

# CLEAN UP FLOODED WELLS BEFORE USING

Water pumped from wells that have been submerged by floodwater should be disinfected before being used for drinking, food preparation and other domestic needs, warns Tom Glanville, Iowa State University Extension agricultural engineer.

Wells located in lowland areas along streams or drainage ways can be contaminated with silt and bacteria if floodwater enters through the top of the well.

Ideally, wells should be located on high ground that is not subject to flooding or pond like conditions. Wells that are located in lowland areas, however, should be constructed with a watertight casing that extends at least two feet above the highest known flood level, Glanville said. In addition, earth should be mounded around the casing to promote drainage of water away from the well.

If a well is flooded, check for silt accumulation inside the well. If the water is cloudy, the system should be flushed until the water clears. Then the interior of the well and the pumping equipment should be disinfected with a strong chlorine solution, a procedure known as "shock chlorination."

If the well has been submerged by floodwater but no silt is present, you must still shock chlorinate the system. A well driller or plumber can do this for you, or if you want to do the job yourself, see the county extension director in your county for detailed instructions contained in "Shock-chlorinating Small Water Systems," Pm-899.

Be cautious when working in a well or well pit, Glanville warns. Dangerous gases and a shortage of oxygen can occur in some instances, particularly if proper ventilation is not supplied.

After the well is cleaned and disinfected, a water sample should be tested for coliform bacteria to ensure that the disinfecting was thorough and the water is safe to drink.

During the period before the well can be properly sanitized, water drawn for drinking, food preparation, etc., should be disinfected. Water pumped from a flooded well may contain waterborne bacteria or viruses that can cause typhoid, infectious hepatitis, dysentery, diarrhea and other diseases.

Glanville said small batches of clear water can be disinfected by using any one of three common emergency disinfecting procedures:

1. Vigorously boil clear water for at least two minutes. The flat taste of boiled water can be improved by pouring the water back and forth from one clean container to another to aerate the water.
2. Add four drops of household chlorine bleach having 5.25 percent sodium hypochlorite to each quart of clear water. Be sure to use a new bottle of bleach if possible because the chlorine content declines with age. Do not use any bleach that contains soap. The treated water should be stirred and allowed to stand for 30 minutes. The water should have a slight chlorine odor. If no odor is detected, repeat the treatment and wait 15 more minutes. Water with too strong a chlorine taste will become more palatable if allowed to stand exposed to the air.
3. Add 10 drops of 2 percent United States Pharmacopeia (U.S.P.) tincture of iodine to each quart of clear water, mix thoroughly and allow the solution to stand for 30 minutes.

Note that these emergency disinfecting procedures apply to clear water. Cloudy or colored water is very difficult to disinfect because suspended dirt particles can harbor and protect disease-causing organisms from the disinfecting process. For this reason, cloudy water should be filtered through clean cloth or allowed to settle before disinfecting with heat or chemicals.

Source: Iowa State University Extension Service