

# NITRATES IN DRINKING WATER: A GUIDE FOR RURAL AND FARM FAMILIES

Everyone should have access to a clean source of drinking water. Most rural families depend on private wells for their drinking water. Ground water is the source of your drinking water.

The nitrate level in drinking water is regulated by the U.S. Environmental Protection Agency. The maximum amount allowed is 10 milligrams of nitrate ( $\text{NO}_3 \text{ } \delta\text{N}$ ) per liter of water. This standard was established to prevent a blood disorder that can affect infants who consume water containing nitrates. Higher nitrate levels can adversely affect cows, sheep, and young pigs and chickens.

Nitrate is a common rural ground water contaminant, and may indicate the presence of other contaminants. It's up to you to have your drinking water tested to check its quality. There are three main sources of nitrate contamination in rural ground water.

**\* Septic System \*** A properly working septic system only removes half the nitrates in wastewater. The remaining nitrates can percolate through the soil to the ground water. If a septic system leaks or was improperly installed, even more nitrates could enter the groundwater. A septic system should never be located within 100 feet of your well.

**\* Manure Application and Storage \*** Over-application of manure on fields or applying manure at the wrong time can result in excess nitrates entering the ground water. Have a manure nutrient analysis done to determine how much manure to apply, and calibrate your manure spreader. Spread manure on outlying fields too, not just the fields closest to the barn. Manure storage tanks, manure piles, or lagoons should never be located within 200 feet of your well. The proper application of manure can also save you money by reducing your use of commercial fertilizer.

**\* Commercial fertilizer application \*** The same problems with manure spreading also exist for commercial fertilizer application. Calibrate your application equipment. Apply the right amount at the right time to prevent ground water contamination and reduce costs.

It is nearly impossible to remove nitrates from ground water once contamination occurs. This is also true for contaminants such as insecticides and herbicides.