Tree **R**ing **I**rrigation **C**ontraption (TRIC):

a simple tool for efficiently irrigating a landscape tree

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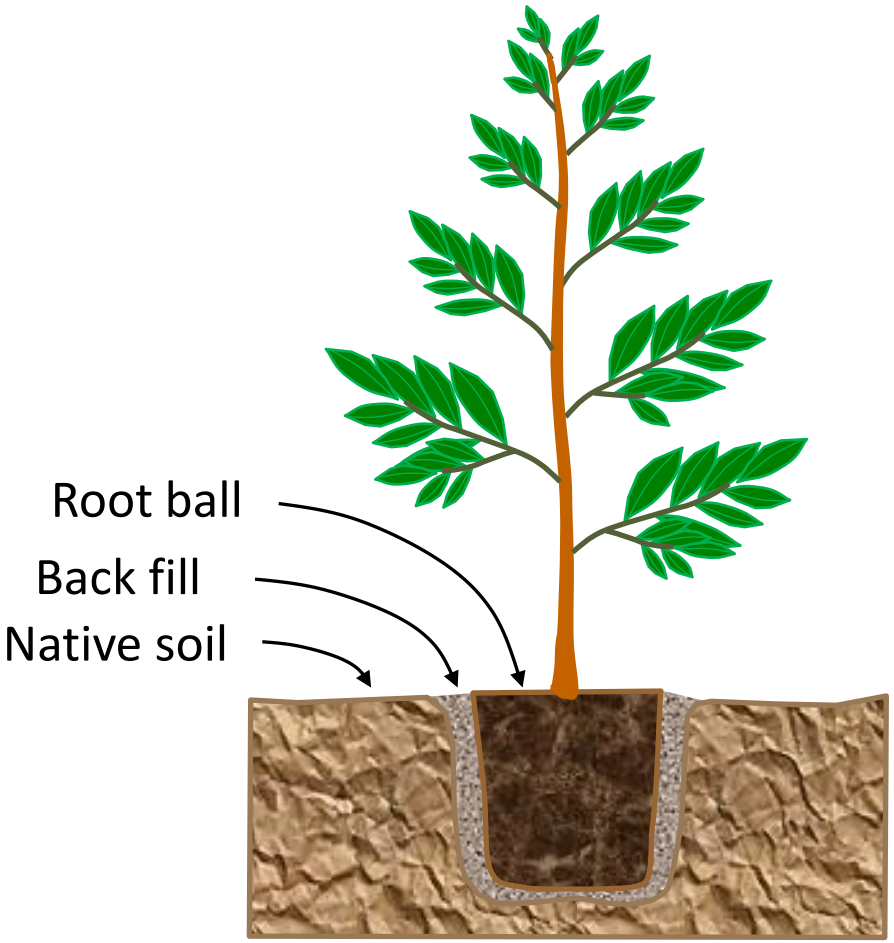
Trees in lawns

What's the problem?

- Improper tree selection
- Poor irrigation management
- Shallow roots

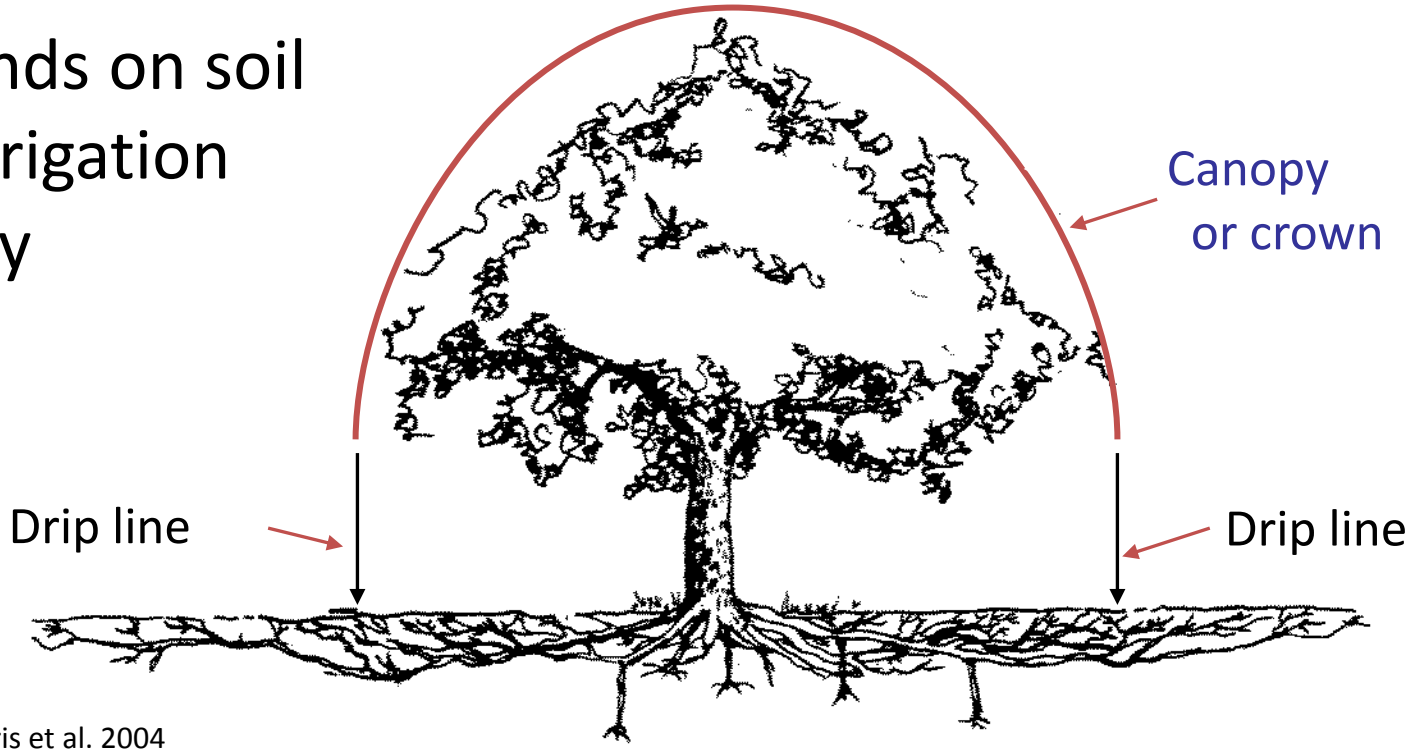
Tree roots

- Recently planted trees
  - Roots are mostly within the container soil ball
  - Roots may be just entering the native soil
  - Will take several years to fully establish



Tree roots

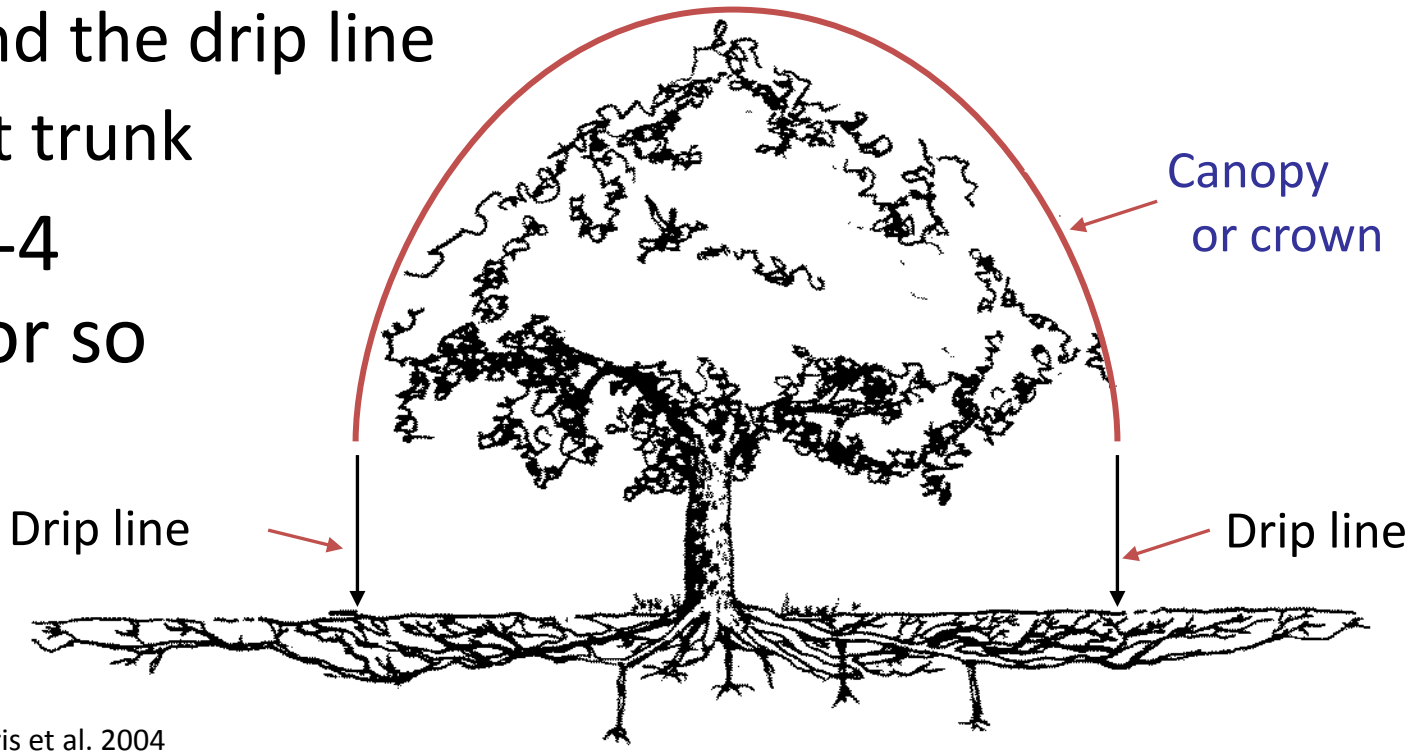
- Relationship to canopy
- May be deep
  - Depends on soil and irrigation history



Graphic adapted from Harris et al. 2004

Tree Irrigation

- Deep to 2 -3 feet
- Beneath the canopy
  - Beyond the drip line
  - Not at trunk
- Every 2-4 weeks or so



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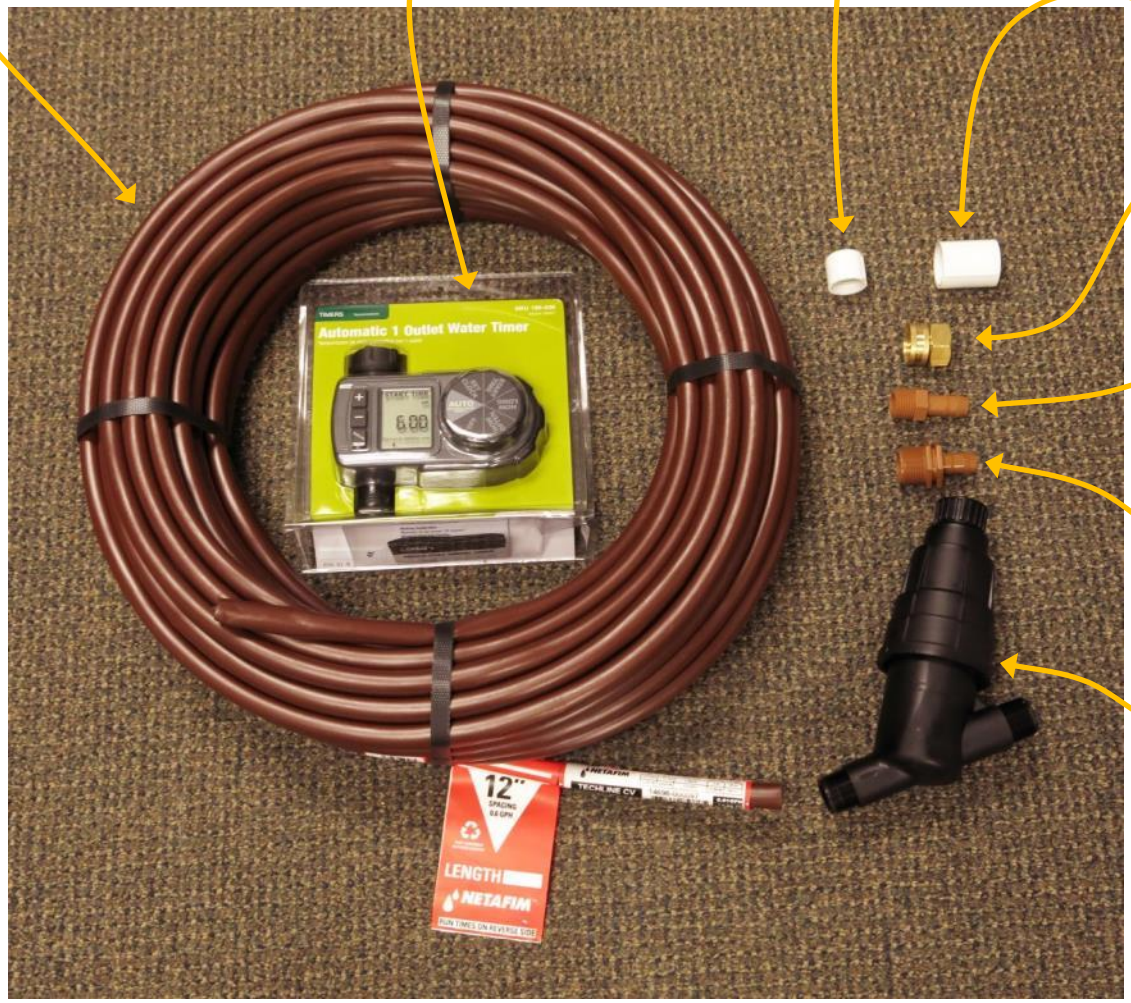
What's the TRIC?

- Calculate irrigation run time to wet a tree "drip line" area to a depth of 36"
- Netafim drip is pressure compensating with a manufacturers precipitation table
- Input your info for 1' spacing:
  - Radius of tree "drip line"
  - Soil type
  - Number of 100' drip lengths (Netafim)

TRIC Parts List



Netafim drip tube

Hose water timer (programmable)

½" PVC threaded cap

¾" PVC threaded coupling

¾" female thread to hose swivel adapter

Barb to ½" male thread adapter

Barb to ¾" male thread adapter

Filter (at least 120 mesh)

Tree Ring Irrigator Contraption (TRIC) Parts List

- Netafim (0.6 gph, 12” spacing) drip tube - $30
- Hose water timer (programmable, optional) - $30
- ½” PVC threaded cap - $1
- ¾” PVC threaded coupling - $1
- ¾” female thread to hose swivel adapter - $2
- Barb to ½” male thread adapter - $2
- Barb to ¾” male thread adapter - $1
- Filter (at least 120 mesh) - $27
- 8” Hold Down Metal Wire Stake for 1/2" Drip Tubing - $4

Total MSRP Cost = $100.00

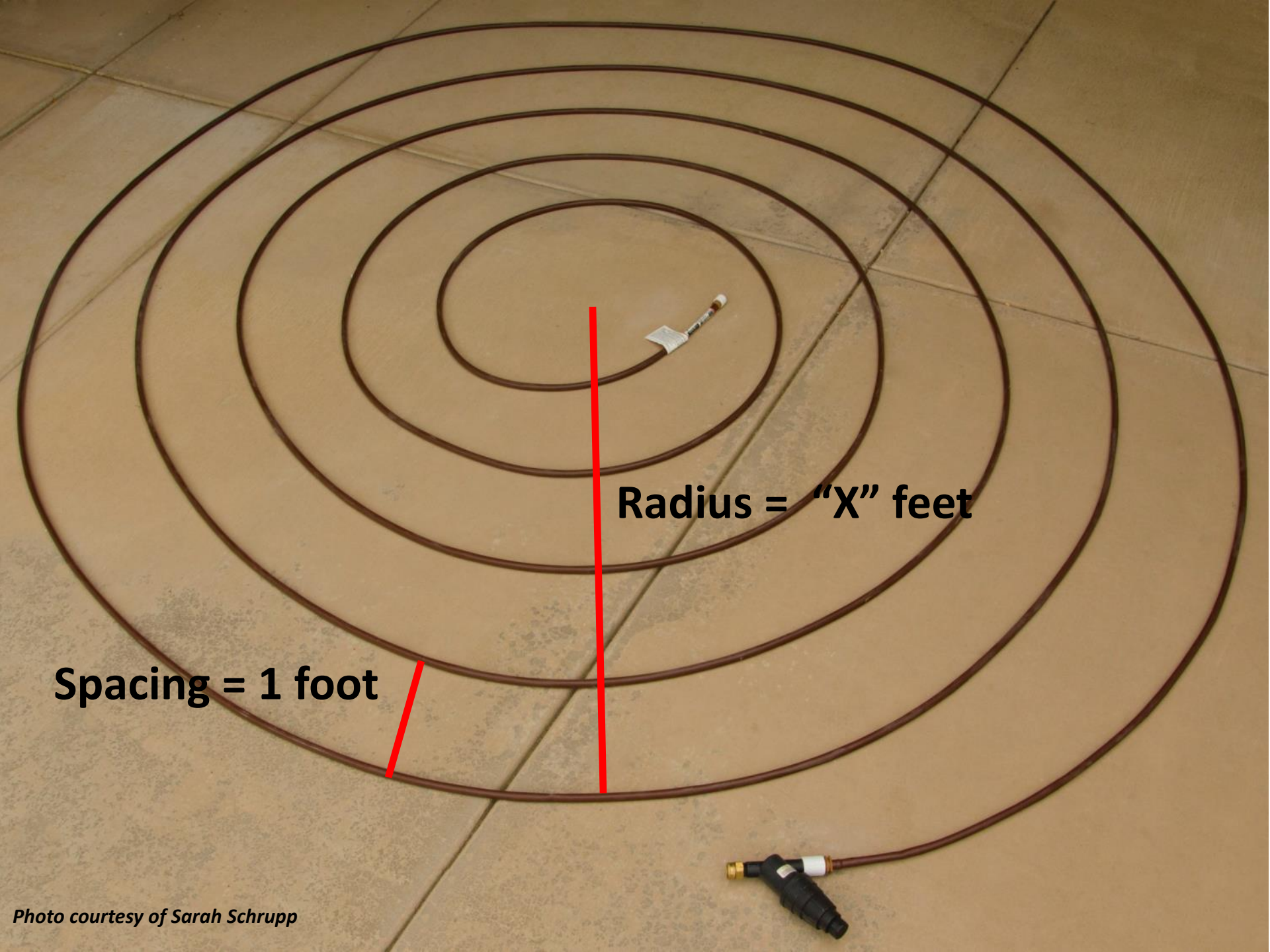


Photo courtesy of Sarah Schrupp

Tree irrigation during drought

Irrigation run-time calculator

Tree canopy

Radius= 8 ft

Circumference= 50.3 ft

1. Enter the radius of the tree canopy

This calculator should not be used for trees with canopies with radii less than 4 ft.

Drip tubing

Use 100 ft. lengths of Netafim CV drip line with 0.6 gph emitters with 12" spacing

1

2. Enter how many 100' lengths of drip line are used

Flow rate= 60.8 gph

2

Recommended number of lengths

For the radius of 8 feet, you will need 163 feet of drip tube.

There should be 1 foot between the circles of drip tube around the tree. The 2 lengths will be long enough to make at least four circles of drip tube around the tree.

Start laying the drip tube about 1 foot outside of the drip line of the tree canopy.

Irrigation

Precip rate= 0.98 in/hr

Soil texture

clay loam

3. Click on the green cell to the left to see different soil textures

Then, select your soil texture from the drop down list

Duration*

*To wet to 36 inches deep

4. This is the run time required to wet the soil to 36 inches.

2:57 hours:minutes

Example

Canopy = 8’ radius
Soil = Clay loam

Example

Drip lines with approximate 12” spacing between lines.

Example

Connect to hose

Procedure

1. Put together the TRIC device
2. Measure the radius of the tree canopy
   - Use a tape and measure from the trunk to the drip line.
3. Determine the soil type

   Use SoilWeb on your smart phone or the web

   https://itunes.apple.com/us/app/soilweb-for-the-iphone/id354911787?mt=8

   https://play.google.com/store/apps/details?id=casoilresource.apps.soilweb&feature=search_result

   http://casoilresource.lawr.ucdavis.edu/gmap/

   Get assistance from a UC Master Gardener, if you need it

Procedure

4. Use the spreadsheet to determine how to set up the TRIC
5. Program the timer according to the spreadsheet
6. Connect the TRIC to the hose
7. Turn it on!