

# Using your watering system to get better return on investment

*By the Technical Team, Ziggity Systems, Inc.  
101 Industrial Parkway East, Middlebury, Indiana 46540, USA*

In the highly competitive poultry industry, producers know that even a small change in their operation can have a large impact on their production. We have found this holds especially true for the watering system. In this article, we will describe specific steps you can take with your watering system that will help you improve your return on investment.

## **Enclosed systems**

First and foremost, if you are not using an enclosed watering system, you need to change. Open systems, including troughs, bells and catch cups, allow any of the debris in the poultry house to get into the water. This can make the water a source of contamination for the birds. You need to clean the drinkers on a regular basis, usually daily. You should use a solution of bleach or other sanitizer. This is all very labor intensive and that can cost you money. Finally, open systems allow for cross contamination, where an infected bird can pass a disease to a healthy bird.

## **Monitor equipment**

Everything has a limited lifespan, and poultry watering systems are no different. Over time, the chlorine and/or acid in the water can damage the metal and plastic parts of the drinker. Additionally, the constant pecking by the birds can cause wear on internal parts; and the rubber diaphragm in the regulator can deteriorate.

There are some clear signs producers can look for that indicate a system needs replacing or retrofitting:

- High early mortality — losing too many birds in the first week to 10 days
- Lower body weights
- Higher feed conversion rates
- Wet litter that you cannot control

When you encounter conditions like those mentioned above, examine the drinkers for worn parts. Also, look for any portions of the watering system that is leaking.

There are a number of factors that affect how long a watering system will last. However, Ziggity backs most of its drinkers with a 10-year prorated warranty.

### **New developments**

Companies in the business of supplying poultry producers are constantly working to improve their product offerings. Ziggity, for instance, developed its Max3 line of drinkers for broiler applications and most recently introduced the Max8 drinker, which is designed specifically to maximize layer production by achieving and maintaining dry manure. Ziggity researchers spent three years designing, refining and field testing this drinker. The Max8 drinker is not a broiler drinker made into a layer drinker. The Max8 was built specifically to be a layer drinker (commercial layers 18 weeks and older) and nothing else.

While it is not financially feasible for producers to replace their watering system every time there is a new development, well-designed products will allow you to replace components of a system. By putting new drinkers on existing lines, you can save a substantial amount of time and money.

### **Managing the system**

Employing best practices in managing your watering system will go a long way toward improving profits. For example, some producers will boost the pressure in the watering system on the theory that the higher the pressure, the more water the birds will drink. And, the more water they drink, the more feed they will eat. The only problem with this theory is a bird's beak can only hold so much water and no more. Any extra water discharged by the drinker spills onto the litter/slats and promotes ammonia releases.

Producers should always strive for friable litter — litter that crumbles easily when squeezed into a ball. Litter like this has a moisture content of about 20 to 25 percent. Litter wetter than this can chill the birds, and it provides an ideal home for pathogens, such as E. coli, coccidiosis and salmonella, which will reduce feed conversion and increase condemnations. This negatively impacts your return on investment.

### **Fight biofilm**

Too many producers believe that because they are using an enclosed watering system, they are giving their birds clean water. But, this is not necessarily true. Bacteria exists in all water, regardless of its source including municipal supplies. These bacteria will adhere to the walls of the watering system and begin to exude a sticky substance. This is called biofilm, and scientists have determined that biofilms are the natural state for bacteria to exist.

Enclosed watering systems operate on low pressure providing little or no turbulence that can break up the biofilm. Over time, the biofilm can grow to the point where it can clog drinkers. Parts of the biofilm can also break off, and the birds can ingest it.

Producers commonly will introduce chlorine or other sanitizing agents into the watering system to kill bacteria. This will achieve hygienic water, but it does not

kill the bacteria embedded in the biofilm. Nor does it break up the buildup. The bacterial load will quickly return to pre-sanitized levels. In 24 hours at 32 degrees C (90 degrees F), a single E. coli organism multiplies into trillions.

A regular schedule of high-pressure flushing with 1.5 to 3.0 Bars (20 to 40 psi) pressure can help dislodge biofilm. Ziggity researchers also have found that properly formulated hydrogen peroxide-based cleaners are highly effective in eliminating organic buildup. The peroxide acts as an oxidizing agent, scrubbing the interior of the pipe and makes the system ready for flushing.

Eliminating the threat of biofilm will go a long way to keeping the flock healthy and profitable.

### **Conclusion**

Correctly managing a poultry watering system is not a simple proposition. However, by paying attention to the details, producers can ensure they are getting as good a return on their investment as possible.