GUIDANCE ON USE OF RAINWATER TANKS

enHEALTH

Rainwater Tanks

In Australia, fresh water is a valuable and limited resource. Rainwater can provide a renewable supply of natural, soft, clear and odourless water we can use for a range of purposes including drinking, washing, bathing, laundry and gardening. In some places it may be the main source of household water and in others it can supplement mains water supplies.

Note: You must find out local water authority requirements before interconnecting tanks with mains water supplies.

Water quality

The microbiological quality of rainwater collected in domestic tanks may be lower than that of many mains water supplies. However, if systems are well maintained, the risk of harmful organisms being present is low.

Rainwater in tanks generally contains few chemicals. However, there may be risk of rainwater pollution by airborne contaminants in major urban centres and industrial areas.

Note: You should not collect rainwater for human consumption (drinking and food preparation) in areas affected by heavy traffic, industry, incinerators and/or smelters.

Fluoride

Rainwater does not contain fluoride. If rainwater is your major source of water for drinking and food preparation, you should seek advice from your local dentist, school or community dental service or from the Australian Dental Association about alternative sources of fluoride.

Safety

Rainwater is generally safe to drink providing it is clear, has little taste or smell, and is from a well maintained system. If you are very young or very old or immunocompromised (a cancer patient, diabetic, have had organ transplants, or are HIV positive) you should consider disinfecting the water before drinking or cooking with it. You can do this by boiling the water.

Protecting water quality

Making sure water quality is good depends on correct design and installation, followed by sensible maintenance of your rainwater tank and catchment area. Collecting rainwater involves **low** maintenance, not **no** maintenance.

The tank

Tanks are available in a range of materials (galvanised steel, concrete, fibreglass and plastic). All can be suitable, providing the tank has been made specifically for collecting rainwater. You may have to wash or flush some types of new tanks before use. The manufacturer should be able to tell you if this is necessary.

When installed, your tank should be covered and every access point, except the inlet and overflow, should be sealed (unless in use). The inlet should incorporate a mesh cover and a strainer to keep out foreign matter and to stop mosquitoes and other insects getting into the tank. The overflow should be covered with an insect-proof screen.

The catchment

House and shed roofs are usually used as catchment areas. Rainwater can be collected from most types of roof, including asbestos, providing they have not been painted with lead-based paint or coated with bitumen-based material. Some types of new tiles and freshly applied acrylic paints may effect the colour or taste of rainwater so you may need to discard the first few run-offs.

Avoid using pesticide-treated timbers and lead flashing in roof catchments. Also, if possible, do not collect rainwater from parts of roofs incorporating flues from wood burners.

Overflows or discharge pipes from roof-mounted evaporative air conditioners or hot water systems should not be allowed to discharge onto the roof catchment area.

First flush devices

First flush devices stop the first portion of roof run-off being collected and will reduce the amount of dust, bird droppings and leaves that can collect on roofs from being washed into tanks. It is recommended that you use such devices.

Or you should disconnect the tank inlet, so the first run-off of rain after a dry spell is not collected.

Maintenance

Keep roof catchments clean and clear of leaves and debris. Remove overhanging branches. Regularly inspect gutters and clean if necessary. Consider using gutter guards.

You should clean insect-proof screens regularly. Do not allow tanks and gutters to become breeding sites for mosquitoes. If you detect mosquitoes in a tank, locate and close the entry point. As a last resort, for most types of tanks, you can add a teaspoon

of medicinal paraffin or domestic kerosene to stop mosquitoes breeding.

Note: Kerosene is not suitable for use with some tank materials, for example, Aquaplate®.

Check tanks for sludge accumulation at least every 2–3 years. If sludge is covering the bottom of the tank, siphon it out or completely empty the tank. Professional tank cleaners operate in many areas.

Disinfection

Regular disinfection should not be necessary. If you suspect that water in the tank is contaminated, you can chlorinate rainwater by adding 40 ml of liquid sodium hypochlorite or 7 g of granular calcium hypochlorite per 1000 L of water (approx 5 mg/L chlorine).

Size of tanks

The size of tank you need to provide the total supply of household water will depend on a number of factors, including the amount and pattern of rainfall, roof area and water usage. The most important issue will be continuity of supply.

If your tank is to provide an alternative supply, for example, to mains water, the size of tank is not such a critical issue and will often depend on your needs (drinking and food preparation, bathing, laundry) balanced against cost.

Regulations

Before you purchase or install a rainwater tank, find out if there are any health, building or planning regulations about rainwater tanks in your area.

Note: There may be minimum storage and pump requirements for firefighting.

Advice

You can obtain more details from the enHealth Council web site, in its publication *Guidance on use of rainwater tanks* at <http://www.nphp.gov.au/enhealth.council>.

Further advice on tanks is also available from: