



The Avian Influenza Crisis: Economic Impact and Biosecurity Solutions

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The ongoing avian influenza outbreak has delivered a devastating blow to the poultry industry, resulting in severe economic consequences. The poultry sector, a cornerstone of the U.S. agricultural economy, faces massive financial strain as producers grapple with supply shortages, rising costs, and operational disruptions. The latest outbreak of the H5N1 bird flu strain has led to widespread culling, market instability, and skyrocketing egg prices, all of which underscore the urgent need for enhanced biosecurity measures.

ECONOMIC IMPACT: A GROWING CRISIS

As of January 2025, the average price for a dozen Grade A large eggs surged to \$4.95, a sharp rise from \$3.65 in November 2024. In some regions, including parts of the Midwest, the South, and New York City, prices have soared to an average of \$8.49 per dozen. However, the impact extends beyond retail prices. Over the past three months, approximately 30 million chickens have been culled, representing about 10% of the U.S. hen population. This drastic reduction has forced producers to absorb significant financial losses, while retailers struggle to maintain supply chains and consumers face dwindling availability.

Beyond direct losses, the economic fallout includes:

- Increased production costs due to biosecurity measures, testing, and depopulation efforts.
- Labor shortages as workers are displaced by the crisis.
- Supply chain disruptions affecting feed suppliers, logistics providers, and processing facilities.
- Revenue losses for businesses dependent on poultry products, from restaurants to packaged food manufacturers.

With the poultry industry losing billions of dollars annually to avian influenza, it is imperative to adopt proactive measures that mitigate outbreaks before they spiral into economic disasters.

HOW AVIAN INFLUENZA SPREADS

Avian influenza spreads through multiple transmission routes, making containment a significant challenge. The virus can be airborne, traveling via droplets in the air or through dust and feathers, allowing rapid dissemination within poultry facilities. Additionally, fomite transmission occurs when the virus spreads through contact with contaminated surfaces, equipment, or human handlers. Another common vector is direct contact with body fluids of infected animals, such as saliva, milk, or feces. While this mode of transmission is more complex to control,

maintaining a controlled environment with RGF's PHI-Cell® technology can help reduce the risk of spreading the virus by continuously neutralizing pathogens in the air and on surfaces.

PHI-CELL® TECHNOLOGY: A PROACTIVE SOLUTION

RGF® Environmental Group, Inc. presents its patented Photohydroionization® (PHI-Cell®) technology as a scientifically backed, cost-effective solution to reduce the spread of avian influenza. Using proprietary UV-based technology, RGF's PHI-Cell® generates low levels of airborne hydrogen peroxide from ambient moisture, targeting and neutralizing pathogenic microorganisms, including viruses throughout the treated space. A study by Kansas State University's College of Veterinary Medicine demonstrated that this technology achieved over a 4-log reduction in H5N8 viral titers on surfaces within eight hours, indicating its potential effectiveness against similar strains like H5N1. The technology disrupts the lipid envelope and structural proteins of the virus, rendering it non-infectious.

INVESTING IN BIOSECURITY TO PROTECT THE INDUSTRY

Poultry operations must prioritize the integration of PHI-Cell® technology as an essential component of their biosecurity protocols. Unlike reactive measures such as culling, PHI-Cell® technology provides continuous protection by reducing environmental contamination, helping to safeguard both animal and human health. By implementing this advanced air and surface purification system, producers can:

- Minimize the risk of infection and reduce the need for mass culling.
- Protect supply chains from disruption.
- Stabilize egg and poultry prices by maintaining a healthier bird population.
- Prevent catastrophic financial losses that threaten the industry's viability.

The poultry industry stands at a crossroads. Adopting innovative solutions like PHI-Cell® technology can transform biosecurity strategies and provide long-term protection against avian influenza. By investing in preventive measures today, poultry operations can secure their future, ensuring economic stability and a resilient food supply.

For more details on how PHI-Cell® and UVGI technologies can benefit your facility, please contact Chris Portalatin, RGF® Environmental Group, at cportalatin@rgf.com or visit RGF's website www.rgf.com.