

Water Distribution Auto-flushing system

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Intro to Good Practice

Maintaining proper water hygiene is essential for ensuring the health and welfare of birds.

A clean and biofilm-free water supply system is critical to prevent contamination and support optimal bird health.

Regular cleaning and maintenance of the system are crucial. While chemical cleaning at the beginning of the rearing process is a standard practice, it is equally important to employ continuous cleaning methods throughout the system's operation.



Automatic flushing system, LUBING.

<https://lubing.uk/products/drinking-system-for-poultry/hygiene-accessories/automatic-flushing-system/>

One highly effective approach is the use of an **automatic continuous flow of high-pressure water**, commonly referred to as flushing. This method relies on the mechanical removal of contaminants, effectively dislodging and washing away biofilm and other residues that can accumulate within the water lines.

To ensure that the cleaning process is thorough and effective, an endoscope camera can be used for inspection. This allows a visual check to ensure that no biofilm or debris remains in the system. A clean water supply directly supports the birds' health and promotes their overall well-being.

Background & challenges

- **Water as a Vital Resource:** Clean water is a cornerstone for the health, productivity, and welfare of birds. Contaminated water can lead to disease outbreaks and reduced performance.
- **Biofilm Formation:** Biofilm, a layer of microorganisms and organic material, often forms inside water lines, creating a breeding ground for pathogens.
- **Routine Maintenance:** Traditional chemical cleaning is effective but not sufficient on its own, especially during the production cycle, where continuous hygiene practices are needed.



Water Distribution Auto-flushing System.

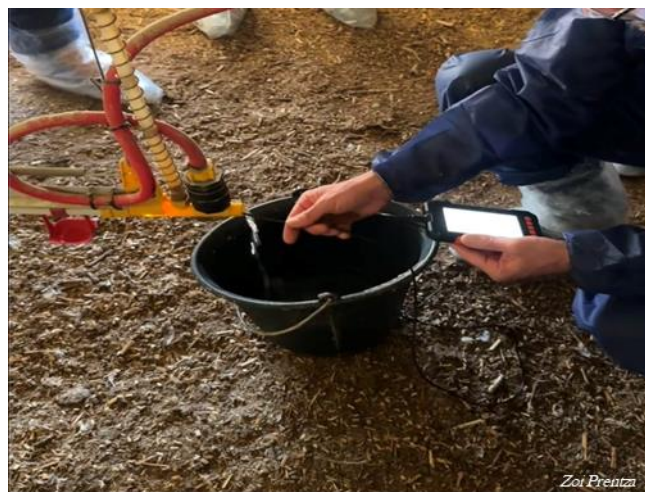
Additional information

- **Biofilm Resistance:** Biofilms are difficult to remove once established and may reduce the efficacy of water-soluble treatments.
- **High-Pressure Flushing Requirements:** Implementing a flushing system requires proper infrastructure, including pumps capable of generating adequate pressure.
- **Regular Monitoring:** Verifying the effectiveness of cleaning processes requires tools like endoscopes, which can increase costs and require technical expertise.
- **Disruption Risks:** Cleaning processes must be carefully timed to avoid disrupting water availability for the birds, especially during critical growth phases.
- **Training and Maintenance:** Workers should be trained to operate and maintain cleaning equipment effectively, ensuring consistent results.

Benefits

Investing in high-pressure flushing systems and endoscopic monitoring offers significant advantages for maintaining water hygiene in poultry farming. The associated costs, approximately €2000-3500 per poultry house for the flushing system and €100 for an endoscope, are relatively low compared to the benefits they provide:

- **Prevention of Clogs and Reduced Water Flow:** High-pressure flushing prevents blockages in the water supply system, ensuring a steady and adequate flow of water to birds. This is critical for maintaining hydration and promoting consistent feed consumption and growth.



Monitoring of biofilm build-up in water system using an endoscope

- **Reduced Risk of Infectious Diseases:** Regular flushing removes biofilm, a known carrier of viruses, bacteria, and parasites. By eliminating this contamination source, the risk of disease transmission through drinking water is significantly reduced.
- **The Improved System Longevity:** Clean systems experience less wear and tear, reducing the frequency of repairs or replacements and lowering long-term maintenance costs.
- **Enhanced Monitoring Capability:** The use of an endoscope allows farmers to verify the cleaning process, ensuring that no biofilm or debris remains. This boosts confidence in the system's effectiveness and helps to maintain hygiene standards.

Overall, these practices enhance bird health, reduce disease management costs, and support more sustainable and profitable poultry farming operations.



A short video-animation introducing a typical auto-flushing system and the way it operates:

https://www.youtube.com/watch?v=yHkq_2okGSg

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