Vaccinating broilers with the watering system

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

The watering system has become the preferred method for administering live vaccines to broiler flocks because of the amount of labor it saves. A producer can vaccinate thousands of birds at one time. However, producers need to ensure that they perform the vaccination process correctly. Mistakes in administering the vaccine can destroy the vaccine virus and result wasted time and money. This article addresses the role of water and the watering system in the process.

Water quality

The quality of water used in the vaccination process is of vital importance. Water consists of more than hydrogen and oxygen atoms. It also contains a variety of substances dissolved or suspended in it. Those added materials could drastically affect the vaccine. For instance, chlorine in water from a municipal system can kill the virus.

To reduce the number of substances in the water, discontinue using any disinfectants and additives one to two days before the vaccination date. Also, consider adding skim milk powder to the water to protect the virus from chlorine or other materials. The skim milk acts as a protein source and the vaccine virus attaches to it. Sometimes, producers will substitute fatty milk powder because skim milk powder is more difficult to find. However, fatty milk powder does not dissolve as well as skim milk, and it leaves more residue on the walls of the pipes. (The manufacturer of the vaccine or a veterinarian can offer advice on how to use this strategy.)

Ideally, water coming into the poultry house should meet the same microbiological standards as potable water for human consumption. The water

should be clear, odorless and tasteless. To meet this standard, test the water on a regular basis (at least annually) to determine its makeup.

Water quality, however, can change over time. Producers should pay particular attention to the source of their water during times of drought. As the water table lowers, the quality of water can change.

Clean and biofilm free

Besides having clean water, ensure that the watering system's interior walls and the drinkers are clean and biofilm free by administering a hydrogen peroxide-based cleaner and performing a high-pressure flush. (Always fallow the watering system manufacturer's recommendations for effective flushing and the hydrogen peroxide producer's guidelines for effective use and safe handling requirements.)

Refrain from using any disinfectants and additives for about 24 hours before the scheduled vaccination intervention. Conduct the hydrogen peroxide intervention and the first flush at this time. This will ensure the system is clean by removing biofilm, chemicals and any impurities in the pipes.

Perform a second hydrogen peroxide cleaning and high-pressure flush about 24 to 48 hours after the vaccination. This removes any lingering skim milk or dead vaccine that can build up on the walls of the pipes. Remove this material because it is nutrient rich and encourages pathogens and the formation of biofilm.

Administering the vaccine

The best time to administer vaccine is early in the morning. The birds are most active then and water consumption is at its peak.

Turn off the water supply and allow the birds to drink the line dry. This will take about an hour. Confirm that lines are dry by removing a drinker and check for the absence of water. Then, winch all watering lines well above the birds' heads so that they cannot reach the drinkers.

Withhold all water from the flock for about 90 minutes. This will make the birds thirsty and ready to drink. When water starving a flock, take into account weather conditions. For instance, in very warm weather, decrease the amount of time that water is withheld. The birds should not become overly thirsty because then they will fight for the water, spilling medication.

Use the water starvation time to create a stock solution according to the manufacturer's instructions. Producers can inject the stock solution into the supply lines with a proportioner or can mix the solution in a holding tank at the proper stock solution to water ratio. Maintaining the proper ratio is very critical for effective and desired results.

Allow the vaccinated water to fill all the watering lines from end to end. Then, lower the lines and gently drive birds to the drinkers. This is especially important for young chicks. During the birds' first three weeks of life, water consumption is erratic. While it's difficult, try to ensure each bird gets at least one dose of the vaccine. Do not provide any other source of water until the flock has consumed the vaccine.

With long drinker lines, some producers worry that birds at the start of the drinking line receive more vaccine than those at the far end. Check this by putting a harmless food-grade dye into the water and watching how much it stains the birds' tongues at different sections of the line. Experts generally say a vaccination is successful if up to 90 percent of the birds exhibit the dye on their tongues.

The watering system has evolved into a great tool for vaccinating large numbers of birds at once. With careful planning and preparation, this delivery method can ensure birds receive the vaccine in a timely and effective manner fashion.