

Seasonal Biosecurity: Fall Preparation to Strengthen Year-Round Performance

Dr. Gisele Ravagnani

PhD, DVM, Technical Marketing Manager NA – LANXESS Biosecurity Solutions

Gisele.mouroravagnani@lanxess.com

As the weather cools and conditions begin to change, fall is the perfect time for farms, especially poultry operations, to reinforce their biosecurity practices. Seasonal shifts can increase disease pressure, affect how long pathogens survive in the environment, and raise risks linked to migratory wildlife. Taking a proactive approach can help farms reduce disease pressure and be better prepared for the colder months ahead.

Fall brings a unique set of challenges that make strong biosecurity practices more important than ever:

- **Pathogens survive longer:** Cooler temperatures and increased moisture create ideal conditions for many disease-causing organisms, including Avian Influenza virus and Salmonella enterica, to remain active in the environment for extended periods.
- **Migratory birds increase disease risk:** As wild birds travel through seasonal migration routes, they can carry and spread poultry diseases, increasing the risk of exposure to nearby farms.
- **Changes in farm operations:** As temperatures drop, poultry houses are often closed more tightly to maintain indoor conditions. Without proper hygiene and ventilation, this can increase the buildup and spread of pathogens.



Because of these factors, fall is more than just a transition season. It is an opportunity to evaluate C&D products and their efficacy in cooler temperatures before winter arrives.

Strong poultry biosecurity is built on three key principles:

1. **Keep threats out:** Control the movement of people, animals, equipment, and materials from entering the farm.
2. **Reduce the potential of cross contamination:** Try to minimize the spread of pathogens between buildings, flocks and production areas.
3. **Remove disease-causing organisms:** Implement consistent and effective cleaning and disinfection practices to eliminate pathogens from the environment.

While all three pillars are essential, cleaning and disinfection (C&D) is often the area where farms can make the most immediate impact and one of the most overlooked opportunities for strengthening overall biosecurity.

Although the terms are often used together, cleaning and disinfection serve different purposes:

- **Cleaning** involves removing inanimate organic matter such as litter, manure, dust, and debris that can harbor and protect pathogens.
- **Disinfection** involves correctly applying an EPA registered disinfectant on non-porous hard surfaces to kill or inactivate bacteria, virus and fungi that remain after cleaning.



A CRITICAL RULE TO REMEMBER: Disinfection is only effective after thoroughly removing inanimate organic matter during cleaning. Material left behind can provide a barrier for pathogens, reducing disinfectant performance.

Step-by-Step Fall Cleaning Protocol for Poultry Houses

Effective cleaning and disinfection require a structured process, with each step building on the previous one.

Step	Action	Key Activities	Why It Matters
1	Dry Cleaning	Remove birds, feed, and movable equipment. Sweep or blow away dust, feathers, litter, and debris. Pay close attention to ventilation ducts, beams, and corners.	Removes the bulk of inanimate organic material to allow products to make direct contact with surfaces.
2	Wet Cleaning	Apply detergents to loosen organic matter. Wash walls, floors, fans, and drinker lines using high-pressure equipment. Allow adequate soak time.	Break down residues and prepares surfaces for effective disinfection.
3	Rinse & Dry	Thoroughly rinse all surfaces to remove detergent and debris. Allow facilities to dry completely.	Residual moisture and cleaning products can impact disinfectant performance.
4	Disinfection	Apply an approved disinfectant, ensuring full coverage of equipment, cracks, crevices, and nonporous hard surfaces. Follow label instructions for dilution rates and contact time.	Kill or inactivate microorganisms to help aid in the reduction of pathogen contamination.
5	Downtime & Monitoring	Maintain an appropriate empty period between flocks. Conduct inspections and environmental monitoring as needed.	A “rest period” allows time to reset the environment before new animals arrive.



Critical Areas Often Overlooked

During fall preparation, a few key areas deserve extra attention because they can harbor pathogens and increase contamination risk:

- **Water systems:** Clean and disinfect water lines regularly to remove bacteria and maintain water quality.
- **Feed systems:** Clean feed bins, hoppers, and augers to prevent mold, contamination, and pest activity.
- **Ventilation systems:** Remove dust from fans, air inlets, and ducts to improve air quality and reduce pathogen spread.
- **Entry points:** Maintain clean footbaths, replace disinfectant solutions regularly, and reinforce biosecurity procedures for employees and visitors.

While cleaning and disinfection are critical components of internal biosecurity, preventing pathogens from entering the farm is equally important. Effective external biosecurity starts with controlling farm access through visitor restrictions, logbooks, and dedicated clothing and footwear.



Vehicles and equipment should be cleaned and disinfected before entering production areas, and equipment sharing between poultry houses should be minimized. Farms should also take steps to limit exposure to wildlife by preventing wild bird access, maintaining rodent control programs, and eliminating standing water or spilled feed that can attract pests and provide breeding material for pathogens.

Fall is an ideal time to reinforce biosecurity systems and prepare for the challenges that come with seasonal change. Through effective cleaning, disinfection, and biosecurity practices poultry producers can help reduce pathogen pressure and support flock performance.

While no biosecurity program can eliminate the risk of an outbreak, the goal is to prevent what can be prevented and predict what may come next. Prediction is not about knowing exactly when an outbreak will occur; it is about having biosecurity products and tools, response plans, and trained personnel in place to act quickly when it does. In today's poultry industry, resilience comes from both strong C&D programs and readiness to respond.