

# Five common poultry watering myths

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The poultry industry has come a long way during the last 50 years. It's moved from backyard flocks to high tech operations. Worldwide, producers are moving away from open bell- and trough-type watering systems to enclosed nipple-type systems.

Modern nipple-type systems require less labor to maintain, but they also demand that the poultry farmer pay closer attention to the system. Ziggity's sales representatives spend substantial time in the field, working with poultry farmers to help maximize their production. They report that many times the roadblocks to better profits are misconceptions about watering practices. Below are five myths about poultry watering:

## **Myth: Increasing the water pressure will force birds to drink more.**

Broilers drink approximately 0.7 to 0.8 kg. (1.6 to 1.8 lbs) of water for every 0.45 kg. (1 lbs.) of feed they consume. However, birds can drink only so much. You cannot force them to drink more in an effort to make them eat more. In reality, increasing the pressure delivers more water than the birds can hold in their beaks. The excess water spills onto the litter, resulting in elevated ammonia levels that harm the birds and contribute to poor flock performance.

Virtually all manufacturers of nipple-type drinkers without catch cups recommend minimum pressure settings for day-old chicks. Most manufacturers recommend settings below 10 cm (4 inches) to start, while Ziggity systems recommends only 2.5 to 5 cm (1 to 2 inches) of column height pressure in order to ensure dry litter from the very start. After the first week, manufacturers differ on pressure settings,

but generally pressure settings do not go beyond 51 cm (about 20 inches) of column height.

To determine the correct pressure setting, examine litter conditions. If the litter is wet, reduce pressure until it starts to dry. Only then, increase pressure.

Producers should strive for dry, friable litter.

**Myth: A water meter where the water line enters the poultry house will tell you how much water the birds consume.**

This one confuses even some of the experts. But, the water meter measures the amount of water that goes into the house. It cannot tell you how much water the birds drink, how much is spilled onto the litter or how much simply evaporates.

Use the water meter as an early warning device. If water usage goes down unexpectedly, consider the possibility that a disease is causing the birds to drink less or that a portion of the drinker line is blocked, preventing water from getting to all of the birds. If water usage goes up, check for leaks in the system or a break in the line.

**Myth: Using chemical additives will improve your return on investment.**

This is a tricky one. Research has shown that lowering the pH and adding chlorine to the birds' water destroys harmful bacteria both in the watering lines and in the birds' crops. Some poultry farmers also have had success at decreasing ammonia levels by putting acidifiers on the litter. The acids attack the bacteria that facilitate the breakdown of uric acid. While this might promote bird growth, it may in the long run hurt your return on investment.

Many of these chemicals are acids and are inherently corrosive. Too high a level of these chemicals in the watering lines has the potential of damaging drinker

components, such as stainless steel balls, seats and triggers and metering pins in nipple-type drinkers. Acid in the litter can cause damage to other metal components in the poultry house, such as brooder stove canopies and watering system support pipes. So, an attempt to improve production can result in extensive equipment damage requiring early replacement. The key is to either use levels or concentrations of these chemicals that do not harm equipment, or avoid using corrosive chemicals all together.

Ziggity recommends that producers use chemical additives only after very careful consideration. Know what the pH of your water is and how the chemical additives will affect that level. Determine whether any gains in production will provide sufficient income to make up for the replacement costs of the damage done to the watering system and other components in the house. And probably most importantly, consider upgrading the equipment, keeping biofilm out of the watering lines and managing the drinkers so that the litter remains dry and friable. These actions can make the need for corrosive chemicals unnecessary.

**Myth: Adding chlorine to the water is all you have to do to keep the lines clean.**

Chlorine is very effective at killing certain bacteria, but chlorine alone will not keep your water lines clean. Chlorine, in the amounts used in poultry watering systems, is not sufficient to kill all of the bacteria. The surviving bacteria can attach to the pipe walls and begin creating a biofilm — a sticky substrate that protects the bacteria and attracts additional bacteria. This active colony of bacteria can seriously impact the health of your birds.

Research shows that bacteria entrenched in a biofilm are much more resilient to chlorine than free-floating bacteria. And once established, biofilm will continue to grow to the point where it can inhibit the drinkers, causing them to leak or preventing the birds from activating them.

Another problem is sediment or particulate matter that often ends up in the drinkers and causes them to leak. A filter ahead of the water line (a 5 to 10 micron cartridge) can prevent this from happening.

Ziggity recommends the most effective method to combat biofilm and sediment is with a regular schedule of high-pressure flushes. Hydrogen peroxide-based cleaners offer a highly effective tool for eliminating biofilm. Properly formulated, hydrogen peroxide becomes a powerful oxidizing agent that scrubs the interior of the pipe and drinker clean of biofilm.

**Myth: An enclosed nipple-type system cannot work in a sloped house because the slope increases pressure at the end of the line, resulting in more spillage.**

Nipple-type enclosed watering systems work best in poultry houses with perfectly level floors. If the watering line parallels the floor, the result is consistent water pressure throughout the house. Consistent pressure allows each drinker to discharge the same amount of water and makes it easier for the producer to manage the watering system and prevent wet litter.

Ziggity recommends installing slope neutralizers or pressure reducers at the proper location on the watering line to solve the problem inherent in sloped houses. These devices help to maintain a tolerable and desired range of low-pressure water in the entire system, allowing the birds to drink without spraying the litter with water.

## **Conclusion**

The poultry industry has become highly technical compared to half a century ago. However, misconceptions about poultry watering practices can make that

technology irrelevant and seriously impact results. To make best use of your watering system, you need to know what the myths are and what the facts are.