



1044 S.E. Dixie Cutoff Road
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TECHNICAL BULLETIN

POULTRY & LIVESTOCK DRINKING WATER HOW TO ASSURE A CORRECT FREE CHLORINE RESIDUAL EXISTS AT ALL TIMES

In order to always have a properly chlorinated water supply, chlorine needs to be injected and thoroughly mixed into a moving body of water, which is why chlorination occurs only when the well pump or pumps are on and running. The moving water then becomes the vehicle that takes the chlorine throughout the distribution system. When you first add chlorine to the water, some of the chlorine is quickly consumed in satisfying the chlorine demand. Enough chlorine must be added to assure an excess exists after the demand is satisfied and remains in the water at all times as free chlorine residual. The free chlorine residual remaining assures that the water is properly disinfected throughout the entire drinking water line and that no infiltration, stagnation, or recontamination has occurred.

To assure your poultry and livestock drinking water is properly disinfected at all times, the water **MUST** be periodically tested to assure that a free chlorine residual exists. For example, many poultry growers have reported benefits with free chlorine residual levels between 1.0 PPM and 5.0 PPM. This can sometimes be a difficult task due to the fact that each drinker line is dead-ended. Water is removed from these lines only when the animals are drinking. To further compound the issue, water is removed from many intermediate drinker locations along the individual lines and not necessarily at the ends of each line. The water can be trapped and become stagnant as the free chlorine residual is consumed. To prevent this condition, the end of each line should have a sampling/flush valve.

To periodically test the water, a good-quality chlorine residual test kit with fresh reagents is needed. These kits are easy to use following the instructions provided and are generally capable of testing for free as well as total chlorine residuals. **Free chlorine residual** is needed since it provides quicker bacterial kill using minimal amounts of chlorine.

Chlorine residual tests should always be taken at the furthest end of each drinker line. To perform a residual test;

1. Slowly open the sampling/flush valve at the end of the line to be tested.
2. Following the instructions provided with the chlorine residual test kit, rinse the sample water vial provided with the test kit a few times with the water to be sampled, then fill the vial with the proper volume of sample water.
3. Add the appropriate quantity of **free chlorine residual reagent** to the sample water again following the instructions provided with the test kit.
4. Determine the **free chlorine residual** level existing in the sample water.

If the free chlorine measured is less than 1.0 PPM and no one has changed the chlorine gas feed rate to cause this condition;

5. Open the sampling/flush valve fully, allowing the water to be flushed outside to an appropriate drain location. The flushing should continue long enough so that the well pump and chlorinator turn on in order to bring a freshly chlorinated supply of water into the line while the water is draining.
6. After an appropriate drain time interval, close the sampling/flush valve then repeat steps #1 through #4 above until the desired **free chlorine residual** is obtained. **Adjust the chlorinator gas feed rate if necessary to obtain the correct reading.**
7. Proceed to the next drinker line and repeat this procedure. Continue until all lines have been tested

Residual testing of the drinking water should be done at least once per day for each drinker line.

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