorum Plate Test



No agglutination

=negative

Agglutination= reactor

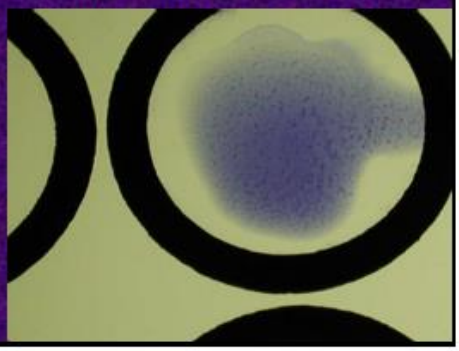


Plate Testing for Pullorum

- Recommended only for use by commercial CPTs or those who do a lot of pullorum testing
- Show birds: Apply official ID before testing. If suspect or positive plate test result, immediately draw a blood sample and submit it to the lab for testing **along with 9-2 or equivalent form and submission form.**
- Commercial flocks: If suspect or positive plate test result, immediately apply official ID, draw a blood sample and submit it to the lab for testing **along with 9-2 or equivalent form and submission form.**
- The blood sample at the lab is treated as the first official sample for regulatory purposes.
- If you do not submit a blood sample immediately, the bird will be considered a reactor and the flock will be quarantined.
- Can submit bird instead of blood.
- Not for turkeys.

Are you an animal Dealer/Hauler?

- Buying and reselling poultry (keep < 6 months)
- Transporting poultry for a third party
- You must keep records of your transactions
- You must be licensed in PA

New AI Import Requirements for LBM Birds (2015)

- All birds destined for PA LBMS and coming from a state with HPAI must be from a flock which tested negative within 72 hours prior to entry into PA
- Swabs- PCR testing
- Also required for flocks providing eggs to a PA breaker

Additional Requirements for LBM Certified Poultry Technicians

- Ask your instructor for additional LBMS CPT certification training
- Contact Dr. Nan Hanshaw or Stacy Rakocy to get on the authorized list for NY/NJ
- Annual reviews of LBM requirements
  - Continuing education/quiz required for NJ LBMS CPTs

Exhibition Poultry

Pennsylvania Requirements

Fair Rules (PA Poultry)

- PDA official identification required-PDA LEG BANDS (enforced after 6/1/17)
- Owner endorsed health certificate (handout)
- AI testing of the flock within 30 days prior to entry
- Pullorum testing within 90 days prior to entry or flock enrolled in program
- PADLS user fees – check current user fee schedule each year
- Minimal charges to help cover costs at labs
- Swab testing more $$

Owner-Endorsed Poultry Health Certificate

- Replaces a health certificate for entry into shows

What is NPIP?

(National Poultry Improvement Plan)

- VOLUNTARY program for
  *hatcheries/breeder flocks; or
  *commercial layer flocks; meat bird & waterfowl processing plants; raised for release game birds (AI only)
- Federal standards, state administers
- Testing, annual inspection, biosecurity plan requirements
- Enrolled breeder flocks – pullorum clean. Test 300 or entire flock annually.

For more Info on NPIP…

- Call PDA to set up a time to go over the requirements or go to the NPIP website and review the NPIP Provisions (CFR) and Program Standards @

poultryimprovement.org

PA Pullorum Equivalent Program

- For exhibition birds only
- Must complete an enrollment form with PDA with a premises ID
- Must test 300 test-eligible birds or whole flock for pullorum annually
- Annual PDA inspection

PA Pullorum Equivalent Program

- All flock additions must be from NPIP pullorum clean or approved equivalent sources
- Flock cannot be mingled with non-program birds unless the other birds are kept separate until after they test negative
- Status good for one year

Individual Bird testing for Pullorum

- Still have the option of testing just those birds you wish to show for Pullorum
- Test result qualifies the bird to show for 90 days only
  - Use lab report for entry
  - Can end up under quarantine when you want to be at the show if you test too close to the show date
- May need to retest if you go to more than 1 show

What do you test for Pullorum?

- Chickens greater than 4 months old
- Turkeys greater than 12 weeks old
- Game birds greater than 4 months old or at sexual maturity, whichever comes first
- Ratites at 12 months of age.
- Waterfowl 4 months and older (not for show)
- Not pigeons or doves

Pullorum Response Protocol

- If there is even one suspect on lab testing, the whole flock is quarantined until it is proven "clean"

Avian Influenza

AI Testing for PA shows

- Test at least 30 birds (or whole flock if fewer than 30), at least 3 weeks old, within the ***30 days*** prior to entry into the show
- ***Flock*** test- no individual bird testing option- do not test only the birds going to the show
- Cloacal swab & virus detection test required for waterfowl (PCR or virus isolation)

Example

- 4H exhibitor has 15 mature chickens and 10 mature ducks and is not on any programs (just testing for show)
  - Draw blood samples from all chickens and submit to the lab for AI testing within ***30 days*** prior to the show
  - Also request Pullorum testing from the lab within 3 months of the show for chickens which will be shown (or from all chickens)
  - Take cloacal swab samples from all ducks and submit to the lab for AI testing within ***30 days*** prior to the show

PA AI Monitored Flock Program

- Intended for Live Bird Market System (LBMS) flocks
- Test 30 birds, representative of the flock, every 21 - 30 days for 3 months to get status, then continue monthly
- To count as a flock, the birds must be together for at least 21 days with no untested additions
- Test birds 3 weeks of age and older (exceptions)
- PDA inspections
- If positive, must restart program; & need 150 swabs negative for NY LBMS

CPT Infractions

- Submitting samples without licensure
- Repetitive poor sample quality
- Incorrect documentation
- Inaccurate or incomplete submission forms
- Improper ID of poultry
- Collecting samples outside of PA
- Fraud or misrepresentation

Your license can be revoked and you can be fined by Pennsylvania or other states.

Keep up with Changes

- ***ALL*** *CPTs are expected to review the most current CPT licensing materials available on the PDA website and to be familiar with the current requirements before collecting samples*
- *Being unaware of the CPT requirements is not a valid excuse for infractions*

Annual Recertification of CPTs

- Annual re-application and license renewal by January 1 of the next year
- Annual continuing education required for ***NJ LBMS CPTs*** - open-book quiz must be sent in with annual license application
- Updated information for CPTs is on PDA website
- New regulation in the works for all CPTs

The End

Any Questions?

Remember-call us with questions BEFORE you act!!!!

SECTION XVI: LIVE BIRD MARKET INFORMATION

LIVE BIRD MARKET SYSTEM (LBMS)
GUIDELINES FOR COMPLETING A NY/NJ POULTRY INSPECTION CERTIFICATE (PIC)
AND OTHER
GUIDELINES FOR MOVING POULTRY INTO THE NY/NJ LBMS

Definitions:

☐ *"Established Flock" or "Source Flock"* means the flock where the poultry were hatched and resided until their movement directly to a poultry market; or poultry of the same species held together on one premises for at least 21 consecutive days; or at the discretion of the State Veterinarian, any group of poultry on one premises that has been segregated from another group for at least 21 consecutive days. To qualify as a flock the group must have been together without any untested (avian influenza (AI)) additions or exposure to untested (AI) poultry for a minimum of 21 days prior to testing for AI. The flock must have been together for at least 21 days before they can be tested for AI. Additionally, the qualifying flock may not be exposed to untested (AI) poultry and no untested (AI) poultry may be added between the sample collection date and the date that the poultry leave the farm, unless those additions are from a flock which has been tested to equal or exceed the testing for AI done on the qualifying flock. The poultry must move directly to the market regardless of whether they were born and raised on the premises or they are an assembled flock. They cannot move to another premises before going to the market (exception-poultry may move to distributor for a few hours if necessary before being shipped by the distributor to a live bird market).

☐ *"Monitored Flock"* means an established flock that meets the following criteria (Refer to the current version of the PA AI Monitored Flock Program Standards):

- ✓ A sample size of at least 30 birds (three weeks of age and older) randomly selected and representative of the flock is tested every month (every 21 to 30 days) for AI in accordance with the PA AI Monitored Flock Program standards. If the flock contains less than 30 birds, all birds three weeks of age and older within the flock must be tested monthly (Samples from 30 birds, three weeks of age and older **from all pens and houses** on the premises shall be collected between 21 and 30 days after the previous collection).
- ✓ **Flocks must be tested every month-not just the month that they are moving**.
- ✓ Waterfowl should be swabbed (cloacal swabs) and tested using virus detection testing. It is preferred that other birds, such as chickens, have blood samples submitted for testing. (Tracheal/OP swabs will be accepted for other birds, but the testing fees for swabs are higher than for blood testing.).
- ✓ The first test needs to be conducted within 30 days of placement except for the following:
  - Blood collection of silkies and other small breeds of chickens may be delayed until the birds are six to eight weeks of age;
  - Blood collection of guineas, chukars, and quail may be delayed until the birds are five to six weeks of age.

- Eggs may be substituted for quail and chukars after they start laying *with permission of the receiving state.*

✓ If multiple floors or houses, test a random sample of each house (to include birds from each floor) for a total of 30 samples per premises;

✓ The birds tested have tested negative for avian influenza for three consecutive months;

✓ No birds of lesser AI test status have been added to the flock; (When birds of lesser status are added to the flock, the flock loses its monitored status. After waiting 21 consecutive days, a flock that has lost its monitored status may re-qualify for monitored status if 30 birds have tested negative for AI monthly for three consecutive months);

✓ The flock must receive a poultry inspection certificate indicating negative avian influenza status and flock health status prior to movement.

✓ **If monitored flock testing is done outside of the 21-30 day window, <u>or the flock has a non-negative test (confirmed at NVSL),</u> that flock will be considered inactive on the monitored flock program, will have to requalify with three negative monthly tests to qualify, and must move as a 10-day tested flock into the NY and NJ live bird markets.**

✓ *Please note that you must count 21-30 days from the date of the last sample collection-do not use calendar dates. For example, a flock sampled on August 24 will be out of compliance if sampled again on September 24 since this is actually more than 30 days.*

✓ A CPT may collect samples from his or her own flock or a flock owned by a relative.

☐ "*Tested Flock"* means an established flock (must have been together as a flock for at least 21 days) in which 30 birds have tested negative for avian influenza within the 10 days prior to the date of movement.

✓ The flock may not be exposed to untested (AI) poultry and no additional poultry may be added between the sample collection date and the date that the poultry leave the farm, unless those additions are from a flock which has been tested to equal or exceed the testing for AI done on the qualifying flock.

✓ The flock must receive a poultry inspection certificate indicating negative avian influenza status and flock health status prior to movement. If tested birds are added to the qualifying flock after the flock was tested for AI, the PIC is only valid for 10 days from the date of the most recent negative AI test of any of the poultry.

✓ For tested flock status for birds moving to the NJ LBMS: if established flocks are housed in multiple houses and/or multiple floors/house, 10 birds shall be sampled from the moving flock and 20 birds shall be randomly selected and tested for AI from the remaining houses/floors of the established flock for a total of 30 samples.

✓ **A CPT may collect samples from his or her own flock or a flock owned by a relative (new 2017).**

NY/NJ Live Bird Market Requirements:

- ☐ Poultry less than 7 days of age are exempt from the following requirements; however, birds must have originated and moved directly from a flock that meets the requirements.

- ☐ Poultry that qualify for movement shall be kept apart from other poultry of infected, exposed, or unknown AI status.

- ☐ Approved tests for AI include AGID testing of blood samples, and PCR or virus isolation testing of swab samples. Serology (AGID) testing of waterfowl is not accepted for entry into the NY LBMS (for tested *or* monitored flocks). Instead, waterfowl must have cloacal swab samples tested using virus detection testing for the NY LBMS.

- ☐ Poultry dealers/haulers must be licensed in Pennsylvania if they are picking up birds in Pennsylvania, or buying/selling birds in Pennsylvania.
  - For movement into the NY LBMS: Dealers/haulers must hold a valid Domestic Animal Health Permit in New York
  - For movement into the NJ LBMS: Dealers/haulers must be registered as a Poultry Distributor within the NJ LBMS.

- ☐ Sanitation: All persons entering any premises containing live poultry with any poultry truck, feed delivery and/or other service vehicle shall take every sanitary precaution possible to prevent the introduction or spread of AI into or within the State. These precautions shall include the disinfecting of all footwear before entering and after leaving any premises containing live poultry and the washing and disinfecting of the cabs, tires and bodies of all vehicles between each entry of a premises containing live poultry. In addition, all markets, auctions, sales outlets and distribution facilities containing live poultry shall be maintained in a clean and sanitary manner and all coops, crates, flats, containers or other equipment used to hold or handle live poultry in such establishments shall be cleaned and disinfected between uses. Cleaning and disinfection of poultry crates, vehicles, and other equipment used for holding and transporting poultry must be documented properly in a logbook. New Jersey log books will be accepted in New York. New York log books are acceptable only in New York. It is recommended that dealers delivering to the New York and New Jersey LBMS utilize the NJ logbook to document equipment cleaning and disinfection. If dealers are delivering only to the NY LBMS, the NY logbook may be used.

- ☐ Premise ID numbers: Federal premise ID numbers, if available, should be included on the laboratory submission form for all samples submitted for testing. The premise ID corresponds to the location of the birds when they were sampled.

- ☐ For NJ LBMS **-** Registration: Poultry distributors and production/supply flocks conducting business within the NJ LBMS must register with the NJ Dept. of Agriculture pursuant to N.J.A.C. 2:9-2.2 (registration requirements). Production/supplier flocks that conduct business within the NJ LBMS, but are located in another state, are exempt from registering with the New Jersey Department of Agriculture (NJDA) if:

*Their premises has been assigned a National Premises Identification Number through the federal National Animal Identification System (or other approved federal premise identification system); and
*The premises identification number has been registered with the state in which the premises is located; and
*Proof of registration is provided to an authorized agent of the New Jersey Department of Agriculture (by completing a NJ LBMS "Registration Exemption Form").

☐ For NJ LBMS-Production flocks: All flocks must comply with the requirements set forth in N.J.A.C. 2:9-5.1-5.2.

☐ For NJ LBMS-Distributors: All distributors conducting business within the NJ LBMS must comply with the requirements set forth in N.J.A.C. 2:9-4.1-4.3, and must have a biosecurity plan on file with the NJ Dept of Ag. Contact Dr. Chrislyn Wood of USDA for assistance with a biosecurity plan.

☐ For NJ LBMS: For *tested flock* status, *established flocks* with multiple houses and/or multiple floors/house: ten (10) birds shall be sampled from the moving flock and twenty (20) birds shall be randomly selected and tested from the remaining houses/floors of the *established flock* for a total of thirty (30) samples.

☐ For NY LBMS-Crate washing: Transporters and distributors delivering birds to the NY LBMS will either possess and utilize a working mechanical crate washer which cleans and disinfects crates between uses OR will utilize a third party approved crate washing station with an approved individual crate tracking system. Those using a third party crate washer must have the crates cleaned and disinfected within 48 hours of use.

☐ For NY LBMS-Per NY regulation 45.6-8: Flocks with NVSL-confirmed non-negative tests must have 150 birds swabbed or remove the flock and C&D the premises before entry; and if monitored must restart the program.

For NY/NJ LBMS:

☐ A poultry distributor must obtain either a completed poultry inspection certificate (PIC) or a certificate of veterinary inspection (CVI) from the production/supplier flock for all poultry intended for movement into a NY/NJ LBM.

☐ The PIC or CVI shall be accompanied by a copy of the finalized laboratory report indicating the poultry tested negative for avian influenza.

☐ The flock poultry invoice, the PIC or CVI, and the laboratory report shall remain in the possession of the poultry distributor, and a new poultry invoice produced by the poultry distributor shall accompany all poultry moved into the NY/NJ LBM. It is not required to provide a PIC to the market owner (just the invoice).

HOW TO COMPLETE A POULTRY INSPECTION CERTIFICATE (PIC)

TESTED FLOCK PIC (PIC version3/24/17)

Section A: Flock Information

1. State of Origin = is the state of origin for the birds.

2. Flock Premises ID = premises identification number

3. Flock Owner = the name of the flock owner of the birds in the state of origin

4. Address of Flock = the **actual location where the flock resides** prior to movement. Must include street address as well as city/town, state and zip code.

5. Phone Number of Flock Owner/Manager = the phone number of the flock owner or flock manager, including area code

6. Type of Poultry That Qualify For Movement (Quantity, Type, Weight, Color, Age, etc.) = You must include the number of birds eligible for movement on this test, the type of the birds you are testing, as well as color, age and weight (if needed to describe the birds fully). **Birds eligible for movement include the entire flock tested, not just those birds actually being moved in this shipment.**

   NOT 'broilers', 'chickens', 'ducks'

   Acceptable = 10 black and white 6-week old male Muscovy ducks, 4 lbs
   500 white broilers, 14 weeks old, 5 lbs average
   10,000 spent red fowl, 3 lbs average
   5 brown 10-week old female French Guineas, 3 lbs

Section B: Testing Information

The above identified flock has been established for a minimum of twenty-one (21) days and no birds have been added to this flock or have had contact with this flock during this twenty-one (21) day period, then thirty (30) birds[1] were randomly sampled and tested negative for Avian Influenza[2] within ten (10) days prior to the date of movement and no poultry have been added to this flock or have had contact with this flock after testing and prior to movement. If the flock contains less than thirty (30) birds, all birds within the flock must be tested. This certificate shall be accompanied by a copy of the finalized laboratory report indicating the poultry tested negative for avian influenza.

7. Number of Samples Collected: _____ 8. Sample Collection Date: _____

9. Lab Accession #: _____

This certificate is valid for 10 days from #8 above and expires on _____. This is the date that is 10 days from the date you collected the samples (date of sample collection counts as Day ***ZERO*****).**
You have 10 days to get the PIC and birds covered by the PIC to the ***DISTRIBUTOR.***

Section C: Official/Tester Certification

10. Tester Signature = Sign your name here **(CPT may only sign the certificate AFTER the negative test report has been received) **No electronic signatures accepted**.**

11. Printed Name = Print your name legibly here

12. Phone = Your phone number with area code

13. Date = the date you sign the certificate. You are verifying that you have inspected the health of the entire flock, collected samples from a random, representative portion of the flock, and have received the negative test report **(this date may not be the same as the sample collection date in number 8a)**

14. I am a (check one) = check the box that describes your status to be able to sample these birds

Section D: Flock owner/Manager Certification

15. Flock Owner/Manager Signature = the flock owner or manager signs here, verifying that the flock has been together for at least 21 days with no additions of lesser test status in that 21 day period or after testing and before shipment

16. Printed Name = the flock owner/manager prints name legibly

17. Date = the date the flock owner/manager signs the certificate

Photocopies of the Tested Flock PIC are accepted.

Only laboratory reports marked "FINAL" will be accepted for birds moving to the NY/NJ LBMS. Preliminary or interim reports are not acceptable.

MONITORED FLOCK PIC (PIC version 3/24/17)

Section A: Flock Information

1. State of Origin = is the state of origin for the birds.

2. Flock Premises ID = premises identification number.

3. Flock Owner = the name of the flock owner of the birds in the state of origin.

   Monitored Flock Number = number assigned for the PA Monitored Flock Program by the PA Department of Agriculture.

4. Address of Flock = the **actual location where the flock resides** prior to movement. Must include street address as well as city/town, state, and zip code.

5. Phone Number of Flock Owner/Manager = the phone number of the flock owner or flock manager, including area code.

6. Type of Poultry That Qualify For Movement (Quantity, Type, Weight, Color, Age, etc.) = You must include the number of birds eligible for movement on this test, the type of the birds you are testing, as well as color, age and weight (if needed to describe the birds fully). **Birds eligible for movement include the entire flock tested, not just those birds actually being moved in this shipment.**

   NOT 'broilers', 'chickens', 'ducks'

   Acceptable = 10 black and white 6-week old male Muscovy ducks, 4 lbs
   500 white broilers, 14 weeks old, 5 lbs average
   10,000 spent red fowl, 3 lbs average
   5 brown 10-week old female French Guineas, 3 lbs

Section B: Testing Information

The above identified flock is participating in an Avian Influenza Monitored Flock Program, where thirty (30) birds[1] have been randomly sampled and have tested negative for Avian Influenza[2] monthly for a minimum of three (3) consecutive months. Monthly sampling thereafter of thirty (30) randomly selected birds[1] must test negative for Avian Influenza to maintain Monitored Flock status. If the flock contains less than thirty (30) birds, all birds within the flock must be tested monthly. This certificate shall be accompanied by a copy of the finalized laboratory report indicating the poultry tested negative for avian influenza.

7. Number of Samples Collected: _____ 8. Sample Collection Date: _____

9. Lab Accession #: _____

Sample Collection Date = the date the samples were collected

Lab Accession # = the accession number assigned by the laboratory to the samples (this number can be found on the test report)

This certificate is valid for 30 days from #8 above and expires on _____. (COUNT 30 DAYS FROM DATE OF COLLECTION- DO NOT GO BY CALENDAR DATES)

Section C: Official/Tester Certification

10. Tester Signature = Sign your name here **(CPT may only sign the certificate AFTER the negative test report has been received) **No electronic signatures accepted**.**

11. Printed Name = Print your name legibly here

12. Phone = Your phone number with area code

13. Date = the date you sign the certificate. You are verifying that you have inspected the health of the entire flock, collected samples from a random, representative portion of the flock as per the PA Monitored Flock Program standards, and have received the negative test report

14. I am a (check one) = check the box that describes your status to be able to sample these birds

Section D: Flock owner/Manager Certification

15. Flock Owner/Manager Signature = the flock owner or manager signs here, verifying that the birds originate from a currently valid Avian Influenza Monitored Flock as described above and that they have not been exposed to other poultry of lesser or unknown Avian Influenza status

16. Printed Name = the flock owner/manager prints name legibly

17. Date = the date the flock owner/manager signs the certificate

Photocopies of the Monitored Flock PIC are accepted.

Only laboratory reports marked "FINAL" will be accepted for birds moving to the NY/NJ LBMS. Preliminary or interim reports are not acceptable.

These are just guidelines - please contact the NY or NJ Department of Agriculture if you have questions about their requirements.

POULTRY INSPECTION CERTIFICATE

For Poultry Entering the *New Jersey* or *New York* Live Bird Marketing System

AVIAN INFLUENZA FLOCK QUALIFICATION TYPE – **TESTED FLOCK**

SECTION A: FLOCK INFORMATION

1. State Of Origin: _____ 2. Flock Premises ID: _____
3. Flock Owner: _____
4. Address Of Flock: _____
   _____
5. Phone Number Of Flock Owner/Manager: _____
6. Type of Poultry That Qualify For Movement (Quantity, Type, Weight, Color, Age, Etc.):
   _____
   _____
   _____

SECTION B: TESTING INFORMATION

The above identified flock has been established for a minimum of twenty-one (21) days and no birds have been added to this flock or have had contact with this flock during this twenty-one (21) day period, then thirty (30) birds[1] were randomly sampled and tested negative for Avian Influenza[2] within ten (10) days prior to the date of movement and no poultry have been added to this flock or have had contact with this flock after testing and prior to movement. If the flock contains less than thirty (30) birds, all birds within the flock must be tested. This certificate shall be accompanied by a copy of the finalized laboratory report indicating the poultry tested negative for avian influenza.

7. Number of Samples Collected: _____ 8. Sample Collection Date: _____
9. Lab Accession #: _____

THIS CERTIFICATE IS VALID FOR 10 DAYS FROM # 8 AND EXPIRES ON _____

SECTION C: OFFICIAL/TESTER CERTIFICATION

I certify that I have sampled thirty (30) random birds[1] from the above identified flock and I have inspected the flock as described to me above and no signs of clinical disease were observed and the birds tested negative for Avian Influenza.

10. Tester Signature: _____
11. Printed Name: _____
12. Phone: _____
13. Date: _____
14. I am a (check one): ☐ State Official ☐ Federal Official ☐ Accredited Veterinarian ☐ Authorized Tester **(PA+MD ONLY)**

SECTION D: FLOCK OWNER/MANAGER CERTIFICATION

I certify that the above identified birds have been established for a minimum of twenty-one (21) days and no birds have been added to this flock or have had contact with this flock during this twenty-one (21) day period and no poultry have been added to this flock or have had contact with this flock after testing and prior to movement.

15. Flock Owner/Manager Signature: _____
16. Printed Name: _____
17. Date: _____

[1] Eggs from gallinaceous poultry may be substituted for blood samples for testing of yolk by AGID only at the discretion of the receiving State.

[2] Using an AI official (approved) test conducted in a VS approved laboratory, pursuant to USDA's Prevention and Control of H5 and H7 Low Pathogenicity Avian Influenza in the Live Bird Marketing System Uniform Standards for a State-Federal-Industry Cooperative Program, effective October 20, 2004, as amended and supplemented, available at https://www.aphis.usda.gov/animal_health/animal_dis_spec/poultry/downloads/lbms_program_standards_final.pdf

PHOTOCOPIES ARE ACCEPTABLE

Revised March 24, 2017

POULTRY INSPECTION CERTIFICATE

For Poultry Entering the *New Jersey* or *New York* Live Bird Marketing System

AVIAN INFLUENZA FLOCK QUALIFICATION TYPE – **MONITORED FLOCK**

SECTION A: FLOCK INFORMATION

1. State Of Origin: _____ 2. Flock Premises ID: _____
3. Flock Owner: _____ Monitored Flock No. _____
4. Address Of Flock: _____

   _____
5. Phone Number Of Flock Owner/Manager: _____
6. Type of Poultry That Qualify For Movement (Quantity, Type, Weight, Color, Age, Etc.):

   _____

   _____

   _____

SECTION B: TESTING INFORMATION

The above identified flock is participating in an Avian Influenza Monitored Flock Program, where thirty (30) birds[1] have been randomly sampled and have tested negative for Avian Influenza[2] monthly for a minimum of three (3) consecutive months. Monthly sampling thereafter of thirty (30) randomly selected birds[1] must test negative for Avian Influenza to maintain Monitored Flock status. If the flock contains less than thirty (30) birds, all birds within the flock must be tested monthly. This certificate shall be accompanied by a copy of the finalized laboratory report indicating the poultry tested negative for avian influenza.

7. Number of Samples Collected: _____ 8. Sample Collection Date: _____
9. Lab Accession #: _____

THIS CERTIFICATE IS VALID FOR 30 DAYS FROM # 8 AND EXPIRES ON _____

SECTION C: OFFICIAL/TESTER CERTIFICATION

I certify that I have sampled thirty (30) random birds[1] from the above identified flock and I have inspected the flock as described to me above and no signs of clinical disease were observed and the birds tested negative for Avian Influenza.

10. Tester Signature: _____
11. Printed Name: _____
12. Phone: _____
13. Date: _____
14. I am a (check one): ☐ State Official ☐ Federal Official ☐ Accredited Veterinarian ☐ Authorized Tester **(PA+MD ONLY)**

SECTION D: FLOCK OWNER/MANAGER CERTIFICATION

I certify that the birds represented on this certificate originate from a currently valid Avian Influenza Monitored Flock as described above and that they have not been exposed to other poultry of lesser or unknown Avian Influenza status.

15. Flock Owner/Manager Signature: _____
16. Printed Name: _____
17. Date: _____

[1] Eggs from gallinaceous poultry may be substituted for blood samples for testing of yolk by AGID only at the discretion of the receiving State.

[2] Using an AI official (approved) test conducted in a VS approved laboratory, pursuant to USDA's Prevention and Control of H5 and H7 Low Pathogenicity Avian Influenza in the Live Bird Marketing System Uniform Standards for a State-Federal-Industry Cooperative Program, effective October 20, 2004, as amended and supplemented, available at https://www.aphis.usda.gov/animal_health/animal_dis_spec/poultry/downloads/lbms_program_standards_final.pdf

PHOTOCOPIES ARE ACCEPTABLE

Revised March 24, 2017