

City scientists, CSU Extension help with water re-use study

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You can't live in the arid Southwest without being keenly aware of the importance of better management of our scarce water resources. As regional water supplies decline and Colorado's population and industries continue to grow, future water demands may not be met within our state. That's why we read or hear about drought and water conservation and most recently, the practice of water re-use.

In the near future, states like Colorado may rely on "gray water," which is a term for water already used once in showers, baths, bathroom sinks and washing machines. Researchers at the Colorado State University Urban Water Center estimate using gray water to flush toilets and irrigate lawns and landscapes could reduce our household water use by approximately 50 percent.

Gray water contains household products, such as shampoos or detergents, and the effect on the environment is virtually unknown at this time. That's why CSU professors Sybil Sharvelle and Larry Roesner started a three-year research project to study the effects of irrigating with gray water. Specifically, the researchers are looking for negative effects on humans or plants.

That's where the City of Grand Junction Environmental Laboratory comes into play. The laboratory, in conjunction with Denis Reich, Western Slope water specialist, performed tests on bacteria for the study. From January through March 2009, gray water from baths, showers, sinks and washing machines was collected by volunteers from Curtis Swift's master gardener class, at CSU Cooperative Extension Service. These samples were delivered to the City of Grand Junction Environmental Laboratory, who conducted the monitoring on total coliform and E.coli bacteria. Results of these cultures will be used in the researchers' study.

The findings from the analyses of these data are obviously still pending, but the study's conclusions may guide Colorado lawmakers in regulating the use of gray water. Re-use of gray water in Colorado is currently possible but involves extensive engineering and permitting to be legal.

There are also water-rights issues to overcome if gray water is to be re-used in the same area where it originates, which is the case here in the Grand Valley. Currently, Colorado water law dictates that water can be used for a specific water right once and then must go back to the stream for other water-rights holders to use downstream. But this study may help lawmakers decide whether gray water re-use could be a widespread possibility in Colorado.

*We live in a semiarid climate where droughts will always be a part of our environment. Water for our future means conserving now. The Drought Response Information Project (DRIP) is a collaboration between the valley's domestic water utilities and CSU Cooperative Extension to*

*provide information and educate the public about drought and the importance of water conservation.*