



## DISINFECTING WELLS AND HOME WATER SYSTEMS

C. Wayne Keese  
Extension Agricultural Engineer

Water wells submerged by flood waters may be contaminated and those supplying water for household use should be disinfected before the water is used in the home.

Inspect the pump, motor and controls. Clean and dry the motor and control switches if they have been submerged. Clean and lubricate pump bearings. Be safe--be sure the power is off before cleaning and repairing electric switches and motors.

Many contaminants which may have entered the well can be removed by opening a faucet near the well and operating the pump. Pump the well to waste until the water is clear.

Chlorine solutions are readily available, easy to use and effective disinfectants when properly used. Several chlorine compounds are available, but the following instructions are based on the use of common household bleach (Clorox, Purex,\* etc.) which contains 5.25 percent chlorine as its only active ingredient. A solution containing about 100 parts per million available chlorine (100 parts of chlorine to 1 million parts of water) should be used for sterilizing the well and piping system.

First, determine the volume of water in your well. Table 1 shows the gallons of water per foot of depth in wells. Multiply the gallons of water per foot of depth by the number of feet of water in the well to obtain the total gallons of water in your well. For example, a 6-inch well with 20 feet of water would contain 30 gallons of water ( $1.5 \times 20 = 30$ ).

Table 1. Gallons of water per foot of depth in wells.

Well casing diameter	4"	6"	8"	10"	12"
Gallons of water per foot of depth	.65	1.5	2.6	4.1	5.9

\*Trade names

Next, determine the amount of chlorine solution required to disinfect the well. For a concentration of 100 parts per million chlorine, 0.8 quart (about 3 measuring cups) of 5.25 percent chlorine laundry bleach is required for each 100 gallons of water. For smaller quantities of water, use the proportion of 1/2 tablespoon of 5.25 percent chlorine bleach to each gallon of water. (Note: 16 tablespoons equals 1 cup).

Mix the appropriate amount of chlorine solution with a small amount of water and pour the solution into the well casing. Mix the solution in the well by attaching a hose to a nearby faucet, operating the pump and directing the flow from the hose into the well casing. Wet all interior surfaces of the casing and the drop pipe, if possible. Leave the chlorine solution in the well for at least 4 hours and then disinfect the piping system by opening every faucet and valve, one at a time, and allowing water to flow until you smell the chlorine odor. If chlorine odor cannot be detected at all faucets, repeat the previous steps. After chlorine has been spread throughout the water system, let it stand for at least 2 hours. Do not use water from the well until the system has been flushed.

Flush the system by pumping through every faucet and fixture until neither chlorine odor nor taste is noticeable. Check effectiveness of the disinfection process by having water samples tested for the presence of coliform bacteria. Use a sterile container supplied by the State Department of Health and carefully follow instructions supplied with the container.

Effective chlorination should remove temporary contamination caused by the entry of polluted surface water or by repairs to the well.

*Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socio-economic levels, race, color, sex, religion or national origin.*

---

Cooperative Extension Work in Agriculture and Home Economics, The Texas A&M University System and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.