

# IRRIGATING, DROP BY DROP

BY **RON HALL** EDITOR-AT-LARGE

DRIP IRRIGATION, SOMETIMES called micro- or low-volume irrigation, can save as much as 30% irrigation water compared to sprinklers. In light of this, water agencies are starting to recognize drip's role in water conservation.

"Rebate programs should be focused on total systems, and drip is a vital part of those systems," says Russell Clark, marketing manager for Netafim, which introduced drip irrigation to the landscape industry several decades ago. "I'm encouraged that the authorities who put rebate programs in

Low-volume irrigation offers many benefits for contractors and their customers in today's water-stressed environment.

place for products such as ET controllers and rotator spray nozzles are changing their rebate philosophy to include drip irrigation and other water-saving devices, too."

Rebates aside, there are compelling environmental and business reasons to become familiar with and begin incorporating drip into your irrigation designs and installations.

"I use drip mostly in beds," says Peter Pappas, president of P.J. Pappas Co., Woburn, MA. "There have been a lot of improvements made to it since we started our business. The Rain Bird XF dripline has made a huge difference in my business. We install miles of drip line every year because it's flexible, resists kinking and lays flat."

Pappas, whose 25-year-old company serves 3,000 clients, says that although the cost of installing drip is slightly higher than installing sprinklers, property owners recover that expense because of water savings.

## Turfgrass, too

Clark says drip isn't just for landscape beds, but it's also being used in turfgrass, such as in sports fields and in areas such as median strips where runoff from sprinklers might become an environmental or liability issue. The key to irrigating these types of properties efficiently with

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## DRIP IRRIGATION

### INSTALLATION MADE EASY

Benjamin Raines of the DIG Corp. says drip irrigation installations are relatively simple. They require a proper head assembly, valve, filter and pressure regulator. Drip systems operate with low pressure (25 to 35 psi), and installing a system without a pressure regulator will result in inconsistent flow rates and emitters popping off the mainline, Raines says.

Raines advises starting at the water source and running poly tubing throughout the areas you'll be irrigating with drip. Poly tubing in 1/2-, 3/4- and 1-in. diameters is the primary lateral line. Insert drip emitters directly into the poly tubing with a small handheld punch, or branch off to plants using 1/4-in. microtubing. You can bury poly tubing or leave it on the surface, depending on your aesthetic preference.

After you've run the desired length



Drip irrigation systems require a proper head assembly, valve, filter and pressure regulator.

of poly tubing, close off the end of the line with a Figure 8-end closure or a compression end cap, leaving the end of the poly tubing so you can flush periodically to remove debris from the drippers, Raines says.

Point source drip emitters are most commonly used in a drip irrigation system. The most popular are the pressure compensating (PC) emitters that contain internal self-cleaning diaphragms that regulate to the specific flow rate stated. Use PC emitters for long runs and uneven landscapes



because they'll provide a more consistent and accurate flow rate, Raines says.

### Retrofitting

Existing sprinkler systems can be easily converted into multi-outlet drip systems. Retrofit drip manifolds mount directly onto 1/2-in. risers, in place of existing sprinkler heads and are available in four to

12 outlets. Drip manifolds

come with preset and adjustable flow rates (1/2 - 20 GPH) and don't require an inline pressure regulator if your existing pressure is at or below 60 psi. Poly or vinyl microtubing of 1/4-in. is used to run from the drip manifold to the plant in lengths as long as 25 feet. Drip manifolds, which are used for first-time installations, are typically set within plant groupings and placed below the surface inside 6-in. valve boxes.

Emitter line, or dripline, is another method of installing drip irrigation. Drip emitters come preinstalled within the poly tubing, which can be easily

**TIP:** Leaving the poly tubing in the sun for a few hours makes it pliable and easy to work with.

rolled out along the desired area to be irrigated. With multiple flow rates and various dripper spacing, dripline is

an uncomplicated installation that's useful for row plantings and densely planted areas. The preinstalled drip emitters are self-flushing and typically contain two outlets per drippers to minimize clogging. Additionally, dripline is available with pressure-compensating drip emitters to ensure consistent flow rates.

Drip irrigation systems use compression fittings and require only one tool — a hand-punch for installing drip emitters. The systems don't require glue. Repairs and modifications because of changes in the layout of the landscape are simple. To change the location of a drip emitter, simply pull out the emitter, insert a so-called goof plug and use a punch to install in a new location.

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drip is understanding their soil types.

"Soils are typically grouped into three main categories: clay, loam and sand," Clark says. "We suggest contractors use lower flow rates and wider spacing for the clay-type soils, and higher flow rates and closer spacing for sandy soils. You have to match the

application rate of the drip system to the infiltration rate of the soil. Then it becomes a matter of scheduling."

Clark says root intrusion, one of the biggest challenges for maintaining drip systems, has been largely eliminated by the use of root barrier as well as Tech-filter, a disc filter impregnated with the chemical root inhibitor trifluralin.

Dave Palumbo, manager of Rain Bird's Drip Division, believes the biggest challenge getting contractors to use drip is unfamiliarity.

"Once contractors install the first two or three drip systems, they learn how to bid it," he says. "They see they can do it efficiently, and they can make money, too." LJM

## WHY BE A DRIP?

- › Drip offers significant water savings.
- › There's no overspray or evaporation loss like with sprinklers, making it a viable choice for any area suffering water restrictions.
- › Drip eliminates runoff and erosion.
- › Drip delivers the right amount of water slowly down deep to plant roots.
- › Drip can deliver water below the surface and help keep the top of the ground dry.
- › Drip reduces weed growth because it delivers water only to the base or root zones of the landscape plants.
- › Plants are healthier when water is delivered to their roots regularly.
- › Drip provides and maintains a consistent soil moisture level.
- › Leaves stay dry and are less susceptible to sun damage, fungus and insects.
- › Drip encourages fast, steady growth early in the season, and disease-resistant deep-rooted plants later.
- › Drip is quiet and almost invisible.
- › Deep, even moisture levels under the soil surface benefit worms and microorganisms, which, in turn, help improve soil and keep it loose and full of air.

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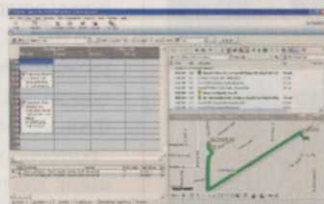


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