

# Gray Water Facts

Prepared by the Montana Department of Environmental Quality, Public Water Supply Program  
For more information call (406)444-4400 or visit the DEQ website at [www.deq.mt.gov](http://www.deq.mt.gov)

## What is Gray Water?

Gray water is untreated wastewater collected from bath tubs, showers, lavatory sinks, clothes washing machines, and laundry tubs. If properly collected and stored, it can be safely re-used for irrigation, thereby reducing fresh water consumption. Reuse of gray water can also reduce the load on septic tanks and drain fields.

Gray water may contain fats, oils, grease, hair, lint, soaps, cleansers, fabric softeners and other particulates. Since gray water is high in suspended solids, it is recommended that you filter your irrigation water.

## How Can Gray Water be Used?

It is best to use gray water on ornamental plants and lawns, or to irrigate trees. No plants that will be consumed by humans are permitted in a gray water irrigation system.

## Is Gray Water Safe for Plants?

Not all plants are a good match for gray water systems. Gray water is more alkaline than rainwater. Plants that normally grow in acidic soils do not tolerate gray water. To insure a healthy growth environment, match your plant's irrigation needs with the amount of gray water they'll receive. It is advised that you consult with a nursery, extension agent or landscape architect for additional information.

Water with high salinity, either from natural sources or from water softeners can cause degradation of clay soils and is harmful to some plants. Please be aware that non-phosphate detergents can raise the salt content of gray water.

## How Should I Apply Gray Water?

Gray water may only be applied subsurface. Gray water should not be used for dust control, cooling, spray irrigation, or any other use that would result in air-borne droplets or mist. Infiltrate gray water into the soil; don't allow it to pool or run off (knowing the percolation rate of your soil when designing your irrigation system will help with this). Salts within the soil horizon can be diluted by irrigating alternately with gray water and either potable water or stored rainwater.

## What Regulations Apply to Gray Water Use?

All gray water systems must be permitted by the local county health department. Gray water irrigation system designs must comply with ARM 17 Chapter 36 and DEQ 4, however gray water reuse within a building, used for such purposes as toilet flushing, is not subject to review by DEQ.

## What Precautions Should I Take to Use Gray Water Safely?

In any gray water system, it is essential to put nothing toxic down the drain--no bleach, dyes, bath salts, cleansers, chemicals, or products containing boron. Chlorinated gray water can kill beneficial soil organisms and poison your plants. Gray water from washing diapers or other infectious garments must be discharged to a residential sewer or other approved wastewater facility.

Label all gray water reuse fixtures as non-potable and use purple piping for plumbing and irrigation. To eliminate potentially unpleasant odors, don't store gray water more than 24 hours. Routine maintenance is important to ensure a well functioning system.