

# MucuSol®

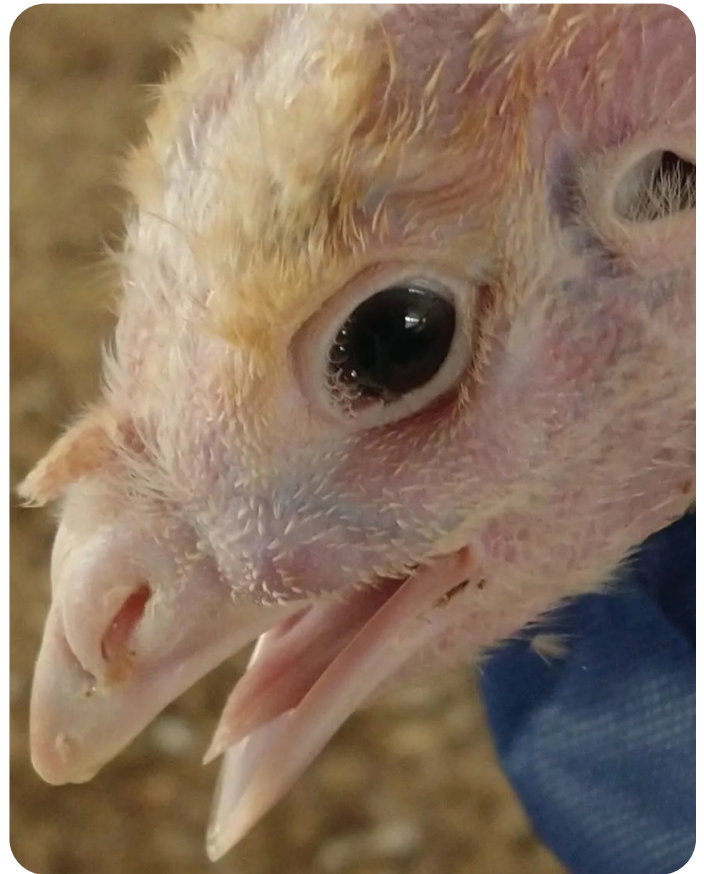
## **UNBLOCK PRODUCTIVITY PRESSURES DURING AMPV CHALLENGES**

As Avian Metapneumovirus (AMPV) emerged to be a significant problem for poultry producers, MucuSol emerged as an ideal solution, a favorite drinking water additive among poultry producers. Researchers have demonstrated MucuSol reducing respiratory congestion from viral-bacterial complexes. This research report explores a commonality between AMPV and an umbrella of similar poultry respiratory diseases; they immobilize cilia, and increase related mucus production and congestion, which are key contributors to respiratory symptoms. This problem highlights MucuSol's role in boosting cilia speed, reducing mucus production, thickness and elasticity. MucuSol is a non-antibiotic intervention, an Over-the-Counter expectorant that improves animal performance by lessening the pressure from phlem. Producers value it as a way to quickly elevate production through the drinking water.

AMPV subtypes recently isolated from commercial poultry and wild birds, which serve as difficult-to-control natural reservoirs, are producing a respiratory disease complex of AMPV plus secondary bacterial infection which damages the respiratory tract lining. It immobilizes cilia to reduce or stop their routinely rhythmic, sweeping action; a function which is critical to normal removal of infectious invaders trapped in mucus. Poultry producers reach for tools to help reduce productivity losses, improve mucus clearance and reduce airway congestion.

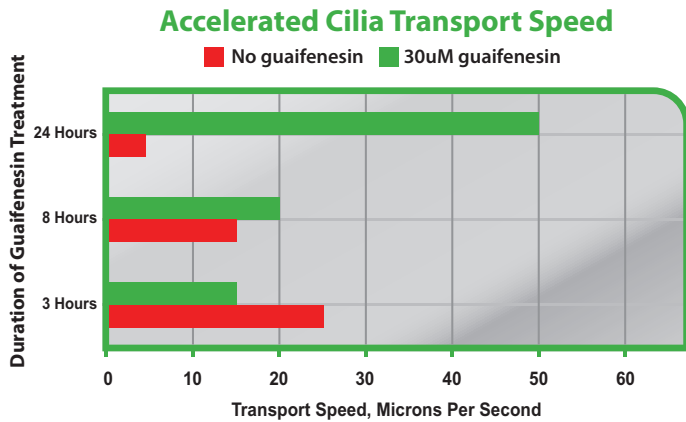
Normally, small amounts of mucus helpfully snare foreign material and protect the health of the deeper respiratory system. However, when infection sets in, mucus is stimulated to overproduction. Excess mucus becomes thicker and more elastic, slowing or stopping the finely-haired cilia escalator that should usher the invader toward the exit. Help is needed.

MucuSol's active liquid guaifenesin is well recognized for improving weakened cilia function by reducing excessive mucus production, increasing the cilia beat-rate, speeding up particle transport, and making mucus less sticky and more fluid (Figures 1-3). These positive effects have been demonstrated for MucuSol in live animal respiratory consolidation studies and in lab assessments of mucus properties. The combined effect is faster outward movement of invasive agents, loosening of mucus, easier clearance of the respiratory tract, less congestion and significantly freer breathing (Figure 4).

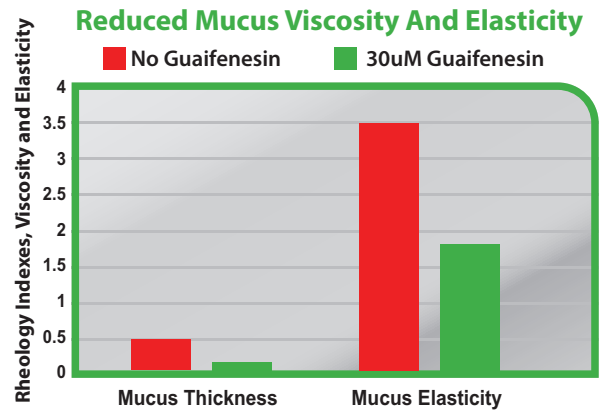


Maintaining aggressive cilia function is crucial for poultry respiratory health. Research using the drinking water additive MucuSol highlights benefits in improving ciliary activity, reducing congestion and thinning mucus for easier clearance. These three mechanisms make the respiratory tract less hospitable for invaders and make coughs and snicks more productive. Don't let AMPV stop-up your production. Unplug performance and reach for MucuSol.

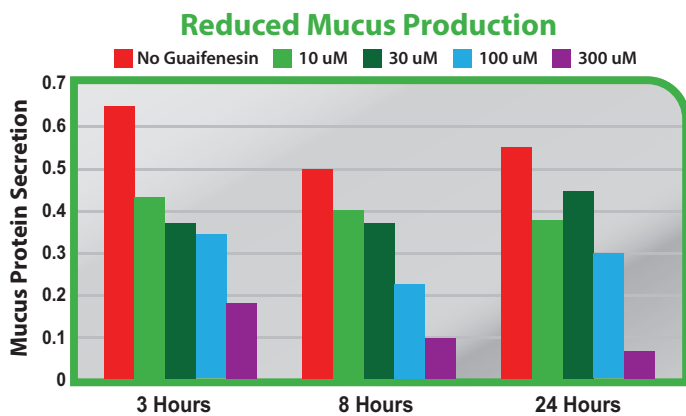
**Figure 1**



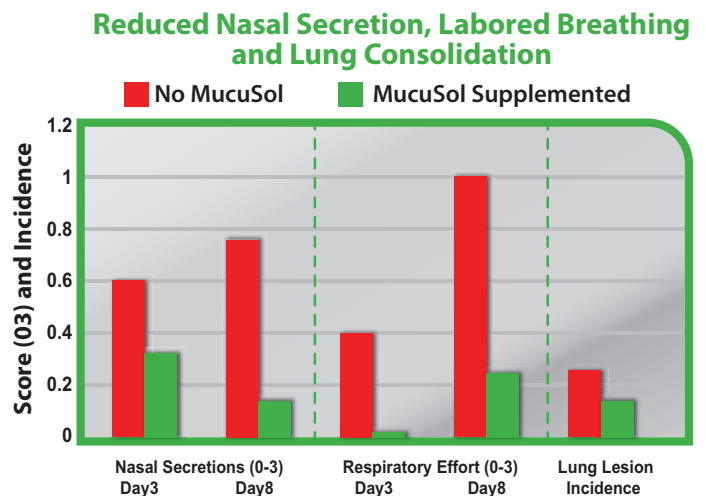
**Figure 2**



**Figure 3**



**Figure 4**



**References:**

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