

Easy Irrigation for Urban Gardening

By Bob Weissman

UCCE Master Gardener, Santa Clara County

Importance of Proper Watering

- Plants are about 90% Water
- Essential for Photosynthesis
- Water Fluctuations Stresses Plant

Traditional Watering Methods

- By Hand
- Hose-end Sprinklers
- Pop ups

Problems with Traditional Watering Techniques

- Uneven Coverage
- Wrong Placement (Promotes Plant Disease / Encourages Weeds)
- Loss From Over and Under Watering

Advantages of Low-Flow Irrigation Methods

- Quick Installation / Flexible Layout
- Eliminates Trenching and Digging
- Precise Placement at Plant Roots
- Minimizes Run-off & Soil Compaction

Low-Flow Irrigation is Versatile

Suitable for:

- Shrubs
- Trees
- Flower Beds
- Vegetable Gardens
- Containers

Hose-Bib Head Assembly (cost ~\$100, assembly time: 10 minutes)

In assembly order:

- Timer
- Back-flow preventer
- In-Line Filter
- Pressure Reducer (25-35 psi)
- Compression Fitting

Distribution Line And Fittings (installation time: 15 minutes)

- ½” (Nominal) Polyethylene (avoid poly-vinyl chloride)
- 15-20 Year Life
- Light Weight
- No Special Tools to Cut
- Compression Fittings (Tee, Elbow, Union, End Cap) - No Glue or Clamps
- Connects to Head-End Assembly as Distribution Backbone
- Easily Repaired If Damaged

In-Line Emitter Lines (installation time: <1 hr)

- ¼” OD Tubing with ½ gph In-Line Emitters Spaced 6” or 12” Apart
Attaches With Barbed Fitting to ½” Distribution Line
More Reliable than Traditional-Diaphragm “Drip Emitters”
Max Length: 20 ft (6” spacing) and 33 ft (12” spacing)
- ½” OD Tubing with ½ gph In-Line Emitters Spaced 12” Apart
Connects With Compression Fitting to ½” Distribution Line,
Max Length: 200ft.
- Distribute Lines Close to Shrubs, Spiral Around Trees, Snake In Vegetable Bed, Place Inside Containers.
- Hold in Place with U-Shaped Wire Clips
- Don’t Bury, Mulch-Cover is Desirable

Watering Schedule

Depends on Various Factors:

- Plant’s Maturity and Root Depth
- Soil Type (Clay, Loam or Sandy)
- Temperature, Humidity, Wind Speed
- Shorter Time (0.25 – 0.5 Hr) and Frequent Schedule for Shallow-Rotted Plants and for Sandy Soil
- Longer Time (1-3 Hr) & Infrequent Schedule for Deep-Rooted Plants and for Clay Soil
- Adjust Watering Schedule by Observing Condition of Plants
- Water Meter Probe is a “Must-Have” Tool to Test Irrigation Schedule
- Add or Decrease Number of Emitters if Needed

Maintenance

- Turn On Irrigation System and Visually Inspect
- Clean Filter and Open End Caps and Flush Lines At Least Yearly
- Disconnect and Store Controller Inside In Winter
- Replace pop-up head filters