

What's in the water can impact commercial layer performance

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An important element of managing a commercial layer watering system is to maintain control over what is in the water you give to your birds. Most poultry operations derive their water from wells. About half of all poultry farms rely on the same well to supply water to their families, as well as their flocks.

As water percolates through the earth to recharge the water table, it acts as a universal solvent and picks up what ever it comes into contact with. For this reason, groundwater changes over time. Farmers should test their wells on a regular basis — at least annually and more often in times of drought. Also, consider testing the well any time the taste, color or odor of the water changes, or if unexplained illnesses occur in the family.

A variety of substances can impact your water and affect your birds and/or the eggs. For instance, water with a high saline content can cause thin, misshapen or soft eggs. Too much iron can give water a metallic taste and might cause the birds to stop drinking. A day without water will cause a hen to stop laying. Some of these conditions have simple remedies; others might require the help of an expert and some specialized equipment.

Acidity or pH

pH is a scale, ranging from 0 to 14, that measures how acidic a substance is. Anything with a pH below 7 is acidic; anything with a pH above 7 is alkaline. A pH of 7 is considered neutral.

It is important to note that the pH scale is not a simple one-step measure. It is a logarithmic measure. That means lowering the pH from 7.2 to 6.2 increases the acidity of the water by 10 times. Lowering pH to 5.2 makes it 100 times more acidic, and lowering to 4.2 is 1,000 times more acidic.

Some producers use acidifiers in the water to improve flock performance. What you need to consider in this situation is whether the gain in production will outweigh the cost of replacing components of the watering system damaged by the acid. We know of one producer who had to replace all of the drinkers in his poultry house twice in less than a year because his acidification program was too aggressive. That cost him about \$4,000.

Salinity

Too much salt in the water can not only affect shell quality, but it can contribute to watery feces or refusal to drink.

A variety of inorganic substances can contribute to water's salinity, but magnesium, calcium, sodium and chloride are the most common. Birds have the ability to adapt to saline conditions, but abrupt changes in salinity content can cause problems mentioned above. Producers also need to consider the amount of salt in the birds' feed because this can contribute to the birds' total salt intake.

Among the treatments for water with a high saline content are desalination and diluting the water with less salty water. However, the costs of these treatments may be prohibitive for a layer operation. Ziggity recommends getting the advice of a professional for this situation.

Sulfates

High sulfate concentrations are usually a naturally occurring problem. Excessive sulfates in the water can have a laxative effect, but that usually will pass once the birds become acclimated to the water. Younger birds are most susceptible to

this. However, sulfates in high concentrations can give the water a bitter taste and cause the birds to decrease consumption.

One way to deal with high sulfate concentrations for new birds is to dilute the water with purer water. As the birds age, gradually cut back on the amount of pure water and let the birds become acclimated to the sulfate concentration. Other treatment options, such as reverse osmosis or distillation, are not feasible for poultry operations.

Iron

Another naturally occurring element that can affect a layer operation is iron. Iron does not pose a health hazard to the birds, but it can impart a bad odor and taste to the water, causing a decrease in consumption. If iron-feeding bacteria are present, they can develop into a reddish brown slime or biofilm that can coat interior well parts. This can drastically diminish the effectiveness of the well pump.

If the slime is in the well, a shock treatment with chlorine can handle the problem. High-pressure flushing with the use of a hydrogen peroxide cleanser can resolve slime problems in the drinking system. Ziggity also recommend using a filter ahead of the watering system if iron is a problem. (Ziggity actually recommends filtering all water entering the house.)

Conclusion

Your watering system — how it performs and the water it delivers — is an integral element in the success of your cage layer operation. Not only must you tend to the mechanics of the system, you have to know what you are providing to your birds through the water.

