

# Bacteria Tests- What do they mean?

## What type of bacteria are tested?

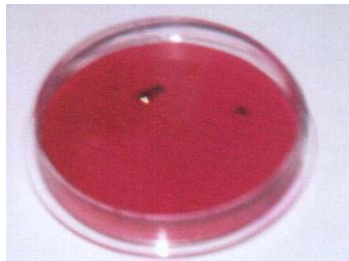
The most common bacteria tests detect coliform bacteria. There are many types of coliform bacteria. Coliform bacteria, by itself, is generally not a health issue. The presence of coliform bacteria is only an indication that the water source has decaying organic material in it. The presence of decaying organic material suggests a potential contamination from surface water and, hence, indicates that the water source is at risk.

Fecal coliform is only present in the waste of animals. E-coli is a type of fecal coliform and is only present in the waste of warm blooded animals. A test for fecal coliform or e-coli is a better indicator of the source of the contamination. A positive test does not mean that the source is from a septic field or septic tank. The source could be the result of contaminated surface water leaking into the water or simply a dirty faucet.

## What type of tests are available?

There are numerous types of bacteria tests that can be done on water. There are, however, two basic categories of tests. One determines the presence or absence of bacteria and the other produces an actual count of colonies that the bacteria grows on a plate. A description of each follows:

- Presence/Absence- A sample is placed in a vial with nutrients that will grow coliform bacteria. If coliform is present, the solution in the tube will change color. If e-coli is present, the solution will glow when exposed to ultraviolet light. The results will only be positive or negative. The amount of bacteria will not be determined in this type of test.
- Count- a sample of the water is passed through filter paper that will trap bacteria on its surface. The filter paper is then placed in a petri dish with nutrients that will grow bacteria. The bacteria will grow and form spots. Each spot is called a colony. The results are reported in colonies per volume of water filtered. The standard volume of water used in this test is 100 ml, therefore, the results will commonly be reported in colonies per 100 ml.



You can tell the lab you want either type of test done for coliform, e-coli or fecal coliform.

## What should I ask for?

A standard coliform test that simply shows the presence of the bacteria is sufficient to determine if there is a potential problem with the water. You really don't need to know how much coliform there is because any amount of coliform indicates a contamination of the sample.

## What does a positive bacteria test mean?

A positive test for bacteria is really only that -a positive test. It does not tell you where the contamination came from. The contamination could have just as easily come from a dirty faucet tip as it could have from bad well design or installation. The information you get back with a positive test will tell you to chlorinate and retest. We often recommend a second confirmatory test after an initial bad test. We recommend this for two reasons:

- It is very easy to get a bad test and hard to get a good test.
- Secondly, chlorination can be a long process. Getting the chlorine into the well is generally much easier than getting it out. It may take days to even weeks to properly flush all the chlorine out of the well. Taking a test before all the chlorine is gone will only give you a false negative test (a test that says everything is ok when in fact it is not)

## Is there a way to determine if the septic system is at fault?

Bacteria can be filtered out of water that has passed through several feet of soil. Detergent will not be filtered by the soil. Any water that reaches a well from a septic system will have detergent in it. The easiest way to determine if the source of the contamination could be from the septic system is to do a detergent test.