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## Home Water Testing<sup>1</sup>

Judith C. Stewart, Ann T. Lemley, Sharon I. Hogan, Richard A. Weismiller, and Arthur G. Hornsby<sup>2</sup>

### Should You Have Your Water Tested?

The question of whether or not to have your water tested is a serious one that concerns the health of you and your family. Your water should be safe to drink and acceptable for all other household uses. In addition to illness, a variety of less serious problems such as taste, color, odor and staining of clothes or fixtures are symptoms of water quality problems. Even water that appears problem-free may not necessarily be safe or acceptable.

Not everyone needs to test their water and it is impractical and unnecessary to test for all possible contaminants. This fact sheet provides a few guidelines for deciding whether or not to have your water tested, and if so, what tests would be appropriate for your situation. Your county Cooperative Extension agent can offer you further assistance and information.

### Public Versus Private Water Supplies

Many homeowners get water simply by turning on the faucet and making a monthly payment to a municipal water system. Others provide their own water. Your water supply is either public (you and others are connected to the same water system) or private (you supply your own water). Public water systems draw water from rivers, reservoirs, springs or ground water wells. Most private drinking water comes from wells, though springs and ponds are sometimes used.

If your water comes from a public or municipal water system, your water is regularly tested for contaminants regulated by Federal and state standards, such as pathogens, radioactive elements and certain toxic chemicals. However, some public water supplies may have water quality problems caused by inadequate municipal water treatment facilities or distribution systems. Some rural water supply districts do not have enough money to hire trained specialists or to immediately comply with expanding government requirements. In addition, corrosive water or deteriorating pipes in the house may add

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  2. Judith C. Stewart, extension support aide, Ann T. Lemley, associate professor, College of Human Ecology, Cornell University, Sharon I. Hogan, communications consultant, and Richard A. Weismiller, soil and water resource specialist, Department of Agronomy, University of Maryland, Arthur G. Hornsby, professor, Soil and Water Science Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611-0290. Originally written and produced in 1988, revised 1988-89, by Cornell University and the University of Maryland under the sponsorship of the USDA Extension Service.

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contaminants to municipal drinking water after it enters your home.

If you obtain drinking water from your own well, you alone are responsible for assuring that it is safe. For this reason, routine testing for a few of the most common contaminants is highly recommended. Even if you currently have a safe, pure water supply, regular testing can be valuable because it establishes a record of water quality. This record can be helpful in solving any future proband in obtaining compensation if someone damages your water supply.

### When Should You Test Your Water?

Whether you have a public or private water supply, you should have your water tested if the following situations arise:

- *If family members or house guests have recurrent incidents of gastrointestinal illness: **Test for coliform bacteria, nitrate and sulfate.***
- *If household plumbing contains lead pipes, fittings, or solder joints: **Test for pH, corrosion index, lead, copper, cadmium and zinc.***
- *If you are buying a home and wish to assess the safety and quality of the existing water supply: **Test for coliform bacteria, nitrate, lead, iron, hardness, pH, sulfate, total dissolved solids (TDS), corrosion index and other parameters depending on proximity to potential sources of contamination.***
- *If a water softener is needed to treat hard water: **Test for iron and manganese, which decrease the efficiency of cation exchange softeners, before purchase and installation.***
- *If you wish to monitor the efficiency and performance of home water treatment equipment: **Test for the specific water problem being treated upon installation, at regular intervals after installation, and if water quality changes.***
- *If water stains plumbing fixtures and laundry: **Test for iron, manganese and copper.***
- *If water has an objectionable taste or smell: **Test for hydrogen sulfide, pH, corrosion index,***

**copper, lead, iron, zinc, sodium, chloride and TDS.**

- *If water appears cloudy, frothy, or colored: **Test for color, turbidity and detergents.***
- *If pipes or plumbing show signs of corrosion: **Test for corrosion index, pH, lead, iron, manganese, copper and zinc.***
- *If water leaves scaly residues and soap scum, and decreases the cleaning action of soaps and detergents: **Test for hardness.***
- *If water supply equipment (pump, chlorinators, etc.) wears rapidly: **Test for pH, corrosion index.***

### Private Water Supplies

#### Routine Tests

The testing frequencies in this fact sheet are general guidelines. Test more often if you suspect there is a problem with the quality of your drinking water.

- Once each year test for coliform bacteria, nitrate, pH and TDS. It is best to test for these contaminants during the spring or summer following a rainy period. These tests should also be conducted after repairing or replacing an old well or pipes, and after installing a new well or pump.
- Every 3 years test for sulfate, chloride, iron, manganese, lead, hardness and corrosion index.
- If a new baby is expected in the household it is a good idea to test for nitrate in the early months of a pregnancy, before bringing an infant home, and again during the first 6 months of the baby's life.

#### Special Situations

Where you live, or what you are living next to, can sometimes affect the quality of your well water. If someone in your family becomes ill, or the taste, odor or color of your water changes, your water supply may be contaminated.

- *If your well is in an area of intensive agricultural use: Test for pesticides commonly used in the area, coliform bacteria, nitrate, pH and TDS.*
- *If you live near a coal or other mining operation: Test for iron, manganese, aluminum, pH and corrosion index.*
- *If your well is near a gas drilling operation: Test for chloride, sodium, barium and strontium*
- *If your water smells like gasoline or fuel oil, and your well is located near an operational or abandoned gas station or buried fuel storage tanks: Test for fuel components or volatile organic compounds (VOC's).*
- *If your well is near a dump, junkyard, landfill, factory, or dry cleaning operation: Test for volatile organic chemicals (such as gasoline components and cleaning solvents) pH, TDS, chloride, sulfate and metals.*
- *If your well is near seawater, and you notice the water tastes salty or signs of corrosion appear on pipes: Test for chloride, TDS and sodium.*

### How Should You Collect Test Samples?

Most testing laboratories or services supply their own sample containers. Use the containers provided and carefully follow the instructions given for collecting, preserving and handling water samples. Samples for coliform bacteria testing must be collected using sterile containers and under sterile conditions. Some procedures require that water runs from an inside tap for several minutes before filling the sample containers. Other instructions ask you to collect samples in the morning, after water has been confined in the pipes overnight. Laboratories may sometimes send a trained technician to collect the sample or to analyze the sample directly in your home.

Ask if this service is available since you may obtain better samples and therefore more reliable test results.

### Where Can You Have Your Water Tested?

- Municipal water supply systems regularly test for primary contaminants, monitor levels of sodium and certain unregulated chemical contaminants, and look for corrosion in the water distribution system. They will provide water quality reports upon request.
- Private testing laboratories are listed in the yellow pages of the telephone book. Make sure they are certified by your state health department or responsible agency for certification.
- County and state health laboratories, departments of health, and local hospital laboratories often offer water testing services.
- Water treatment companies and plumbing supply stores may offer certain tests in your home for free.
- Laboratories in local universities, especially in their departments of chemistry, agronomy, toxicology, or natural resources, may offer water testing services.
- Local engineering firms may also test water for certain contaminants.

Contact your local Cooperative Extension agent for information about water testing in your area.