

Water Vaccination

Getting It Right the First Time,
Every Time



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Administration of live vaccines through the water is a commonly used technique within the poultry industry.

Vaccines are given to healthy flocks on the recommendation of a veterinarian prior to an anticipated challenge and after maternal antibodies are gone. Certain vaccines such as Newcastle Disease Virus or Fowl Cholera can be given by other routes (injection or spray) while Hemorrhagic Enteritis Virus (HEV) vaccine can only be given through water administration. Most turkey flocks will be challenged by HEV at 7 to 9 weeks of age. Consequently it is critical that all birds are vaccinated correctly at about 4 weeks of age in order to develop the necessary antibodies to protect them against the subsequent field challenge. One of the most common consequences to HEV infection is colibacillosis. Many growers who experience *E. coli* infections have changed their HEV vaccination program from administering the vaccine once to administering it twice or changing from a milder tissue culture type of vaccine to a harsher splenic type of vaccine product. In many cases, getting the water vaccination procedure right the first time, every time will eliminate additional costs of a second vaccine and stresses on the flock due to the type of vaccine administered.

An effective vaccination program begins with a clean water delivery system, which includes everything from the well to the drinker itself. If the system is not clean and free of biofilm, this will impair the viability of the live vaccine being delivered to the flock and consequently the flock will not develop adequate protection to withstand field challenge. A sound cleaning and disinfection program of water lines between flocks followed by consistent water sanitation and monitoring program needs to be followed.

Prior to vaccine administration, the water delivery system must be prepared to receive a live vaccine and the water quality favorable to keep the vaccine alive until consumed by the flock. Sanitizing agents such as chlorine which are harmful to live vaccines must be removed. Use of a commercial vaccine stabilizer which contains a natural reducing agent, a buffer and a coloring agent or dye is highly recommended.

Finally, each and every bird within the flock must receive a dose of live vaccine. To accomplish this, the flock must be thirsty and consume the vaccine before the vaccine starts to die. Just dumping the vaccine into the delivery system and hoping each bird gets a drink and therefore vaccinated will not be sufficient.

On the following page is a step-by-step vaccination procedure that can be followed to improve or maintain good vaccine protection for your flock. It includes recommended times for administering the vaccine. The most important principle to remember is that most flocks consume the largest portion of their daily water intake in the first few hours of daylight. Therefore, it is advantageous to capitalize on this period to help ensure all birds get a drink of water containing the vaccine.

Vaccination Procedure to Get It Right the First Time

1. Rinse vaccination tank with water. If using a proportioner, ensure the container that the vaccine will be mixed in is clean and has not been used for chlorine or any other type of disinfectant or pesticide.
2. Turn chlorine off 48 hours prior to anticipated vaccination date.
3. Administer vaccine stabilizer according to label instructions 24 hours prior to time of vaccination.
4. On the day of vaccination (example):
 - a. Flush tank or container and pump with fresh water.
 - b. At 5:30 AM, turn the water off to the birds and raise the drinkers so they are unable to drink.
 - c. Fill the tank with the necessary water available to last between two and three hours from the time the vaccine is started until the pump is turned off. Normally, 25-30% of the daily water consumption will be necessary to vaccinate a flock in this time period. This timing allows the vaccine to remain viable in the water system.
 - d. Add vaccine stabilizer and blue dye tablets (if the stabilizer does not provide this) to the tank water or container if using a proportioner with the necessary vaccine at approximately 7:00 AM (or 1.5 hours after turning the water off to the flock) and begin running the vaccine water to the drinkers.
 - e. Flush the lines until the water at the far end of the system is the color of the vaccine water. Dump any non-vaccine water remaining in the drinkers into a bucket.
 - f. Lower the drinkers back to bird level after all drinkers are blue and allow birds to consume vaccine.
 - g. Encourage birds to consume the vaccine by walking through the house every 15 minutes until vaccine is consumed. Check consumption by looking at the color of individual bird tongues throughout the barn. They should be a lighter shade of the dye color used in the vaccine water.
 - h. Place flock back on sanitized water approximately three hours after vaccine water is emptied out of the tank or the proportioner container is empty.

Effectively administering a live HEV vaccine through the water to a healthy flock of turkeys will help improve bird health, livability, flock uniformity and leg issues by preventing secondary E.coli infections.

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