

## Ongoing Maintenance

To properly maintain the system:

- Periodically inspect plants for signs of over- or underwatering, such as wilting and/or changes in leaf color; adjust emitters or timer/controller as necessary.
- Check soil wetting patterns around individual plants to ensure that at least half of the root zone area is covered. Whole root zone coverage is preferable.
- Inspect and clean filters and emitters on a regular basis. Flush the system every two months to discharge debris.
- As plants grow, inspect emitters and move them away from the original planting area.
- Reset irrigation controller seasonally to adjust to changes in plant water needs.
- Replace battery in automatic timer twice a year.
- When replacing parts, use only parts specified by the equipment manufacturer.

## Controller Information

- Monitor irrigation times to prevent overwatering. If standing water or excessive runoff occurs, reduce irrigation time and/or frequency.
- Use a multi-program controller on automatic systems that will enable micro-irrigation zones to run on their own program.
- Add a timer to manually controlled systems to avoid the possibility of forgetting to turn the system off.
- Install a rain shutoff device to avoid unnecessary watering.



Brochure developed by:



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**For more information on landscapes that conserve water and protect the environment, contact your local county Extension office.**



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# A Guide to the Basics of Micro-Irrigation



**Contributing  
to the health and beauty  
of your landscape**



## Types of Micro-Irrigation



### In-Line Drip Tubing

Used where plants are installed in rows or close together. Typically placed below the mulch, reducing its visibility.



### Drip Emitters

Used for precise applications, such as in potted plants, hanging plants or where plant materials are spaced far apart. May or may not be visible in the landscape.



### Micro-Sprays

Irrigate more area per emitter than other types of micro-irrigation. These devices come in a variety of nozzle sizes and spray patterns. Generally visible in the landscape.

## What Is Micro-Irrigation?

Micro-irrigation, commonly referred to as “drip” or “low-volume” irrigation, offers a way to improve landscape quality while saving water. When designed and used correctly, this approach can improve the efficiency of landscape irrigation through the precise application of water. Micro-irrigation emitters have a maximum flow rate of 30 gallons per hour (gph), or 0.5 gallons per minute (gpm). In contrast, traditional spray and rotor sprinklers can apply water at a rate of over 3 gpm. Generally used for landscape irrigation and potted plants, micro-irrigation is not recommended, and in some places prohibited, for use on Florida lawns.

## Benefits of Micro-Irrigation

With proper design, operation and maintenance, micro-irrigation systems can have many benefits, including:

- Decreased water loss from evaporation, wind and runoff.
- Minimized pest problems, such as weeds and diseases, by applying water to the root area of the plant.
- Increased water application efficiency when retrofitting in-ground sprinkler systems.
- Easy connection to hoses or outdoor spigots.
- Flexibility in meeting variable water needs of new, maturing and established plants.
- Minimized erosion when watering plants on steep slopes.
- Compliance with local water conservation codes and ordinances.

## Operating Your System

Landscapes generally should be irrigated as needed. A visual plant check (wilting leaves) combined with a soil check (feel for moisture

below the soil surface) is an effective way to determine if a plant needs water. Many plants may require 3/4 to 1 inch of water per week during the growing season. Your irrigation system’s operating schedule should be adjusted based on the type of micro-irrigation\* and according to the following conditions:

### Plant Maturity

When watering newly installed plants, irrigate frequently for short durations to promote root development. Over time, gradually decrease watering frequency while increasing the duration to promote a deeper, more drought-tolerant root system. Once the plant has developed a substantial root system, watering can be reduced to an “as needed” basis.

### Weather Variations

Reduce irrigation frequency during periods of slow plant growth (typically November–February) and frequent rain events.

### Soil Type

Plants grown in sandy soils may require more frequent watering and/or closer emitter spacing than those in loam or clay soils.

### Sun and Shade Patterns

Due to lower evapotranspiration rates, plants in shady areas may require less frequent irrigation than those planted in sunny areas of the landscape.

### Plant Type

Plants are grouped into one of three water-use categories, or hydrozones: oasis (high water requirements), drought-tolerant (medium water requirements) or natural (low water requirements). When watering plants, irrigate according to specific hydrozone requirements.

*\*Please note: Micro-irrigation emitters deliver water at rates between 0.5 and 30 gallons per hour, and application rates applied (inches per hour) will also vary. Adjust irrigation operating schedules appropriately.*