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ANIMAL NUTRITION

POULTRY NEWS & UPDATES

GETTING MORE FROM YOUR WATER METER

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Managing the water in your barn is now more important than ever. Water is a great indicator of performance and can be a tool for setting up a successful ventilation program in your barns. High moisture levels in the barn can lead to wet litter which causes issues like coccidiosis outbreaks, foot pad lesions and contributes to respiratory problems. Wet litter problems can be seen more frequently in antibiotic free flocks, as they are more susceptible to sub-clinical infection causing wetter excreta, as well as in flocks fed a plant-based diet due to the higher fiber content resulting in more feces being excreted[1]. While access to clean, fresh water is essential for a healthy flock, there is so much more we can do with the data we are getting from the water meter.

Monitor Flock Performance

Water and feed consumption are very closely linked and follow a similar intake pattern[1]. It has been consistently found that chickens will consume 1.6-2 times the amount of water to feed[1]. If the birds are not drinking, they are not eating and if they are not eating, they are not growing. Many producers check and record water meter usage daily, but they are not getting the full potential out of that data. We can take the daily water meter readings and create an intake curve specific to the number of birds and equipment in your barns. Such a graph can be used as a quick and easy visual to estimate if a flock is on target. This can be a very useful tool in barns where bird scales are unavailable. It can also give an early indication of illness or equipment malfunction in the barn, which is why checking your water meter readings should be an essential part of your daily barn management.

[1]From data presented by Brian Fairchild, University of Georgia. 2019.

Improve Air Quality

The water meter can also be a useful tool in helping to improve the air quality in the barn. The water lines are the largest source of moisture entering the barn. Chickens only retain 20% of what they consume, which means 80% is being released back into the barn environment, mainly as feces[1]. When setting ventilation levels, you must consider all the water being added to achieve a balance for ideal litter moisture and air quality.

Ammonia can be one of the main contributors to reduced air quality. Ammonia management can often be overlooked, as accurate monitors can be quite expensive, and come with a short lifespan. Luckily, ammonia follows a similar pattern to relative humidity in poultry barns[1]. This means that by adjusting ventilation to control relative humidity, we can also control ammonia levels. This is done by removing the moisture that contributes to ammonia production before it accumulates. By increasing ventilation earlier in the flock, we can prevent the build up of moisture in the barn that causes problems.

Using programs provided by the University of Georgia, we can take the historical daily water meter readings, along with barn dimensions, to calculate the CFM required to remove the excess water being released back into the barn environment. This will provide the basis for your custom ventilation program that is designed to maintain the desired relative humidity in the barn. Relative humidity should be monitored throughout the flock to ensure the target of 40-60% is being met. The result will be a ventilation program designed for optimal air quality and litter moisture management. When describing how to best manage moisture levels in poultry barns, Brian Fairchild from University of Georgia has said, “You have to be preventative, instead of reactive.”