



HOUSING & ENVIRONMENT

THE UNIVERSITY OF GEORGIA
COOPERATIVE EXTENSION SERVICE
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HOME WATER QUALITY AND TREATMENT

The quality of your water supply can have both an immediate and a prolonged effect on the health of your household. Unfortunately, many Americans, especially those dependent upon well water, assume that their water is safe and healthy. Here are some common misconceptions:

MYTH: There is no cause for concern if my water tastes good and looks clear.

FACT: Many contaminants do not affect the taste and appearance of your water, but will affect your health.

MYTH: One simple test can check for all contaminants.

FACT: No one test can check for all contaminants. First test for the most common contaminants (nitrate, total coliform bacteria, etc.) to determine if your water system is vulnerable to contamination.

MYTH: I should be more concerned about my drinking water if it comes from the public water works than if it comes from a well.

FACT: Not necessarily. The public water supply is required by law to be regularly tested to determine if it meets the standards of the Environmental Protection Agency. Wells, especially if they are poorly constructed, can become contaminated and should be routinely tested (at least once a year). Be sure to have your water tested if you suspect a problem. Once you have established the nature of the problem, an appropriate means of treatment can be determined.

HOME WATER TREATMENT

In recent years, home water treatment systems have become very popular as a result of increased concern about the quality of public and private water supplies. Unfortunately, some companies specializing in these treatment systems use scare tactics and other efforts to frighten the consumer into buying their product. It is best to use caution and do some research before investing in any home water treatment system.

Your Home Water Supply

Before buying a home water treatment system, determine why such a system is needed. Public water supplies in the United States are required by law to be tested for their safety. However, private water supplies (such as wells) should be regularly tested to insure their safety. Testing by a certified lab provides the needed unbiased information. Such testing will enable you to decide what treatment system is best for you.

The Quest for "Pure" Water

Many companies specializing in water treatment systems would have you believe that their product can eliminate all bacteria, minerals, and contaminants from your water supply. No system is capable of such service. "Pure" water is costly to produce, bland tasting, and corrosive.

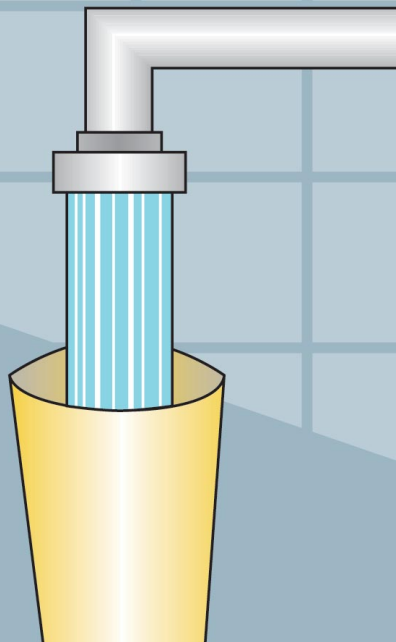
BEFORE CHOOSING A WATER TREATMENT:

1. Test your well water and learn about the contaminants found. Talk to your local county extension agent.
2. If contamination is detected, first locate and try to control the source of contamination. You might not need a treatment system after identifying the source.

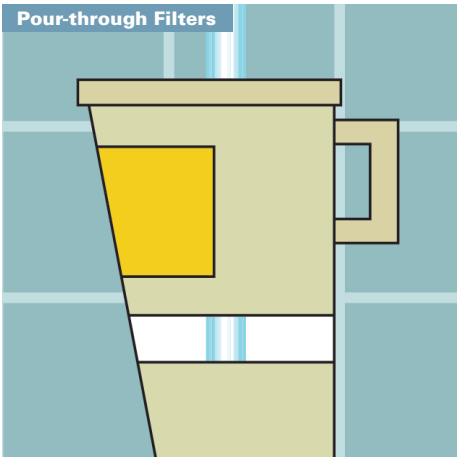
BUYER BEWARE

Your best defense against making a bad purchase is to be an educated consumer. Keep the following tips in mind when selecting your home water treatment system.

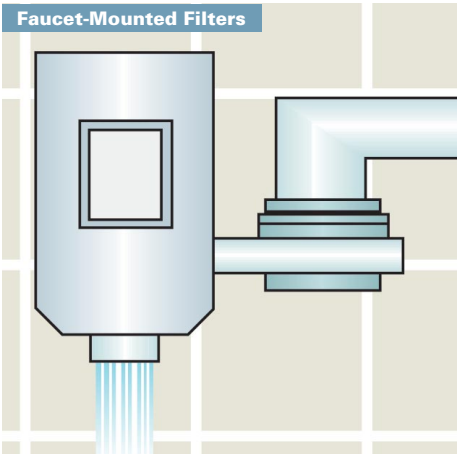
- Salespeople are not necessarily scientists. In-home demonstrations that indicate poor water quality should be regarded with suspicion.
- Beware of special prizes and other gimmicks that try to force you to buy. Legitimate businesses do not use these practices.



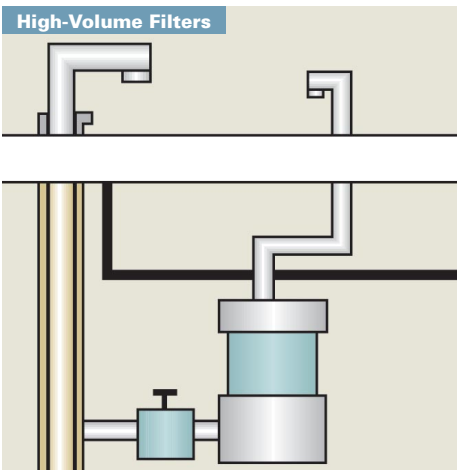
Pour-through Filters



Faucet-Mounted Filters



High-Volume Filters



- Any claim that a treatment system has been tested or registered by the Environmental Protection Agency (EPA) is false. The EPA does not test or register these systems.
- To date, no single treatment system can remove all bacteria, chemicals, and minerals.

HOME WATER TREATMENT SYSTEMS

There are a variety of home water treatment systems that cater to a variety of needs. Here are a few:

■ **Activated Carbon Filters** are commonly found in stores and advertised on television. They are typically used to remove tastes, odors, and small amounts of organic contaminants. Activated carbon filters can be placed in three categories:

1. **Pour-through filters** function like a drip coffee maker. Water is poured through the top, filtering to the bottom. They are slow and can only filter small quantities of water.
2. **Faucet-mounted filters** attach directly to the kitchen faucet. They are quick and convenient, but require frequent changing.
3. **High-volume filters** include far more activated carbon than the other two filters and hook directly into the cold water line, often under the sink. A bypass can be used to provide a separate faucet for cooking and drinking water.

■ **Water Softeners** are used to treat hard water (high in calcium and magnesium), which interferes with the cleaning action in soaps and detergents. Be aware that the softening process will increase sodium levels in your water.

■ **Distillers** remove virtually all contaminants, but are difficult to maintain, slow-working, and often provide bland-tasting water.

■ **Reverse Osmosis Units** are used to remove inorganic contaminants and some organic chemicals. Their rate of removal efficiency decreases with time.

■ **Sand Filters** can be useful in removing silt, sediment, small organisms, and organic matter from your water.

■ **Shock Chlorination** is a treatment procedure, not a treatment system. It serves to kill bacteria.

UNSEEN PROBLEMS

While some of the problems associated with water quality can be discovered through sight and smell, many of the most harmful contaminants do not affect the odor or appearance of your water supply. These include:

■ **Heavy Metals.** Caused by industrial waste pollution or corrosion products, heavy metals can be effectively treated using a water softening device, deionization, or reverse osmosis.

■ **Nitrates.** These pollutants are the result of human and animal waste or fertilizers infiltrating your water supply. Nitrates can be especially harmful to infants, causing a serious blood disorder known as "blue baby syndrome." Distillation and reverse osmosis remove nitrates, but boiling water should NEVER be used as a treatment, as it concentrates nitrates.

■ **Radioactive Contaminants.** Natural radium activity is one possible cause of this form of contamination. Water softening, deionization, and reverse osmosis can be useful as treatments. Remember that carefully researching water treatment systems is necessary because of the almost endless number of products available. Understanding your water problem, as well as any prospective treatment plans, is essential to ensuring a safe water supply.

When choosing a home water treatment system, remember to ask questions and compare products.

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Sources:

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January 2003 - Circular 858-3

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, The University of Georgia College of Agricultural and Environmental Sciences and the U.S. Department of Agriculture cooperating.

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