# Drip Irrigation: Why it is Best and How to Do It

Getting the right amount of water to our plants, at the right time, without wasting water is a constant struggle for all gardeners. And even many long-time, experienced gardeners don't do it very well. Using drip irrigation is one technique that helps both to do it right and to save water.

By drip irrigation I am talking about a system of laying out plastic tubing in flower or vegetable beds or under trees that is designed to slowly emit drops of water in a pattern that covers the area to be watered. This solves several watering problems at once.

First, it puts the water exactly where it should be, directly on the ground. Watering with a sprinkler or hose-end nozzle wets the leaves of plants, which is wasted. Only after the leaves are thoroughly wet does any water have a chance to fall to the ground—it's the same principle as cedar intercepting a certain amount of an initial rainfall.

Secondly, by placing the water directly on the ground, no water is lost to evaporation from a spray or sprinkler so 100% of the water you use goes where it needs to be. And finally, because the rate of drip is slow, all of the water soaks into the ground and none runs off, again saving water.

Also, once installed, it can be a time-saver for you as well as allowing automatic operation during the optimum time of the day for watering, even if you are still in bed!

The type of drip irrigation I am referring to is not generally applicable for lawn watering. But installation for other applications is something most home-owners can do themselves.

There are two different types of drip systems. One system involves what are called "soaker hoses" which are essentially just garden hoses that happen to be somewhat porous so that when attached to a water source they "leak" water in small drops all along the hose. These are relatively inexpensive, easy to use and can be moved around as needed.

The other system consists of light ½ inch plastic tubing which has molded into it at regular intervals (9, 12 or 18 inches) a part that emits water droplets at about 1 gal/hr, so when laid out in a garden, water will drip at the above intervals along the tubing. The tubing is generally referred to as "inline emitter tubing". These systems are designed to be more or less permanent installations, although they can certainly be removed and reused elsewhere.

There are many accessories designed to be used with these inline emitter systems. One of the most common being what is called "mainline" tubing that does not have emitters and can be used to carry water from one tree or one bed to another without

dripping water.  Another is smaller ¼ inch inline emitter tubing that can be attached to either of the above ½ inch tubing if extra water is desired in a given small area.  And of course there are all sorts of connectors and other things designed to be used with the system, most relatively inexpensive.

There are numerous individual small emitters that one can buy to water small individual plants.  My experience with these small emitters is that they are not as reliable as the inline tubing and they are subject to plugging or air-locking. Some of these small emitters actually put out a very fine spray which to me appear to waste a lot of water to evaporation.

I would urge anyone thinking about installing such a system to first obtain a catalogue and learn about the parts available. Before installing a drip system, one needs to draw out a plan and determine the amount of tubing and number of connectors that will be needed.  There are several companies that supply this equipment that can be found on the internet. The one that I have used most is www.dripworks.com.

One of the advantages of a drip system is that it can be set up with a timer to go off automatically at regular intervals.  This has a lot of advantages of watering at the best times of the day and of taking care of things when you are away. However, automatic systems can waste water by continuing to water even just after a rain, but there are moisture sensors that can tell the timers not to come on if it has just recently rained.

Until next time…

Jim Stanley is a Texas Master Naturalist and the author of the book “Hill Country Landowner’s Guide”. He can be reached at jstmn@ktc.com. Previous columns can be seen at www.hillcountrynaturalist.org.