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## Home Water Testing Important

Home water test kits are available from University of Nebraska Extension Offices and Natural Resources District offices. The water testing is done at the Grand Island Hall County Health Lab, the local NRD office or at the State of Nebraska Health Lab.

It is recommended that home well water sources be tested once a year for coliform bacteria. Testing for nitrate-nitrogen level should be done every 2-5 years. A water test for pH, hardness, or fluoride are good for ten years or more. Coliform bacteria are types of bacteria which inhabit the human gut and quickly take advantage of a lag in the immune system to cause diarrhea and/or more serious health problems. These bacteria represent a health risk far exceeding concerns about nitrate or many other factors.

Water tests need to be carefully collected in order to get accurate test results. The bacteria test is meaningless unless a sterile collection bottle is used. Once a sealed sterile bottle is acquired, follow these guidelines. Set the sealed bottle in a clean dry location and leave it sealed. Remove all in-line filters, and the aspirator at the end of the faucet. Wash these areas with tap water if there is debris accumulated. Start the water running and let it run a steady stream for five minutes. Let the water run as you pickup the sample bottle and remove the seal. Hold the sample bottle at a forty-five degree angle, remove the lid and hold it in your hand as you collect the sample. Once the bottle is full replace the lid and wipe the outside of the sample bottle dry. This whole sample collection should be done in a minimum amount of time. The angle helps to reduce the possibility of bacteria floating in the air to contaminate the sample.

Sample bottles for nitrate-nitrogen testing have a strong acid in the bottle to kill bacteria which should allow for a more accurate nitrate-nitrogen test. Before collecting this sample turn the water to a slow flow in order to avoid splashing the acid on your hands.

Sample collections should be done on Monday, Tuesday, or Wednesday and mailed or delivered promptly to the lab ensuring the testing is accomplished without weekend delays.

The acceptable level of coliform bacteria in the water is zero. Soil is a good filter to clean out bacteria. If coliform are found in the well one of several reasons needs to be identified and corrected. The well and/or water delivery system are not sealed properly and dead animals and bugs have introduced the bacteria. There could be a crack in the casing near the soil surface allowing bacteria in without soil filtration. You may have back flushed water laden with bacteria into the system by not having a backflow protection device. Your well might be too close to the septic tank. The closest I have seen is a well located in the septic tank drain field and an open dug well located in the middle of a cattle lot. The last and frequent problem is that your collection procedure contaminated the sample. Sometimes this is reported as TNC (too numerous to count). Poor samples will often have so many bacteria colonies growing that the lab will not be able to complete the test. The nitrate-nitrogen level should be below 10 ppm. If it is higher, take your time and study options for reduction.

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