

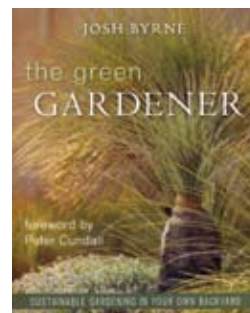
**Flushing lines** – despite filtration, debris and sediment can accumulate along the drip line and around drippers. You should therefore flush lines at the beginning of each irrigation season. If lines are ever accidentally cut, always flush them to get rid of any soil that may have got in.

**Testing flows** – leaks and blockages are more difficult to detect in drip systems than in sprinklers. Your water meter is a useful tool for monitoring the performance of your system over time. Check the meter reading before and after operation and record the amount of water used. Make sure you clean your filter beforehand, as a blocked filter will corrupt the test results. Provided you haven't adjusted the flow rate, the amount of water used should remain constant. If the reading is lower, there may be a kink in the line or drippers may be clogged. If the reading is higher, there is likely to be a broken line. For more information on system design and product selection, visit a Waterwise irrigation design shop.

To have a system installed professionally, consult a Waterwise Garden Irrigator. Contact details for both can be found by following the 'Being Waterwise' links from [www.watercorporation.com.au](http://www.watercorporation.com.au)

**WHY?**

The typical household uses about 770 litres of water per day (this is about 300 litres per person per day). These volumes are steadily decreasing with the application of water conservation measures. By installing drip irrigation in your garden you can reduce your water consumption and save money on your water bill.



**How to install drip irrigation**

Drip irrigation is the most water-efficient way to water your garden. It delivers water directly to the roots of your plants, reducing evaporation and water loss through wind drift. It's readily available from most irrigation stores, reasonably priced and easy to install. Other benefits include reduced weed problems, because water is targeted to the plants rather than surrounding areas, and reduced fungal diseases like black spot and powdery mildew that can be exacerbated by overhead watering.

**WHAT CAN I DO?**

Install drip irrigation in your garden to conserve water.

**HOW DO I DO IT?**

Drip irrigation is a watering system that saves water by delivering it in drips rather than a spray. It is easy to convert many existing irrigation systems to drippers. There are two main types of drip irrigation: **Button drippers** are individual dripper units that are manually attached to poly

pipe and have either a fixed or adjustable flow rate. They are best suited to small pots and hanging baskets.

**Drip-line products** are fixed flow drippers set at regular intervals inside a length of poly pipe during the manufacturing process. They are ideal for garden beds as a substitute for sprinklers, particularly in narrow and irregularly shaped situations.

**Installation**

Drip irrigation can be installed into existing garden beds and laid in various patterns to suit the planting layout. Simply lay the drip line on the surface of the beds and mulch over the pipes to conceal them. If you are irrigating a veggie patch or annual



**JOSH BYRNE**  
sustainable gardening specialist and popular media personality provides advice on installing drip irrigation for a waterwise and healthy garden.

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flower beds where the soil is regularly worked, the lines may be left on the surface so they can be lifted when digging.

Once you have run the lengths of drip line along your garden beds, connect one end into the poly pipe supply line using a punching tool and drip line connectors. The other end can be capped using a piece of poly pipe – simply fold the end of the drip line and slip a small piece of the poly pipe over the end. Removing the poly pipe ‘cap’ allows the drip line to be flushed of debris for maintenance. If you are laying out a number of lines across a garden bed, the drip lines should be connected to a blank poly pipe ‘collection’ line that is capped off at both ends, so that if one end is opened, all the drip lines are flushed through the one point for convenience. Secure the drip line in place using pins made from stiff wire.

The use of drip line irrigation under lawn is becoming increasingly popular. Installing it under roll-on lawn prior to laying is the easiest method, but there are also machines available that can insert drip lines into established lawns. You will need to take measures against root intrusion in a subsurface area. This can be done by

including a root-intrusion guard, a filter-like device that continually doses the irrigation water with a small amount of herbicide called trifluralin, a chemical that rapidly breaks down when it makes contact with the soil. In sandy soil, thorough soil conditioning is required to ensure even wetting of the root zone.

## COMPONENTS

An automatic drip irrigation system is comprised of the following components:

**Gate valve** – a manually operated valve that allows you to shut off the water supply to your irrigation system.

**Timer and valves** – either mechanical or electronic programmable valves that allow you to set when and for how long irrigation will take place.

**Backflow-prevention device** – prevents draining water or ‘suck-back’ from contaminating the mains water system in the event of valve failure. These devices are not normally installed with manually operated systems as closing the tap shuts off the line.

**Disc filter** – prevents suspended debris in the water supply from entering the irrigation system and blocking the drippers.

**Pressure regulator** – drip irrigation operates at lower pressure than sprinkler systems, so the pressure-regulating valve controls downstream pressure, ensuring the fittings won’t burst.

**Poly pipe supply lines** – these lines deliver water from the valve and filter assembly to drip line units and button drippers in garden beds and pots. Pipes commonly used in home gardens come in diameters of 13mm, 19mm and 25mm. Selection is based on how much water needs to be supplied and the distance from the source.

**Air/vacuum-relief valve** – these are installed at the highest point on the supply line so that when the valve is shut off, air is drawn in through the vacuum breaker rather than through the drip emitters, ensuring that debris is not sucked in. The valve also allows air to escape when the line is turned on, thus eliminating air pockets.

**Drippers / drip line** – either individual dripper units or drip line as described above. It is important that only one type of product be connected to a particular line to ensure uniform application. There are different drip products that are designed for specific applications, including bore

water and greywater. Your Waterwise irrigation design shop can assist you in making the correct choice – you’ll find contact details for your nearest shop by following the ‘Being Waterwise’ links from [www.watercorporation.com.au](http://www.watercorporation.com.au)

## SPACING

Drip irrigation supplies a controlled amount of water to a limited portion of soil surrounding each plant and relies on the properties of the soil to spread the water laterally. It’s important to tailor your system to your soil type, as water moves very differently through sand, loam and clay.

Soil type	clay	loam	sand
Dripper interval	50cm	40cm	15cm
Line spacing	50cm	40cm	30cm

## MAINTENANCE

**Cleaning the filter** – if you notice a decrease in the amount of water coming out of the drippers, the filter is the first checkpoint. Cleaning it is as simple as unscrewing the filter casing, removing the screen cartridge and flushing this under a tap. Cleaning frequency depends on your water quality.