

Ripple Effect #41

DISINFECTING CONTAMINATED WELLS

If your well becomes inundated with floodwater this spring, you will need to disinfect it to assure a safe domestic water supply. Floodwater carries bacteria, viruses, parasites, and other disease-causing organisms, as well as chemicals. Sediment that enters your well during flooding can also cause problems for your pumps and plumbing system.

The North Dakota Department of Health has compiled the following information on how to properly disinfect a contaminated well.

The simplest and most effective way to disinfect a well is to properly apply a chlorine solution to kill any harmful bacteria in the well and plumbing. To rid a well of harmful bacteria, the well should first be pumped to remove as much contaminated water as possible. After pumping, the well should be treated with a chlorine solution.

The effectiveness of disinfection depends on the concentration of disinfectant, the time it is allowed to remain in the water, well construction and overall water quality. To ensure effective disinfection, the following steps should be followed.

Procedure for Disinfecting a Well

1. Before you start, you need to know the diameter of your well casing pipe and the depth of water in your well. If you don't have a copy of your well driller's log, you can measure the diameter of your well casing pipe and the depth to the top of the water in your well. Subtract the depth to the top of the water in your well from the total depth of your well to get the depth of water in your well. Use the table provided below to determine how much chlorine you will need.
2. Pour the chlorine and water mixture into the well casing pipe. If you are repairing or constructing a well, chlorine should be added just before you install the pumping equipment.
3. Bacteria are destroyed when they come in contact with chlorine. Agitate the water in the well to ensure thorough mixing. To do this, turn on your outside faucet. Using a hose, rinse down the inside of the well casing until you can smell the chlorine in the water coming out of the hose. If you have a deep well with a high water level, you may need to add chlorine through a hose inserted down the well casing pipe.
4. The tanks, pipes and fixtures in your water system should be disinfected at the same time as the well. Open all faucets and let the water run until the odor of chlorine is apparent.
5. Then turn off all faucets. Allow the chlorine solution to remain in the well and piping system for 12 to 24 hours. Before drinking the water or using the well, pump the well and run all taps until you can no longer smell chlorine.

Quantity of Disinfectant Required

Diameter of Well Pipe in Inches	Disinfectant for every 10 feet of water in your well		
	5-1/4% Sodium Hypochlorite*	65% Calcium Hypochlorite**	
		Tablets	Powder
2	2 1/2 teaspoons	1/4 tablet	1/2 teaspoon
3	2 Tablespoons	1/2 tablet	3/4 teaspoon
4	1/4 cup	1 tablet	1 1/4 teaspoon
5	1/3 cup	1 1/4 tablets	2 teaspoons
6	1/2 cup	1 3/4 tablets	1 Tablespoon
8	1 cup	3 1/4 tablets	1 1/2 Tablespoons
10	1 1/4 cups	5 tablets	2 Tablespoons
12	2 cups	8 tablets	3 Tablespoons
18	4 cups	16 tablets	1/2 cup
24	1/2 gallon	30 tablets	1 cup
36	1 gallon	65 tablets	2 cups
48	2 gallons	116 tablets	3 1/2 cups

For assistance in disinfecting your well or to find out where to have your water tested, call your local or state/provincial health department, or a certified well driller.

Until the next Ripple Effect,

The Red River Basin Commission (RRBC)

The RRBC is a grassroots organization that is a chartered not-for-profit corporation under the provisions of Manitoba, North Dakota, Minnesota, and South Dakota law. Our offices in Moorhead, MN and Winnipeg, MB can be reached at 218-291-0422 and 204-982-7254, or you can check out our website at www.redriverbasincommission.org.