Install the Garden irrigation system

In most cases the gardens will use sprays, or drippers to water your plants. These use far less water than the lawns.

Unless you have very large gardens, it is very unlikely the total flow from the sprays and drippers will exceed the flow calculated in your design.

> ***However, you can't mix Rotators for the lawn and sprays and drippers in the garden in the same Zone. The lawn areas need to be on separate Zones to the gardens.***

This is because the large flows in the lawn heads will deprive water from your gardens. Also, it is likely you will need to water your gardens differently to your lawns. Another reason to keep them separate.

Know your plants

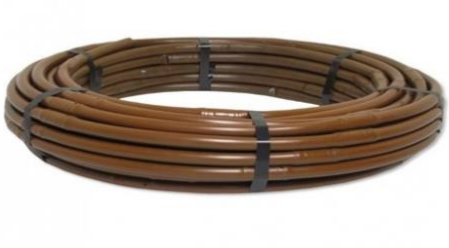
To get the best result in your garden you will need to know what plants need what water.

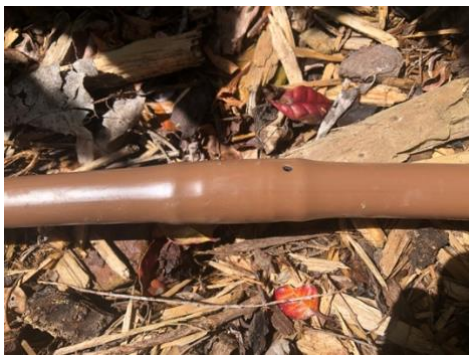
You may need to seek advice from your nursery or plant supplier.

Some plants may require very little water year round and, therefore no irrigation is required. Others may need regular watering. Younger plants will need more water than established plants. Some prefer water less often but a good soaking at the roots.

You may also have gardens that don't currently need irrigating but you may consider replacing plants who, at a later date, will need irrigating. This is where you may need to consider redundancy in your system so you can add Zones to your irrigation system at a later date.

Pressure compensating pipe





Pressure compensating pipe, showing dripper insert

Many plants prefer water soaking around the root system. This is where **pressure compensating pipe** works best.

If you just used a standard pipe with holes in it, your plants at the start of the pipe would get all the water, but the ones at the end of the pipe would get nothing.

The inserts in pressure compensating pipe equalises the pressure along the entire pipe. Therefore, the flow dripping from every hole is the same, no matter where it is along the pipe

The flow from pressure compensating pipe is very low so you can have extensive pipework before it will be an issue. Typically about **1.6 LITRES per HOUR (or less than 0.03L/min)**

> ***The only downside with this pipe is that the water released from each hole is very low and the irrigation system needs to remain on for much longer to soak the soil.***
>
> ***Therefore, it is advisable NOT to put other sprays and sprinkler heads on the same Zone as pressure compensation pipe, otherwise they may remain on for far too long.***

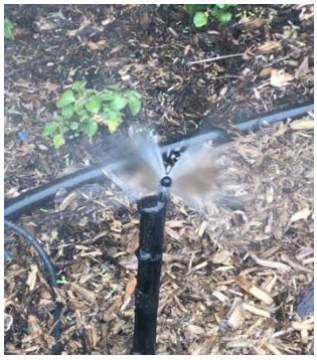
Sprays

Some plants will need water in their leaves and throughout the garden. In this case sprays attached to pipe stands are recommended

Sprays, will use more flow than drippers. If you have large sprays or many of them, you may need to calculate the flow of each spray and ensure you don't exceed the maximum flow from the original design.

Each spray will have information on the flow it uses. The flow from sprays and drippers is much lower than for Rotators for your lawn so you can have many more heads on your garden before flow is an issue.

Table 1 shows a selection of spray options and the flow they each use

Jet Spray. 360° (Blue and Black)			Throws out a spray in Black Head = 1.9 L/m Blue Head = 0.7 L/m

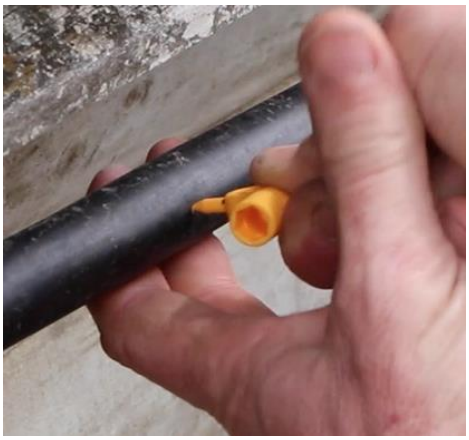
Micro Rotor Spray 360°			Head spins throwing water out in circular motion. Different heads throw water further and at different flow rates Brown (Smallest) = 0.63L/m Grey (Largest) = 3.0 L/m Adjustable = 0 to 1.8L/m
Mister			Throws water vertically generating a mist. Perfect in green houses Flow = 0.4 L/m

Table 1 – Typical Sprays

Installing Sprays

The most versatile way to connect sprays is to connect 4mm tubing to the 19mm lateral piping by piercing a hole and attaching a barb

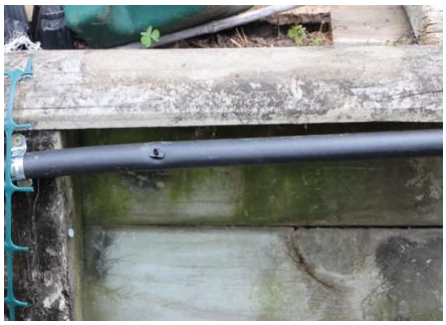
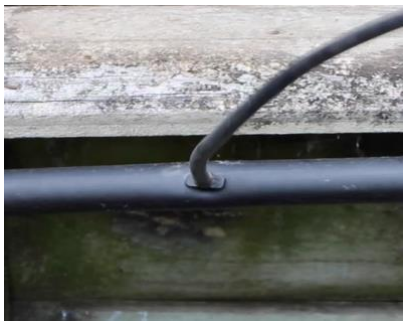
- Punch holes in the pipe close to where you want to place the spray heads. Use the key punch.



Hole punch and barb

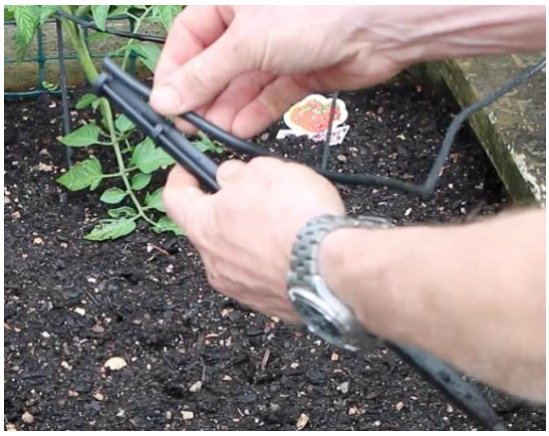
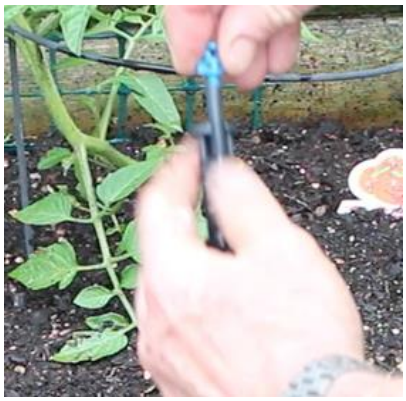
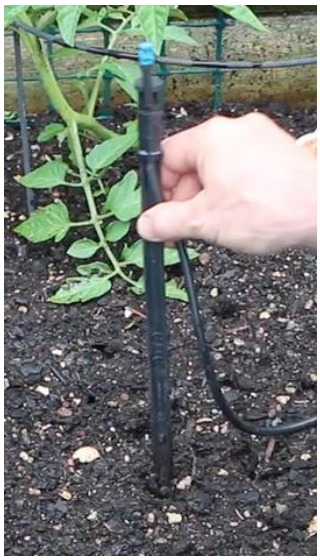
- Insert the barb into the hole using a set of pliers to make it easier to pushing the barb into the hole.

- Cut the tubing to the desired length. Allow extra length so the heads can be easily moved around the garden as the plants grow and new plants are adde

Insert bard and attach pipe

- Connect the tubing to the stake (Stakes come in different lengths). If the tube is lose when attached to the stake use some electrical tape to secure it. Attach the desired spay head to the tube at the top pf the stake and push the stake into the desired position, and at the desired height in the garden

Connect tubing and sprinkler heads and stake

Drippers

Many plants may only need small amounts of water, even droplets focused on their roots. This is where drippers come in handy.

Jet Spray. 360°			Adjustable Dripper down to near zero flow Flow = 0 to 0.5 L/m
Micro Scrubber			Dripper with larger, fixed flow. Flow = 0.55 L/m

Table 2 – Typical Drippers

Drippers can come with the stake already attached of as a separate head to be placed in 4mm pipe and placed on a stake.. Simply attach the tubing to the 19mm lateral pipe as described above ad connect to tee barb on the dripper