



Commercial Poultry News

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It's Summer!

Risk of Avian Influenza Transmission in Broiler Supply Chain

*Caroline Dwivedi and Mostafa Ghanem, DVM, MS, Ph.D.
University of Maryland, Department of Veterinary Medicine*

Does this assessment apply to my facility?

Only applies to facilities with:

- Intensively raised commercial poultry
OR
- Contract grow-out broiler premises with no other poultry on the premises
 - Must practice all-in, all-out single-age growing system

Facilities MUST:

- Participate in USDA-APHIS National Poultry Improvement Plan (NPIP)
- Follow the **Secure Broiler Supply (SBS)** Plan in the event of a Highly Pathogenic Avian Influenza (HPAI) outbreak

What is the SBS plan?

- Science-based plan made up of outbreak measures and protocols
- Used to reduce the risk of HPAI spread associated with the movement of hatching eggs and day-old chicks into, within and outside of a Control Area
- Includes many categories, such as active surveillance, holding time, biosecurity, cleaning and disinfection

When does this apply to my facility?

- This applies to the movement of broilers and associated people, vehicles or equipment, into within and out of the Control Area during an HPAI outbreak in the United States.

WHAT ARE THE MAJOR TRANSMISSION PATHWAYS IN THE SPREAD OF HPAI?

The pathways of disease transmission are categorized into three groups:

LOCAL AREA SPREAD - refers to pathways that may cause virus transmission due to a HPAI infected poultry flock nearby

- Insects
- Aerosol - transmission of HPAI through the air
- Wild birds
- Live haul routes

MOVEMENT OF PEOPLE, VEHICLES OR EQUIPMENT

- Critical operational visits
- Growers, employees and their vehicles
- Shared equipment
- Dead bird disposal
- Garbage management

LOAD-OUT PROCESSES

- Load-out and transport to slaughter

HOW IS THE RISK OF EACH PATHWAY MEASURED?

Each pathway was assessed and **LIKEHOOD RATING** of HPAI spread in a broiler flock through that pathway was assigned.

The likelihood that the broiler flock will become infected with HPAI due to the given route of transmission may be:

EXTREMELY HIGH: Almost certain

There is more than an even chance

MODERATE: It is unlikely but does occur

LOW: It is very unlikely

VERY LOW: There is more than a remote chance

NEGLECTIBLE: There is an insignificant chance

We hope you can take the time this summer to:

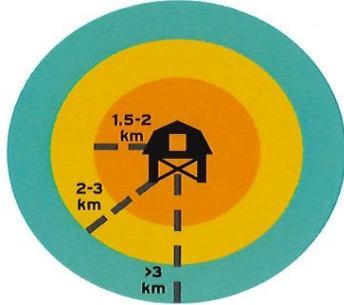
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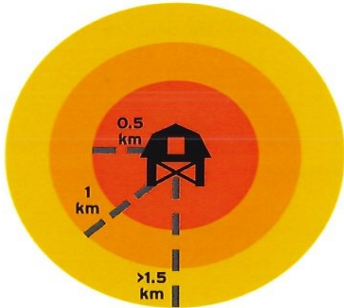
Risk of Avian Influenza Transmission I Broiler Supply Chain ...

LOCAL AREA SPREAD

Risk of Transmission Via Insects from Known Infected Premises



Risk of Aerosol Transmission from Known Infected Premises



Passerines

Moderate to Low Risk

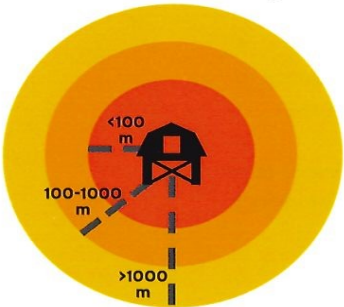


Wild Aquatic Birds

*Low Risk

*This result was based on risk assessment studies before 2022/2023 HPAI outbreak, however, a recent study has indicated wild birds to be major drivers of spread of infection in 2022/2023 HPAI outbreak.

Risk of Transmission Via Live Haul Route Truck Hauling Birds with No PMIP or Testing



Infected Premise

1 km = 0.62 mi
1000 m = 0.62 mi

INSECTS

- Likelihood varies with distance from the infected premises
- If your facility is 1.5 km (0.93 miles) or closer to the infected flock, there are too many variables to assess the risk

Source Premise Type	Distance from Infected Premises (km)		
	1.5 - 2 km	2 - 3 km	> 3 km
Known Infected Premise	Moderate to Negligible	Low to Negligible	Negligible
Infected Undetected Premise	Low to Negligible	Low to Negligible	Negligible

AEROSOL

- Likelihood varies with distance from the infected premises
- If your facility is 1.5 km (0.93 miles) or further from the infected flock, aerosol is not an important route of transmission

Source Premise Type	Distance from Infected Premises (km)		
	0.5 km	1 km	> 1.5 km
Known Infected Premise	High to Moderate	Moderate	Low
Infected Undetected Premise	Moderate to Low	Low	Low to Negligible

WILD BIRDS

- Likelihood varies with type of bird and exposure type
- Aquatic and large non-aquatic birds do not usually gain entry into poultry barns
- Passerines (examples: songbirds, finches & sparrows) are more likely to gain entry into poultry barns and come in direct contact with poultry

Bird Type	Likelihood Rating
Aquatic wild birds	*Low
Small wild birds (Passerine)	Moderate to Low
Non-aquatic wild birds (Non-Passerine)	Low

LIVE HAUL ROUTES

- Likelihood varies with distance and type of flock on the live haul route
- The disease transmission during the live haul of broilers can occur through feathers, feces, or other contaminated materials.

Characteristics of Live Haul	Distance from Live Haul (m)		
	< 100 m	100 - 1000 m	> 1000 m
Truck with birds with no PMIP or testing	High	Moderate	Low
Truck with birds with less than optimum PMIP and/or testing	Low	Very Low	Negligible
Truck with birds with PMIP and PCR negative testing	Very Low	Negligible	Negligible

Risk of Avian Influenza Transmission I Broiler Supply Chain ...

MOVEMENT OF PEOPLE, VEHICLES & EQUIPMENT

CRITICAL OPERATIONAL VISITS

- Refers to emergency maintenance or feed delivery that occurs during the Pre-Movement Isolation Period (PMIP)

Contaminated Component	Likelihood Rating
Contaminated feed	Negligible
Feed delivery (driver or vehicle)	Low
Other critical visitors (driver or vehicle)	Moderate to Low

GROWERS, EMPLOYEES & THEIR VEHICLES

- Variable depending on whether the contaminated person enters the poultry barn or does not enter poultry barn
- Only applicable provided that the proper measures (from SBS PMIP) for people are strictly followed, including use of farm-specific clothing and barn-specific footwear

Person Type	Likelihood Rating
People entering poultry barns	Low
People not entering poultry barns	Very Low

GARBAGE MANAGEMENT

- Multiple contaminated items from the poultry operations are disposed in garbage and they may carry the HPAI virus.
- No off-site movement of garbage allowed during the PMIP

Disposal Practice	Likelihood Rating
Garbage management	Low

LOAD-OUT

LOAD-OUT CREWS, VEHICLES OR EQUIPMENT

- If a flock were infected via contaminated load-out crews or equipment, decreasing the time from load-out to slaughter limits the amount of time the disease can spread
- Do not perform “split” or “partial” load-outs as this can leave susceptible and/or infected birds on the farm

Pathway	Likelihood Rating
Load-out and transport to slaughter	Moderate to Low

SHARED EQUIPMENT

- May contaminate the area, personnel or direct to the birds
- During the PMIP, the only off-site equipment that can enter the premises is equipment associated with critical operational visits

Pathway	Likelihood Rating
Shared equipment	Low

DEAD BIRD DISPOSAL

- Disposal of dead birds off-site is risky compared to on-site disposal.
- During PMIP, the disposal of dead birds is mandated to be carried out on-site in storage bins or containers.
- The dead bird storage containers and bins should be secured from scavengers like birds, foxes, and insects. These animals may carry the virus mechanically or biologically.

Disposal Practice	Likelihood Rating
On-farm dead bird disposal during PMIP	Moderate to Low
Off-site dead bird disposal prior to PMIP	Moderate

References

1. Cardona, C., Alexander, C., Bonney, P., Contadini, F., Culhane, M., Goldsmith, T., ... & Walz, E. (2018). An Assessment of the Risk Associated with the Movement of Broilers to Market Into, Within, and Out of a Control Area during a Highly Pathogenic Avian Influenza Outbreak in the United States.
2. USDA-APHIS. (2022). Epidemiologic and other analyses of HPAI affected poultry flocks: July 1, 2022 Interim Report. USDA: APHIS: VS: Center for Epidemiology and Animal Health. Fort Collins, CO. 74 pages.

ACKNOWLEDGMENT

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Summer Heat Stress Management for Delmarva Broiler Chicken Growers

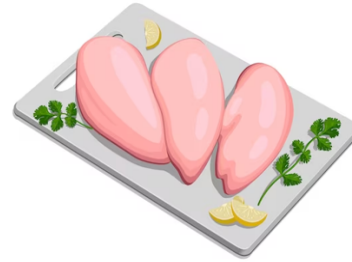
*Dr. Sunoh Che, DVM, MSc., Ph.D., Diplomat ACVPM,
University of Maryland Extension Poultry Specialist*

Behavioral Responses to Heat Stress



- Increases body temperature
- Increases water intake
- Decreases feed intake
- Limits movement
- Increases panting behavior
- Causes wings spreading
- Causes general weakness
- Increases mortality

Effect of Heat Stress on Broiler Productivity



- Decreases body weight
- Lowers breast muscle yield
- Decreases meat quality
- Increases broiler breast myopathy (Woody Breast, Spaghetti Meat)

Get ready for a sizzling summer! The Delmarva Peninsula is expected to experience higher than usual temperatures and rainfall this summer (https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2).

If you're a broiler chicken farmer in the area, it's time to gear up and protect your flocks from the scorching heat. When chickens experience heat stress, they tend to eat less, resulting in slower growth rates. Moreover, the extreme heat can worsen certain breast muscle disorders in broilers, such as Woody Breast and Spaghetti Meat, leading to a lower quality product. In severe cases, heat stress can even cause increased mortality. All of these factors combined can significantly impact your profit in the end. In this column, we will discuss key management strategies to help you navigate the challenges of the upcoming summer season. *By being proactive* and implementing effective heat stress management strategies, you can help your broiler flocks thrive, even in the face of the upcoming hot summer weather.

1. Ventilation and Cooling Systems

Ensure that your ventilation and cooling systems are in optimal working condition before the hot weather arrives. Regular maintenance and cleaning of fans, foggers, and evaporative cooling pads are essential. Consider installing additional fans or upgrading to high-velocity fans to improve air circulation. Proper ventilation helps remove excess heat and moisture from the poultry house, creating a more comfortable environment for your birds.

Summer Heat Stress Management for Delmarva Broiler Chicken Growers ...

2. Water Management

Provide your birds with an ample supply of clean, cool water. Regularly check and adjust the water pressure to ensure adequate flow rates, especially during peak heat hours. Keep water lines clean and free from biofilm buildup to prevent bacterial growth and maintain optimal water quality.

3. Feed Management

Adjust your feeding program to accommodate the reduced feed intake during hot weather. Consider using a more nutrient-dense diet to compensate for the decreased feed consumption.

4. Litter Management

Maintain proper litter depth and quality to prevent ammonia buildup and reduce heat retention. Consider using litter amendments or probiotics to control ammonia levels and promote a healthier litter environment.

5. Stocking Density

Reduce stocking density during the summer months to allow for better air circulation and heat dissipation. Overcrowding can exacerbate heat stress and lead to increased mortality. Follow recommended stocking density guidelines based on your housing system and bird age to ensure optimal bird comfort and performance.

6. Monitoring and Early Intervention

Closely monitor your birds for signs of heat stress, such as panting, wing spreading, and lethargy. Use temperature and humidity sensors to track environmental conditions in real-time. Implement an early warning system to alert you when conditions approach critical levels. Have a contingency plan in place for extreme heat events, such as providing additional cooling measures or temporarily reducing feed intake.

For more information, please visit our website: <https://extension.umd.edu/resource/poultry-production-management/>. By implementing these management strategies, you can significantly reduce the impact of heat stress on your broiler flocks. Stay vigilant, monitor your birds closely, and be prepared to adapt your management practices as weather conditions change. Wishing you a successful and productive summer season!

New MSU Research to Explore H5N1 in Dairy Cattle

Sent to us by Jeff Semler, Extension Agent, University of Maryland, Washington County

New research from Michigan State University will study the effects of a recent highly pathogenic avian influenza A virus (H5N1) outbreak on dairy cattle reproduction and milk production, as well as transmission of the disease and ways to mitigate it.

Support for the new project has been provided through two sources, each covering half of the \$168,000 total:

- Annual capacity funding through MSU AgBioResearch from the U.S. Department of Agriculture's (USDA)

- Capacity funding through the Michigan Alliance for Animal Agriculture, a partnership among MSU, Michigan animal agriculture industries and the Michigan Department of Agriculture and Rural Development (MDARD).



The project is co-led by Catalina Picasso, Zelmar Rodriguez and Annette O'Connor, faculty members in the College of Veterinary Medicine's Department of Large Animal Clinical Sciences (LCS). Picasso, a veterinarian and epidemiologist, specializing in transboundary infectious diseases in both livestock and wildlife animal populations.

Rodriguez is a dairy health epidemiologist and dairy extension faculty member. O'Connor is a world-renowned veterinarian and expert in the application of quantitative epidemiology to improve policy on food safety, animal health and welfare, and veterinary practices.

According to the USDA, as of mid-May, H5N1 infections have been detected in dozens of dairy herds across Colorado, Idaho, Kansas, Michigan, New Mexico, North Carolina, Ohio, South Dakota, and Texas. The virus, which was first detected in domestic birds in the U.S. in 2022 but not until recently in cattle, has been identified in unpasteurized milk, as well as swabs and tissue samples from sick cattle.

Symptoms may include reduced milk production, decreased appetite, and changes in milk color and consistency.

"Immediately upon the onset of the H5N1 outbreak in Michigan dairy cattle, MSU AgBioResearch, the College of Veterinary Medicine and MDARD began conversations about research questions that when answered could inform policy and management strategies to help prevent transmission within and across dairy herds," said James Averill, assistant director of MSU AgBioResearch and leader of the organization's animal agriculture initiatives. "This research will enable the dairy industry to better understand H5N1 and the impacts on dairy herds over time."

The research team will seek to answer several key questions, such as:

- **Impact:** What are the short- and long-term effects of the disease on reproduction and milk production?
- At the herd level: What factors influence the likelihood of herds becoming infected?
- At the cow level: What increases or decreases the likelihood of cows becoming infected?
- **Transmission:** How is the virus spreading within and between herds?

"There's still an enormous amount of information we don't know," O'Connor said. "This outbreak underscored the critical need to understand the dynamics, impact and prevention of H5N1 among the cattle population. We are fortunate to be able to ground this research in on-farm studies, working closely with MDARD to access farms that have had herds test positive for the virus."

The team plans to conduct five studies on farms with H5N1-positive animals. They will study lactating cows, dry cows and calves, collecting blood, nasal swabs and milk samples to be tested. All H5N1 testing is being performed by the MSU Veterinary Diagnostic Laboratory, the only laboratory in Michigan approved by the USDA to test for highly pathogenic avian influenza in any species.

Additionally, researchers will examine milking equipment for H5N1 presence and compare testing accuracy between pooled and individual samples.

Data from Michigan farms will be combined with findings from other universities nationwide for a comprehensive analysis.

"We're trying to understand how long animals are shedding the virus and how long the virus stays active," O'Connor said. "For example, if we were to find that cattle are often positive on nasal swabs, we might conclude that nose-to-nose contact is a common route of transmission. Likewise, we may see that some samples come back negative quite often and show that those routes are much less likely. The overall goal is to equip our producers with the information needed to make informed decisions on how to best protect their cattle, and by extension, animal safety more broadly."

Outstanding Chicken Growers Are Honored at the 2024 DCA Booster BBQ



Ernie and Evelyn Adkins
Er-Lynn Farms
Parsonsborg, MD
Mountaire



Newton Bui
Newton Bui Farm
Pocomoke, MD
Mountaire



Zeke Collins Sr. and Jr.
Z & L Farm
Salisbury, MD
Mountaire



Allen and Olin Davis
Rich Levels Farm
Galena, MD
Allen Harim



Doug & Gretta Fenninger
Fenninger Farm/R&D Farm
Pittsville, MD
Perdue



Joe Howard
Homestead Farms, Inc.
Clayton, DE
Coleman



Tina & Gil Johnson
Little Chicks
Centreville, MD
Mountaire



Hank McCulley
McCulley Farm
Trappe, MD
Amick



Gary & Terri Mills
Jon-Kai Farm
Cambridge, MD
Perdue



Lee Van Culin
White Stone Farm
Massey, MD
Perdue



Terry White
Blood, Sweat & Tears
Parksley, VA
Tyson



John & Carol Zoch
Dixie Line Farm
Seaford, DE
Amick

The J. Frank Gordy Delmarva Distinguished Citizen Award - Mary Lou Brown

The Edward H. Ralph Medal of Achievement - Calvin Keeler

DCA Medal of Achievement - Delaware Governor John Carney



State Appellate Court Overturns Circuit Court's Right-to-Farm Decision

*Paul Goeringer, Sr. Faculty Specialist and Extension Specialist
Department of Agricultural and Natural Resources*

As we move into late spring and early summer, the state's Appellate Court has clarified the state's right-to-farm law application. In this decision, the court found that the state's right-to-farm law protected a Maryland operation's expanded use of soil conditioners and biosolids and did not trigger a resetting of the one-year provision in the law. At the same time, storing and applying nutrients was a generally accepted agricultural practice. The appeal was *In the Matter of Cheryl Lewis*. It should be noted that the neighbors can still appeal the decision to the state's supreme court.

Background

The farmland was purchased in March of 2020, and it's unclear from the court's opinion what the land was being used before the current owners purchased it. The neighbors began to complain in September 2021 about the odors and other concerns from the soil conditioners being utilized by the owners. The Talbot County Agricultural Resolution Board held two hearings on the complaints in late February 2022 and mid-November 2022. The Board found that the soil conditioners had been applied and stored on the farmland since the fall of 2021. The Board found the storage and application of the solid conditioners to be a generally accepted agricultural practice and that the farmland had been used continuously for more than one year. The Circuit Court of Talbot County reversed the board's decision, finding the right-to-farm law did not apply. This appeal followed.

Court's Decision

On appeal, the court reviews the agency decision (the Talbot County Ag Reconciliation Board) to determine if there is substantial evidence to support the board's decision. The operation argued that the Board correctly determined that the operation had been underway for more than one year, as required by the right-to-farm law. The neighbors argued that the transition to biosolids as a fertilizer reset the one-year provision. In looking at the current law, the law requires the operation "[i]f an agricultural, a silvicultural, or a commercial fishing or seafood operation has been under way for a period of 1 year or more[.]" The court found this language ambiguous when an agricultural operation changes practices.

Turning to the legislative history, the court found that the General Assembly had addressed this issue. In 1981, the General Assembly enacted the law requiring changes to the operation to reset the one-year provision. In 1998, the General Assembly amended the law to remove the provision, resetting the one-year period when changes happened to the operation. According to the General Assembly, the change would allow operations to change practices without losing liability protections.

To the court, the plain language showed that changing the operation would not lose the protections of the right-to-farm law. It should be noted that the court highlighted portions of the legislative history that showed that a dairy farm could switch from dairy to poultry without losing the law's protections. To the court, the law only required that land be used continuously for some kind of agricultural operation. In this case, the law protected the farm's expanded use of soil conditioners and biosolids.

Next, the court turned to the did storage and land application of the biosolids and soil conditioners on the farm and related farms operated by the operator to meet the requirements of a generally accepted agricultural practice in the Talbot County Code. To the court, there was substantial evidence to support the board's decision. The relevant definition for an agricultural operation in the county code included spreading other soil nutrients. There was also considerable evidence that the practices did not violate neighbors' public health, safety, and welfare. Any odor and pests associated with storing the nutrients were a generally accepted agricultural practice. Finally, there was evidence that the practice had been going on for over a year when the neighbors complained. For this reason, the court agreed that substantial evidence supported the board's decision.

Why Care?

This decision marks the first time the Maryland Appellate Court interpreted the state's right-to-farm law. This decision helps provide a lot of clarity to Maryland operations, which are either looking to expand or change practices. Highlighting that the General Assembly intended to protect modifications. At the same time, it also highlights what is considered generally accepted. There might be odors and other issues that develop, but the practice should be covered as long as it is appropriately done. This decision could still be appealed to the Maryland Supreme Court, so we must wait to see if an appeal happens. **Reference** *Matter of Lewis*, No. 951, Sept. Term, 2023, 2024 WL 2763703 (Md. Ct. Spec. App. May 30, 2024).

Celebrating Dr. Nathaniel Tablante with Gratitude and Best Wishes on His Retirement in June, 2024!

On a Friday in May, at an Extension Poultry Team Meeting, we took a break for lunch to thank and celebrate *Dr. Nathaniel 'Nat' Tablante for his 27 years of service* to the poultry community both here and internationally for the University of Maryland's AGNR - Veterinary Medicine Program.

Along with all the letters referring to his degrees listed after his name, DVM, MPVM, MS, DACPV, Nat was a Professor and Extension Poultry Veterinarian, Associate Director for the Center for Public and Corporate Veterinary Medicine, Virginia-Maryland College of Veterinary Medicine, and was located in College Park, Maryland. He has been a great source of knowledge and help to the industry all over Delmarva.

Dr. Tablante was instrumental in getting the grant from the USDA for biosecurity videos '*Preventing Outbreaks of Avian Influenza Through Science-based Education: Commercial Poultry Farmers, Technical Service Personnel, and Backyard Poultry*' useful before, during, and after the pandemic, to poultry growers, big and small. He even participated in the Small Flock videos! They are still SO very important and can be found at: extension.umd.edu/poultry or <https://extension.umd.edu/programs/agriculture-food-systems/program-areas/animal-science/maryland-poultry/videos/>



IPM Poultry Event - Postponed

◆ ~~June 26~~: Integrated Pest Management (IPM) Poultry Class

Due to unforeseen circumstances, this IPM Workshop has been postponed.

Grower Lunch Breaks

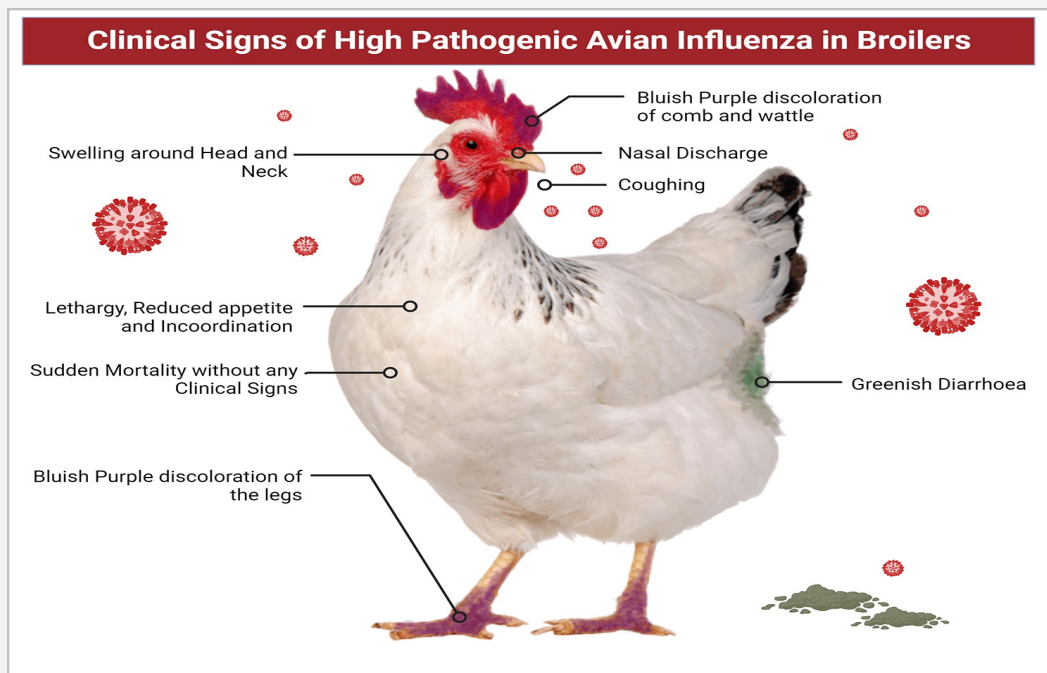
◆ September 4, 2024 - Litter Amendment - Amy Syester with



More info to come. Sign up for emails at: extension.umd.edu/poultry

Stay on top of the **HPAI** information, resources, and latest news at our website:

[Highly Pathogenic Avian Influenza \(HPAI\)](#)



From all of us, your University of Maryland Extension Poultry Team -

Have a wonderful summer!!

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