

SIMPLIFIED WATER LINE MAINTENANCE

Derrick Ament, VAL-CO

The goal of every poultry farmer is to grow healthy birds with consistent weights, and water plays a large part in making that happen. We tend to focus on the amounts of water – how much is supplied? How much is consumed? Important, but perhaps we should focus first on water quality and accessibility. All that worry about flow rates and water pressure doesn't mean anything if the lines are dirty, crooked, or uneven.



What happens when water lines are dirty?

Dirty lines often contain sediment from the water source or from additives that are run in the water for production improvement. The sediment gets caught in the nipple seat and causes the drinkers to leak, resulting in wet floors. Dirty lines also have biofilm and scale deposits. Biofilm is a collection of bacteria and other organisms that live together in a sticky film inside pipes, regulators, and nipples drinkers. It protects itself with a mucous membrane (slime) that neutralizes cleaners and releases bacteria into the water that the birds are drinking. Scale is a result of hard water and mineral build up in the pipes and can limit or even block water flow through the system.

How to fix dirty water lines?

Three things need to happen to keep water lines clean. The first is high pressure flushing. The second is high concentration cleaners. The third is low concentration daily cleaners.

High pressure flushing removes the sediment in the lines and can also help to wash out the biofilms and scale deposits that are loosened after cleaning. It's recommended that lines be flushed at least one time per week, for one minute per every one hundred feet. Lines should also be flushed after running medications, vaccinations, or anything else through the medicator, to prevent biofilm growth.

High concentration cleaners are used to break down the biofilms and scale deposits that can inhibit water flow or affect water quality. Always follow manufacturer recommendations on concentration and application, and always flush the line thoroughly afterwards.

Low concentration cleaners are run daily through the water lines. The concentrations are high enough that the birds are not affected by their presence, but the formation of biofilms is still prevented.

What happens when water lines are crooked?

Air locks. Air locks occur in high points in the water lines and prevent water flow through the entire length of the system. This is most common with young birds when pressures are too low to push through the lock, but can occur at any stage. These air locks can cause drinkers upstream from the air lock to leak, but they also create "dead spots" where large groups of birds may be receiving little to no water. The result is dehydration and decreased food consumption that leads to lower bird weights – detrimental in broiler operations where every day counts.

How do you fix or prevent air locks?

We recommend raising both the regulator and end-kit 1" higher than the rest of the line so that air can escape out at these points. If the line is greater than 150' in length, consider adding a mid-line air vent.

What if the lines are uneven?

Flow rates are dependent on water pressure. Water pressure increases with the angle of the slope, therefore, uneven lines result in a variation of flow rates through the nipples from one section of the house to the next. Uneven lines can also result in unequal drinking opportunity – lines might be too high for birds in one spot and too low for them in another. In either situation, the impaired access to water negatively impacts growth.

How can you make sure they're even?

Measure them! It can be tedious and time consuming but the advantages of having even water lines far outweigh the time spent leveling them out.