

# Drip Water Your Garden and Save

How drip watering will save you time, effort and money and our precious water. Drip watering is a modern, effortless, economical way to keep your garden in great condition without wasting time, effort and water.

Bundaberg Regional Council  
PO Box 3130  
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[www.bundabergrc.qld.gov.au](http://www.bundabergrc.qld.gov.au)

Council hours  
8.15am to 4.45pm  
Monday to Friday

#### Fact Sheets available:

1. Water Cycle
2. Water Treatment
3. What I need to know about Wastewater
4. Wastewater Treatment
5. Water Pollution
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8. How to read your Water Meter
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11. Important things to know about drip watering
12. Water Audit for the Household
13. Rainwater Tanks
14. Pool Maintenance

#### Booklets available:

1. You Can Take Control
2. Create Your Own Water Wise Garden

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## DRIP WATERING

Drip watering, sometimes called “Drip Irrigation” or “Micro-irrigation”, uses a permanently laid plastic pipe with dripper outlets to deliver the right amount of water to each plant at a rate the soil can readily absorb. Drip watering is effective on trees, shrubs, and some gardens, but is not suitable for lawns, which require an even spread of water.

## SAVES WATER

Drip watering puts just the right amount of water right on the ground where your plants will get the full benefit of it. This means it avoids most of the waste you get with other methods of watering.

It delivers water without misting or evaporation and without blowing away. It avoids wastage by supplying water only to those plants to which you have fitted outlets and in volumes you have preset for each and every plant. It delivers water at a rate the soil can absorb; and you can design your drip watering system to suit any size or shape of garden.

## SAVES TIMES AND EFFORT

With drip watering you save time and effort by not hand watering your garden. Even when sprinklers are permitted, they have to be moved. No more risks from hoses lying on paths or traffic areas.

## DRIP WATERING SAVES MONEY

Because drip watering uses less water, it will save your money. Water is expensive to treat. Using less water will help keep rates down. In the longer term, saving water will put off the need to build new headworks which are costly and because drip watering evens out the peak demand. It will reduce the need for extra reticulation work, which is also costly, to meet these demands.

## AN APPROVED SYSTEM

A permit is sometimes required from your local Council to install a drip watering system. Permits will only be issued for systems which meet

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the Specification. The specification is designed to ensure the most effective use of water, minimise waste and reduce peak demand.

## SPECIFICATION

1. Only components meeting the requirements of the relevant Australian Standard may be used. Check with your supplier.
2. The system must be turned on manually.
3. The system must be AUTOMATIC SHUT-OFF after the required volume of water has been delivered. This can be achieved by the combination of a Timer and a Pressure Regulator which maintains a constant pressure of 100 kPa (15 p.s.i) in the dripper line independently of mains pressure fluctuations and flow rate. Drippers must have a known and constant flow rate. (If preferred a volume controller may be used in lieu of the timer.)
4. A system should not deliver more than 250 litres per hour through all drippers. If you have a big garden, you may need a second line, but install plastic taps so you don't have to operate both at the same time. This will minimise the effect that the system will have on your normal household use and for example, the shower pressure will not be affected.
5. The system must be connected to a tap fitted with a hose connected vacuum breaker. The fitting of fertiliser or pesticide injection points to the system is not permitted. These conditions are necessary to prevent possible contamination of the water supply.

## BEWARE

When putting in a Drip Watering Kit or designing your own system, some kits on sale do not meet these requirements and would be classed as Sprinklers and not be exempt when restrictions are in force. This would apply also to other forms of micro irrigation, for example, Microsprays. Do not mix micro sprinklers/sprays and drippers on the same irrigation line.

## WHAT YOU WILL NEED

For your Drip Watering System, you will need a Timer, a Pressure Regulator, a Filter, Low Pressure Plastic Pipe to take water to your plants, Drippers to let it flow, a tool to install drippers, Plugs to fill holes when you change the placement of a Dripper (or when you make a mistake), Fittings such as Tees and Elbows. Most of these items are inexpensive and readily available.

Timer:- Turns off the water once the system has delivered the preset volume. Avoids waste and overwatering. You will need a timer you can preset up to six hours in areas with clay based soil. You may use a Volume Controller, if you choose but these are more expensive than a timer.

Pressure Regulator:- This lowers the pressure to that needed for the pipe and drippers. To ensure that you preset volume of water is delivered, it will need to be a constant pressure type, rated at 100 kPa.

Filter:- Helps prevent blocked drippers. Essential if the system is to operate effectively. May be incorporated with the pressure regulator.

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Low Pressure Pipe:- For home gardeners, 12mm low density black plastic pipe is suitable for carrying water through your system. 19mm pipe may be needed for very long runs. This pipe is not designed to operate at mains pressure. It must be used in conjunction with a pressure regulator.

Drippers:- Drippers come in various forms and flow rates. Your supplier can suggest which kind will best suit your garden. You'll probably need several kinds, so you can fit the right dripper for each plant. Variable flow rate drippers must not be used, in approved systems when permits are required.

Tool to install Dripper:- This makes a simple hole in the low pressure pipe so you can push the dripper in with your finger.

Goof Plugs:- For plugging holes when you decide to move a dripper, or when you make a hole in the wrong place.

Fittings:- Tees, elbows, joiners, connectors and blank ends, so you can assemble a system just right for your garden.

Stop Taps:- Allows you to direct water to plants which require more water while not over watering others.

**PLACING THE DRIPPERS**

Drip watering is great for trees and shrubs, and some garden beds, but it does not give enough spread of water for lawns and those gardens beds which need all-over watering.

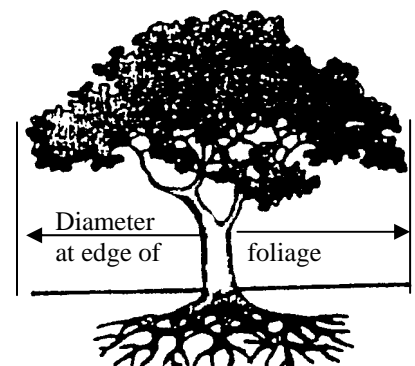
The plastic pipe may be laid on the surface or covered with soil or mulch. It can be buried under your lawn and brought to surface near the base of each tree or shrub. But keep the motor mower clear of it.

Choose and place drippers to give just the right amount of water to each large plant, with spacings to ensure that water reaches part of the root zone of smaller plants. Some roots of most plants extend about the same distance as their foliage, but 90 per cent of the roots are usually within 300 to 500mm of the shrub's trunk.

For larger trees, use several drippers or one which delivers more litres per hour.

The water needs of plants vary with soil, sunlight and wind. But this table is a useful guide for placing drippers, which you may then vary in number and size on the basis of experience.

Diameter at edge of foliage	Dripper
0.5 metres	Share one 2 litre/hour dripper between 2 or 3 plants
1.0 metres	one 2 litre/hour
1.5 metres	one 4 litre/hour
2.0 metres	one 6 litre/hour
2.5 metres	two 6 litre/hour



If a large tree overshadows smaller trees or shrubs, calculate the dropper for the large tree only, but make sure a dripper is close to

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each overshadowed tree or shrub. For this you may need to use several smaller drippers in place of a large one. Instead of two 6 litre per hour drippers, for instance, you could use six 2 litre per hour drippers, for better distribution of the same output of water.

## MAINTENANCE

Maintaining your drip watering system is important to keep it operating effectively.

1. Flush the system regularly, particularly after the system has been dormant, to remove unwanted intruders. (They can be an attractive 'home' for ants, insects etc., when not in use for some time.)
2. Check that drippers are not blocked or leaking where they join the plastic pipe.

## WHEN TO WATER

Water infrequently and your plants will develop a root system which takes up water at a slow rate. This makes them better able to withstand longer dry periods.

As a guide, water about every four days in warmer weather (three days, if soil is sandy).

- ◆ If 5-10 mm of rain falls, delay watering for one day.
- ◆ If rainfall is greater than 10mm delay watering for four days, but don't delay for more than four days.

Remember this only applies in the warmer months. In the cooler months, watering once or twice per month generally is sufficient.

Some young plants may require extra hand watering until they become established.

## HOW MUCH WATER

With drip watering, you will not see the large patches of wet earth (and pathways!) to which you are accustomed. Drip watering puts the water down below the surface, where your plants can use it.

So don't be tempted to over water. It's far easier to kill a plant with too much water than it is with too little.

For the best results, give the same amount of water each time you water, and vary the number of days between waterings to suit the weather.

As a guide to calculate how much water for each watering, take the area of the garden to be watered, in square meters and multiply it by 15 to get the volume in litres.

Example, if your trees and shrubs occupy an area of two metres by 50 metres, the area is 100 square metres, the recommended volume is therefore 1500 litres (100 x 15).

You can calculate the time setting on your timer control as follows. Suppose your system has a variety of drippers; 45 two litres per hour, 10 four litres per hour and 20 six litres per hour. This is a total of 250 litres an hour. To deliver the recommended 1500 litres you will need to preset your timer for six hours (1500/250).

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