

Water is vital to trees. Without water a tree cannot maintain its physiological functions and will die.

Lack of water puts trees in a stressed condition leaving them more susceptible to pest and other problems. Excess water can cause tree roots to suffocate, die and rot. Waterlogged soil causes soil erosion and may destabilize even large trees.



*Scorched leaf due to lack of water*



*Tree died from drought*



*Decline of trees due to high ground water level*

Water shortage may cause tree leaves to wilt, droop, and turn yellow or brown. Leaves may also be scorched, browning at the tips and along the leaf margins.

Trees in waterlogged, flooded areas may develop root rot problems. These trees have small leaves, stunted shoots, reduced tree growth and undergo steady decline.

Water stress damage caused by either too little or too much water may be easily misdiagnosed as pest damage.

## Water Management of Trees

- Infrequent, but deep soaking during dry spells, will result in a deeper root system, improving a trees tolerance to drought. Usually trees need a long, thorough watering once every 7 to10 days. Frequent, short watering will encourage shallow rooting of trees.
- Trees have extensive root systems, which spread from the base in all directions far beyond the crown limit (dripline) of the tree. The absorbing roots, responsible for water uptake, are located in this area in the upper 20-30cm of the soil. It is important to provide water for all of these roots.
- Young, newly planted trees are more sensitive to the water regime than the older established trees. Transplanted trees require more frequent watering, until the root system is established.

- The volume and frequency of watering also depends on the type of the soil. Clay soils hold water longer than sandy soils. Trees in clay soils need to be watered slowly over a longer period of time. Trees in sandy soils require watering more often.
- The best time for watering is in the early morning hours when evaporation is low. Do not water the canopy of the tree, except where it is specifically recommended. Damp leaves may promote foliar disease development.

**Mulching** helps to preserve soil moisture content. Mulching also:

- Prevents soil compaction in the root zone.
- Reduces weed competition.
- Protects the main stem from injuries caused by lawn equipment.
- Improves physical and chemical properties of the soil.

Place organic mulch (wood chips, bark, and pine needles) in a layer 7-10cm deep around trees. Mulch must be kept away from the tree bark or it will cause the bark to decay.

**Forest Health Care** is a holistic approach to tree care that focuses on improving the health of trees in an urban environment. Our objective is a healthy, sustainable urban forest. Trees in urban forests are often stressed by compacted soil, drought, poor planting and pruning techniques, air pollution, road salt, damage from construction and much more. Trees planted in the right sites and properly maintained are less likely to suffer and are more resistant to pest problems.

Pest problems are managed using a decision making process that considers the following:

- Identification of the host and the pest.
- Monitoring of the host and the pest.
- Selection of the appropriate management strategy.
- Evaluation of the management plan.

Our focus is on pest management programs that are environmentally, socially and economically sound.