Nitrates in Drinking Water Warning

March 04, 2011, 10:11 AM
http://www.edhat.com/site/tidbit.cfm?nid=50265

Water wells and septic systems may be sources of drinking water that have levels of nitrates. Excessive nitrates can cause health problems and they can also be a sign of overall water quality. If you get your drinking water from a well it is recommended that you test your water for nitrates at least once every 3 years. If an infant or a pregnant woman lives in the household, testing is highly recommended.

Nitrate levels at or above the level set by the Environmental Protection Agency (EPA) have been known to cause a blood disorder that can be fatal in infants under six months of age, known as "blue-baby" syndrome (methemoglobinemia). Babies with blue-baby syndrome have reduced oxygen-carrying capacity in their blood. Others at risk from excess nitrates in drinking water are:

• Pregnant women
• Individuals with reduced gastric acidity, and
• Individuals with hereditary lack of methemoglobin reductase

The EPA set the Maximum Contaminant Level (MCL) of nitrate as nitrogen (NO3) at 45 mg/L, (or 45 parts per million) for the safety of drinking water.

In Santa Barbara County, as in other regions of the Central Coast, agricultural practices and septic systems have been linked to higher levels of nitrates in drinking water. Although any well can become contaminated by nitrates, shallow, poorly constructed or improperly located wells are more at risk. Higher levels of nitrates may suggest there are other contaminants such as disease-causing organisms, pesticides or chemicals that could cause health problems.

For more information, please go to the Environmental Health Services website at: www.sbcphd.org/ehs

What are Nitrates?

Nitrates (NO3) are a vital source of nitrogen (N) for plants. When nitrogen fertilizers are used in the soil, nitrates may be carried by rain, irrigation and other surface waters through the soil into ground water. Human and animal wastes can also add to nitrates in ground water. High nitrates in drinking water may also suggest there are other contaminants.

Who is at risk from high nitrates in drinking water?

Nitrate levels at or above the level set by the Environmental Protection Agency (EPA) have been known to cause a blood disorder that can be fatal in infants under six months of age called "blue-baby" syndrome (methemoglobinemia). Babies with blue-baby syndrome have reduced oxygen-carrying capacity in their blood. It is difficult to know how often blue-baby syndrome occurs in California because it is not required to be tracked and reported.

Others at risk from excess nitrates in drinking water are:

• Pregnant women
• Individuals with reduced gastric acidity, and
• Individuals with a hereditary lack of methemoglobin reductase.

Testing recommendations

The EPA has set the Maximum Contaminant Level (MCL) of nitrate as nitrogen (NO3) at 45 mg/L (or 45 parts per million) for the safety of drinking water. If you get your drinking water from a well, it is recommended that you test your water for nitrates at least once every 3 years. This is highly recommended if there is an infant or someone is pregnant in the household.
What can you do if you have high nitrates in your drinking water?

If your drinking water sample tested above the MCL for nitrates and you or someone else in your home is at risk of developing health problems due to high nitrates, you should not drink the water. Find a different water supply such as bottled water until you can find a more permanent solution.

There is no simple way to remove all nitrates from your water. Identifying and treating nitrate contamination is the best course of action. Boiling water will in fact increase the levels of nitrates. Reverse osmosis, ion exchange and distillation units could provide home treatment for removing nitrates from water. Activated carbon and other simple filters do not remove nitrates to any significant degree. Home treatment units, such as point of use and point of entry devices, are generally not recommended as a long-term solution to assure nitrate-free water for infant use. Your only long-term option may be to find a new source of water. For further information and/or assistance contact the Environmental Health Division at 805-681-4900 or 805-346-8460.