

Commercial Poultry News

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To Vaccinate or Not? The Potential for Using Bird-flu Vaccines in U.S. Poultry Production

Madhusudan Timilsina DVM, MS, and Mostafa Ghanem DVM, MS, Ph.D.

Department of Veterinary Medicine, University of Maryland

What is the threat posed by Bird-flu to poultry and human health?

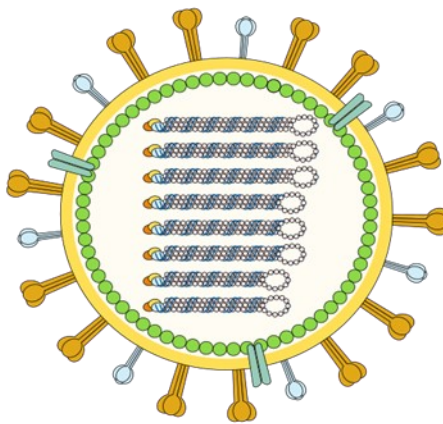


Fig: Illustration of Influenza type-A virus
Credit: Database Center for Life Science (DBCLS)

Bird-flu or the highly pathogenic form of avian influenza infection (HPAI) was responsible for death and depopulation of more than 58 million birds in United States during the 2022/2023 outbreak. Also, there have been numerous reports of Bird-flu infection in humans causing severe disease and deaths across the world but these infections as of now are isolated cases with no human-to-human transmission. The current outbreak is the most impactful in terms of the number of birds affected and economic loss has raised the fear that Bird-flu could persist and become an endemic disease in poultry population.

What are the approaches used to control HPAI?

To control Highly Pathogenic Avian Influenza (HPAI), two distinct approaches are being applied worldwide. One approach, which is the current strategy in the US, involves depopulating the infected flock and establishing a rigorous surveillance system around the outbreak area. Another strategy employed in other countries is vaccination to control the spread of HPAI.

How effective are HPAI vaccines and are they available in the U.S.?

- Vaccines do not provide sterilizing immunity, and vaccinated birds can still become infected with HPAI (Highly Pathogenic Avian Influenza).
- However, vaccines can significantly reduce the clinical signs, mortality of birds, and viral shedding in case of HPAI infection.
- Vaccine efficacy is greatly influenced by the degree of match between vaccine strains and field strains. Currently, there are no vaccines approved for use against the current HPAI H5N1 strain in the US.



To Vaccinate or Not? ... Continued

What are the potential advantages of Vaccination against Bird-flu?

- **Reduction in Disease Spread**
Immunity to HPAI due to vaccination can help reduce the transmission of infection by decrease in the viral shedding.
- **Reduction in Zoonotic Spillover Risk**
The lower incidence of Bird-flu in poultry, the lower the risk of human exposure resulting in lower incidence of Bird-flu in humans and less opportunity to the virus for mammalian adaptation.
- **An extra layer of Protection**
HPAI vaccination can be integrated with existing biosecurity measures to enhance the poultry health.
- **Reduced economic Loss.**
The extent of depopulation of birds and disruption in poultry industry can be less.
- **Improved Animal Welfare**
Vaccination can reduce the suffering of the birds caused by Bird-flu and depopulation of large number of healthy birds.

Why are the U.S. poultry flocks not vaccinated against Bird-flu?

Poultry flocks in the U.S. are not vaccinated against HPAI for multiple reason that include:

- **The Effectiveness of The Current Eradication Strategy:**
The U.S. use of an extensive surveillance and depopulation approach has been effective in containing the HPAI. The 58 million birds lost in the current outbreak represents a minute percentage of the total U.S. production (roughly [less than 3% across all production types](#)).
- **Potential Trade Restriction and Bans**
A large portion of the U.S. poultry production is targeted towards exports with export values exceeding \$6 billion. Trading partners may impose trade restrictions on poultry products originating from territories that use mass vaccination against bird-flu.
- **Imperfect Effectiveness of Vaccines**
Vaccines are not 100% effective, and many immunologists argue that it could allow the virus to spread silently and evolve to resist vaccines.
- **Interference with HPAI surveillance**
Serological surveillance of Bird-flu is widely used and inexpensive and it can be impaired by mass vaccination against HPAI.
- **The Cost and Logistical Challenges of Vaccination**
Vaccination programs can be expensive and logistically challenging to implement, particularly in large-scale commercial poultry operations. HPAI Vaccination requires regular revaccination and strict monitoring.
- **Little Benefits to Producers**
The infected flock and other birds within the premise would still be depopulated despite of the vaccination status, which provides little incentive for the producer to implement vaccination.

What is the international practice in this regard?

- International standard made by World Organization of Animal Health allows for HPAI vaccination without trade restrictions if regular surveillance of the vaccinated flock is conducted.
- Many countries, including China, the second largest poultry producer, are implementing routine vaccination against HPAI with positive results.

To Vaccinate or Not? ... Continued

- Mexico has been vaccinating poultry against HPAI since 2022 after experiencing a huge outbreak which forced it to cull 5.9 million birds.
- The European Union (EU) is on a track to start vaccination against HPAI in near term. The bloc is gearing up towards agreement on the vaccination. France, a member state of EU worst hit by HPAI, is initiating vaccination of duck flocks.

What lessons and strategies could be learned from overseas HPAI vaccination?

- Vaccination against HPAI in accordance with WOAHA guidelines and in combination with other biosecurity measures can have a powerful impact in disease incidence. Hong Kong, which used to have regular outbreaks of HPAI is free of disease for more than 3 years after mass vaccination. However, this example is not comparable to the scale U.S. production and geography.
- Vaccination should be supported by robust monitoring and surveillance to determine whether viral circulation is occurring in inadequately vaccinated birds.
- Incomplete vaccination can lead to partially protected birds remaining as source of infection and HPAI became an endemic disease with year around incidence. This situation increases the risk of the emergence of new variants of the virus.
- The vaccination strategy against HPAI, though effective in preventing disease incidence has been more expensive compared to testing and culling strategy, which is practiced in the United States.

Going Forward

Active discussion on the potential benefits and harms of vaccination against Bird-flu can result in meaningful conclusions and can provide future directions to consider. When deciding whether to vaccinate or not, one should consider the following factors:

- Comprehensive Risk Assessment of HPAI in United States and Impacts of Vaccination
- Cost-Benefit analysis of implementing HPAI Vaccination
- Engagement with Stakeholders to take multiple perspectives into account
- Multilateral cooperation with International Partners

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Ten Flock Supervisors Honored at Chicken Community Conference in Ocean City

DCA - News Release, September 27, 2023



Ten flock supervisors from Delmarva's chicken companies received **Outstanding Flock Supervisor Awards** at Delmarva Chicken Association's 58th National Meeting on Poultry Health, Processing, and Live Production. As flock supervisors, these chicken company employees work face-to-face with independent chicken growers as liaisons between the farmer and the chicken company. Flock supervisors are among the more than 18,300 people employed by Delmarva's chicken processing companies, and make important contributions to the Delmarva chicken community's \$5 billion economic impact.

The flock supervisors honored were:

- **Mike McCready** of Allen Harim, a five-time award recipient
- **Blair Boyce** of Amick Farms, a two-time award recipient
- **Juan Santiago** of Amick Farms
- **Brian Hill** of Mountaire Farms
- **Michael Evans** of Mountaire Farms, a seven-time award recipient
- **Christen Boyer** of Perdue Farms
- **Dylan Brumbley** of Perdue Farms
- **Aaron Chandler** of Perdue Farms
- **John Pflieger** of Coleman, a four-time award recipient
- **Trevor Cooper** of Tyson

"Your job is not easy, but it can be very rewarding when you see a grower's settlement improve based on your recommendations," said Amy Syester, DCA's vice president. "Each of you are vital to the grower and the company. Thank you to all of Delmarva's flock supervisors for your hard work."

"An outstanding flock supervisor understands the needs of the contract growers he or she works with, and offers assurance to a chicken company that standards and practices are being followed," said Holly Porter, DCA's executive director. "These award recipients work hard day in and day out to meet those goals."

Court Ruling Affirms Maryland Chicken Farm Permits Are Legal and Effective

James Fisher, Communications Manager, DCA

The Maryland Supreme Court on Wednesday upheld a livestock farm water quality permit written by the Maryland Department of the Environment that had been challenged in court by environmental activists. The appellate court's [ruling](#) also found that MDE's best management practices-based regulatory framework for the state's permit was "reasonable" and "consistent with federal and state law."



The permit in question, Maryland's 2019 general discharge permit for animal feeding operations (AFOs) and concentrated animal feeding operations (CAFOs), had been challenged by the Assateague Coastal Trust, which filed a petition in Montgomery County Circuit Court in July 2020 for judicial review of the permit. ACT argued that the permit didn't do enough to regulate ammonia emissions from farms, and said MDE should go much further, possibly even requiring farm-by-farm installation of expensive new equipment. A Montgomery County judge sided with ACT in March 2021, ordering MDE to rewrite the permit with stricter standards, but MDE appealed that decision, and the Maryland Supreme Court agreed to hear the appeal.

When ACT filed its petition and the Montgomery County judge granted it, DCA recognized this case could have serious implications for chicken growers and the chicken community as a whole. To advocate for our members in the closely-watched legal fight, DCA filed a friend-of-the-court brief arguing ACT's reading of the law was wrong, and that the MDE-approved permit was in line with federal law governing farms and clean water regulations.

"We're glad the Maryland Supreme Court recognized this challenge to the 2019 permit lacked merit and mischaracterized the law," said Holly Porter, DCA's executive director. "This is the third consecutive time these activists have tried and failed to persuade courts to overrule science-based, legally sound water quality regulations."

ACT, the court said, failed to show MDE's decision-making around the CAFO permit was "arbitrary and capricious." In fact, the court's opinion said, Maryland regulators designed "the same general discharge permit framework established by federal regulations," and so the court has no reason to upend it through judicial review.

On the matter of ammonia emissions, the court found Maryland's permit sufficiently controlled ammonia pollution through site-specific measures when MDE found they would be called for, and adherence to best management practices required by the general permit. ACT's argument otherwise "is in direct conflict with the evidence in the administrative record," the court ruled.

The court ruling comes as agricultural stakeholders in the Chesapeake Bay watershed have reduced their annual nutrient inputs to the Bay, eliminating 39 million pounds of nitrogen and 3.5 million pounds of phosphorus since 1985. Developed areas like cities and suburbs, meanwhile, have increased their annual nutrient contributions to the watershed. In 1985, developed areas were responsible for an estimated 15 percent of nitrogen loads to the Bay; in 2021, they were responsible for an estimated 26 percent of the Bay's nitrogen pollution.

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The opinion in Maryland Department of the Environment v. Assateague Coastal Trust was written by Justice Brynja M. Booth, who has served on Maryland's highest court since 2019. It's the third time in recent years ACT has mounted a failed challenge to the MDE general discharge permit; a previous effort to overturn the 2009 permit was "rejected at all levels," the court noted in Wednesday's opinion, and a challenge to the 2014 permit was also turned back by the courts.

Innovation Needs to be with Right Questions

by [Sean Clougherty](#), *Delmarva Farmer*



OCEAN CITY, Md. — Working in the arena of poultry production technology, Dr. Jess Campbell said about every six months on average, someone comes along with a “magic box” — a new product that promises to improve feed conversion, faster bird growth or some other improvement.

“I do see a lot of things that look neat,” he said at the Delmarva Chicken Association’s recent National Meeting on Poultry Health, Processing and Live Production. “It sounds great and a lot of them are good ideas” but none live up to the hype of being a silver bullet.

In discussing innovations in poultry production, Campbell, assistant Extension professor at Auburn University’s National Poultry Technology Center, told attendees to scrutinize any product that comes out to understand its capabilities and limitations, and the higher the cost, the more scrutiny it should receive. “If it takes a loan to purchase it, an engineer to run it, a service call to do maintenance and repairs and an accountant to see if and when it will cash flow, then spend more time thinking about the pros and cons,” Campbell read from one of his presentation slides.

Campbell shared a list of questions growers should consider asking of any new product, including where did it come from; where, when and by whom was it tested; is that data repeatable; what is the maintenance like and is it a want or a need.

“Ask a lot of questions,” he said. “I feel like we don’t always ask enough of the right questions.” But success takes innovation, he added, and a key part is that it is used and implemented properly. He pointed to house vents, fans and electrical technology as three places to focus.

There are several vent options, but basically to work well, they need to form a tight seal, be easy to install and not rust.

Variable speed fans, including stir fans, are another recent innovation growers are working with but Campbell said it takes an understanding of the overall goal of efficiency.

The fans have the most energy savings when air flow is the lowest but that can come at the expense at production, he said.

“It amazes me how many growers don’t know how to use them properly,” he said.



2023 Grower Lunch Breaks and More

extension.umd.edu/poultry



- - [October 18: \(Possible\) Integrated Pest Management \(IPM\) Class](#)
 - [October 7: Delmarva Chicken Festival @ Arthur W. Perdue Stadium, Salisbury](#)
Make sure you stop by and see us!
 - [November 1: Insurance @ Caroline Co. 4-H Park, Denton](#)
 - [December 6: Insurance @ MDA, Salisbury](#)
 - December 13 (Standard) Controller Workshop: Frankford Fire Hall, Frankford, DE
 - [December 14 \(Precision\) Controller Workshop - Denton, MD](#)
 - [December 15 \(Standard\) Controller Workshop - Denton, MD](#)
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For more information on past talks like the following, go to extension.umd.edu/poultry and 'Take a Look'!

- September 6: Taxes @ Caroline Co. 4-H Park, Denton
- September 26: Water - Things We Are Getting Wrong - May Foy of Proxy-Clean Products
Tunnel Ventilation Update - Mike Czarick of University of Georgia Extn.