



Department of Extension Animal Sciences and Natural Resources

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Spring is the time to test the water quality of your private well

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Spring is just around the corner, and for private well owners it's time to think about having your well water tested. Water quality of private wells is not regulated or monitored by state or federal agencies, which means that well owners are responsible for ensuring that their water is safe for consumption, crop irrigation, or livestock watering, depending on what the water is used for. Experts agree that spring and early summer are the best times of the year to have your well water tested. Depending on what you use your well for (drinking, irrigation, washing) you will need to test for different contaminants. Wells should also be checked every spring to ensure that there are no mechanical problems.

How often should private wells be tested for different compounds?

Yearly:

Private wells should be tested once a year for total coliform bacteria, nitrates, total dissolved solids, and pH levels.

- **Total coliform bacteria** are microbes found in the digestive tracts of warm-blooded animals. They are found in soil, on plants and in surface water. If the total coliform count is high, it can indicate that harmful viruses, parasites, and bacteria that can cause illness are found in the water.
- **Nitrate** in your well water can come from animal waste, private septic systems, wastewater, storm runoff, fertilizers, decaying plants, and agricultural runoff. The presence of nitrate in well water will also depend on the geology of the land around your well. Well water with nitrate levels higher than EPA standards can make people sick and should not be consumed without being treated first.
- **Total dissolved solids (TDS)** are a measure of the amount of organic and inorganic materials, such as metals and salts, dissolved in a particular volume of water. The units used to measure TDS are milligrams per liter (mg/L) also known as parts per million (ppm). Sources of TDS in water can be both natural and man-made and include natural water springs, lakes and rivers, chemicals used to treat municipal water, runoff from roads and yards, even home plumbing systems. According to the EPA drinking water regulations, 500 ppm is the recommended maximum amount of TDS for drinking water.

- The **pH** of your water tells you how acidic or basic it is and can affect how your water looks and tastes. If the pH of your water is too high or too low, it can damage your pipes, cause heavy metals to leach out of the pipes into the water, and can make you sick.

While yearly testing at a minimum is recommended, you may want to test more often if there are small children or elderly adults living in the house, or if someone is pregnant or nursing, as these segments of the population are more susceptible to contaminants than others.

Periodically: Other chemicals

If the presence of other contaminants is suspected, well owners should test for those as well. Well water should be tested at least once for arsenic, cadmium, fluoride, iron, lead, manganese, hardness, sulfate, and uranium. If you live in an area that may be subject to industrial pollution, or near a mine or mill site, testing periodically for contaminants of concern, such as arsenic and uranium is recommended. Other harmful chemicals that you should test for will depend on where your well is located on your property and whether you live in an urban or rural area. These tests could include testing for lead, mercury, radium, and atrazine, or other pesticides. You can check with New Mexico Department of Health, New Mexico Environment Department, or the EPA to find out if any of these contaminants are a problem in your region.

Other circumstances under which you should test your well immediately are:

1. If you notice a change in your water quality (i.e. odor, color, taste)
2. If there are known problems with ground water or drinking water in your area
3. If conditions near your well have significantly changed due to flooding, land disturbances, or new construction/industrial activity
4. If any part of your well system has been repaired or replaced

Getting your water tested

If you use your well water for drinking purposes, make sure to use a laboratory that is certified for drinking water. In New Mexico, a list of certified laboratories is provided by the New Mexico Environment Department at the following site: https://www.env.nm.gov/drinking_water/sampling-and-analysis/.

Many laboratories will provide information and assistance to help you sample well water correctly and provide you with proper sampling containers. If your well is used for crop irrigation or livestock watering, water should be tested for things like nitrates, salinity, sulfate, and metals to ensure levels do not exceed those considered safe. More information on these and other compounds, as well as corresponding levels considered safe for all classes of livestock, can be found in NMSU Extension Guides M-112, *Water Quality for Livestock and Poultry* (http://aces.nmsu.edu/pubs/_m/M112.pdf), and M-114, *Nitrate in Drinking Water* (http://aces.nmsu.edu/pubs/_m/M114.pdf).

Free testing of well water: Water fairs in New Mexico

In New Mexico, about 10 water fairs are held each year in communities throughout the state where private wells can be tested for free. These water fairs are conducted by the New Mexico Environment Department in conjunction the New Mexico Department of Health. Each water fair event provides free testing of water samples for arsenic, electrical conductivity (salinity), fluoride, iron, nitrate, pH, and sulfate on a first come first served basis. For more information on these events, how to collect water samples for such events, and the dates and locations of upcoming fairs, visit

<https://www.env.nm.gov/gwqb/water-fairs/> and <https://www.env.nm.gov/general/free-well-water-testing/>

References

Centers for Disease Control and Prevention (CDC)

<https://www.cdc.gov/healthywater/drinking/private/wells/testing.html>

New Mexico Environmental Public Health Tracking (NM-EPHT) Private wells testing

<https://nmtracking.doh.nm.gov/environment/water/PrivateWellTesting.html>

New Mexico Environment Department Water fairs <https://www.env.nm.gov/gwqb/water-fairs/>

New Mexico Environment Department Free well water testing <https://www.env.nm.gov/general/free-well-water-testing/>

New Mexico Environment Department Drinking Water Bureau

https://www.env.nm.gov/drinking_water/sampling-and-analysis/

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