

# Garden Talk

## Drip Irrigation Wonders

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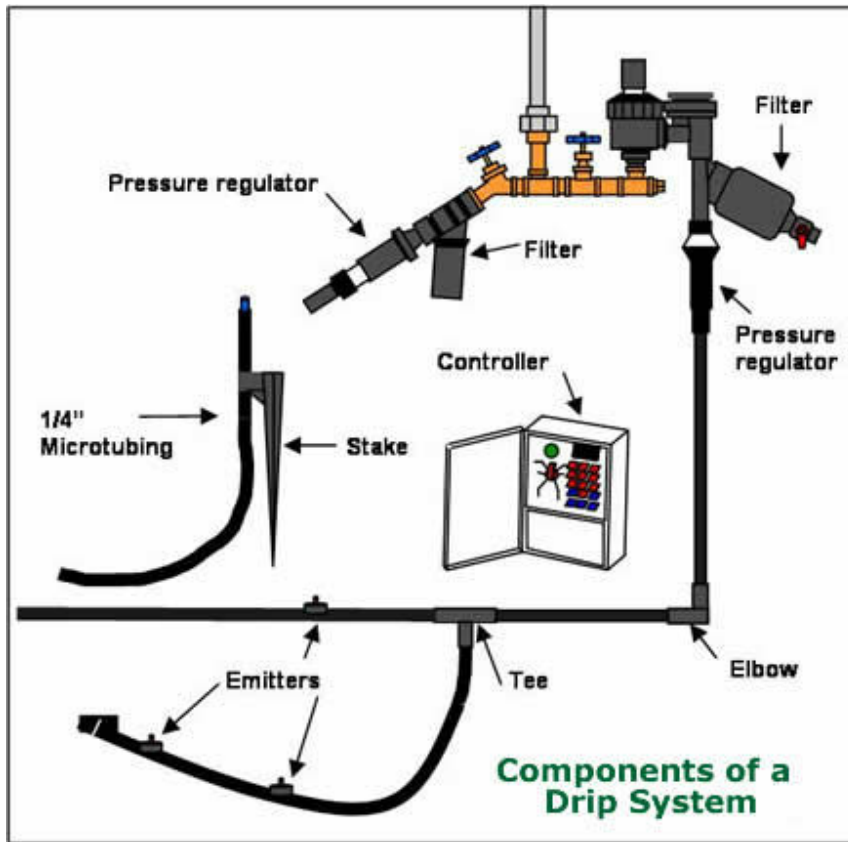
When you combine the words "drip" and "water" you normally think of waste, as in a leaky faucet. But when you're talking about an irrigation system, drip is a good thing.

What is commonly known as drip irrigation is actually a combination of several types of low-pressure, low-volume water delivery systems. The correct term for these systems is micro-irrigation. Each micro-irrigation system is distinguished by a different style of emitter (the part that discharges the water). These micro-irrigation systems originated with commercial growers and farmers. With the ever increasing desire and necessity of water conservation, drip irrigation is a great idea for the home landscape. Some of these systems deliver water literally one drop at a time. Far from water torture, this type of system is the best way to maximize your water resources and get the most from your plants. By keeping the plants roots moist (but not to the point of saturation) you actually use less water than with conventional watering techniques. Other systems can be configured to mist and provide humidity.

Made from flexible vinyl or polyethylene pipe, drip systems are com-

monly installed in the subsoil in commercial agricultural applications. At home, you can "hide" the system with a layer of mulch or rock. Leaving it on top of the ground is fine, especially if you are troubled by mice or gophers. ( As smaller plants mature and spread, the water supply lines are less visible. To help prevent clogging, make sure that any part that emits water remains above ground.

### Why a Drip System?



The list of the benefits of drip irrigation over hand watering applies both to plants and gardeners. A drip system: Saves water — you could exper-

ience up to a 50% reduction when using a properly installed and maintained drip irrigation system.

- Reduced weed growth by delivering water exactly where needed.
- Targets the exact area where you want the water and allows delivery at the exact time needed.
- Installs easily, plus the system components are relatively inexpensive. Kits are available or you can purchase individual components to customize and expand the system.
- Delivers water without creating an overly moist environment that promotes fungal diseases.
- Adapts easily to changes in landscape. Systems can be used for containers, raised beds, vegetable rows or balconies.
- Reduces erosion on slopes when emitters are placed up-slope, above the plant.

- Improves water-holding capacity in sandy soils.

## The Parts

The irrigation system will only be as efficient as its components and their assembly. You may want to start with a kit and work your way up to a customized system. Here are the basic parts:

Back flow preventer or anti-siphon device is required to prevent water from the system reentering your water supply when the system is turned off. Back flow prevention devices are required in most cities and highly recommended.

Pressure regulator or pressure reducer. The typical home water supply has too much pressure.

Hose fitting - connects the tubing to the pressure regulator.

Tubing - 1/2, 1/4, 3/8, 5/8, or .710 depending on the needs and manufacturer. Used for the main distribution line and smaller spaghetti lines for individual plants and containers. Tubing is usually made from black polyethylene.

Fittings allow the system to continue on straight, at 90 degree elbows, tees, and end cap.

Emitters - available with different flow rates to accommodate the needs of the plant. Located at soil level or elevated on stakes or risers. There are several types, choose based on where you want the water to go. All are rated by their GPH (gallons per hour) delivery.

Bubblers are usually adjustable and often used for trees and shrubs. They deliver more water in less time.

Dripper - slow, low quantity delivery right at the root system usually in 1,2 & 4 GPH delivery. Because of our mountain terrain it is recommended you use pressure compensating emitters. These emitters will be more true to their rating even on steep grades.

Hole punch - used to make insertion points in the tubing where emitter will be located.

Goof plugs - No system is complete without them. Securely stop up the hole you punched by mistake. Also allows you to move an emitter without replacing the tubing.

Barbed Adapter - used to connect tubing and emitters

Riser - allows emitters to be placed above the plants

Pin or hook - attaches the tubing to the soil if necessary and anchor it.

Timers - Highly recommended with drip systems because of the long length of time a system runs. Electronic timers run with batteries or plugged into an electrical outlet to turn the water on and off. Look for timers that can run 2-4 hours with each cycle.

Soaker Hoses - Although they're not considered true micro-irrigation systems, soaker hoses are considered a form of drip irrigation. When using a soaker hose, use a timer to avoid wasting water.

Fine tuning the system to your plants and soil may require a few days of observation and tinkering. Monitor the soil moisture, adjust the watering time and placement of emitters accordingly.

Larger plants need more water and may require more than one emitter. Also, as plants mature they need additional water.

When cutting tubing, use a sharp blade pruner or scissors and make sure the cut is square (not angled).

If lines are buried, mark the spot where the end is located. This helps you locate it for flushing or draining.

Attach a Y-coupling to the hose bib to allow use of a regular garden hose without disconnecting the system.

Maintaining sufficient pressure throughout the system is critical to success. Depending on the grade of the landscape most systems can distribute up to 500' of main line, or 1/2 inch line, and hundreds of emitters.

Flush the system and clean filters annually, especially if your water supply contains a lot of minerals, or the water supply is from a well.

Drain the system before freezing weather arrives.



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