

WHAT DOES MY MICROBIOLOGY REPORT MEAN?

COLIFORM BACTERIA:

Coliforms are a group of bacteria that are used as indicators of the potential presence of pathogens, viruses or parasites in a sample. These microbes are defined as a group of bacteria having specific properties including the ability to grow at 35C in the presence of bile salts and able to ferment lactose. Coliform bacteria are divided into two types: Total & Fecal.

Total Coliform are bacteria that require complex organic nutrition and grow at elevated temperatures. They are a part of the microbial flora that makes a septic field work or they may be found in environments with high biological activity such as decomposing leaf-litter. Total Coliform bacteria in a water supply suggests that the supply is at significant risk for pathogen or parasite contamination.

Fecal Coliforms are bacteria and are a normal part of feces of warm-blooded animals. The presence of these bacteria would indicate an extreme risk that the water supply could become (or is) contaminated with bacterial pathogens, enteric viruses or parasites. *Escherichia coli* (E.coli) is one of the fecal coliform bacteria.

LACTOSE FERMENTORS OR TOTAL NON-COLIFORMS:

Lactose Fermentors (or Total Non-Coliform Bacteria) are bacteria that grow under the same restrictive conditions as the Coliform bacteria but do not conform to the narrow definition of Coliforms. Elevated numbers of these organisms in a water supply (greater than 1.0 colony forming units per milliliter in treated water or equal to or greater than 2.0 colony forming units per milliliter in raw water) are considered an unacceptable risk. These organisms are bacteria capable of growing at body temperature and inhabit environments with complex organic material. This group frequently contains enteric bacterial pathogens such as *Aeromonas* spp.

YEAST AND FUNGI (MOLDS):

Yeast and fungi are normally found on wet or moist surfaces with an organic nutrient source such as aerators, screens or in nature on leaf surfaces and top soil. Their presence in a drinking water supply would indicate a need for cleaning point sources such as the kitchen taps or a general clean of the plumbing for accumulated debris in the pipes. It may also mean that part (or all) of the water supply is coming from the surface. This helps to evaluate the condition of the water. There is no specific health guideline for the presence of yeast and fungi in domestic drinking water.

TOTAL PLATE COUNT:

Total Plate Count is a measure of the biological activity in a sample. This is a count of all (heterotrophic) bacteria, fungi (molds) and yeast that will grow in aerobic or microaerophilic conditions. This test is usually done at 35C to estimate population levels that are able to survive in or on humans.

The test may be used to:

- 1) evaluate the efficacy of a treatment process such as sanitation or sterilization of drinking water
- 2) measure the safety of a product or water supply
- 3) measure a product (such as food) deterioration or 'shelf-life'

AEROMONAS spp:

Aeromonas spp are bacteria that are commonly found in surface freshwaters. These bacteria are often present in water supplies that were inadequately or incompletely treated. Although these organisms are considered freshwater bacteria, they are pathogens capable of causing diarrhea or flu-like disease in humans and animals.

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