Soaker Hoses for Trees & Foundations

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Lavon Lake Elevation as of April 7, 2014



Irrigation is a Licensed Profession in Texas

TCEQ -- Texas Commission of Environmental Quality

- Regulates Irrigation in Texas
- Administers Licensing and compliance
- Establishes & Maintains Texas Rules & Regulations for Irrigation Water Use
- Protection of Potable Water

EPA Federal Environmental Protection Agency

- Establish, Maintain & Enforce Federal Regulations & Guidelines
- Water Sense Program Management (Partners & Products)

Municipality Role

- Establish, Maintain & Enforce Local Code
- Development and Management of Water Conservation Programs

BY LAW: ONLY LICENSED IRRIGATORS AND HOMEOWNERS ARE ALLOWED TO WORK ON SPRINKLER SYSTEMS





What is a soaker hoses?

Perforated or permeable garden-type hose that is laid above ground and provides irrigation at a slow and constant rate.



Drip Irrigation vs. Soaker Hoses

- Pressure regulated
- Better precision
- More options for watering
- Easier to repair

- Low pressure
- Delivered directly to plant roots
- Less water loss due to evaporation

- Less expensive
- Easier to setup
- Different flow rates from start of hose to end of hose





What you will need...



Tips for Success

- ✓ Keep it level.
- ✓ Space hoses 18-24 inches apart.
- ✓ Hoses should be 1-2 inches away from the base of established plants.
 Closer for new plants.



- ✓ Turn the faucet on enough so the hose is seeping but not spraying.
- Cover with mulch to retain moisture and protect from sun damage.
- ✓ Disconnect in freezing temperatures.

* Tips from the Saving Water Partnership document "Soaker Hoses". www.savingwater.org

Soil Application Rates

- Clay soil holds water, but takes a while to soak in
- Mulch is key with drip irrigation or soaker hoses to hold moisture at plant roots



Soaker Hoses for Trees

- ✓ Place the soaker hose or drip irrigation tubing at the dripline around your trees, not at the trunk.
- ✓ Water until the area is saturated to a depth of 8 – 10 inches.



Proper Tree Mulching

- Keep mulch away from trunk
- Spread much to drip line of tree
- Maximum depth of 3 4 inches



Foundation watering?

- North Texas homes are mostly built on slab foundations that require the surrounding soil to remain at a constant moisture.
- Our land was once prairie and farmland, which can dry out or expand easily...potentially leading to foundation problems.
- Differential movement of foundations is a common problem in this area.
 - Most caused by differences in soils moisture.
 - Clay soils in our area are highly expansive.
 - Soil beneath part of the foundation becomes wetter or drier than the rest of the soil.

What causes moisture gain?

- Swelling potential of expansive soils is much greater than the shrinkage potential.
- A gain in soil moisture can be caused by:











What causes moisture loss?

- Settlement is usually greatest near the perimeter of the foundation where the soil dries most quickly.
- Soil may lose enough moisture during a drought to cause the foundation to settle.
- Trees and other large plants can cause moisture loss.



Foundation Care Basics

- 1. Correct Poor Drainage
- 2. Manage Foundation Soil Moisture Levels
- 3. Monitor Foundation Soil Levels

Hazards for home foundations

Water is a crucial factor in maintaining foundations. Too much water and the soil swells, causing the foundation to heave; too little moisture and the soil shrinks, causing the foundation to settle.

Evaporation: Intense heat or dry wind will often cause soil to shrink beneath the foundation.

Settlement is greatest near the foundation's perimeter, where the soil dries most quickly.

Plumbing leaks: A perennial threat, leaking pipes can cause soil beneath foundations to swell with moisture and cause the foundation to heave.

Transpiration: Tree roots may soak up the moisture beneath a home, causing the soil to shrink.

Slab

foundation

Note: Other foundation types are affected similarly. Source: Foundation Repair Network

Roberto Villalpando AMERICAN-STATESMAN

Step 1: Correct Poor Drainage

 Water running alongside a foundation during rains will run under the edge of the foundation and wash away soil supporting the foundation.



- Water allowed to stand beside a foundation, will flow below the foundation and dissolve the clay supporting the foundation.
- Good Drainage Practices:
 - Roof runoff should be directed away from the house via gutters.
 - Gutter downspouts should discharge at least 15' from the foundation.
 - Drainage should slope away from the house approx. ¹/₄" per foot.
 - French Drains provide a path to remove unwanted water.

Step 2: Manage Foundation Soil Moisture Levels

• Use a moisture meter to monitor soil dampness levels.





- Supplement moisture levels with soaker hoses or drip irrigation.
- Place soaker hoses 6 18 inches from the foundation.
- Properly maintain soaker hoses and drip irrigation.

Step 3: Monitor Foundation Soil Levels

- Check the soil level around your foundation.
- Supplement level with soil in grassy areas and mulch in flower beds.
- Apply top soil or top dressing directly on top of grass, if using 4" or more, consider planting sod on top of soil.





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