UNIVERSITY OF MARYLAND EXTENSION | AgFS Agriculture & Food Systems

COMMERCIAL POULTRY NEWS

IN THIS ISSUE

Spring Biosecurity Reminder for Commercial Poultry Operations

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As winter concludes and spring approaches, commercial poultry operations must maintain heightened biosecurity awareness. Spring migration increases the movement of wild waterfowl returning to northern breeding grounds, elevating the risk of disease introduction. Although Highly Pathogenic Avian Influenza (HPAI) activity was limited this winter, the risk remains. Strict adherence to NPIP-aligned biosecurity practices is essential to protect flock health and maintain continuity of operations.

(Continued on page 2)

Spring Biosecurity Reminder (continued)

Biosecurity Expectations

Perimeter Buffer Area (PBA)

- Maintain a clearly defined PBA around poultry houses.
- Restrict access to essential personnel only.
- Control vehicle and equipment entry and ensure proper cleaning and disinfection prior to entering the PBA.

Line of Separation (LOS)

- Establish and maintain a clearly defined Line of Separation at the entrance to each poultry house.
- The LOS represents the boundary between the external environment and the poultry living area and must be treated as a critical control point.

Footwear and Entry Procedures

- Use dedicated, house-specific footwear when crossing the LOS.
- If dedicated footwear is not available, disposable boot or shoe covers must be worn and changed between houses.
- Hand hygiene should be performed before and after crossing the LOS.

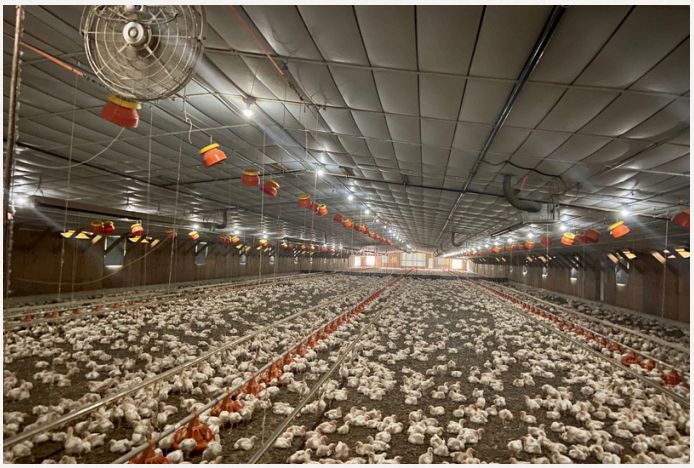
Visitors, Service Personnel, and Repairs

- Limit visitors to those essential for operation such as repairs.
- Maintain a visitor log and enforce appropriate downtime requirements.
- All visitors and service personnel must wear clean clothing or disposable coveralls, gloves, hairnets, and shoe covers.
- Tools, equipment, and materials brought onto the farm must be cleaned and disinfected before entry and prior to leaving the premises.

Ongoing Vigilance

Consistent implementation of NPIP-aligned biosecurity measures is the most effective defense against HPAI and other poultry diseases. Growers are encouraged to routinely review their biosecurity plans, reinforce employee training, and immediately address any biosecurity gaps.

Protecting flock health begins and ends with strict biosecurity compliance.



Introducing a New Extension Series: Research to Reality Turning Poultry Science into Practical Farm Knowledge

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University of Maryland, College Park

Every year, dozens of scientific papers are published on poultry health, avian influenza, biosecurity, and disease prevention. While this research is critical, it is often technical, fragmented, or difficult to interpret for day-to-day farm decisions. This new University of Maryland Extension series, Research to Reality: What New Poultry Science Means for Your Farm, is designed to bridge that gap.

What This Series Will Do

In each issue, we will summarize one recent, high-impact research study related to poultry health and disease prevention and translate it into:

- Clear, plain-language explanations
- Key findings that matter for poultry operations
- Practical implications for growers and managers
- Clarification of what the research does not mean

The goal is not to promote headlines or speculation, but to help growers understand how new science fits into real-world poultry production.

What This Series Will Not Do

This series will not:

- Promote unproven products or supplements
- Replace USDA or integrator guidance
- Over-interpret individual studies
- Assign blame for disease events

Instead, it will focus on risk awareness, prevention, and informed decision-making.

Why This Matters Now

Diseases such as Highly Pathogenic Avian Influenza (HPAI) are increasingly influenced by wildlife ecology, environmental factors, and human behavior, not just what happens inside the poultry house. Understanding this broader context helps explain why biosecurity remains essential, even on well-managed farms.

Why This Matters Now

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What to Expect Next

Future articles in this series will cover:

- Environmental survival of different pathogens
- Human behavior and biosecurity compliance
- Wildlife and pest-related disease risks
- Early warning signs before major disease events
- What research says about vaccines, supplements, and disease prevention

Each article will follow the same clear format so readers know exactly what to expect.

Our Commitment

University of Maryland Extension is committed to providing science-based, practical, and unbiased information that supports poultry growers, protects animal health, and strengthens the poultry industry.

We welcome your feedback and suggestions for future topics.

Research to Reality: What New Poultry Science Means for Your Farm

Prepared by: Mostafa Ghanem, DVM, MS, PhD
University of Maryland, College Park

Article 1

Understanding the Ecology and Spread of the North American Bird Flu (H5N1) Outbreak

Source:
Damodaran L., Jaeger A.S., Moncla L.H. Ecology and spread of the North American H5N1 epizootic. Nature 649:432–441 (2026).
Open access: https://www.nature.com/articles/s41586-025-09737-x

Why This Study Matters

Highly Pathogenic Avian Influenza (HPAI) has continued to reappear in North America over multiple years, even on farms with strong biosecurity. A recent large-scale scientific study examined why H5N1 persists and spreads across regions, and what drives ongoing risk. Understanding these findings helps explain where farm risk truly comes from, and why biosecurity remains essential even when farms are doing “everything right”. The key message from this research is clear: ongoing outbreaks reflect ecological pressure, not only farm failure.

What the Researchers Studied

Researchers looked at bird flu virus samples collected over time from wild birds, backyard flocks, and commercial poultry farms across North America. By comparing the genetic makeup of the virus and where and when it was found, they were able to understand how often H5N1 entered poultry operations, whether outbreaks were connected to each other, and how wildlife contributed to repeated introductions. Importantly, this was a large-scale ecological study designed to understand how the virus moves through the environment, not an evaluation of individual farms or management practices.

Key Findings (What the Science Shows)

1. Wild birds are long-term reservoirs of H5N1
The virus is now established (endemic) in North American wild bird populations. This means HPAI risk does not disappear between outbreaks.
2. Farms were exposed through repeated, independent introductions from wild birds
During the 2021–2022 outbreak, infections in poultry were driven by dozens of separate spillover events from wild birds, rather than farm-to-farm spread, unlike the 2015 outbreak.
3. Backyard flocks were infected earlier than commercial farms
On average, backyard poultry were infected about 9 days earlier than nearby commercial operations, suggesting they may serve as a regional early-warning signal.

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Research to Reality: What New Poultry Science Means for Your Farm Article 1 (continued)

4. HPAI persistence reflects ecology, not only farm failure
Recurring outbreaks are driven by wildlife and environmental exposure, not solely by poor management on affected farms.

What This Means for Growers

- You cannot eliminate regional HPAI risk because wildlife exposure is beyond farm control.
- You can control how the virus enters your farm.
- Reports of HPAI in nearby backyard flocks should prompt heightened biosecurity, even before commercial detections occur.
- Strong biosecurity does not stop wild birds from carrying the virus, but it does stop people, equipment, and vehicles from bringing it inside poultry houses.
- Continued outbreaks do not mean biosecurity has failed; they mean biosecurity must be applied consistently every day.

This research supports what Extension and USDA guidance have emphasized for years:
Biosecurity is about blocking entry, not eliminating virus presence in the environment.

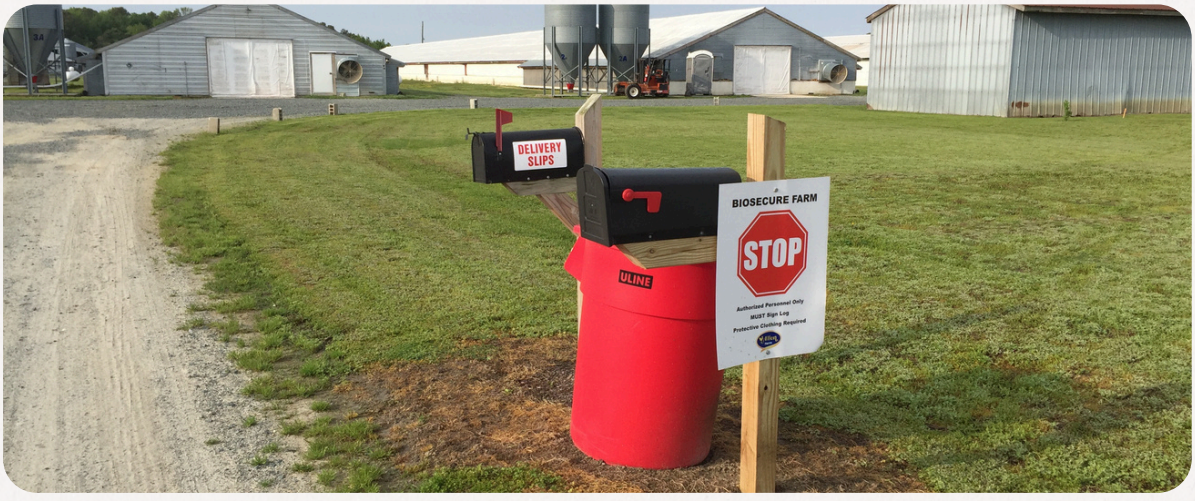
What This Study Does Not Mean

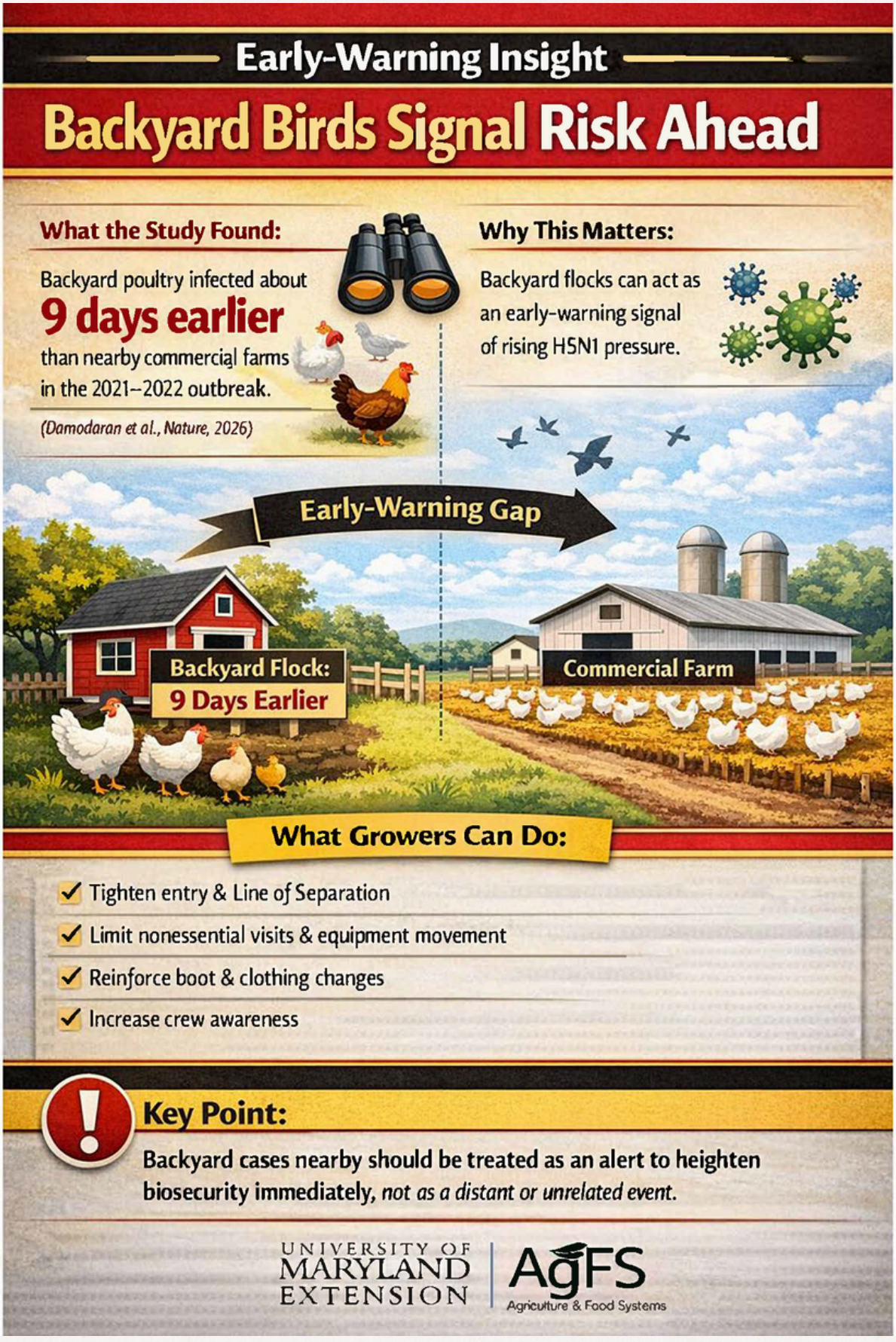
- It does not mean farms can relax biosecurity when cases decline.
- It does not show that farm-to-farm airborne spread was the primary driver of this outbreak.
- It does not suggest that vaccination replaces biosecurity in U.S. poultry systems.

Take-Home Message

H5N1 is now part of the North American bird environment. Farms cannot control wildlife, but they can control daily practices that determine whether the virus crosses into poultry houses. Consistency, not complexity, is the most effective protection.

Research to Reality: What New Poultry Science Means for Your Farm
An Extension research translation series by the University of Maryland Extension




Early-Warning Insight
Backyard Birds Signal Risk Ahead
What the Study Found:
Backyard poultry infected about
9 days earlier
than nearby commercial farms in the 2021–2022 outbreak.
(Damodaran et al., Nature, 2026)
Why This Matters:
Backyard flocks can act as an early-warning signal of rising H5N1 pressure.
Early-Warning Gap
Backyard Flock:
9 Days Earlier
Commercial Farm
What Growers Can Do:
Tighten entry & Line of Separation
Limit nonessential visits & equipment movement
Reinforce boot & clothing changes
Increase crew awareness
Key Point:
Backyard cases nearby should be treated as an alert to heighten biosecurity immediately, not as a distant or unrelated event.
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Rodent Control as Part of a Biosecurity Program

Zac Williams, Extension Specialist - Poultry Husbandry and Management, University of Arkansas

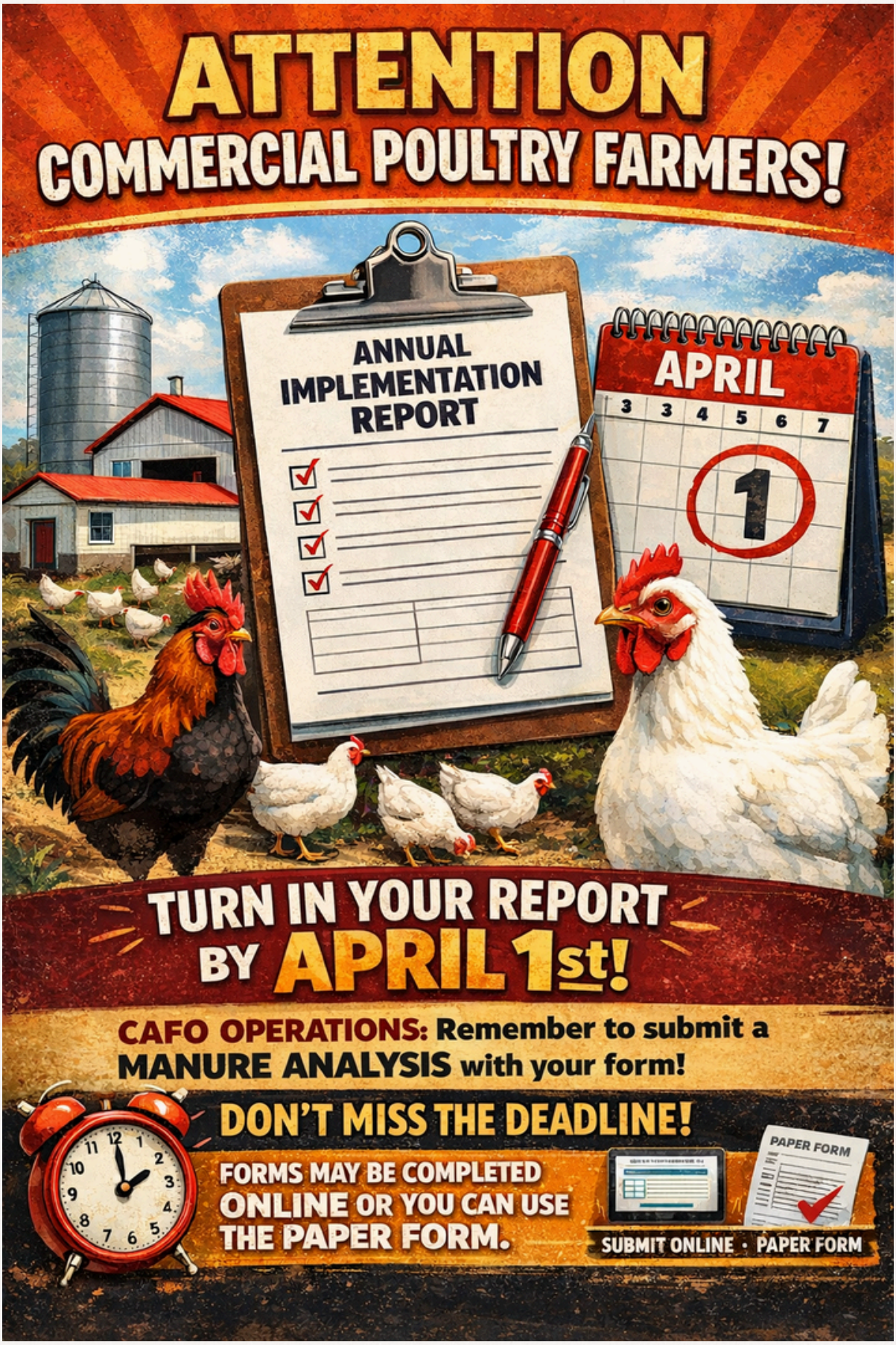
Rodent control is a critical component of biosecurity in poultry operations due to the significant financial losses, structural damage, and disease risks from infestations. Rats and mice consume large amounts of feed—estimates report that one rat can eat about 25 pounds per year, meaning a barn with 200 rats could lose over 2.5 tons of feed annually. Beyond feed loss, rodents damage barns by chewing electrical wiring, equipment, egg belts, sheet metal, and by consuming eggs and chicks.

Rodents are also major disease vectors, carrying pathogens such as Salmonella, fowl cholera, and highly pathogenic avian influenza (HPAI). Effective control begins with understanding the enemy, echoing Sun Tzu's principle that success depends on knowing both yourself and your opponent.

The three primary rodent pests in poultry facilities are the Norway rat, roof rat, and house mouse. Norway rats are large, heavy-bodied rodents, while roof rats are smaller, more agile climbers with larger ears and eyes. House mice are much smaller but reproduce rapidly and can thrive in tight spaces. Behavior differs between species: rats have larger home ranges, consume one meal per day and are cautious with new foods, while mice eat small amounts frequently and are less suspicious of new food sources. Both reproduce quickly, making early intervention essential.

Assessing infestation severity relies on signs and sightings. Signs without sightings may indicate around 100 rodents, frequent nighttime sightings suggest several hundred, and daytime sightings indicate a severe infestation.
Effective control requires a multiprong approach:
1. Eliminate entry points by repairing structural damage, sealing holes, screening ventilation openings, and reducing outdoor hiding places like weeds and junk piles.
2. Reduce populations using a combination of traps and baits. Trap type and placement vary by rodent species and housing system. Rodenticides should be approved for poultry operation.
3. Evaluate and verify effectiveness of plan during cleanouts. If control methods are not working, adjustments must be made.

The key takeaway is that rodents are inevitable in poultry barns, but effective management depends on knowing the species present, using multiple control strategies, and continually verifying results.


ATTENTION
COMMERCIAL POULTRY FARMERS!
ANNUAL IMPLEMENTATION REPORT
APRIL
3 3 4 5 6 7
1
TURN IN YOUR REPORT BY APRIL 1st!
CAFO OPERATIONS: Remember to submit a MANURE ANALYSIS with your form!
DON'T MISS THE DEADLINE!
FORMS MAY BE COMPLETED ONLINE OR YOU CAN USE THE PAPER FORM.
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