



## GREY WATER

### ***What is grey water?***

Grey water is waste water generated from hand basins, baths, showers, washing machines, kitchens sinks and dishwashers. Black water is waste water from toilets. Many garden plants will thrive on grey water if care is taken to avoid the build-up of salts, fats and oils, and chemicals that may be toxic to humans or destroy soil micro-organisms. Kitchen wash-water may contain food particles and fats, which will decompose and attract flies and rodents. However, final-rinse water can be used in the garden. The SA Department of Health has produced a fact sheet on [manual bucketing and temporary diversion of grey water.](#)

Grey water has two kinds of risks. It can transmit infection and it can cause chemical contamination of soil.

*Therefore remember these cautions:*

- greywater may contain disease-causing bacteria and other micro-organisms from soiled clothing and nappies. Clothing soiled with faeces or vomit is not to be used on the garden
- it may contain chemicals from soap, shampoo, toothpaste and mouthwash, detergents, bleaches, disinfectants
- it may also contain food, hair, body cells and fats, faeces, urine, and blood that may allow micro-organisms to grow
- the Health Department advises against grey water irrigation of leafy and root vegetables. However many people use their own judgment about the degree of risk
- grey water stored for more than 24 hours allows micro-organisms to multiply, cause an unpleasant smell and increase the risk of infection
- children should not play in areas watered with grey water
- do not use grey water if anyone in the household has diarrhoea or any other infection
- after handling grey water wash your hands
- grey water can be used to irrigate fruit trees but not where fruit can fall to the ground and be eaten. It is advisable to set up an arrangement where it can be dispersed below the soil surface with no splashing, eg slotted poly-pipe buried in mulch or gravel filled trench.
- grey water is slightly alkaline and is unsuitable for use on some plants eg camellias and azaleas.

## ***Environmental impacts***

- Environmentally friendly cleaning products should be used. Products can be purchased from organic stores and online. See list below
- For all purposes, products containing low levels of sodium (salts), boron and phosphorus (phosphates) should be used (see the Lanfax charts for guidance)
- Washing machine rinse water has less detergent than wash water. If wash water is used, dilute it with rinse water
- Avoid using grey water containing harsh chemicals or bleaches, hair dye or paint products

## ***Greywater friendly laundry products***

Lanfax Laboratories [www.lanfaxlabs.com.au](http://www.lanfaxlabs.com.au) provide a chart to show the sodium and phosphorus levels in both powder and liquid laundry products. Liquid laundry products are less detrimental to the environment - see Figures 1 and 2 below.

## ***Useful tips***

- Rotate grey water irrigation using mains or rain water. This will help to flush salts from the soil
- Rotate watering locations. This will prevent salts and other contaminants accumulating in the soil
- Prevent pooling and runoff of grey water onto other properties, watercourses and storm water drains
- Don't over-water your plants even though you may have excess grey water
- Monitor areas and plants irrigated with grey water. If there is evidence of damage try a different or bigger irrigation area, or reduce the amount of water used. Soils in many parts of Adelaide have high clay content. Clay soils tend to be more susceptible to build up of salts and have low permeability

## ***Grey water systems***

There are 2 types of grey water systems:

1. Domestic Treatment Systems that collect and disperse treated or untreated grey water.

Permanent grey water systems must be assessed and approved. You may need to contact a plumber, an electrician, the Department of Health and your council. The Department of Health has approved a number of grey water products and for these the approval process is straightforward.

Information and installation application forms for permanent systems can be found at [www.dh.sa.gov.au/pehs/branches/wastewater/alternative-onsite-systems.htm](http://www.dh.sa.gov.au/pehs/branches/wastewater/alternative-onsite-systems.htm)

The website contains a list of approved grey water products.

## 2. Domestic Diversion Devices divert grey water without storage or treatment.

This means manual bucketing onto lawn and garden areas using water from the bathroom or laundry, or temporary use of a hose manually fitted to the washing machine outlet hose.

Any good hardware store can supply what you need to create your own system. Grey water hoses that connect to washing machines cost \$20-\$40. Three metre dispersion hoses with spaced holes to release water retail at about \$10. These can be connected to the end of the grey water hose for easier access to areas requiring watering. Remember that washing machine pumps are not designed to pump against resistance.

Other options include:

1. The Watergator bin. Once you have emptied your grey water into this bin, a pump takes the water through a 20 metre hose to the garden. The kit comes with bin (approx. 240 litres), filter, pump and hose and retails for about \$500.
2. A 120 litre wheelie bin that stores water to be distributed through a gravity feed system. These models have a tap at the bottom to connect a garden hose, which then connects to a weeping or dripper hose. Models may also include filters and hose hangers and can retail between \$160 and \$250. Look for a bin where that outlet is located at the base of the bin, so that no water is retained to go smelly.

These prices are based on 2009 hardware pricing .

### ***Additional information***

Grosvenor, Michael, 2007, Sustainable Living for Dummies, WileyBlackwell ISBN 1740311571

Handreck, Kevin, 2008, Good gardens with less water, CSIRO Publishing ISBN 0643094703

McQuire, Stuart, Water: not down the drain: a guide to using rainwater and greywater at home, Alternative Technology Association, [www.notdownthedrain.org.au](http://www.notdownthedrain.org.au) \$29.95 + p&h

Stewart R, 2006, Chemical-free home, ISBN 1863952514

#### ***Domestic treatment systems***

Aquaboss, 20 Magill Road, Norwood, tel. 8363 9000  
Environmental Water Services, Hahndorf , tel. 8388 5644

#### ***Organic Stores***

From the Earth, 46 The Parade, Norwood, tel. 8363 1911  
Organic To Go, 365a Glen Osmond Road, Glen Osmond, tel. 8379 2131  
Wilsons Organics, Market Street, Adelaide, tel. 8231 5014