

Drip Irrigation, Is It for You?

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This is the first in a series of articles about drip irrigation. In this first article we will present an overall view and discuss features of drip irrigation, advantages of using drip technology, and the overall benefits. Also, we will take a look at its disadvantages and some of the pitfalls before you run out and buy your system. In the second and third articles we will look at the different types of drip irrigation, individual components, system design, maintenance and what constitutes quality components. So on with it, what is this stuff called drip irrigation?

Is drip irrigation a cheap, short cut method of watering, using shoddy and leaking plastic components? Does developing a viable irrigation system require an engineering degree? Do I invest in a system this year, only to replace it next year?

In reality nothing could be farther from the truth to all of these questions. Drip technology was developed in Israel over 40 years ago to meet the water requirements in an arid region. Available on the market today are well refined, high quality, reliable and endurance tested drip irrigation systems that have endured the rigors of day-to-day use in the harshest of conditions. However, there is also poor quality junk that some uneducated dealers unload, often at higher prices than quality materials.

What is drip irrigation? By definition, it is the frequent, slow, and even application of water at low pressures over long periods of time directly to the root zones of plants and trees. It has been used extensively in agriculture and commercial landscaping for many years. This is due in part because of its many advantages over "high-flow" or conventional irrigation systems. The use of drip is on a dramatic increase as people realize its benefits.

As the need and demand increases, water, our most precious of natural resources, must be used wisely. This is where the technology and creativity of watering systems comes in. Drip irrigation fills in this gap extremely well. Using drip irrigation, you get water penetration without runoff or puddling. Slow application of water increases the depth of penetration into the soil, resulting in a water savings of 30-50% because of reduced evaporation and precise coverage into the root zones.

This translates into increased yields and dollar savings, regardless of whether you are interested in increasing an agricultural crop or promoting more luxurious foliage in landscape. Drip irrigation facilitates better growth. It allows savings from lower power bills and lower component and installation costs compared to conventional "high flow" systems. Drip technology uses less water at lower pressures.

As an added benefit, drip irrigation helps cut down on labor. There is no longer a need to hand water or set up temporary sprinklers or lines. Because the water is placed exactly where needed, there is a significant reduction in the amount of maintenance, thus saving on chemical sprays or hoeing. Overall, setting up drip irrigation is easy and fun. Often setting up a system is equated to playing with "tinker toys." This does not mean giving up any quality, however. Systems can be expanded and/or changed as needs grow or change.

Another real advantage of drip irrigation technology is the ability to efficiently fertilize crops and plants. It is the most efficient means since fertilizer is injected into a system, putting the nutrients directly into the root area. Since drip irrigation is used on slopes with no runoff or erosion, eliminating the need to basin plants. In landscapes, it is ideal for rockscapes and mounds. The main source of supplying water is drip tubing. This line is extruded polyethylene (polyethylene). Black is the most commonly seen, for good reasons. It is economical to produce and it is ultra-violet (UV) resistant. It is easy to work with and it is virtually impossible to make a mistake that cannot be easily repaired. Other benefits are the versatility and adaptability of poly line. It is flexible and can be buried or left on the surface.

There are a few disadvantages to drip irrigation. If a line is allowed to sit on the surface or buried, it is susceptible to mechanical, animal, or human damage, and it can be dislocated. Since it is generally considered a "permanent" system, it cannot be easily picked up and moved. If the system is not designed correctly, it can be a nightmare with plugged and thirsty plants, or even blown out systems. Most of these problems can be rectified through good system design and proper installation.

A drip system design can be as simple or as complex as time, money, and need allow. It can be designed to be manually operated through the use of controllers and solenoid-controlled valves. There is no one way to design and develop a system since each location is unique with its own design criteria. It is not the answer for every application, but with planning and quality parts, it can be a cost effective and low maintenance solution for irrigation on a nursery, farm, or home. Drip irrigation is here to stay.

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